

The Built Environment

Community Input by Formal Submission Ideas and Recommendations for Moving Forward

The following information is a collection of formally submitted recommendations to the District Department of the Environment and the Office of Planning by local organizations. The information was reviewed and pertinent comments, suggestions and ideas for the built environment working group are included in this document. Much effort by concerned citizens went into the creation of those documents and a lot of relevant material has been compiled. Please review these ideas and concerns to enhance participation in the working group process.

1. Becoming Greenest

Recommendations for a More Sustainable Washington, D.C.

Submitted by the American Society of Landscape Architects

Brownfields are abandoned, environmentally-contaminated industrial or commercial sites. People who come into frequent contact with the leftover solvents, cleaners, and oil found on these sites often develop major health issues. In addition, the chemicals found in brownfields contaminate soils and often leak directly into underground water resources. Degraded parts of some major U.S. cities contain up to 1,000 brownfields per square mile.

Bioremediation involves using plants, fungi, or soil microbes to clean up toxic brownfields. Some types of deep-rooted plants can even be used to remove toxic metals from the soil. One example is *Thlaspi Caerulescens*, commonly known as Alpine Pennycress. According to Cornell University researchers, a normal plant can only store about 100 parts per million (ppm) zinc and 1 ppm cadmium. *Thlaspi* can store up to 30,000 ppm zinc and 1,500 ppm cadmium in its shoots without being negatively affected. In fact, these types of plants thrive while restoring the brownfield to its natural state.

Cleaning up these sites is not only good for the environment, but also helps create economically-strong, healthy communities. The U.S. Environmental Protection Agency (EPA) says brownfield clean-ups can increase nearby residential property values by 2 to 3 percent. Healthy buildings, schools, and parks have taken shape on redeveloped brownfields. Formerly poisonous sites can even turn into valuable community green space: the new Olympic Park in London, Brooklyn Bridge Park in New York City, and Toronto's new park network are coming in over hectares of previously bombed-out, toxic sites.

Just as the city and developers did with the highly successful Yards Park, which transformed abandoned, polluted waterfront properties into a valuable community asset, Washington, D.C., should incentivize turning more brownfields into parks. Apply bio-remediation and other safe environmental remediation technologies during park development.

Many cities have undertaken comprehensive surveys of their brownfields to determine opportunities for remediation and redevelopment. In one example, New York City launched SPEED, a searchable database of brownfield properties, a "real estate search engine," that has gotten great traffic from the local developer community. At a brownfields conference, Dan Walsh, Mayor's Office of Operations, New York City government, said SPEED includes historical maps so developers can "toggle through time" and explore some 3,150 vacant commercial and industrial brownfield sites spread throughout the city.

To make it even easier for developers, New York City has also launched a \$9 million brownfield reinvestment fund. Each developer of a brownfield site gets \$60–140,000 "fast" if they commit to cleaning-up a brownfield or redeveloping for energy uses. The grants can be used to cover expenses involved in design, investigation, clean-up, or insurance. For brownfield sites that will be used by the public, the city has also launched a Green Property Certification program, which can be shown on site as proof that the area is fit for its intended use. "This is a voluntary, not regulatory program."

Develop an Internet-accessible inventory of all brownfields in the city to enable easier remediation and redevelopment of derelict sites by local developers. Create a certification program for remediated brownfields to facilitate faster reuse.

Almost one in five Americans is housed in schools for the better part of each day, but many of these schools offer toxic environments with poor daylight and are sited in far-off places, which means they are both unhealthy learning environments and contribute to sprawl (or unhealthy communities). Creating green and healthy schools, which are in walkable, bikeable neighborhoods, is key to increasing test scores and graduating children who can be future stewards of the environment.

In a session at the National Building Museum, Glen Cummings, Assistant Deputy Secretary, U.S. Department of Education, said 14 million children go to school each day in "outright dangerous" schools. As you see in Washington, D.C., before the school term starts, schools scramble to "remedy buildings so they will be legal to occupy." The U.S. has hundreds of thousands of school buildings, many of which were created up to 50 years ago. "The real challenge is retrofitting older buildings so they can be turned into green buildings."

If a school can't afford to retrofit, Howard Frumkin, director, National Center for Environmental Health / Agency for Toxic Substances and Disease Registry, U.S. Centers for Disease Control and Prevention, said they can replace toxic cleaning supplies, ensure they are keeping HVAC maintenance up-to-date, and continually and safely discard art / science lab chemicals.

