



CITY OF KIRKLAND

123 Fifth Avenue, Kirkland, WA 98033 425.587.3225
www.ci.kirkland.wa.us

MEMORANDUM

Date: April 19, 2007

To: David Ramsay, City Manager

From: Kirkland Green Team

Subject: Green Kirkland – Environmental Stewardship and Sustainability

1. RECOMMENDATION

The Green Team recommends the following:

- Review background materials, receive presentation and discuss each item
- Provide direction as appropriate

2. INTRODUCTION, CONTEXT & STUDY SESSION FORMAT

Introduction

On May 18th, 2006 the Council met in a study session with the Natural Resource Management Team. At that meeting the Council heard from team members on a variety of City environmental stewardship efforts to implement the Natural Resource Management Plan and Climate Protection Program.

The purpose of this meeting is review the progress on these efforts over the past year and to provide direction on priorities and next steps. Of note is a name change for our overall program and our interdepartmental service team. We have been known as the *Natural Resource Management Team* ever since we were first formed at the direction of the City Manager in 2000. Since there are a number of City activities, policies, and programs that are much broader than “natural resources”, we felt we needed a new identity. Our overall effort is now entitled “*Green Kirkland*” which we felt better captures the variety of efforts the city undertakes – environmental stewardship, sustainability, natural resource management, etc. As such – the moniker for our interdepartmental group is now the “Green Team”.

The Green Team consists of representatives from three primary departments: Parks & Community Services, Planning & Community Development and Public Works:

Planning & Community Development	Paul Stewart, Deputy Planning Director Patrice Tovar, Senior Planner Stacey Ray, Urban Forester
Parks & Community Services	Jennifer Schroder, Director Michael Cogle, Park Planning & Development Manager Jason Filan, Park Operations Manager
Public Works	Jenny Gaus, Senior Surface Water Utility Engineer Wendy Kremer, Public Grounds Supervisor Bobbie Wallace, Surface & Wastewater Manager Solid Waste Coordinator

We generally meet once a month or at special meetings if needed. Other City staff have participated on an as-needed basis depending on the topic. Participation with the team has been expanding due to the need to have more involvement and coordination. For example, David Barnes, Stacy Clausen, Scott Guter and Tom Jensen have taken the lead on the green building program and Ellen Miller-Wolfe has been working with the team on encouraging green businesses.

In the past, the team was a clearinghouse to share information and prepared the Natural Resource Management Plan adopted by the City Council in August, 2003. Over the past couple of years the team has been more active and involved with working on implementing the plan's recommendations. In addition, the City overall has focused on becoming increasingly "green" in many of its actions and programs (e.g. attracting green business, promoting green development, purchasing green vehicles). The level of the City's green effort has significantly expanded.

While the Green Team is the formal interdepartmental entity responsible for working on stewardship efforts, other city staff have been voluntarily meeting at informal "brown bag" lunches to share ideas on sustainability and green living. This illustrates the keen interest of City employees in this subject.

As we move more and more into this area, we will need to think about service and staffing levels, as well as funding and organizational approaches. There is currently no ongoing budget for the team. In addition, as the city expands its role in environmental stewardship and sustainability activities and programs, we will need a full time coordinator or manager at some point in the near future. The current arrangement of a coordinating "team" may not be the most efficient or

responsive approach. The City may also want to consider having a citizen advisory board or commission that would focus on these issues.

Context

April 22 was Earth Day. There is no question that there has been heightened awareness of our effect on the environment over the past several years, due largely to the reality that global warming is occurring. The response crosses every spectrum of society – individuals, families, business, education, and government. Last week in the New York Times, Thomas Friedman writes about “The Power of Green” and makes the point that green has gone “Main Street”. No longer is it considered the fringe of the environmental movement. Governor Gregoire penned a special editorial in the Seattle Times on April 20th titled “It’s time to get serious about climate change.” (See Attachment 1). She notes that business as well as state and local government are stepping up to the challenge.

The City is poised to move forward to the next level. It will take a concerted effort on a number of fronts and to be successful, it will need to involve cooperation with a variety of partners and community groups. For example, on April 11, the City, Chamber of Commerce and Lake Washington Technical College hosted the Kirkland Business Roundtable with the topic of “Green Business/Green City”. Mayor Lauinger addressed the group and Councilmembers Greenway and Sternoff were in attendance. The City, through Ellen Miller-Wolfe, has an active program to recruit, retain and recognize green businesses. One of the speakers noted that business needs to embrace sustainability to ride the next wave and to have a competitive advantage. She characterized it as “*More value...Less impact.*”

Study Session Format

The Council packet covers a variety of green efforts that are being undertaken by City staff. At the study session we would like to emphasize certain key items for discussion. We would suggest that for each individual item we have a short staff presentation and then questions and discussion by the Council. The key topics have separate memos or reports attached that highlight the effort underway and next steps. Other items are included in the packet and staff will be in attendance for questions or discussion. Individual staff members will be addressing the following:

- Introduction, Overview & Work Program Paul Stewart & Patrice Tovar
- Climate Protection Program Erin Leonhart & Vandana Ingram Lock
- Low Impact Development Jenny Gaus and Stacy Clauson
- Green Building Paul Stewart and David Barnes
- Green Kirkland Partnership/CLC Jennifer Schroder
- Other items or questions
- Council Goal

3. DISCUSSION TOPICS

A. Work Program

At the Environmental Stewardship special study session held May 18, 2006, the Council requested that staff follow up with additional information/action on several specific items. Attachment 2 summarizes the current status of each of those items.

In addition, Kirkland staff continues assigned work on many other projects, programs and policies that benefit the environment. Attachment 3 provides a complete topical outline of all of those efforts that are underway in the City.

Based on direction the City Council gives at the study session on May 1, 2007, the Green Team will add detail to the comprehensive outline to describe further progress in specific topical areas that is anticipated through 2007. This will constitute the Green Team's 2007 Work Program.

B. Climate Protection

Introduction

In order to conform to the *U. S. Mayors Climate Protection Agreement* ("Mayors' Agreement"), Kirkland's community and governmental operations greenhouse gas (GHG) emissions have been calculated. Detailed information and data is available in the attached Climate Protection Update (see Attachment 4). Using households and economic activity, Kirkland's citywide emissions for the years 1990, 2002, and 2005 were extrapolated from King County data. The 2005 inventory completed recently shows significant improvement, a 12% decrease in GHG emissions from 2002, which is a 12% increase from 1990 levels. The goal is to see a reduction of 7% from 1990 levels.

Utilizing ICLEI software and data collected from utility bills and other sources, Kirkland's governmental operations GHG emissions were derived for the years 2000 and 2005. Although the Mayors' Agreement refers to the Kyoto Protocol targets (reductions from 1990 levels), information from 1990 was not readily available. According to ICLEI, other organizations with the same issue are using the year 2000 as a base year. Calculations indicate that Kirkland's governmental GHG emissions have increased almost 19%.

Next Steps

There are five milestones to reduce greenhouse gas emissions throughout the community:

1. Conduct a greenhouse gas emissions inventory and forecast to determine the source and quantity of greenhouse gas emissions in the City;
2. Establish a greenhouse gas emissions reduction target;
3. Develop an action plan with both existing and future actions which when implemented will meet the local greenhouse gas reduction target;

4. Implement the action plan; and
5. Monitor and report progress.

Kirkland has accomplished the first milestone. Staff will develop recommendations for reduction targets and present an update to Council by August of 2007. An action plan will be developed from the reduction targets set by Council.

C. Low Impact Development

Progress has been made in 2007 on many aspects of LID implementation including education and outreach efforts, suggested regulatory changes, research on incentives, and tools to direct and support LID efforts. The attached memo provides details on each of these efforts and suggests next steps (See Attachment 5).

D. Green Building Program

Green or sustainable buildings are usually defined as design, construction and operation practices that reduce resource consumption and environmental impacts. Features include energy efficiency, water conservation, using resource-efficient materials or preventing pollution. Green buildings are typically rated on how well they meet industry developed standards. Several communities (King County, Seattle, Issaquah) have programs in place. Kirkland is beginning to explore how to set up its own Green Building Program.

The Green Building program research began in response to several of the goals identified in the Natural Resource Management Plan and the Comprehensive Plan. Currently, the City does not have a program or permitting process to encourage and promote sustainable buildings. The memo and action plan (See Attachment 6) seeks to address this need and asks for City Council support in continuing the work outlined in Green Building Action Plan (Attachment 6a).

The Kirkland Green Building action plan has three distinct phases. Phase one is research, two is implementation and phase three is ongoing program maintenance. We are currently well into the phase one and hope to complete it by the end of August, 2007. A check in with Council (Fall 2007) would be the next step with a recommended project scope for a green building program. King County is taking the lead in working with communities to establish a comprehensive and coordinated program entitled "Green Tools." On June 19th, 2007, the County will launch their "toolkit" for suburban cities to initiate or enhance cities green building efforts (See attachment 6.c). Councilmembers are encouraged to attend this event.

E. Green Kirkland Partnership with the Cascade Land Conservancy

The goal of the Green Kirkland Partnership is to restore the 324 acres to a sustainable urban forest condition – invasive free – and an aware and energized community in which individuals,

neighborhoods, nonprofit organizations, businesses and City government are working together to protect and maintain Kirkland's urban forests for current and future generations.

There are two main goals that summarize the program:

- Restore Kirkland's urban forests by removal of invasive plants and replant for the sustainability of the forest and its habitat
- Build the community's capacity for long-term stewardship of the urban forest through increased public awareness of and engagement in, protecting, restoring and helping to maintain healthy urban forests.

To achieve these goals the Green Kirkland Partnership program includes the following strategies: 1) develop and implement a 20-year restoration plan for the city's open space and natural areas, 2) Implement a Environmental Education and Outreach program to educate and engage the community in stewardship projects to remove invasive plants and to replant with native species, seek support from businesses in both funding and stewardship and, seek grants to support stewardship activities, 3) Create a sustainable volunteer stewardship program for ongoing restoration and care of our urban forests and 4) Acquire land that has ecological and habitat benefits. The attached memorandum provides a status report of each strategy (See Attachment 7).

F. Other Items

(1) Trees and Vegetation

Urban Forester

In November, 2006, Stacey Ray was hired at a .5 FTE to replace Elizabeth Walker as the City's Urban Forester. Beginning May 1, 2007, the Urban Forester position will be increased to 30 hours/week. This increase in hours is being partly funded by Public Works through the remainder of 2007. The Urban Forester duties will increase to include review of trees in rights-of-way during the permit process and to enhance current coordination on CIP projects that involve tree preservation and/or installation. As part of a number of newly developing efficiency measures, Planning and Public Works are working closely to integrate right-of-way trees into the permit review process and to involve the Urban Forester in the design and review of CIP projects.

The tree regulations that went into effect January 1, 2006, have proved to be very time-intensive, requiring a high level of detailed plan review and field analysis to ensure new development and tree removals are in compliance with the code. Additionally, the Urban Forester has frequently been called upon to assist with code enforcement violations, often assisting in review of evidence and/or restoration plans.

Throughout the year, Kirkland's Urban Forester worked closely with a variety of community members to ensure all interest groups were provided with the education and tools to understand and comply with the new regulations.

As with any newly implemented regulations, homeowners, tree care professionals, city staff and members of the development community have all contributed to identifying aspects of the code that will be revisited when amendments are being considered to begin in late 2007 or early 2008.

In addition to new policies, in late 2005 the Urban Forester produced an official guide to selecting, planting and maintaining Kirkland street trees, which is still being utilized by city staff, developers, and community members. This list will also likely be revisited as part of the amendment process.

Kirkland continues to be recognized as a Tree City USA. Although no Growth Award was received for 2006, The Centennial Tree program did contribute greatly to Kirkland having allocated more than enough of the required \$2 per capita to meet the financial criteria. The third and fourth criteria were met with the ordinance remaining unchanged and in effect, and the Green Team acting once again in the capacity of urban forestry board.

The 2006 requirement for an Arbor Day proclamation and event was fulfilled with a celebration held October 24 at Heritage Park in honor of Ms. Amelia Newberry, found of the Campfire Girls in Kirkland. Nationally, Arbor Day is typically recognized by communities in April, however, Kirkland celebrates each year in October because newly planted trees benefit most from the greater percentage of rainfall during the fall season. The 2007 Arbor Day event will occur in October, and is designed to celebrate and promote the city's Tree City USA achievement and dedication to managing and enhancing the urban forest. Holding an Arbor Day event is also one aspect of ensuring Kirkland will again be named a Tree City USA for 2007.

