EXHIBIT NO. 1

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6-28-05

City of Alexandria, Virginia

MEMORANDUM

DATE: JUNE 23, 2005

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER

SUBJECT: GREEN-SUSTAINABLE BUILDING TECHNOLOGY FOR DEVELOPMENT PROJECTS

ISSUE: Green building technology efforts in development projects.

RECOMMENDATION: Receive this staff report regarding green building technology and proposed Green and Sustainable Building Checklist for reviewing development projects, direct that it be disseminated to interested groups for comment, and request that it be docketed in the fall for final Council action.

BACKGROUND: During the past year, Council asked staff to look at ways to enhance the green building technology in development projects. At Council's direction, staff has been advocating that development SUPs incorporate green and sustainable practices and materials where feasible for the past several years. Elements of approved projects have ranged from green roofs and Leadership in Energy and Environmental Design (LEED) certification, high efficiency mechanical equipment, the use of recycled materials and low emission paints and materials, as well as storm water detention, treatment and reuse in the case of the T.C. Williams project. In addition, when either mandated or agreed to by developers, staff has incorporated condition requirements in development approvals regarding green technology.

As explained in more detail in this memorandum, a working team, composed of Planning and Zoning, General Services, Code Enforcement and T&ES staff, have developed the attached proposed Green and Sustainable Building Checklist (Checklist). In compiling the Checklist, staff researched the LEEDs program, reviewed efforts in other cities regarding green building technology, and created a proposed system that adapts those other programs to Alexandria's needs. The proposed Checklist will provide a tracking system for developing an inventory of the techniques and locations where green and sustainable measures are proposed to be implemented, or have been implemented in the City. The Checklist also will enable the City to catalog methods used by developers, in order to provide a helpful reference and examples to City staff, and other developers of future projects, of examples of successful sustainable elements.

Finally, as this proposal has not yet been reviewed by the development community, interested City boards and commissions, as well as by other stakeholders, I recommend that review of this draft Checklist occur over the next few months and that this item be re-docketed for Council action in the fall.

I. Green - Sustainable Buildings:

The phrase, "green building technology" refers to the methods of site and building design that minimize negative impacts on the environment and natural resources, minimize energy and resource consumption, and maximize sustainability, and/or the efficiency of resource consumption. Under the auspices of the United States Green Building Council, a public-private partnership, the LEED program has become a clearing house on the subject and a generally accepted standard for assessing green technology.

The LEED Green Building Rating System is used as a design guideline and third-party certification tool. The system allots points for environmentally beneficial design in the following specific categories:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation and Design Process

Although there is no one technique for designing and building to these specifications, certified buildings often preserve natural vegetation; contain non-toxic or recycled-content building materials; maintain good indoor air quality; use water and energy efficiently; conserve natural resources; feature natural lighting; include recycling facilities throughout; include access to public transportation; feature flexible interiors; and recycle construction and demolition waste.

II. Alexandria's Green Building Program

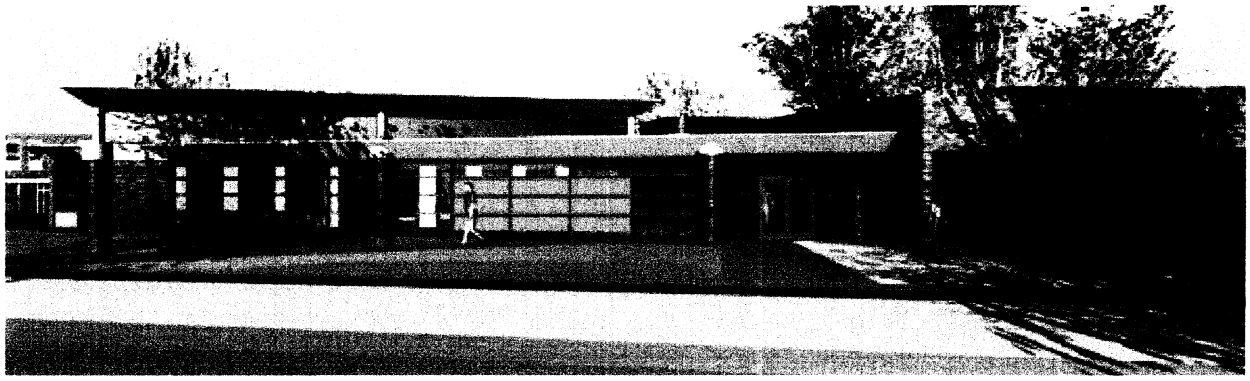
In response to Council's concerns about environmental sustainability, City staff have been working to have green and sustainable elements included in more public and private building projects in the City.