While integrating learning about green buildings into school curricula would be innovative, one ASLA member also called for education about the greater ecological context in D.C.: "Design and develop a series of outdoor classrooms throughout the District to highlight the varied ecosystems within D.C., and provide students with a real education about their surroundings. Have a DC 'Green Week' in the schools and create an award for innovative environmental solutions."

Budgets permitting, Washington, D.C., should invest in retrofitting older school buildings to make them LEED Platinum and also integrate education about green schools and local nature into school curricula.

Learning within green healthy, sustainable environments is critically important, but getting there in a healthy way is also crucial. Many schoolchildren face enormous obstacles that can be addressed through Safe Routes to Schools programs.

In addition to greening buildings, Washington, D.C., should ensure all schools apply Safe Routes to Schools design guidelines.

2. Sustainable DC Recommendations and Resources Submitted by **the Congress for the New Urbanism DC Chapter**

PART ONE: OPERATING PRINCIPLES FOR SUSTAINABLE DC

(Select comments applicable to the built environment working group)

1. Human interventions in the built environment tend to be long lived and have long-term impacts. Therefore, design and financing must recognize long life and permanence rather than transience. City fabric and infrastructure must enable reuse, accommodating growth and change on the one hand and long-term use on the other.
2. The economic benefits shall be realized by investing in built areas that both reduce future economic impacts of climate change and increase affordability. Patient investors should be rewarded by fiscal mechanisms that produce greater returns over the long term.
3. Truly sustainable design must be rooted in and evolve from adaptations to local climate, light, flora, fauna, materials, and human culture as manifest in indigenous urban, architectural, and landscape patterns.
4. Design must preserve the proximate relationships between urbanized areas and both agricultural and natural lands in order to provide for local food sources, maintain local watersheds, provide a clean and ready water supply, preserve clean air, allow access to local natural resources, conserve natural habitat, and to guard regional biodiversity.
5. Globally, human settlements must be seen as part of the earth's ecosystem.

6. The rural-to-urban Transect* provides an essential framework for the organization of the natural, agricultural, and urban realms.
7. Buildings, neighborhoods, towns, and regions shall serve to maximize social interaction, economic and cultural activity, spiritual development, energy, creativity, and time, leading to a high quality of life and sustainability.
8. The primary objective of the design of new buildings and the adaptive reuse of older ones is to create a culture of permanence with well-crafted, sound, inspired, and beloved structures of enduring quality. Places shall promote longevity and the stewardship of both our natural and manmade environments.
9. Architecture and landscape design shall derive from local climate, flora, fauna, topography, history, cultures, materials, and building practice.
10. Architectural design should derive from local, time-honored building typologies. Building shells must be designed to be enduring parts of the public realm. Yet internal building configurations must be designed to be flexible and easily adaptable over the years.
11. The preservation and renewal of historic buildings, districts, and landscapes will save embodied energy, as well as contribute to cultural continuity.
12. Individual buildings and complexes shall conserve energy, and produce renewable energy wherever doing so promotes economies of scale and reduces reliance on fossil fuels and inefficient distribution systems.
13. Building design, configuration, and sizes must reduce energy usage and promote easy internal vertical and horizontal walkability. Approaches to energy design should include low-technology passive solutions that are in harmony with local climate to minimize unwanted heat loss and gain.
14. Renewable energy sources such as non-food source biomass, solar, geothermal, wind, and other nontoxic, non-harmful sources shall be used wherever they can make a net reduction in greenhouse gas emissions and contribute to energy affordability and reliability.
15. Water captured as precipitate, such as rainwater and water harvested in and around individual buildings, shall be cleaned, stored, and reused on site or within the neighborhood and allowed to percolate into local aquifers.
16. Water usage shall be minimized within structures and conserved through landscape strategies that mimic native climate, soil, and hydrology.

17. Building materials shall be locally obtained, rapidly renewable, salvaged, recycled, recyclable and have low embodied energy. Alternatively, materials shall be chosen for their durability, exceptional longevity, and sound construction, taking advantage of thermal mass properties to reduce energy usage.

18. Building materials shall be nontoxic and non-carcinogenic, with no known negative health impacts when used properly.

22. The positive shaping of the public realm shall focus on creating thermally comfortable spaces through passive techniques such as low albedo and shading with landscape and buildings. The techniques shall be consistent with local climate.

27. Wherever possible, new development shall be sited on underutilized, poorly designed or already developed land. Sites shall be either urban infill or urban-adjacent unless the building is rural in its program, size, scale and character.

28. Consistent with #27, prime and unique farmland shall be protected and conserved. In locations with little or declining growth, additional agriculture, parklands and habitat restoration shall be promoted on previously urbanized, currently underutilized land.