We recently received complimentary letter from Stephen P. Reynolds, Chairman, President and Chief Executive Officer for Puget Sound Energy (PSE) congratulating the city on its designation as a "Tree City USA" (See Attachment 8). PSE has also been recognized by the National Arbor Day Foundation as a "Tree Line USA Utility." The letter commends the City for its commitment to trees and, in honor of this achievement, PSE will be donating a tree to Kirkland to be planted at a place of our choice.

Administering the new regulations is providing many opportunities to collect feedback and determine what should be addressed during an amendment process planned for 2008. In addition to the amendment process, future work program items include the fall Arbor Day Celebration, continued neighborhood tree planting, creation of an Urban Forestry Management Plan, and more community educational events. However, in order to accomplish this, additional funding should be explored to increase the Urban Forester to a

full-time position. Because plan review and code enforcement comprise the bulk of the Urban Forester's time, additional valuable activities are very difficult to integrate into the work program.

Public Trees

In July of 2005, the temporary halftime field arborist position began working in Public Grounds. The idea was that with the new tree regulations, tree inventory, development impacts on trees and the desire to retain a healthy tree canopy, the City needed a certified field arborist to evaluate, plant and maintain the City's public trees – particularly as part of the City's goal and commitment to increase the overall canopy. The field arborist is different from the City's Urban Forester. The field arborist position works directly on tree management activities on *public property* – street rights-of-way, city facilities and parks. (Note: The Urban Forester position focuses on trees on *private property* as well as developing city policy and regulations and providing educational materials and opportunities.)

As with the Urban Forester, the workload for our field arborist has far exceeded the half time hours due to the many demands on his time from several work groups in the City. Included in his tasks are working with developers, contractors, inspectors and City utility field crews on retaining and planting trees, reviewing the many tree permits for removals and pruning of public trees to ensure they consistently meet ordinance requirements, working with code enforcement on illegal pruning and removals of trees and restoration, training staff, educating the public, planting new trees, pruning public trees, removing hazard trees and updating the street tree inventory. This requires extensive analysis of every tree, evaluating it's' assets/defects and detailed plan reviews. Additionally, we have taken over what formerly had been tasked to residents, the pruning of public trees when trim requests are sent out. We had also hoped to start some pro active corridor tree maintenance.

This year, the season we would normally spend doing most of our tree planting and pruning, had to be spent cleaning up after the storm activity we experienced. We also had a heavy load of development and projects requiring his expertise. When you consider the amount of time it takes to set up/tear down/manage a site where trees are being worked on and the time needed per tree, two eight hour days and one 4 hour day for one person can't begin to meet the work load. We know from the tree inventory that there are over 21,000 public trees inventoried. Keeping in mind that the inventory was done in 2003-2004 and numbers may have changed, preliminary query reports show over 700 trees needing medium to high priority maintenance, over two thousand identified as hazard/leaning and over two thousand dead.

Based on workload and community interest and support for trees, the Council should consider funding this as a full time/permanent position and to consider adding needed FTE help to assist. This work cannot be done alone because of the hazards involved and

seasonal laborers can no longer work on the trees. Unless this position is funded, the City will have not have dedicated field arborist or crews to oversee this work.

Federal Funding

Federal funding for Urban & Community Forestry is facing a proposed 50% cut for 2008, and the Green Team requests the City Council and Mayor join the Alliance for Community Trees (ACT) in encouraging lawmakers to support maintaining current funding levels of \$36 million. In addition, we believe \$14 million in new funding should be allocated to support technology transfer and a metropolitan areas tree canopy restoration initiative, for a total of \$50 million in recommended support for the U&CF program.

The City of Kirkland has been the recipient of two federally funded grants (2003 and 2004), for a total of \$25,200. This funding was used to complete the City Tree Inventory, which is an invaluable tool used by both Planning and Public Works to identify trees in rights-of-way and begin to proactively manage this asset.

Nationally, federal funding has led to countless innovative and scientific advances in urban forestry. For example, the national Tree City USA designation is just one outstanding program that relies heavily on federal grants. In addition, grant-funded research at the University of Washington has identified that consumers are willing to spend up to 12% more for retail purchases in shopping districts shaded by trees, attesting to the economic development value that urban trees provide. All ideas, programs, and research findings achieved with grant funding are widely available for use in communities such as Kirkland.

In the next 50 years, urban areas are projected to increase in land area dramatically, and the Urban & Community Forestry program is one of few programs solely focused on the environmental needs of expanding urban centers. To include the City of Kirkland in this effort, we can join in supporting the Alliance for Community Trees at:

http://www.surveymonkey.com/Users/40193235/Surveys/624323434230/540CDC01-CA5B-4589-AC57-43A41F5A61BE.asp?U=624323434230&DO_NOT_COPY_THIS_LINK

ACT invites our organization to add its name to the growing list of supporters working to save the FY 2008 federal budget for Urban and Community Forestry. If the Council agrees the City can add its support to the Forest Service Budget Recommendations, supported by the Sustainable Urban Forests Coalition.

(2) Pest Management

At the May, 2006 study session, the Council expressed an interest in getting more information on the city's pest management practices. Two reports have been prepared by Parks and Community Services and by Public Works. They are included as Attachments 9a and 9b.

(3) Educational/Informational

The city has funded two positions to increase its efforts in education and outreach.

- *Environmental Education and Outreach Specialist.* The Environmental Education and Outreach Specialist is a temporary position in Parks and Community Services who will work to increase community and business involvement in the restoration of natural resources in Kirkland parks. The Outreach Specialist will collaborate to develop a variety of recruitment and retention strategies to cultivate and maintain a sustainable pool of volunteers to participate in on-going stewardship activities.
- *Community Education & Outreach Specialist.* The Public Works Department is in the process of hiring an education and outreach specialist to develop, implement and coordinate programs to promote sound environmental stewardship by citizens and businesses regarding natural resources including surface water, solid waste/recycling and drinking water.

(4) Purchasing

When specifying products to be purchased, staff gives consideration to products that have a lesser or reduced effect on health and the environment when compared with other products that serve the same purpose.

The environmental attributes of a product are to be an additional consideration in the buying decision along with such traditional factors as price, performance, quality, and service.

Examples of this include:

- The City continues to purchase recycled copier paper and other recycled paper products.
- Recycled paper and environmentally friendly inks are specified in printing projects.
- Remanufactured toner cartridges are purchased for printers.
- Energy start compliant computers and appliances are purchased off of Washington State contracts.
- Environmentally friendly cleaning products are used by the janitorial service as specified by the State contract.
- Purchasing Services has taken a one year membership in the Responsible Purchasing Network (www.responsiblepurchasing.org) to learn of other opportunities to purchase environmentally friendly products.

(5) Sustainable September

Sustainable September is a collaborative effort between the Kirkland Chamber of Commerce, business members, (engineering firms, realtors, designers, architects, builders, green car companies, and financial institutions), community members and utilities including but not limited to the City of Kirkland, Lake Washington Technical College and Puget Sound Energy. The purpose of Sustainable September is to connect business and community on the Eastside

(Kirkland and surrounding areas including unincorporated King County by joining forces with all the stakeholders to promote sustainable businesses.

The Green Team will be assisting in this effort. Ideas being considered include a panel discussion or workshop on low impact development and tours to green buildings and sustainable developments. Staff and the Chamber of Commerce are also working together to create a Green Business Recognition Program for debut in conjunction with Sustainable September.

(6) Web Page

The Team is putting together a comprehensive web page on “Green Kirkland” that will be central place to go for all things green. Attachment 10 is a sample of the home page. The idea is to have the information and links listed under six primary topics – the same organizational framework for our work program (Attachment 2).

- Natural Resource Management
- Sustainable Building & Development Practices
- Climate Protection Efforts
- Tree and Vegetation Management
- Solid Waste/Recycling Programs
- Education, Information and Partnerships

G. Council Goal – Environmental Stewardship

The Council has been periodically reviewing their goal statements for their highest priority areas. Previously the Council discussed goal statements for economic development and for housing. As part of the 2005-2006 budget, the Council adopted a goal for Environmental Stewardship that reflected the Council’s philosophy and which guides the City in its planning, policies, regulations, programs and funding. This goal says:

“We commit to the proactive protection of our environment. An integrated system of natural resource management focuses on the preservation of wetlands, trees, open space and other sensitive areas, water quality, clean air and waste reduction.”

The Comprehensive Plan also contains several goal statements in the Framework Goals, Natural Environment Element and Parks, Recreation and Open Space Element.

Framework Goals

FG-5: *Protect and preserve environmentally sensitive areas, and a healthy environment.*

FG-7: *Encourage low impact development and sustainable building practices.*

Natural Environment Goals:

Goal NE-1: *Protect natural systems and features from the potentially negative impacts of human activities, including, but not limited to, land development.*

Goal NE-2: *Manage the natural and built environments to achieve no net loss of the functions and values of each drainage basin; and, where possible, to enhance and restore functions, values, and features. Retain lakes, ponds, wetlands, and streams and their corridors substantially in their natural condition.*

Goal NE-3: *Manage the natural and built environments to protect and, where possible, to enhance and restore vegetation.*

Goal NE-4: *Manage the natural and built environment to maintain or improve soils/ geologic resources and to minimize risk to life and property.*

Goal NE-5: *Improve air quality and reduce Kirkland's contribution to climate change.*

Park, Recreation and Open Space Goals:

PR-3: *Protect and preserve natural resource areas.*

The Comprehensive Park, Open Space and Recreation Plan prepared by the Parks and Community Services Department also include goal statements:

1. *Acquire, develop, and renovate a system of parks, recreational facilities, and open spaces that are attractive, safe, functional, and available to all segments of the population.*
2. *Enhance the quality of life in the community by providing services and programs that offer positive opportunities for building healthy productive lives.*
3. *Protect and preserve publicly owned natural resource areas.*

Given these adopted goal statements and the discussion at the study session, the Council may want retain the current statement or revise and update as appropriate.

4. SUMMARY

Kirkland has made a strong commitment to supporting environmental stewardship over the years. It is reflected in our policy statements and programs. "Green Kirkland" is a reflection of our civic identity and day to day activities and operations. As we move forward there are challenges and opportunities as we take it to the next level.

Summary Points

- Kirkland has been a leader in environmental stewardship.

- Kirkland has made substantial progress in implementing the Natural Resource Management Plan; however there are still areas that need attention.
- The City has a “Green Team” coordinating on variety of efforts. Additional resources identified include:
 - A staffing position dedicated to overseeing the numerous citywide efforts
 - Increasing the Urban Forester position to a full time position.
 - A permanent FTE field arborist position to address public trees
 - Consideration of a “green” advisory group
- New initiatives in progress for 2006 include:
 - Climate Protection Effort (establish targets and develop an action plan)
 - Development of a low impact development program
 - Development of green building program and action plan
 - Development and implementation of the Green Kirkland Partnership program with the Cascade Land Conservancy
 - Education and outreach efforts in Parks and in Public Works
 - Partnerships with community groups and business (e.g. volunteers, business roundtable, Sustainable September, etc.)
 - Creation of a website

Council questions:

Based on the information presented and discussion at the study session, listed are questions for Council to consider:

- Is the City on track with its green efforts and initiatives on environmental stewardship and sustainability?
- Does the Council have questions on the information presented or are there areas where the Council would like more information?
- Is the Council in agreement with the approaches to the key discussion points noted above? Are there areas or programs that need more attention or emphasis?
- Does the Council goal need revision?

Attachments

1. Editorial article by Governor Gregoire
2. Summary of Tasks Items
3. Outline of Work Program

Memo to David Ramsay

April 19, 2007

Page 14 of 14

4. Climate Protection Update
5. Low Impact Development Memo
6. Green Building Program Memo and Action Plan
7. Memo on Green Kirkland Partnership with Cascade Land Conservancy
8. Letter from Puget Sound Energy
9. City pest management practices
10. Green Kirkland website example

It's time to get serious about climate change

4-20-07

BY CHRIS GREGOIRE
Special to The Times

AS we celebrate the 38th annual Earth Day on Sunday, it's clear that in the United States we have reached a tipping point on the issue of climate change.

In boardrooms and backyards across the country, Americans are discussing what they can do to address global warming. For years, scientists, environmental groups and a certain Oscar-winning filmmaker hidden inside a politician have been calling attention to rising temperatures and the dangers they pose to the planet.