City Projects

The Department of General Services has adopted a comprehensive program of assessing its projects and to the degree feasible incorporating sustainable, green technologies into public building projects. The most significant specific examples of green public buildings include:

- the new T.C. Williams High School construction project, which will include an underground cistern to collect rainwater for reuse, increased use of natural daylight, recycled building materials, light colored roofs to reflect solar energy, and a green/garden roof area over part of the building. The originally proposed green features of the building is projected to earn the building a silver LEED certification rating, which would be the highest rating attained to date by any high school in the country.

- the new Duncan Library addition (see below), now under construction, will include a green roof to minimize storm water run off and the need for different storm water treatment. An energy efficient chiller is being built into the project.



Duncan Library Addition

- the low emission paints and high efficiency mechanical systems and the proposed green roof of the new Health Department/Club House building at 4480 King Street.

- the City is also working to incorporate sustainable elements as part of proposed City facilities such as the new DASH facility, the Charles Houston renovation, and the proposed Police Department headquarters building.

Private Development Projects

Each development project application has included the condition below that required developers and land owners to identify the specific types of green technology to be incorporated into their projects. While the inclusion of green technology is generally voluntary (except for mandatory programs such as storm water and transportation management plans), the City has required that the development application identify where green technology is planned to be used such as in the following condition:

> "The applicant shall demonstrate the use of green building and sustainable techniques for building systems design for the project, such as low emission paints and high efficiency mechanical equipment. The City of Alexandria encourages the use of green building

technology. Provide specific examples where this development will incorporate this technology, including low impact development, green roofs, and energy efficient materials, into its design. (P&Z) (T&ES)"

As a result of the included condition, developers have increasingly agreed to include green and sustainable elements as part of their developments, as well as the ongoing mandatory requirement related to retention and treatment of storm water run off with Best Management Practices (BMP). The use of BMPs to treat stormwater runoff has been in place since 1992, using specific State statutory authority related to preservation of the Chesapeake Bay. Recent examples of projects with sustainable and green elements include: Foxchase Shopping Center Redevelopment, Pentagon Federal Credit Union, and the Hennage/Monarch Residential Development. Additionally, the new building at the Episcopal High School on West Braddock Road is projected to achieve a LEED certification. In addition, 1210 Queen Street, which the City Council just approved, is also projected to achieve LEED certification.

III. New Proposed Green and Sustainable Building Checklist

Over the last several months, City staff have worked to create a broader approach to green building/sustainable development technology as part of the development review process.

Staff began its work with a review of the efforts of several other cities, including Portland (Oregon), Chicago, Seattle, Boulder, Santa Monica, Austin, and Arlington (Virginia). Those jurisdictions have each adopted programs to foster sustainability in development project applications. While a few jurisdictions require that projects achieve a certain level of LEED certification, and some grant density bonuses for LEED certification, all appear to have used and amended the LEED certification system to suit their local needs.

In Alexandria, staff have developed the attached proposed Green and Sustainable Building Checklist as part of its program for promoting green technology in private development. The Checklist, which includes both site planning and building features, will be used as part of the Final Site Plan review of approved development applications.