29. Neighborhoods, towns and cities shall be as compact as possible, with a range of densities that are compatible with existing places and cultures and that hew tightly to projected growth rates and urban growth boundaries while promoting lively mixed urban places.

34. Within neighborhoods, a broad range of housing types, sizes, and price levels for a population of diverse ages, cultures, and incomes can provide for self-sufficiency and social sustainability, while promoting compact cities and regions.

36. Projects shall be designed to reduce light pollution while maintaining safe pedestrian environments. Noise pollution should also be minimized.

37. The design of neighborhoods and towns shall use natural topography and shall balance cut and fill in order to minimize site disturbance and avoid the import and export of fill.

38. The finite boundaries of the region shall be determined by geographic and bioregional factors such as geology, topography, watersheds, coastlines, farmlands, habitat corridors, regional parks, and river basins.

42. The siting of new development shall prefer already urbanized land. If undeveloped land is used, then the burden for exceptional design, demonstrable longevity and environmental sensitivity shall be more stringent and connections to the region shall be essential.

43. With priority to #42, sensitive or virgin forests, native habitats, and prime farmlands shall be conserved and protected. Imperiled species and ecological communities shall be protected. Projects to regenerate and recreate additional agricultural areas and natural habitat shall be promoted.

PART TWO: SPECIFIC IDEAS, POLICY SUGGESTIONS, AND DESIGN CONCEPTS

The following recommendations were collected from CNU DC members and associates for submission to the Sustainable DC initiative.

1. Sustainable DC should recognize the uniqueness of the DC urban fabric. This would necessitate a thorough survey of the strengths and weaknesses of the existing fabric.
 - Recognize and develop DC’s existing alleyway into more organized pedestrian and bicycle networks that cut through vehicular grids.
 - Decrease city traffic by expanding and enhancing the DC trolley system.
 - Establish community incentives for installing rainwater retention on their properties. This includes green walls and bioswales.
 - Reduce heat island effect by continuing and expanding the DC initiative for an increased tree canopy and creating productive green spaces for the community, as parks, gardens, and “outdoor rooms.”
 - Consolidate existing parking lots into multi-story garages that are designed to enhance the urban streetscape.
 - In order to increase the vibrancy of visual memories and create a sense of place for DC dwellers, way finding on the pedestrian scale shall consist of establishing site lines to landmarks, monumental buildings and towers.
 - Encourage diverse development across different age and income groups.
 - Encourage local businesses that source locally and create jobs.

**3. Sustainability Recommendations
Submitted by DC Sierra Club**

ACTION ITEM	PURPOSE	RESPONSIBILITY
(1) All DC buildings should be <i>operated and maintained</i> sustainably: energy efficient, water efficient, use of non-toxic materials, and coordinated with DC Water storm water management	Reduce exposure to indoor toxic materials from operation of District buildings, savings from energy and water efficiency, reduce stormwater overflow.	City Council (amend Green Building Act of 2008). Property management in conjunction with other DC Agencies.

ACTION ITEM	PURPOSE	RESPONSIBILITY
(2) INCREASE HOMEOWNER EDUCATION/ AWARENESS AND SUPPORT FOR SOLAR INSTALLATION PROGRAMS AND RIVERSMART HOMES—ESPECIALLY FOR LOW INCOME HOMEOWNERS.	INCREASE USE OF CLEAN ENERGY; REDUCE STORMWATER POLLUTION RUNOFF INTO RIVERS.	CITY COUNCIL, DDOE, DC WATER, TAXPAYERS, REALTORS, REAL ESTATE MANAGERS, CITIZENS.
(3) PUT GREEN ROOFS AS APPROPRIATE ON ALL NEW CONSTRUCTION; CREATE PROPERTY TAX ABATEMENT FOR GREEN ROOFS.	REDUCE STORMWATER POLLUTION RUNOFF INTO RIVERS; REDUCE AIR POLLUTION AND HEAT ISLAND EFFECT IN THE CITY; CREATE ADDITIONAL GREEN SPACE FOR PEOPLE AND WILDLIFE.	CITY COUNCIL, TAXPAYERS, BUILDERS, CITIZENS.
(4) LEGISLATE A DECONSTRUCTION ORDINANCE TO PROMOTE RECOVERY OF REUSABLE BUILDING MATERIALS.	PROMOTES GREEN JOBS, REDUCES WASTE, RECOVERS VALUE FROM MUNICIPAL WASTE-STREAM	CITY COUNCIL AND MAYOR, HOUSING AUTHORITY, BUILDERS
(5) COVER PARKING LOTS (E.G. AT METRO STATIONS) WITH HIGH-DENSITY DEVELOPMENT AND OR SOLAR PANELS.	DEVELOP DC'S SOLAR RENEWABLE INDUSTRY, GENERATE HOMEGROWN POWER, PROMOTE URBAN IN-FILL DEVELOPMENT	CITY COUNCIL AND MAYOR, SOLAR INDUSTRY, BUILDERS
(6) Institute a cross-agency team in DMPED (Deputy Mayor for Planning and Economic Development) to ensure that water, energy, transportation, and waste management best practices are employed in all DMPED mediated projects.	To coordinate initiative such as those suggested here between the District's development arm and its natural resource, energy and environment arms.	Mayor
(7) Relocate CSX's north-south rail line so that it no longer crosses West Potomac Park or passes next to the National Mall; re-develop Maryland Ave. SW; close the Long Bridge	Public safety; aesthetics; park protection	