Environmentalists who were once dismissed have continued to point out the perils of global warming until the science was too strong to ignore. The questions are no longer about sound science or fuzzy math, the questions are now about solutions.

Citizens and consumers have started to take their own steps to reduce emissions by recycling, driving hybrid cars, buying "green" homes and purchasing renewable energy, and they continue to look for new ways to reduce their impact on the environment. They expect the businesses they patronize and the political leaders they elect to take action as well.

Despite a lack of leadership from the federal level, businesses as well as state and local governments are stepping up to the challenge:

- In January, CEOs of 10 of the nation's largest corporations called for legislation that would reduce carbon emissions by 10 percent within 10 years, by up to 30 percent within 15 years, and by up to 80 percent by 2050.

- In Washington, corporations including BP, Alcoa and Weyerhaeuser, and utilities such as Avista, the Snohomish County Public Utility District and Puget Sound Energy have all announced efforts to reduce their impact on the climate.

- Seattle and King County are leading cities and counties across the nation by taking steps to lower emissions, such as reducing commute trips, expanding public-transportation options and increasing the use of renewable fuels.

- In February, I joined four other Western governors in signing an agreement to reduce greenhouse-gas emissions from our respective states.

The reality of global warming is clear. In January, the Intergovernmental Panel on Climate Change concluded that our planet's atmosphere has more greenhouse gases in it now



M. RYDER / OP ART

than at any time during the past 650,000 years. Earlier this month, another assessment by the panel warned of alarming consequences, including long-lasting droughts and rising seas.

It is equally clear that humans are causing our climate to change by burning massive amounts of fossil fuels like coal, oil and natural gas. And 11 of the past 12 years have been the warmest years on record.

Here in Washington, we are experiencing the effects of climate change already. Scientists at the University of Washington tell us that temperatures in the state are rising faster than they are globally. Our state's glaciers have lost one-third of their volume since 1950. The snowpack in the Cascades — which cities, fish and farmers rely on for water — is declining, and our summers are drier as that snowpack melts earlier each year.

We're seeing the more-extreme weather events — droughts and forest fires, floods and storms — consistent with what scientists tell us a warmer climate brings. Last December's devastating storms caused 15 deaths and knocked out power to more than 1 million homes.

Earlier this year, I signed an executive order setting aggressive goals for emissions reductions and creating jobs in the field of alternative energy.

To achieve these goals, the directors of the departments of Ecology and Community, Trade and Economic Development have brought together 21 community leaders from around the state to develop recommendations

building on my office's earlier efforts to reduce tailpipe emissions from cars; create a market for renewable fuels like biodiesel and fund projects to produce that fuel in Washington; increase energy efficiency in buildings and products; promote the use of renewable energy; make public buildings greener; and invest in alternative-energy research.

Local utilities are also doing their part to provide renewable energy and use energy more efficiently, and with their help we will move more than halfway toward our goal of returning to 1990 emissions levels by 2020.

All of our actions together — citizens, businesses and government — will not only reduce our state's dependence on foreign oil, but will also grow a green economy for the state of Washington.

We have made a good start, but there is much more we all must do to preserve our environment and our quality of life. It is time for us to embrace this tipping point and act aggressively to reduce greenhouse gas emissions. Citizens, business and community leaders as well as elected officials must seize this moment to tackle the challenge of climate change.



Chris Gregoire is governor of Washington state.

Green Team summary of the
CURRENT STATUS OF ITEMS REQUESTED BY THE CITY COUNCIL
at the Council Study Session Environmental Stewardship on May 18, 2006

Task	Assigned Staff	Status	Next Steps	Timing	Resources
1. Give copies of the Green Seattle plan to Council members.	Michael Cogle, Parks	✓ Done	None	Spring 2006	Staff time
2. Investigate the possibility of purchasing scooters for staff to use in commuting between the Maintenance Center and City Hall.	Erin Leonhart, PW John Hopfauf, PW Tim Llewellyn, PW	✓ Done The result: (1) The basic scooter used by our Police for Parking Enforcement cost \$24,211.47 with tax in 2004. It is powered by a Hyundai automobile engine. They are considered a "three wheel motorcycle" as are all street legal 3 wheeled vehicles. They require a class "7" motorcycle endorsement (sidecar/three wheel endorsement). Law enforcement officers are exempt. (2) The City insures the vehicle only, not the driver. Kathy Joyner sees no insurance problem with the 49cc scooter concept, but since it requires no special endorsement, she suggests that some informal training be given to non-motorcycle endorsed employees who could use it.	None	Autumn 2006	Staff time

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3. Host speakers and community outreach on Low Impact Development techniques.	Jenny Gaus, PW Paul Stewart, Planning	✓ Done This was done in 2005.	Pass agenda and handouts on to Council.	These will be included with the semi-annual status report to Council reading file in January 2007.	N/A
4. Give Mayor Lauinger a copy of APWA presentation on Portland Green streets, along with a map of the sites, and he will route it from there.	Jenny Gaus, PW	✓ Done	None	Spring 2006	Staff time
5. Report back on "how are we doing" with use of pesticides/herbicides in City parks and rights-of-way.	Jason Filan, Parks Erin Leonhart, PW Wendy Kremer, PW	✓ Jason wrote a memo dated to explain Kirkland's Integrated Pest Management in parks. ➔ Wendy and Erin are developing a report on herbicide and pesticide use in public rights-of-way.	These two items will be included in the packet for the May 1, 2007 study session.	May 2007	Staff time
6. Develop and implement a Natural Resources web page.	Paul Stewart, PCD	Rob Mullin is using the guidance he received at the June NRMT meeting to set up the web page framework.	NRMT should compile links and documents to post.	Initial website should be up by May 2007.	Staff time

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at the Council Study Session Environmental Stewardship on May 18, 2006

Task	Assigned Staff	Status	Next Steps	Timing	Resources
7. Add or update review of plantings that are installed with CIP projects to make sure that they can be maintained without use of herbicides and that they are generally low maintenance and low in water use.	Wendy Kremer, PW Jenny Gaus, PW Stacey Ray, PCD	Work with arborist and also potentially a landscape architect/consultant to review City landscape requirements, develop criteria, planting types, and watering techniques for City projects.	Meet to discuss, develop contract scope if needed Jenny to assist with lists of plants appropriate for use in LID facilities	In process	May need consulting services in addition to staff time
8. Report back to Council on the Puget Sound Action Team Low Impact Development regulations review grant.	Jenny Gaus, PW	<ul style="list-style-type: none"> ✓ Received Puget Sound Action Team Grant ✓ Have received information and suggestions from project consultant 	To be included in the packet for the May 1, 2007 study session	May 2007	Staff time
9. Talk to Seattle and other regional communities about their program that plants trees in landscape strips. Identify aspects of successful programs.	Stacey Ray, PCD Wendy Kremer, PW	Seattle's program relies on homeowners to maintain the trees. Education is used to encourage proper tree care and maintenance.	Will explore ideas about how a successful tree-planting program can be implemented in Kirkland.	September 2007	Staff time
10. Inventory City activities for their impact on climate change.	Erin Leonhart, PW Van Ingram-Lock, PW	Van is coordinating data collection. Data due to Van by the end of December 2006.	Use tools & assistance that will be provided w/ICLEI membership.	Will report back in conjunction w/#9 at the annual NRMT update for Council in May or June	Staff time

Updated 4/24/2007 AM

Green Team summary of the
CURRENT STATUS OF ITEMS REQUESTED BY THE CITY COUNCIL
at the Council Study Session Environmental Stewardship on May 18, 2006

Task	Assigned Staff	Status	Next Steps	2007 Timing	Resources
11. Extract Kirkland info. and report back on 2005 Puget Sound Clean Air Agency climate change inventory.	Erin Leonhart, PW Van Ingram-Lock, PW	Puget Sound Clean Air Agency is analyzing countywide data from 2005.	Clean Air Agency working on data and will have the report completed in late 2006 or early 2007.	Will report back at the annual NRMT update for Council in May or June 2007	Staff time
12. Look for incentives for/reduce barriers to sustainable building techniques.	Paul Stewart, PCD Jenny Gaus, PW Tom Jensen, F & B David Barnes, PCD	Funds approved in 2007 budget	Determining quantities of each brochure wanted and King County will print	2007	Staff time and approved service package
13. Educate public about ivy removal on private property.	Jenny Schroder, Parks Jason Filan, Parks	Leslie Batten from Cascade Land Conservancy is presenting to Neighborhood Associations the importance of removing invasive plants from urban forests as part of Green Kirkland Initiative.	Presentation to Park Board and City Council regarding Green Kirkland status	Outreach is ongoing. Presentations to Park Board and Council in first quarter of 2007	CLC contract funded from Parks CIP and grant from KCD. 2007 one-time funding for 0.5 FTE Outreach Coordinator
14. Educate residents about eco-friendly car washing.	Jenny Gaus, PW	Hiring process for education/outreach position begins January 2007.	Develop programs	TBA	Staff time Brochures

GREEN KIRKLAND EFFORTS COMPREHENSIVE LIST

4/24/2007

I. Natural Resource Management

- A. Stream and Wetland Protection
- B. Open Space Acquisition
- C. Fish and Wildlife Protection
- D. Shoreline Master Program
- E. Surface Water Master Plan
- F. Resource Conservation
 - 1. Water
 - 2. Fossil Fuel
 - 3. Electricity
 - 4. Green Purchasing

II. Sustainable Building and Development Practices

- A. Low Impact Development
 - 1. Techniques
 - 2. Standards
 - 3. City Projects
- B. Green Buildings
 - 1. Action Plan
- C. City Facilities and Projects
- D. Private Construction

III. Climate Protection Efforts

- A. Climate Protection
- B. Emissions Inventory and Forecast
- C. Targets and Action Plan
- D. Promotion of Alternative Transportation Modes
- E. Use of Alternative Fuels in City Fleet
- F. Transportation Demand Management and Commute Trip Reduction

IV. Vegetation Management

- A. Tree Canopy
- B. Tree and Landscaping Regulations
- C. Tree City USA
- D. Inventory of Trees in Parks and City Rights-of-Way
- E. City's Urban Forester and Field Arborist
- F. Pest Management

V. Solid Waste/Recycling Programs

- A. Residential Collection
- B. Food Waste
- C. Collection Events

ATTACHMENT 3

GREEN KIRKLAND EFFORTS COMPREHENSIVE LIST

4/24/2007

VI. Educational Information Partnerships

- A. Education and Outreach Staffing
- B. Sustainable September Event with the Greater Kirkland Chamber of Commerce
- C. Attracting Green Businesses
- D. Brochures/Publications
- E. Volunteer Efforts
- F. Opportunities with Schools

GreenKirklandEffortsComprehensiveList

CITY OF KIRKLAND CLIMATE PROTECTION UPDATE II

**Based upon the U. S. Mayors Climate Protection Agreement endorsed
by the City of Kirkland on May 17, 2005**



April 19, 2007

City of Kirkland
CLIMATE PROTECTION UPDATE
April 19, 2007

INTRODUCTION

Climate disruption is an urgent threat to the environmental and economic health of our communities. With less than 5% of the world's population, the United States produces more than 25% of the global greenhouse gas emissions, and those emissions are continuing to grow. On February 16, 2005 the Kyoto Protocol, the international agreement to address climate disruption, became law for the 169 countries that have ratified it to date and the United States is not among them. For 38 of the countries with the most advanced economies, the Protocol sets binding legal commitments to reduce greenhouse gas emissions on average 5.2 percent below 1990 levels. If the United States had ratified the Kyoto Protocol our nation would be required to reduce greenhouse gas emissions by 7% below 1990 levels by 2012.

Seattle Mayor Greg Nickels, along with a growing number of other U. S. mayors, lead the development of the U. S. Mayors Climate Protection Agreement. On May 17, 2005, Kirkland City Council signed a resolution endorsing the *U. S. Mayors Climate Protection Agreement*. As of March 1, 2007, 413 mayors throughout the United States have signed the Climate Protection Agreement, including those from 21 Washington cities (see Exhibit 1). In signing the resolution, the City of Kirkland pledged to accept the Agreement's three main parts:

- a. We urge the federal government and state governments to enact policies and programs to meet or beat the target of reducing global warming pollution levels to 7 percent below 1990 levels by 2012, including efforts to: reduce the United States' dependence on fossil fuels and accelerate the development of clean, economical energy resources and fuel-efficient technologies such as conservation, methane recovery for energy generation, waste to energy, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels;
- b. We urge the U.S. Congress to pass bipartisan greenhouse gas reduction legislation that includes 1) clear timetables and emissions limits and 2) a flexible, market-based system of tradable allowances among emitting industries; and
- c. We will strive to meet or exceed Kyoto Protocol targets for reducing global warming pollution (reduce greenhouse gases to 7% below 1990 levels) by taking actions in our own operations and communities, particularly in the areas described in this report.