This Checklist would not be used until the Final Site Plan review stage because often a developer does not know all of the green building technologies which may be used in a project until the project is designed in detail. This detailed design comes after the City Council/Planning Commission project consideration, so it would not be feasible to have a full list of planned green building technologies at the development site plan application stage. However, some of those items would be known and would be included as site plan conditions either because of their mandatory nature (storm water management, transportation management plans, etc.) or because they were voluntarily proffered by the developer (such as the proffer of LEEDs certification by the developer of 1210 Queen Street). Working from the LEED certification program, staff has listed those "green" features of development approaches that can and/or should be incorporated into local projects. The Checklist seeks information specifically regarding such green features as:

- Promotion of alternative transportation use, such as public transportation subsidies, bicycle storage and changing facilities, flex cars, and reduced parking ratios;
- Protecting open space, preserving trees, and minimizing impervious areas;
- Landscaped roofs;
- Landscaping with native plants;
- Including systems, such as cisterns, that reduce water use;
- Storage and collection of recyclables;
- Use of recycled and local and regional materials; and
- Use of natural daylight for a significant amount of building space.

The final site plan approach, as proposed, would require that applicants fill out the Checklist, indicating which features have been included in the project, and describe the planned work which generates the checked item. A condition included with the project approval will alert developers that they will be required to complete the Checklist as part of the final site plan review. The green technology features will be tracked to establish an inventory of City sustainability efforts and construction technologies, thus creating a storehouse of information, giving us a running total of what has been contributed and providing helpful information so new developers know what others have done successfully in the past.

Staff considered a variety of approaches to the issue for Alexandria, including the potential for density increases for the use of more environmentally friendly development technology. Because of the strong real estate market economy in Alexandria, and because developers typically seek the maximum allowable density already, additional density in the form of bonuses would likely result in buildings too massive and incompatible with most neighborhoods in the City.

Staff believes that the City's current system is preferable: developers may apply for the maximum allowable zoning density, and the development will be assessed, in part, for its provision of a variety of community benefits, as are applicable to the individual project and geographic area. As small area plans are updated with standards, or as Council adopts policy guidelines for City-wide programs appropriate levels of those benefits would be established so that individual projects know what is expected of them.

Working with developers at the time of site plan application and with the proposed new Checklist at the time of final site plan submission, staff will be able to assess the impact of its use as part of the development process. If in the future, additional elements are found to be necessary or desirable, then staff will add them to the development review agenda.

IV. ***Next Steps***

Staff is continuing its work on the green technology issue and has identified two specific additional steps which will enhance and expand the above approach.

I. *Education/information.* Planning staff is developing a brochure for developers and the community which will provide information for applicants and citizens

benefits – both environmental and economics – of providing green technology in their projects.

II. *Small construction projects.* The Green and Sustainable Building Checklist described above will be used for development projects that require either site plan or special use permit approval. In addition, the City will take steps to encourage incorporating green technology in small projects as well, such as residential or commercial additions. Working with Code Enforcement and the building permit process, staff will explore the most efficient and effective way to educate residents and builders about new technologies, and to document their efforts to incorporate green features in their construction projects.

ATTACHMENT: Proposed *Green and Sustainable Building Checklist*

STAFF:
Jeffrey Farner, Division Chief, Development, P&Z
William Skrabak, Division Chief, T&ES
Jeremy McPike, Construction Field Representative, General Services
Arthur Dahlberg, Director, Code Enforcement

Attachment

City of Alexandria, VA

Green and Sustainable Building Checklist -- Tracking

Project Name_____
Date_____
Address_____
DSUP/DSP#_____

		Sustainable Site Planning	Signature
Y	**N**		
		Brownfield Redevelopment	
		Alternative Transportation, Public Transportation Access	
		Alternative Transportation, Bicycle Storage, Changing or shower Rooms	
		Alternative Transportation, Flex Car, Shared Vehicles	
		Alternative Transportation, Reduced Parking ratio and/or Carpooling, alternative vehicle	
		Reduced Site Disturbance, Protect or Restore Open Space, or Tree Canopy, minimize impervious surface	
		Landscape & Exterior Design to Reduce Heat Islands, Non-Roof	
		Landscape & Exterior Design to Reduce Heat Islands, Roof	
		Water Efficient Landscaping, use of Native Plants	
		Water Use Reduction, 20%-30% Reduction	
		Other_____	