4. UDC Ward 3 Input

Submitted by the **University of the District of Columbia**

(Only items relevant for review by the built environment working group are listed)

On 28 September, UDC held a meeting as part of 'Start in September' under Mayor Gray's [Sustainable DC](#) initiative. Office of Planning staff, UDC staff, and concerned citizens gathered to discuss ideas about the attributes of a sustainable city in an effort to break down high-level concepts and bring them into our local context.

This open discussion at UDC allowed participants to share their own visions and aspirations for the city and gave them an opportunity to listen to other residents with different perspectives. In small tables of 4-5 people, we discussed three guiding questions:

- 1) What are the attributes of a sustainable city?
- 2) How does DC measure up to that vision of a sustainable city?
- 3) How can we engage and energize the whole city around this sustainability plan?

Question 1: What are the attributes of a sustainable city?

The city is in sync with natural systems and all resources are valued.

- Design is informed by nature/works with nature
- Holistic thinking is present in all planning
- Nothing Toxic/Poisonous
- People are connected to nature

Question 2: How does DC measure up to that vision of a sustainable city?

Strengths

- We promote green buildings

Weaknesses

- DC has worse than national carbon emissions and energy used is dirty/Built environment is below average for energy use.
- City Systems are not in sync with natural systems

From the conversation came the following suggestions for building on our strengths and addressing our weaknesses:

Local Goals –

- Zero net energy for buildings
- Closed loop design
- Green and modern building code
- No kids living in poverty
- Housing policy equity

Potential Action –

- Build combined heat and power generation systems/district energy/recycled heat
- Change energy sources from dirty to clean
- Reevaluate building codes
- Install more green roofs/require green roofs on all city buildings
- Use a holistic infrastructure design process
- Encourage mixed income neighborhoods

Question 3: How can we engage and energize the whole city around this sustainability plan?

Social Media Strategy

- Twitter meetings – Q&A between city officials and Tweeps
- Tweet ups
- Sustainable DC Foursquare Badge

Collect ideas outside of meetings

- Collect ideas on napkins, used envelopes, things with blank surface areas like toilet paper
- Suggestion boxes for sustainable DC at local businesses – maybe through Think Local First
- Collect ideas via text

Mobile meetings

- Bike rides
- Experimental circulator bus routes

Paid/incentivized participation

- Give rebate for bottle recycling (5-10 cents)
- Make it FUN
- iPod giveaway at planning meetings
- Take the money we would have used to hire a consultant and instead pay businesses directly to participate.

Go to existing meetings and groups

- Churches/Religious networks/GWIPL/Creation Care
- ANC meetings – Mobilize the ANCs
- Boy Scouts/Girl Scouts
- Unions

- Rotary Club
- Lions Club
- Business orgs like AOBA
- Parents at playgrounds on Saturday mornings

Go to existing events

- Local sports venues
- Music/concerts
- Comedy shows

Get schools engaged

- Universities
- Clubs (UDC Sustainability Club, UDC Garden Club)
- Put in school curriculum /better education on environmental issues

Showcase and encourage good examples

- Create competitions between schools
- Incentivize local business participation by holding competitions, giving awards for green practices
- Competitions between employees of small/large firms
- Action is motivating – bring the results of your own actions to the next meeting to share back with the group
- Shame bad behavior
- Lead by example, especially for city leadership

Reach all community members

- Have meetings whenever it makes sense in your community. Don't rush it based on this planning process.
- Switch target demographic and recognize that kids are change agents
- Reach pockets, but also have a central place to bring ideas back together/find out about new events
- Everybody must bring 2 new people to next meeting – if we keep doing this, we'll eventually reach a critical mass