Signing the resolution continued a long-standing tradition of environmental stewardship in Kirkland. For over 20 years, the City has implemented various policies, regulations, and programs to protect the natural environment. In 2000, an interdepartmental team was formed to coordinate all of the City's actions for managing Kirkland's natural environment. In 2003, the City Council adopted the *Kirkland Natural Resource Management Plan*, which comprehensively summarizes best management practices and principles, Kirkland's natural resource management objectives, and recommended implementation strategies.

This progress report summarizes the actions Kirkland has taken that pertain to the 12 actions outlined in the *U. S. Mayors Climate Protection Agreement*. Since many of the 12 actions are also addressed in the Natural Resource Management Plan (NRMP), the corresponding NRMP Implementation Strategy (see NRMP, Page 48) and NRMT 2006 Work Program tasks are cited below.

1. U.S. MAYORS CLIMATE PROTECTION AGREEMENT: ACTION LIST

City of Kirkland CLIMATE PROTECTION UPDATE

April 19, 2007

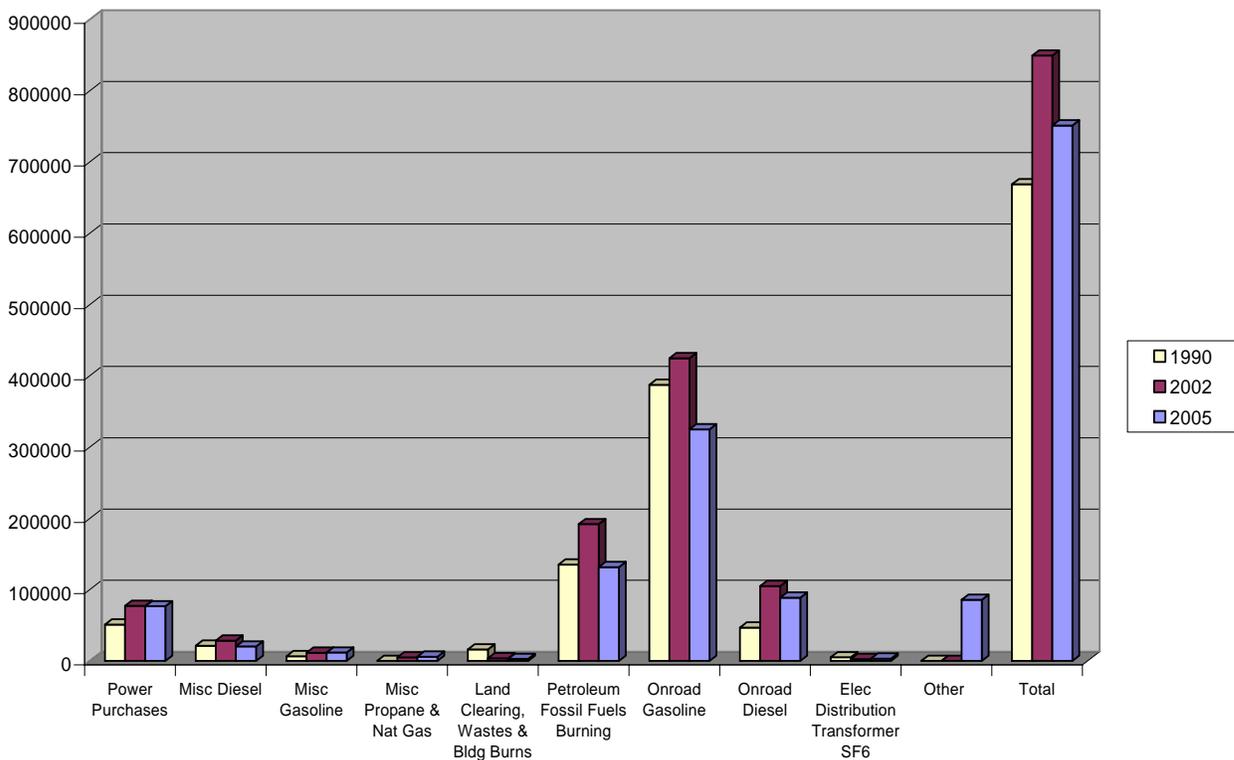
Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan.

The Natural Resource Management Plan discusses climate change beginning on Page 43, under the heading of Sustainability and Human Activities: Air Quality, Climate Change, and Energy Use.

COMMUNITY INVENTORY

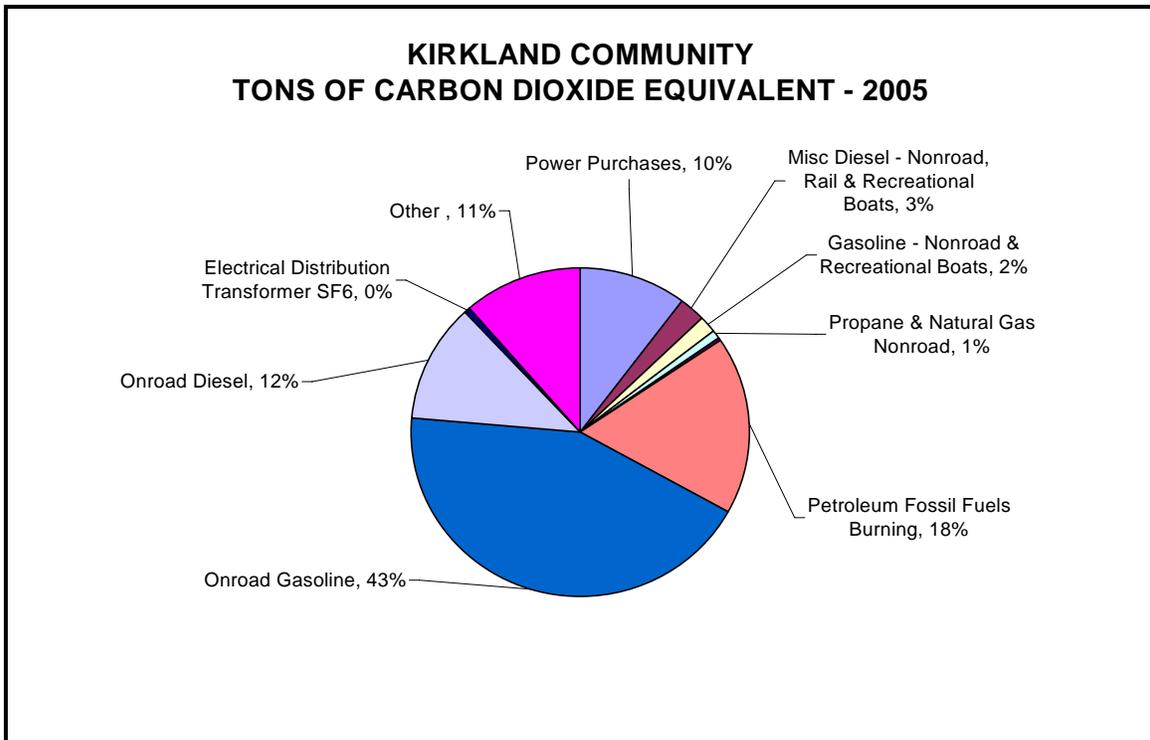
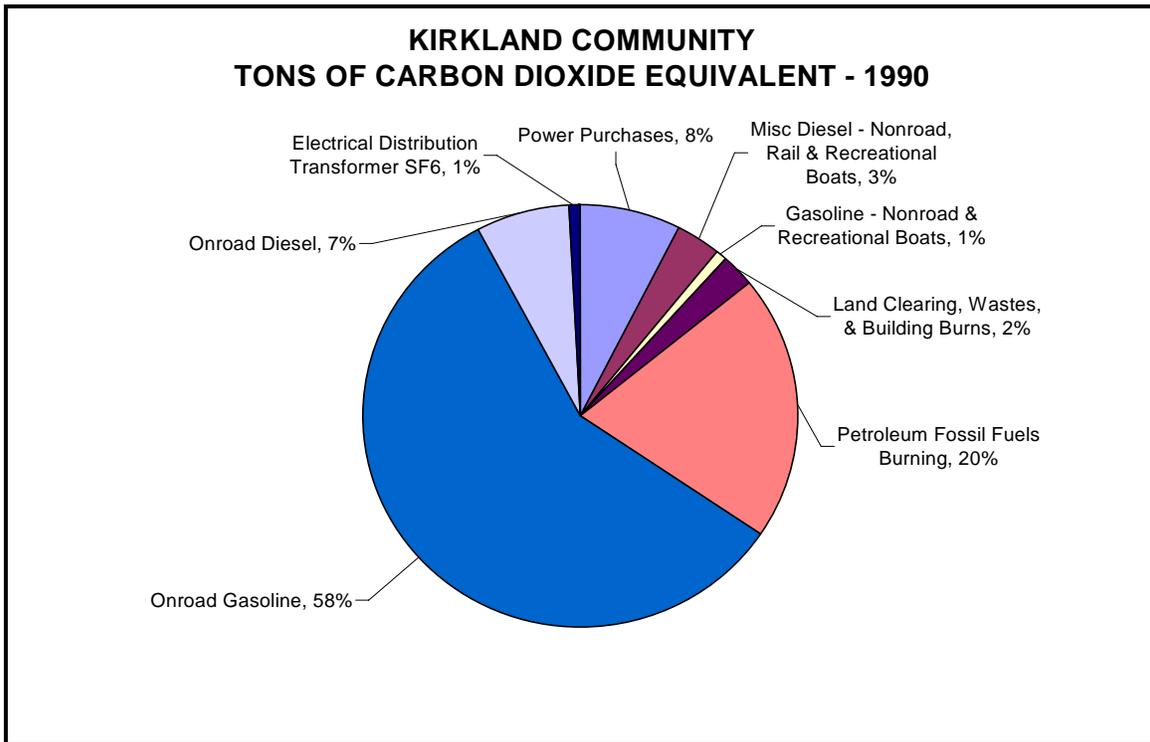
In order to conform to the *U. S. Mayors Climate Protection Agreement* (“*Mayors’ Agreement*”), Public Works staff met with Puget Sound Clean Air Agency staff to determine how to measure Kirkland’s greenhouse gas emissions and develop reduction targets. Based on Kirkland’s number of households and Vehicle Mile Traveled (VMT) for 1990 and 2002, the Agency assisted in extrapolating Kirkland’s emissions inventory as a percentage of King County’s. It was later determined that city-specific VMT is difficult to determine and economic activity is a better measure of vehicle emissions within a city. According to the Census Bureau, Kirkland generates 4% of the business income in King County and has about 3% of the households. Using households and economic activity, the figures below describe citywide emissions information for 1990, 2002, and 2005. Using this updated information, Kirkland’s Total Carbon Dioxide Equivalent had *increased 27%* from 1990 to 2002 (see Exhibit 2 for the data). The 2005 inventory completed recently shows significant improvement, a 12% decrease from 2002 and a 12% increase from 1990 levels. The goal is to see a reduction of 7% from 1990 levels.