		Sustainable Building Techniques -Materials	Signature
Y	**N**		
		Optimize Energy and Water Performance, High efficiency Mechanical, appliances, plumbing, and fixtures	
		Storage & Collection of Recyclables	
		Construction Waste Management, Divert 50%	
		Construction Waste Management, Divert 75%	
		Resource Reuse, Specify 5%	
		Resource Reuse, Specify 10%	
		Recycled Content, Specify 5%	
		Recycled Content, Specify 10%	
		Local/Regional Materials, 20% Manufactured Locally	
		Local/Regional Materials, of 20% Above, 50% Harvested Locally	
		Use of Sustainable Materials	
		Certified Wood	
		Environmental Tobacco Smoke (ETS) Control	
		Carbon Dioxide (CO_2) Monitoring	

		Low-Emitting Materials, Adhesives & Sealants, Paints, Carpet, Composite Wood & Agrifiber
		Daylight & Views, Daylight 50%-75% of Spaces
		Other _____

*** Note: Above categories exceed the applicable minimal codes and ordinance requirements**

Attach a narrative description of each checklist item identified as provided.

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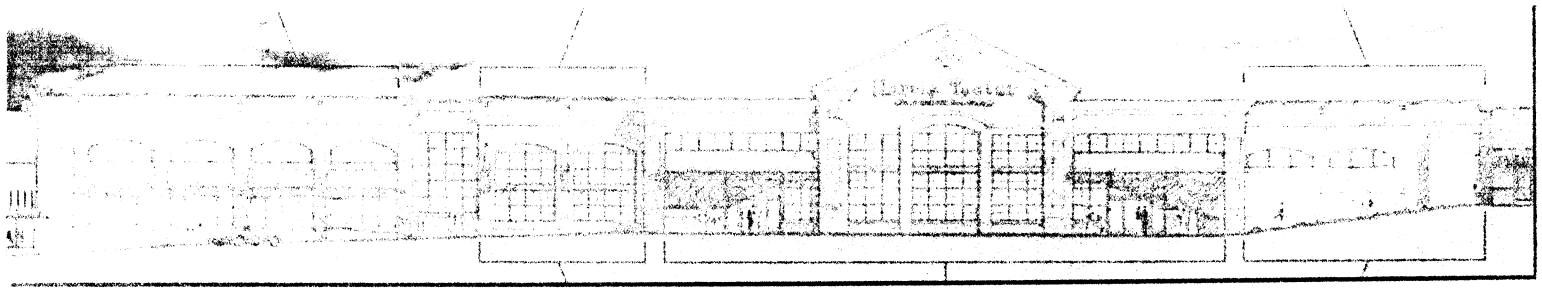
Green Building Policy and Checklist

- **Strategic Plan (adopted October 2004)**

"The applicant shall demonstrate the use of green building and sustainable techniques such as low emissions pains and high efficiency equipment. Provide specific examples of how the technology will be incorporated into the design…."

- **City Facility Policy**

Accomplishments



- Episcopal High School Science Center – 2003
- Pentagon Federal Credit Union - 2004
- Park Tower, King Street – 2004
- Hennage, The Monarch – 2004
- The Prescott - 2004
- Foxchase Shopping Center (Harris Teeter) – 2005