KIRKLAND COMMUNITY - CARBON DIOXIDE EQUIVALENT (TONS)



City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007



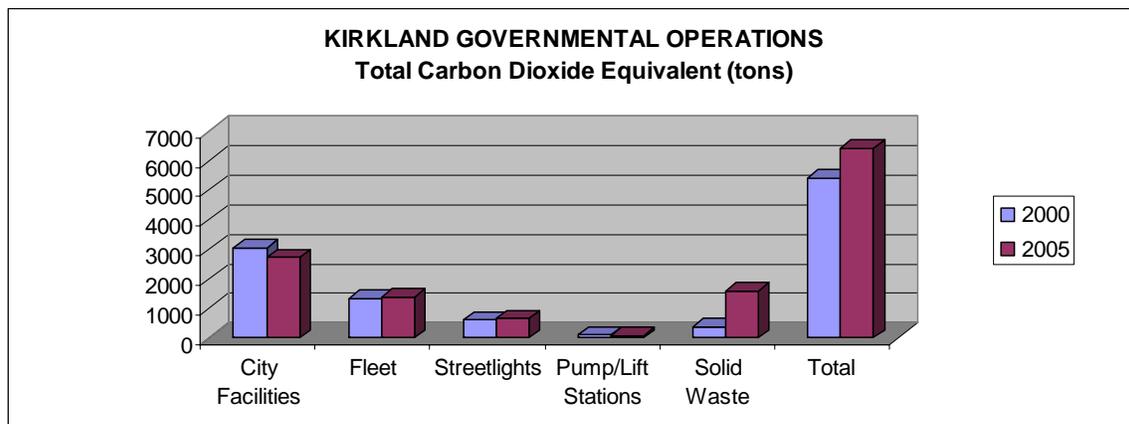
City of Kirkland CLIMATE PROTECTION UPDATE

April 19, 2007

GOVERNMENT OPERATIONS INVENTORY

By signing the *Mayors' Agreement* we also committed to conducting an inventory of the emissions generated by Kirkland's governmental operations. In 2006, Kirkland joined International Council for Local Environmental Initiatives (ICLEI) to enlist their help in this task. Members of the NRMT/Green Team as well as other staff, Councilmember Hodgson, and former Councilmember Nona Ganz met with a representative from ICLEI in November to gain a better understanding of the organization and how we will work together to accomplish the goals of the *Mayors' Agreement*.

Staff utilized ICLEI software and data collected from utility bills and other sources to collect and analyze GHG data for 2000 and 2005. Although the *Mayors' Agreement* refers to the Kyoto Protocol targets (reductions from 1990 levels), information from 1990 was not readily available. According to ICLEI, other organizations with the same issue are using the year 2000 as a base year. As of 2005, Kirkland's Governmental Operations Emissions had increased almost 19% from 2000. Governmental Operations Emissions are described in the graph below and raw data is available in Exhibit 2.



NEXT STEPS

There are five milestones to reduce greenhouse gas emissions throughout the community:

1. Conduct a greenhouse gas emissions inventory and forecast to determine the source and quantity of greenhouse gas emissions in the City;
2. Establish a greenhouse gas emissions reduction target;
3. Develop an action plan with both existing and future actions which when implemented will meet the local greenhouse gas reduction target;
4. Implement the action plan; and
5. Monitor and report progress.

Kirkland has accomplished the first milestone. Staff will develop recommendations for reduction targets and present an update to Council by August of 2007. An action plan will be developed from the reduction targets set by Council.

- 2. Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities.**

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

NRMT 2006 Work Program – All Tasks Support GMA Goals

The Washington State Growth Management Act (GMA) requires that Kirkland adopt and enforce land use policies and regulations to reduce and prevent sprawl, preserve open space, and create a compact, urban community. In compliance with the GMA, and indeed before the GMA required it, Kirkland implemented policies and regulations to accomplish those objectives. These are contained in the City's GMA Comprehensive Plan and codes. This year Kirkland's non-motorized plan will receive its second full revision since it was first adopted in 1995. The plan is intended to serve as a guide for planning, constructing, operating and maintaining non-motorized facilities.

Contact: Paul Stewart (GMA) and David Godfrey (Non-Motorized Transportation Plan)

3. Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling, and public transit.

NRMT 2006 Work Program -- Task 20: Enhance Transportation Demand Management (TDM) Activities

The City of Kirkland provides all its full-time benefited employees annual bus passes to encourage the use of transit. All new employees are informed of the City's TDM program. In 2006, the City participated in several METRO transportation promotions such as Ride Share Online, Wheel Options and Commuter Challenge Program; and in conjunction with those promotions, the City offered several financial incentive programs to get more employees to use alternative commutes such as carpool, bus, vanpool, bicycling and telecommuting. The City also participated and supported the national Bike to Work Month event and had a record number of City employees participating in biking to work. The City also has a guarantee ride home incentive in its TDM program. The City is continuing to work in partnership with METRO to maintain and enhance the City's TDM activities, including complying with the State's Commute Trip Reduction law.

The City also participates in programs that reach out to the community. The City contracts with METRO to manage the programs at employer sites that are affected by Commute Trip Reduction (CTR) requirements. Also, all office buildings with 50,000 square feet are required to have a Transportation Management Plan which the City helps employers establish. In addition to participating in Bike to Work Month as individual employees, the City helps promote the statewide event encouraging (through prizes) citizens throughout the state to try riding their bikes to work during May. In the event, the City staffs one of the bike stations during the official "Bike to Work Day." The purpose of the station is to provide support for those that bike to work, to provide information on biking and safety, and to promote alternative transportation. This year, the City will be working to comply with Washington's new CTR law. This will require a complete re-examination of our existing plan. We are also planning to create a Growth and Transportation Efficiency Center (GTEC) in the Totem Lake neighborhood. The standards for performance in the GTEC area will be higher than in the rest of the City.

Contact: David Godfrey

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

NRMT 2006 Work Program -- Task 21: Encourage City Employees to Use Alternative Transportation during Workday

Employees are encouraged to use the bus, carpool, or teleconference instead of driving to business meetings during the workday.

Contact: David Godfrey

- 4. Increase the use of clean, alternative energy by, for example, investing in “green tags”, advocating for the development of renewable energy resources, recovering landfill methane for energy production, and supporting the use of waste to energy technology.**

The specific examples described in Action 4 are more typically handled on a bigger scale, i.e. by King County. See Actions 5 and 6 (below) for actions Kirkland has taken which generally fall under the broader umbrella of Action 4.

- 5. Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money.**

NATURAL RESOURCE MANAGEMENT PLAN--Sustainability and Human Activities, beginning on Page 43

As part of Kirkland’s review of building permits, staff checks for compliance with the 2003 Washington State Energy Code as mandated by the state. This is one of the strictest energy codes in the country with respect to building envelope requirements (insulation R-values, window and door U-factors), mechanical equipment efficiency requirements and allowed power consumption for lighting in non-residential buildings.

Contact: Tom Jensen

The City has been gradually replacing older light fixtures with energy efficient fixtures and lamps in partnership with Puget Sound Energy who has a rebate program for this work. So far, light fixtures at three fire stations and the Maintenance Center have been replaced. Exit signs have also been replaced with energy efficient LED versions at City Hall and the Maintenance Center. The replacement of light fixtures at the North Kirkland Community Center is scheduled to occur in 2007.

Along these same lines, the City’s signal shop is replacing incandescent street lamps with more energy efficient LEDs. The signal shop is also introducing inductive lighting technologies to some of the street light applications. This should result in great longevity for the street lights and reduced power consumption.

When the City sought a new vending machine service in 2005, energy efficient machines were a requirement of the Request for Proposals. Once the vending machines were in place, staff had Puget Sound Energy install VendingMiser devices on the machines. The VendingMiser

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

devices power-down the machines when no one is in the room. (These devices were provided to the City by Puget Sound Energy at no charge.)

Energy efficiency and “right-sizing” are criteria taken into consideration when Public Works purchases equipment such as pumps, generators, etc. and Public Works is purchasing low-smoke oil to be used in power tools that require mixed gas.

The City has also evaluated opportunities for water conservation. The Public Grounds division, which is responsible for landscape maintenance at City facilities, medians, various sites in the Central Business District, paths and trails and ROW trees, purchased 7 Weathermatic Smartline irrigation control clocks and weather stations. Smartline calculates evapotranspiration in real time based on actual weather readings monitored 24 hours a day. In addition, it takes into consideration the types of sprinklers, plants and soils to calculate run times. Our plan is to identify feasible sites each year and utilize a portion of available budget to purchase and install these new controller systems. To date, four are fully installed at City Hall, Maintenance Center, Fire Station 26 and the Carillon Point triangle. Additionally, clocks have been installed at 108th and 85th Gateways and “the Bunnies” with plans to complete the installation with the remaining weather stations this year. Staff is also incorporating these efforts into specifications for developers contracting with the City for City-maintained sites.

Contact: Erin Leonhart and Wendy Kremer

6. Purchase only Energy Star equipment and appliances for City use.

NRMT 2006 Work Program -- Task 22: Green Purchasing Practices

The City has been replacing its old copiers with Energy Star compliant Canon multifunctional devices.

The flat screen monitors that are being purchased with our computers are more energy efficient than the conventional monitors we’ve purchased in the past. While the desktop computers we’ve been purchasing all have a sleep mode, they do not appear to be Energy Star compliant. We have become aware of an option to order Energy Star compliant Dell computers and we will take a closer look at that option when we place our next order for computers. (We need to determine the impacts to cost and delivery time.)

Contact: Shelli Craig

The City is continuing its on-going efforts to purchase energy efficient and renewable technology products and services as a part of its regular purchasing activities. In 2005, Fleet launched a program and since has completed refurbishing the beds of three major equipment trailers. Instead of normal lumber, Fleet utilized “rumber” decking material which is made from 100% recycled automobile tires.

Contact: Tim Llewellyn

7. Practice and promote sustainable building practices using the U. S. Green Building Council’s LEED program or a similar system.

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

NATURAL RESOURCE MANAGEMENT PLAN – Sustainability...Additional Response
Actions, Page 45

NRMT 2006 Work Program -- Task 2: Public Involvement and Education

NRMT 2006 Work Program -- Task 22: Green Purchasing Practices

Practicing Sustainable Building Practices:

The City of Kirkland's Facilities were all built before the LEED program was established. In future construction or major renovation projects, sustainable building practices will be included, per Council direction.

Promoting Sustainable Building Practices:

In December of 2004 Kirkland held a community lecture event to explore the application of low impact development (LID) techniques and practices. A panel of expert speakers provided some ideas and examples of what LID is and how it works. The City participated in a grant from the Puget Sound Action Team along with several other cities to analyze potential changes to codes and standards to promote LID techniques.

Contact: Paul Stewart or Jenny Gaus

Public Works oversees public education and involvement efforts on an on-going basis, including production and distribution of a storm water newsletter, a storm drain stenciling program ("Dump no waste, drains to stream"), the salmon watcher program, and informal education of residents and business owners when storm water infractions occur.

Contact: Jenny Gaus

The Building Department promotes sustainable building practices by posting notices about upcoming "green" events at the front counter. The Planning and the Building Departments are working together to develop programs to support and promote sustainable "green" building practices. Staff is researching incentive programs and obstacles that exist in State or local codes. Public Works will obtain Green Home Remodeling Guides from King County for homeowners. The Guides show specific issues and strategies involved in environmentally-friendly home remodeling projects.

Contact: Tom Jensen and David Barnes

- 8. Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel.**

NRMT 2006 Work Program -- Task 23: Alternative Fuel for Fleet

The City is continuing its on-going efforts to increase the average fuel economy of the fleet, including continuing to transition to "alternative fuel" vehicles (e.g. electric, hybrid, biodiesel, etc.) whenever feasible. After obtaining eight bi-fuel (CNG/unleaded gasoline) vehicles, the City purchased its first Toyota Prius hybrid car in 2003 for use by the Public Works Department. Since then, two additional Prius sedans have been added for use by Fire

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

Prevention (2004) and the Planning Department (2006). The Building Department has also purchased three Ford Escape Hybrids for use by inspectors (2006). The Public Works Department has begun using an all electric truck Neighborhood Electric Vehicle (NEV) for the water meter reader (2007). For 2007, a hybrid Ford Escape has been ordered for use as the Fire Chief's emergency vehicle response vehicle as well as a hybrid Ford Escape and a Toyota Camry for use by the Police Investigations Division. It is likely that the City's first biodiesel (B99) vehicle will be purchased in March, 2007. It is a converted 2005 Volkswagen Passat Wagon to be used by the Planning and Community Development, particularly the Code Enforcement Officers.

Diesel retrofit programs have been investigated by the Fleet Supervisor and involve oxidation catalysts and particulate filters. Oxidation catalysts require high engine temperatures which are not reached by City vehicles due to the limited usage.

Contact: Tim Llewellyn

NRMP 2006 Work Program -- Task 24: Use Better Diesel in Fleet

The EPA has required all oil companies to produce ultra low sulfur diesel (ULSD) in 2006 which contains 15 parts per million, a dramatic reduction over low sulfur diesel (LSD) with 500 parts per million. ULSD is being required for all diesel engines beginning with 2007 models. In October, 2006, the City began using ULSD to run all our pre-2007 diesel engines, in addition to the required post-2007 model diesel engines.

Kirkland is a charter member of the Puget Sound Clean Cities Coalition, which works to develop alternative fuel sources in the Puget Sound Region. On the Coalition's work plan for 2004 is market development for biodiesel fuel by opening an in-state facility and by obtaining assistance in implementation of biodiesel through research and technical assistance. The Coalition's Strategic Plan for 2004 – 2008 features continued efforts to promote biodiesel availability. The goal is to develop the market so that ultra-low sulfur and biodiesel fuels will become available and affordable, since their use would cut toxic emissions from diesel vehicles. In accordance with federal mandates, City generators switched to exclusive use of ULSD in October 2006.

Contact: Tim Llewellyn

Other Vehicle Emission Reduction Efforts

Waste Management, the City's hauler, uses ultra low sulfur diesel in all of its operations within the City or other low-emissions fuels as approved by City staff. The fleet of collection vehicles was retrofitted with particulate traps thereby further reducing emissions up to 90% from previous levels.

Contact: Erin Leonhart

- 9. Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production.**

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

NATURAL RESOURCE MANAGEMENT PLAN – Water is discussed on Pages 33 -- 40

Through scheduled upgrades of the water and wastewater infrastructure, the City replaces older, fixed-speed pumps with energy-efficient pumping mechanisms equipped with sophisticated drive and control systems (Lakeshore Plaza Sewer Pumps (2005/2007), 650 Zone Water Pump Station (2004) and the Waverly Beach Sewer Lift Station (2006/2007)). In the past, the City has also successfully eliminated wastewater lift stations (10th Ave S (1995), Lake Ave W (2001), 90th St/Costco (2003), Juanita (2003/4)) and is currently in the planning stage for the removal of another (Trend) through the construction of gravity sewers. The elimination of these sewer lift stations results in a significant lowering of the City's overall energy needs.

Recovery of methane for energy production is done at a different level, i.e. by King County.

Contact: Dave Snider

10. Increase recycling rates in City operations and in the community.

NATURAL RESOURCE MANAGEMENT PLAN – Reduce Solid Waste through City Programs and Services, Page 43

The City has had a long standing practice of ordering recycled copy paper and janitorial paper products. Recycled paper is also typically specified when ordering printed letterhead, envelopes, forms and other printed materials. Many of the office supply items (folders, envelopes, notepads, etc.) that are ordered have at least some recycled content. Remanufactured toner cartridges are ordered for City printers when they are available. Olympic Office Supply collects our empty toner cartridges and returns them to the toner remanufacturer.

City staff will continue to work with Olympic Office Supply and other suppliers to seek opportunities to purchase recycled and recyclable products.

Contact: Barry Scott

A Battery Recycling Program was approved in the 2007-2008 budget process. This program is currently under development and will be extended to the community in 2007.

Contact: Erin Leonhart

NRMT 2006 Work Program -- Task 16: New Recycling Approach

The City Council established performance measures for the Solid Waste Utility in 2002 that set the residential recycling diversion rate at 52% and average pounds of garbage per household/week at 33 pounds. In the second half of 2003, a new solid waste contract expanded curbside collection services to include 100% commingled recycling (paper, plastic, glass, metal all in the same container) as well as the collection of electronic waste and reusable textiles at the curb. Food waste recycling was also added to the yard waste cart for the first time. Kirkland single-family residents have surpassed both of the objectives set by Council for the third year in a row, likely as a result of rate incentives and the major innovative changes to the solid waste contract. Single-family residents diverted an average of 62% of their total solid

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

waste stream each week and disposed of an average of 26 pounds of garbage per household/week during 2006 (these figures do not include the 1½ tons of electronics collected in the average month; electronics are collected separately from commingled recycling).

In 2006-2007, grant funds from the King County Solid Waste Division and the Washington State Department of Ecology will be targeted at multifamily (currently 17%) and business (currently 12%) outreach to help achieve higher recycling diversion rates in these sectors where participation rates are high, but diversion remains a challenge.

The multifamily recycling diversion rate for 2006 is 17% (up from 14% in 2003), and the diversion rate for businesses is 11% (up from 8% in 2003). Actual business rates are presumably higher because only Waste Management is required to report tonnage to the City, and businesses may recycle with any hauler they choose. Outreach to promote recycling in 2007 will include free assistance and presentations from the City for program development, newsletters, brochures, displays at public forums and collection of difficult to recycle items at one-day recycling events. The City will promote the message of easier, commingled recycling as well as unlimited recycling for multifamily residents and free recycling of up to 150% of garbage container size for businesses (with the City's contracted hauler, Waste Management). Paper is one of the largest remaining segments of untargeted recyclable material, second only to organics, in the commercial waste stream.

Contact: Erin Leonhart

NRMT 2006 Work Program -- Task 17: Collect Food Waste/Organics

The new solid waste contract developed in the second half of 2003 included a provision for residential curbside food waste collection. Residents may now recycle food waste with yard waste in the City-provided carts with rodent-detering lids. This has the potential to divert a significant portion (26%) of the waste stream from the landfill. A 2005 survey of 400 Kirkland residents indicates approximately 25% of single-family households are participating in food waste recycling. Continuing educational efforts in 2007 will target increasing food waste recycling with the associated benefit of turning this commodity into compost as opposed to the cost of burying it at the landfill or treating it in the sewer system.

In December, 2004, the City Council approved budgeting \$20,000 from the solid waste utility for a yearlong pilot commercial organics (food waste) recycling program. Twenty-eight businesses in the Totem Lake area participated in the program and they diverted 98 tons of organic materials. Beginning in 2007, Council approved a solid waste rate increase for a citywide Commercial Organics Recycling Program wherein organics producing businesses may divert their food waste from the landfill. The City will provide onsite technical assistance and up to two 64 gallon carts emptied twice each week for no additional cost beyond the current rate. The program is expected to divert 465 tons of organic materials from the landfill in its first two years. Juanita Elementary School began foodwaste recycling on February 12, 2007, and their Resource Conservation Manager predicts the school will save 25% on their garbage bills each month as a result of this program.

Contact: Erin Leonhart

NRMT Work Program -- Task 18: Special Collection Events

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

The two annual (spring and fall) residential recycling collection events and one annual business recycling collection event provide an opportunity to drop off items that can be recycled but are not collected as part of the weekly curbside collection (e.g. tires, appliances, vehicle batteries, toilets, sinks, etc.). These events are dependent upon grant funding from King County and Washington State. In 2006, 1,254 residents and 166 businesses diverted nearly 113 tons of recyclable materials from the landfill in 3 daylong events.

Contact: Erin Leonhart

NRMT 2006 Work Program -- Task 19: Sell Compost Bins and/or Rain Barrels

In the past, the City sold compost bins and rain barrels to encourage resource conservation. These items were purchased with grant funds from the King County Solid Waste Division and the Washington State Department of Ecology. Currently the City participates in Northwest Natural Yard Days (NNYD) in April/May and September. NNYD is a regional partnership with retailers and other jurisdictions offering discounts on products such as mulching mowers, compost bins, and soaker hoses. Compost bins are sold online at a reduced cost. NNYD also promotes education in planting correctly for the area and reducing pesticide use.

Kirkland will again be sponsoring the Natural Yard Care Neighbors program in 2007. This year's program will target the South Rose Hill and Bridle Trails neighborhoods but is open to all Kirkland citizens. The program comprises of a series of 3 evening seminars focusing on how to maintain and improve your yard using methods that manage pests without harmful chemical pesticides, reduce water usage, and build healthy soil.

Contact: Jenny Gaus

11. Maintain healthy urban forests; promote tree planting to increase shading and to absorb carbon dioxide.

NRMT 2006 Work Program – Task 2: Public Involvement and Education

The Green Kirkland Initiative was introduced in 2005 and will be continuing in 2007. The program includes gauging the extent of Kirkland's tree canopy and removing harmful invasive plants in City parks. To begin, the focus is on Carillon Woods. In addition to direct benefits to the urban forest, the public is engaged in and informed through these efforts. The City has worked in partnership with the Cascade Land Conservancy on this initiative. It is part of a larger effort to assess the City's forested parklands to determine the extent of restoration needed within the City and to assist in developing a strategy to increase the City's tree canopy.

Contact: Jennifer Schroder

South Rose Hill Neighborhood was awarded a Neighborhood Connections grant to plant at least 50 trees in the rights-of-way in 2006. The City's public tree inventory will help to identify empty spaces in which to place the trees. Additional funds have been set aside to have another city-wide tree planting program to plant at least 100 large-sized trees in public areas (similar to the Centennial Tree Program of 2005).

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

In 2006, 1,281 trees of all varieties (Dogwood, Ash, Willow, Fir, Pine, Spruce, etc.) were planted in Forbes Lake Park with the DOT wetland mitigation project on 124th.

Through the Centennial Tree Program of 2005, the Parks Department purchased and or moved over 300 trees and also bought supplies to increase the survival of the plantings. Improvements were made throughout the City's Park system, from waterfront and community parks to wetlands and sensitive areas such as Juanita Bay, Woodlands, and Carillon Woods. Parks made a conscientious effort to enhance the different areas with good mixtures of natives and specimens known to do well in the Northwest. With the substantial number of trees lost in the parks as a result of storms in the latter part of 2006, this was a timely effort.

Contact: Jason Filan and Wendy Kremer

Kirkland's 2006 Arbor Day occurred in October with the dedication of a tree in Heritage Park to the founder of the Campfire Girls (now known as Campfire USA). Annual Arbor Day celebrations promote the City's achievement of being a Tree City USA and are a requirement for retaining Tree City USA status.

In February, Kirkland was notified as having been named a Tree City USA for the 5th year. This year's Arbor Day event will occur in October, and is designed to celebrate and promote the city's Tree City USA achievement and dedication to managing and enhancing the urban forest. Holding an Arbor Day event is also one aspect of ensuring Kirkland will again be named a Tree City USA for 2007.

Contact: Stacey Ray

Future goals of the NRMT are to add a Natural Resource Management page to the City's website and to continue to contribute educational articles to the Kirkland Courier. Other ideas include adding tree removal permit forms, tree flyers, and surface water brochures to the Building Department's permit tree on City Hall's "Main Street" and also taking part in a kiosk and/or computer station on "Main Street" to offer tips about tree care and other natural resource management topics.

Contact: Paul Stewart

NRMT 2006 Work Program – Task 5: Upgrade City Practices

The Natural Resource Management Plan (NRMP) advises that City practices and programs be updated as appropriate to reflect current knowledge and technology. The City has updated its pest management practices.

There is a tremendous amount of work that needs to be done to accomplish both departmental and NRMT goals for ROW tree issues and the addition of the field arborist position has helped considerably in managing ROW trees. However, the demand on the arborist's time for these activities has left little time for maintaining the tree inventory and other activities.

Contact: Wendy Kremer and Jason Filan

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

An additional action that would involve upgrading City practices (Task 5) and updating policies and regulations (Task 6) is the incorporation of low impact development techniques. The team plans to conduct a feasibility study to explore the potential to apply these techniques in Kirkland. Funding for the LID feasibility study was granted in the City's 2005-2006 budget.

Contact: Jenny Gaus

NRMT 2006 Work Program – Task 6: Update Policies and Regulations

2006 marked the first full year of the newly implemented urban forest policies, including updates to Kirkland's Comprehensive Plan and new regulations for street trees, which were adopted in late 2005.

Throughout the year, Kirkland's urban forester worked closely with a variety of community members to ensure all interest groups were provided with the education and tools to understand and comply with the new regulations.

As with any newly implemented regulations, homeowners, tree care professionals, city staff and members of the development community have all contributed to identifying aspects of the code that will be revisited in a comprehensive amendment process to begin in late 2007.

Contact: Stacey Ray

NRMT 2006 Work Program – Task 12: Public Tree Management Programs

ROW Vegetation Maintenance Pilot Program

With the arrival of a part-time arborist in the latter half of 2005, the Public Grounds Supervisor began a street tree maintenance pilot program in a designated corridor in 2006. The pilot program is intended to establish the costs of the City assuming maintenance responsibilities for public trees. Due to the arborist's limited time and the lack of available experienced help to assist, staff had to prioritize for safety/hazards and customer response activities over proactive work in 2006. The pilot program will be revisited in 2007.