550,000s.f. Residential 2.4m s.f.Commercial 2.95m s.f. Total

Accomplishments

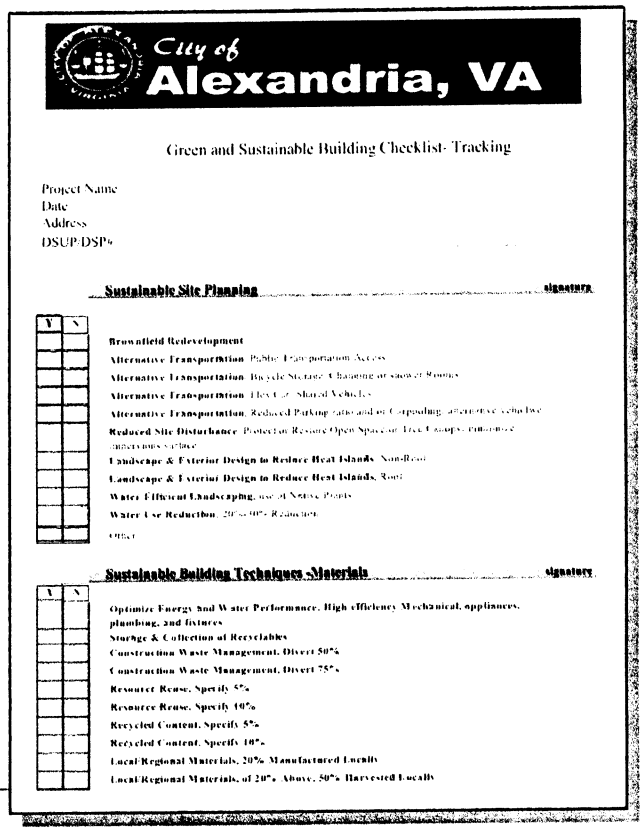
Technologies Achieved (some examples)

- LEED certification
- Green roof
- Stormwater
- Cistern water collection and re-use
- Energy efficient equipment and appliances
- Recycling of materials
- Reflective roofing,
- Ozone-friendly refrigeration

Proposal

Green & Sustainable Building Checklist

- Comprehensive
- Tracking Projects
- Reporting to City Council
- Educational Component



City of Alexandria, VA

Green and Sustainable Building Checklist- Tracking

Project Name
Date
Address
DSUP/DSP#

Sustainable Site Planning signatory

Y	N	
		Brownfield Redevelopment
		Alternative Transportation: Public Transportation Access
		Alternative Transportation: Bicycle Storage & Changing or Shower Rooms
		Alternative Transportation: Flex Car/ Shared Vehicles
		Alternative Transportation: Reduced Parking ratio and/or Carpooling, alternative vehicles
		Reduced Site Disturbance: Protection/Restore Open Space or Tree Canopy, enhanced stormwater surface
		Landscape & Exterior Design to Reduce Heat Islands: Non-Roof
		Landscape & Exterior Design to Reduce Heat Islands: Roof
		Water Efficient Landscaping: use of Native Plants
		Water Use Reduction: 20% - 40% Reduction
		Other

Sustainable Building Techniques -Materials signatory

Y	N	
		Optimize Energy and Water Performance, High efficiency Mechanical, appliances, plumbing, and fixtures
		Storage & Collection of Recyclables
		Construction Waste Management, Divert 50%
		Construction Waste Management, Divert 75%
		Resource Reuse, Specify 5%
		Resource Reuse, Specify 10%
		Recycled Content, Specify 5%
		Recycled Content, Specify 10%
		Local/Regional Materials, 20% Manufactured Locally
		Local/Regional Materials, of 20% Above, 50% Harvested Locally

June 28, 2005
City Council

Next Steps

- Meeting with Development Community
- Reporting back to Council (fall '05)
- Community, City, Developer Education

Opportunities:

- Potomac Yard
- Landmark
- Infill Development

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6-28-05

City of Alexandria, VA

Green and Sustainable Building Checklist- Tracking

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Date_____
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	Use of Sustainable Materials
	Certified Wood
	Environmental Tobacco Smoke (ETS) Control
	Carbon Dioxide (CO_2) Monitoring
	Low-Emitting Materials, Adhesives & Sealants, Paints, Carpet, Composite Wood & Agrifiber
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