Contact: Wendy Kremer

See also discussion of the Green Kirkland Initiative under Task 2: Public Education and Involvement

NRMT 2006 Work Program -- Task 13: Street Tree Standards

The Urban Forester produced an updated official guide to selecting, planting and maintaining Kirkland street trees in late 2005, which is still being utilized by city staff, developers, and community members. This list will also likely be revisited when the tree regulations are scheduled to begin an amendment process towards the end of 2007.

There has been a renewed effort for coordination between Planning and Public Works for identification and preservation of right-of-way trees during development and enforcement of

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

instances where right-of-way trees are removed or destructively pruned. The part-time arborist is involved in outreach and education, both in-house and with homeowners who apply for a pruning permit, to ensure right-of-way trees are pruned according to the most current professional standards.

Contact: Stacey Ray

NRMT 2006 Work Program -- Task 14: Retain Tree City USA Status

In February, Kirkland was named a Tree City USA for the 5th year. The 2006 requirement for an Arbor Day proclamation and event was fulfilled with a celebration held October 24 at Heritage Park in honor of Ms. Amelia Newberry, founder of the Campfire Girls in Kirkland. Although Arbor Day is typically recognized nationally in April, Kirkland celebrates each year in the fall because newly planted trees benefit most from all the subsequent rainfall.

Although no Growth Award was received for 2006, the Centennial Tree program did contribute greatly to Kirkland having allocated more than enough of the required \$2 per capita to meet the financial criteria. The third and fourth criteria were met with the ordinance remaining unchanged and in effect, and the NRMT acting once again in the capacity of urban forestry board.

Contact: Stacey Ray

NRMT 2006 Work Program -- Task 15: Preserve Notable Trees

Identification, maintenance, and continued preservation of notable trees would require additional specific funding. The team anticipates requesting on-going funding for the development of a Notable Tree Program at a future date. It will be important for the City to not assume the responsibility for maintaining notable trees on private property.

Contact: Stacey Ray

12. Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.

NRMT 2006 Work Program -- Task 2: Public Involvement and Education

Future goals of the NRMT are to add stewardship information to the Natural Resource Management page of the City's website and to continue to contribute educational articles to the Kirkland Courier. Other ideas include adding tree removal permit forms, tree flyers, and surface water brochures to the Building Department's permit tree on City Hall's "Main Street" and also taking part in a kiosk and/or computer station on "Main Street" to offer tips about tree care and other natural resource management topics.

Contact: Paul Stewart

Parks Maintenance staff routinely accommodates requests from volunteer groups (schools, youth groups, churches, etc.) by leading them in environmental restoration projects. Environmental education is combined with action to help with Kirkland's Green Initiative.

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

Contact: Jason Filan

The Public Works Department takes advantage of many outreach opportunities.

The Public Works Surface Water Division oversees public education and involvement efforts on an on-going basis, including production and distribution of a storm water newsletter, a storm drain stenciling program (“Dump no waste, drains to stream”), the salmon watcher program, and informal education of residents and business owners when storm water infractions occur. The update of the Surface Water Master Plan was completed in November 2005, and included opportunities for public participation.

A full-time education/outreach position was created in 2007 and will be filled in the near future. The person in this position will research, develop, implement and coordinate programs to promote sound environmental stewardship by citizens and businesses regarding natural resources including surface water and solid waste/recycling. Additional work may include collaboration with others implementing a variety of environmental programs including management of forests and other natural resources on public lands, sustainable building, alternative transportation, and sustainable development.

In addition, the Public Works Department has increased focus on outreach in the areas of water, surface water, and solid waste/recycling. This has been accomplished in the form of a newsletter (*Reuse/Recycle/Conserve*) and a booth at the Kirkland Wednesday Market (which will alternate focus monthly on recycling and solid waste reduction, water conservation, and surface water stewardship).

Contact: Jenny Gaus and Van Ingram-Lock

Over the past several years, Kirkland has held a series of lectures by experts to educate the public officials, staff, professionals, and the general public of Kirkland and neighboring communities about global warming, environmentally critical areas, preventing sprawl/creating compact urban development, and low impact development techniques and green building practices.

Contact: Paul Stewart

Additional examples of informational events for professionals include the Urban Forester’s recent workshop on the new tree regulations for professional arborists and Public Work’s upcoming American Public Works Association “click, listen, and learn” seminar entitled “Changing Course: Streambed Restoration/Stabilization” in January of 2006.

Contact: Jenny Gaus

City of Kirkland
CLIMATE PROTECTION UPDATE

April 19, 2007

EXHIBIT 1

U.S. Mayors Climate Protection Agreement - Participating Cities

As of February 22, 2007

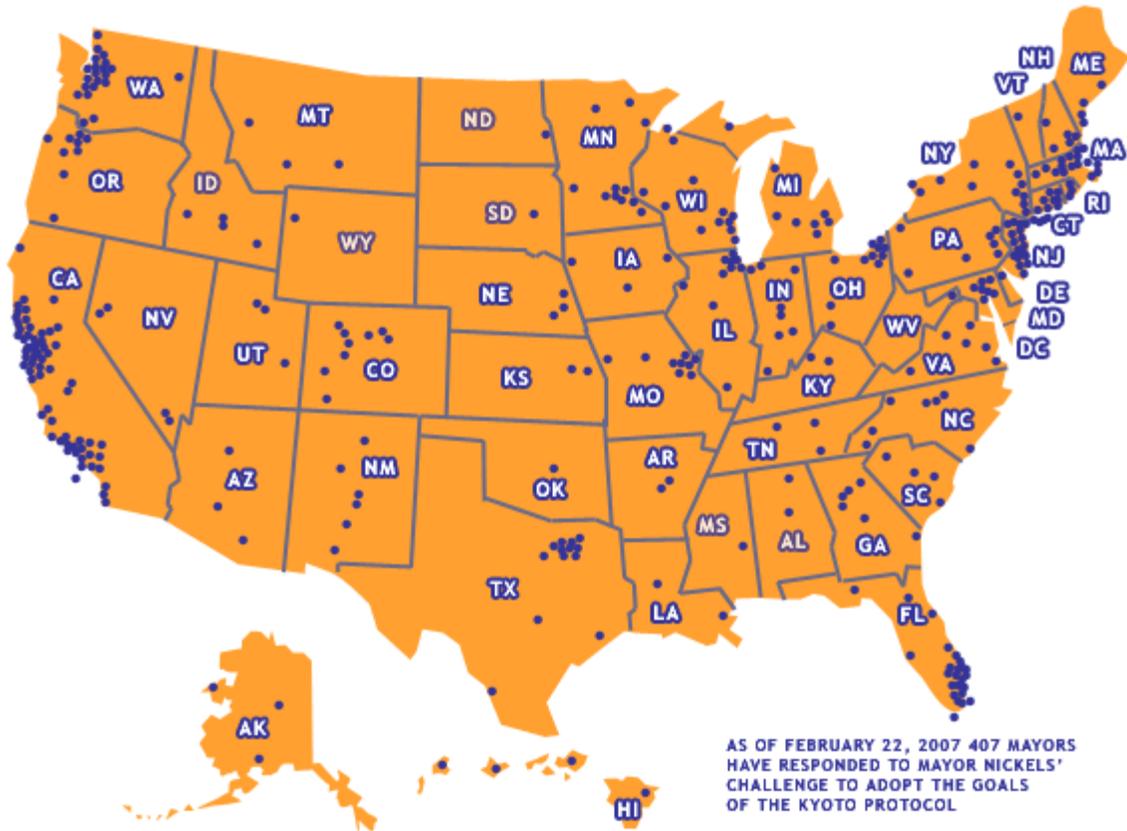


EXHIBIT 2

KIRKLAND COMMUNITY – TONS CARBON DIOXIDE EQUIVALENT 1990, 2002 & 2005

	King County	Kirkland
Tons CO2 Equivalent / 1990		
Power Purchases	1,824,794	50,919
Misc Diesel Nonroad and Rail	842,233	21,382
Gasoline Nonroad & Rec Boats	232,791	6,474
Ld Clearing, Wastes, and Building Burns	718,607	15,910
Petroleum Fossil Fuels Burning	4,820,967	134,987
Onroad Gasoline	9,681,028	387,241
Onroad Diesel	1,171,772	46,871
Electrical Distribution Transformer SF6	190,076	5,051
Total	19,482,269	668,835
Tons CO2 Equivalent / 2002		
Power Purchases	2,644,634	77,151
Misc Diesel Nonroad	946,569	26,827
Rail	69,601	1,480
Gasoline Recreational Boats	72,239	2,107
Gasoline Nonroad	318,218	9,226
Propane & Natural Gas Nonroad	169,101	4,938
Ld Clearing, Wastes, and Building Burns	123,246	3,595
Petroleum Fossil Fuels Burning	6,575,900	191,835
Onroad Gasoline	10,616,813	424,673
Onroad Diesel	2,625,423	105,017
Electrical Distribution Transformer SF6	97,790	2,524
Total	24,259,534	849,372
Tons CO2 Equivalent / 2005		
Power Purchases	2,644,634	76,701
Fuel Burned in Large Industries	720,677	N/A
Misc Diesel Nonroad	621,544	18,026
Rail	94,860	2,018
Gasoline Recreational Boats	82,993	2,407
Diesel Recreational Boats	2,524	73
Gasoline Nonroad	317,460	9,207
Propane & Natural Gas Nonroad	199,026	5,772
Ld Clearing, Wastes, and Building Burns	95,929	2,782
Petroleum Fossil Fuels Burning	4,538,607	131,630
Onroad Gasoline	8,119,107	324,764
Onroad Diesel	2,217,017	88,681
Electrical Distribution Transformer SF6	114,881	3,332
OTHER (new in 2005):		
Onroad Propane Vehicles	7,763	311
Onroad Natural Gas Vehicles	120,992	4,840
Wood Fireplaces	20,458	593
Stoves & Inserts	20,867	605
Firelogs & Pellets	7,952	231
Nitrous Oxide Emitted from Soils	65,831	341
Methane from Natural Gas Distribution	259,795	7,535
Fuel Used But Not Burned	1,696,496	49,202
Other Industrial Processes	429,465	12,456
Beverages Manufacturing	17,266	501
Nitrous Oxide Emitted from Hospitals	28,697	832
Methane	287,346	8,334
TOTAL TONS	22,732,187	751,173

City of Kirkland
CLIMATE PROTECTION UPDATE
 April 19, 2007

KIRKLAND GOVERNMENT OPERATIONS
CARBON DIOXIDE EQUIVALENT YEARS 2000 & 2005

Total Carbon Dioxide Equivalent Emitted (tons)	2000	2005
City Facilities - PSE (electricity & gas) bills for parks & buildings	3033	2721
Fleet - Fuel efficiency for City vehicles and equipment	1314	1395
Streetlights - Electricity	601	651
Water/Sewage Lift Stations - Electricity	91	79
Solid Waste Sent to Landfill	383	1586
TOTAL	5422	6432
Total Carbon Dioxide Equivalent Emitted (%)	2000	2005
City Facilities - PSE (electricity & gas) bills for parks & buildings	55.9	42.3
Fleet - Fuel efficiency for City vehicles and equipment	24.2	21.7
Streetlights - Electricity	11.1	10.1
Water/Sewage Lift Stations - Electricity	1.7	1.2
Solid Waste Sent to Landfill	7.1	24.7
TOTAL	100.0	100.0



MEMORANDUM

To: Dave Ramsay, City Manager

From: Stacy Clauson, Planner
Jenny Gaus, Senior Surface Water Utility Engineer
Paul Stewart, Deputy Planning Director

Date: April 10, 2007

Subject: Low Impact Development in Kirkland

Introduction

The purpose of this memo is to describe current use of low impact development (LID), as well as to describe the progress to date and next steps for facilitating greater use of LID in Kirkland. Staff will soon be seeking City Council feedback on the direction of new code amendments and for incorporation of LID in City CIP projects.

LID is a set of techniques that mimic natural watershed hydrology by slowing, evaporating/transpiring, and filtering water before it reaches a stream channel. LID contrasts with current drainage techniques that collect and convey water to streams quickly, damaging stream channels and degrading water quality. LID techniques include the following:

- Reduce creation of impervious surfaces
- Retain site vegetation
- Amend soils with compost to improve water retention
- Construct bio-retention swales or cells, which are natural areas that have specially chosen plants and engineered soils that slow, filter, and take up water
- Use permeable pavement for roadways driveways and walkways
- Install green roofs and/or rooftop gardens
- Install cisterns to hold and reuse rain water

When combined, such techniques can greatly reduce the amount, and can improve the quality of storm water runoff from developed sites. For further information on environmental benefits and engineering aspects of LID, see the Puget Sound Action Team website at Puget Sound Action Team LID.

Policy Background

The City has taken steps to incorporate goals and policies in the Comprehensive Plan that would encourage the use of LID strategies, including the following:

- FG-7 Encourage low impact development and sustainable building practices.
- Policy NE-1.5: Provide to all stakeholders information concerning natural systems and associated programs and regulations. Work toward creating a culture of stewardship by fostering programs that support sound practices, such as low impact development and

- sustainable building techniques. Model good stewardship techniques in managing trees, streams, wetlands, shorelines and other natural features and systems in the public realm.
- Policy NE-2.4: Improve management of stormwater runoff from impervious surfaces by employing low impact development practices where feasible through City projects, incentive programs, and development standards.

In addition, promotion of LID is required as part of compliance with the City's NPDES Phase II Municipal Stormwater Permit., and is recommended in the following regional plans:

- [Puget Sound Partnership Recommendations \("Sound Health, Sound Future—Protecting and Restoring Puget Sound," December 13, 2006\)](#)
- *Puget Sound Water Quality Management Plan* (Puget Sound Action Team, 2000)
- *Washington/Cedar/Sammaish Watershed (WRIA 8) Chinook Salmon Conservation Plan*

Current Use

To date LID has been used primarily by developers in Kirkland. The two cottage housing projects both incorporated clustering of houses, narrow streets, rain gardens, and bio-retention swales. Several other projects have used narrow streets with alternative street edge treatments that direct runoff to grassy areas. One large plat has used pervious concrete sidewalks and driveways to reduce the size of required stormwater flow control facilities. The Lake Washington School District has incorporated LID into the redevelopment of Ben Franklin Elementary.

There has been little use of LID on City projects to date. There are however several projects currently in the design phase will include significant LID elements. A City sidewalk project at NE 73rd Street between 130th and 132nd Avenue, may use bioretention swales. The Master Plans for Juanita Beach Park, Heritage Park and McAuliffe Park consider use of bioretention areas to treat parking lot runoff.

Progress to Date

A. Public Education and Outreach

LID developments look very different from traditional development, and may in some cases have functional differences (narrow streets will require/encourage lower speeds for example). Acceptance by the public hinges on both marketing the aesthetic, functional (i.e. lower maintenance needs), and economic benefits of these systems in addition to the environmental benefits, and on a cultural shift to where they are the norm. Successful public LID projects will go a long way toward encouraging such a shift. Recently, there have been several high profile development projects which have incorporated the use of LID techniques to great success, including the SEASStreets projects and the High Point Development in Seattle.

The following public education and outreach efforts are on-going or have taken place in the last year in Kirkland:

- Staff presented LID concepts and resources at the Developers' Forum in fall of 2006 using slide resources from the Puget Sound Action Team
- Staff have attended classes on LID, and share this information with developers and City staff involved in design or review of projects.
- Students from a UW Environmental Regulations class will be developing a brochure of Kirkland-specific LID tips and resources as their class practicum. The practicum project will be presented to the class and community members on May 30th.

- The City will be participating in the Sustainable September event. As part of this City staff will be providing LID tours or training.

B. Regulatory Changes

The City of Kirkland was successful in obtaining a grant from the Puget Sound Action Team in 2006 to provide consultant assistance in reviewing and suggesting alterations to City regulations in order to better integrate LID strategies. Over the past year, a team composed of members of the Planning and Public Works Departments have been working with the consultant, AHBL, to review portions of the City's codes in order to determine whether these codes posed any challenges to implementing LID techniques. Out of this process, the City obtained new roadway standards that can be integrated into our codes, information on various LID incentives, as well as information on green roof and pervious surfaces. In addition, the team has also identified potential amendments to the City's regulations that could better integrate LID (see Table 1).

The City Council, the Houghton Community Council, and the Planning Commission would need to review and approve changes to better integrate LID into City regulations (Table 1). As LID involves street standards, storm water design standards, land use practices, and City maintenance practices, implementation will also require participation by and cooperation between several City departments and divisions; Public Works (engineering, storm maintenance, street maintenance), Planning, Building/Fire, and Parks. The Green Team is well-suited to this task.

C. Research into Costs and Incentives

Staff has started to research the costs of implementing LID versus traditional systems in order to determine whether this information would encourage further use. The City of Seattle is conducting detailed evaluations of project costs. They found that costs are often lower for LID stormwater management systems *if* contingency traditional systems are not required (i.e. an underdrain pipe is not required for a bioretention area). They also noted that there is a shift between "hard" construction costs and "soft" public outreach and planting costs (January 25, 2006 Presentation by Jim Johnson, Project Manager for Seattle Public Utilities). This requires a shift in thinking about projects and in project budgeting.

By 2009, the City will need to adopt a new Stormwater Management Manual that is equivalent to the State Department of Ecology's 2005 *Stormwater Management Manual for Western Washington* as part of compliance with the Western Washington Phase II Municipal Stormwater Permit. This manual contains a number of provisions which would encourage and accommodate the use of LID. The requirement to significantly increase the size of detention facilities under the new manual may also prove to be a financial incentive for private developers to try LID techniques.

Incentives could be used help to spur private developers to try LID techniques. As part of PSAT grant, AHBL has put together a table summarizing some key incentives that the City could put in place to encourage the use of LID, together with an analysis of the potential costs and developer interest in these programs (see Attachment 1). Incentives could take the form of marketing assistance or more directly by reduction of development restrictions or fees. Allowing clustering and innovative design of houses, for example, may allow more open space that could be used as part of an LID strategy. The two recent housing projects that allowed clustering, Danielson Grove and the Stacy Property, both used LID strategies. Reduced Surface Water Utility Fees could be another incentive, if measures exceed City requirements for storm water management. LID techniques should be incorporated into the innovative housing standards that will be in front of the Planning Commission and City Council this year.

There are policy incentives for use of LID on public projects. Public LID projects can often combine pedestrian improvements, street improvements, and traffic calming as well as water quality treatment and flow control. The Surface Water Utility is currently setting aside \$1 million per year for the surface water portion of transportation projects, and this money could be put toward LID, rather than traditional, storm water facilities. As a result, the Public Works Department has initiated a program to evaluate projects on the CIP list at the beginning of the design and budgetary phase for the feasibility of integrating LID techniques (see Item D below). Staff has also completed some preliminary review with other jurisdictions to evaluate their efforts to implement LID. This information will be presented as part of presentation of code changes as described in next steps below.

D. Tools to Direct LID Efforts

The following projects are in progress to encourage use of LID in the City:

- Improved soils map. Staff are working with the University of Washington's Pacific Northwest Center for Geologic Mapping Studies to develop an improved geologic and soils map for the City. In addition to improved information on landslides and seismic hazard areas, this map will better identify areas where stormwater infiltration may be feasible. Initial data collection has taken place, and field work and map updates will start this year. Attachment 2 shows the Totem Lake area and highlights differences between the existing and future soils maps.
- LID feasibility study. This study will review planned transportation capital projects (motorized, non-motorized and some traffic projects) to provide information on LID features that could be feasibly included, and to suggest adjustments to project budgets that may be needed to accommodate LID. Staff are currently negotiating with two consulting firms. The project will be complete in time to include the results in the 2008-2012 CIP update, which will occur this fall.

Next Steps

Implementation of LID in Kirkland will require policy and regulatory changes as well as political support. The following paragraphs described some of the areas where we will need to focus efforts. Next steps toward implementation of LID in Kirkland include the following:

A. Alter City Code to Better Integrate LID

The team participating in the PSAT has identified some potential code amendments for further study (see Table 1). This item will be scheduled to come back to City Council at a separate meeting for input on the scope of potential changes and scheduling.

B. Develop public outreach/education opportunities.

Continue to expand education and outreach opportunities. Public Works is currently hiring an Environmental Education and Outreach Specialist who will be able to assist with LID education and outreach efforts.

C. Identify and Construct a City Pilot Project

A sidewalk at NE 73rd Street between 130th and 132nd Avenues is currently investigating potential use of LID techniques. In addition, LID will be incorporated into transportation CIP projects as directed in the LID feasibility study and the 2008-2012 CIP update.

D. Develop Tools to Direct LID Efforts

Results of the study of LID feasibility for Transportation CIP projects will be presented to Council as part of the overall CIP update process. Costs of including LID in CIP projects will be

presented for Council consideration at that time as well. An update on the soils mapping project will be presented as a reading file item.

Attachments:

- 1 Incentives for Use of LID (AHBL)
- 2 Sample of updated soils map for Kirkland

Cc: Daryl Grigsby, Public Works Director
Rob Jammerman, Development Engineering Manager
Ray Steiger, Capital Projects Manager
Green Team

Table 1 – City Regulations Affecting Use of Low Impact Development Practices

Code Section	Title	How Code Affects LID	Potential Amendments to Encourage LID
Kirkland Municipal Code			
15.52	Storm Water Drainage	Adopts storm drainage design regulations	* As part of adoption of new Stormwater Management Manual, structure to encourage or require use of LID
18.04	Standard Specifications for Public Works Construction	Adopts Public Works Pre-approved plans that show standard street sections and drainage designs –	* Addition of LID road standards which would include landscape drainage swales to enhance stormwater quality and control
21.–	Buildings and Construction	The International Building Code as addresses foundation drainage requirements	* Foundation drainage requirements must be integrated with LID to prevent conflict
22.28	Subdivisions - Design Requirements	Standards for layout and vehicle/pedestrian access to subdivisions impact amount of impervious created and space available for LID.	* As part of innovative housing review, consider incorporation of LID. Innovative housing (small lot development, cluster subdivisions, and cottage developments) provide opportunity to concentrate development on a smaller portion of land, leaving space available for LID.
Kirkland Zoning Code			
15-65	Use Zones	Allowable lot coverage impacts open space available for use of LID techniques	* Evaluate standards for maximum allowable lot coverage to determine whether any adjustments are necessary.
95	Tree Management and Required Landscaping	Retention of native vegetation is an LID technique, design/size of required landscaping impacts use of landscaped areas for bioretention.	No changes anticipated at this time.
105	Parking and Parking Areas, Vehicle and Pedestrian Access, and Related Improvements	Number of required parking stalls, parking design/landscaping and surfacing requirements impact amount of impervious surface created and ability to use landscape areas for LID	* Incorporation of natural drainage landscapes (bioswales, rain gardens, and bioengineered planting strips) within parking lots to improve water quality and reduce runoff. * Encourage or require use of permeable paving. Permeable pavements include pavers, grid systems, porous asphalt, and porous concrete. These permeable pavements allow rain to infiltrate through the voids of the permeable pavement. * Consider pursuing changes in required parking and parking dimensions to reduce the amount of impervious area created.
110	Required Public Improvements	Requirements for street widths and surfaces, sidewalks, curb and gutter, and landscape strips impact amount of impervious created and ability to use LID adjacent to streets.	* Addition of LID road standards that would include landscape drainage swales to enhance stormwater quality and control. * Incorporation of LID details for retrofitting existing streets, including bulb out parking, recessed tree boxes, etc.
115	Miscellaneous Use Development and Performance Standards	Calculation details for allowable lot coverage, land surface modification permits impact open space available for use of LID techniques	* Address and provide incentives for green roofs. Green roofs can be a critical part of a stormwater reduction plan, particularly when large portions of a site will include structures. * Incorporation of soil amendment provisions that address preservation of existing topsoil and restoration of soils with the addition of compost, or other measures to maintain the soil's moisture holding capacity. * Evaluate exemptions to lot coverage provided in KZC 115.90.

LID Incentives

Incentive	General Description	Justification	Costs	Developer Interest
Increased Densities	Allow greater residential densities with the implementation of LID techniques.	With more sensitive design the land is able to manage more units.	Potentially greater impacts needing mitigation.	High
Reduced Review Time / Expedited Review	Commit to a priority status on LID projects with a maximum time between receipt and review.	LID projects may need special studies and reviews that must be identified early.	Impacts to staffing resources and other project review schedules. Outside consultants could also be used to expedite.	High
Administratively Approved Rather than with Hearing	Allow LID subdivisions up to 9 lots in size to be reviewed as short plats. Allow increased SEPA thresholds for LID projects.	Lower impacts result from LID projects and all reviewers may still provide input.	Reduced process may create public perception issues.	High
Property Tax Reduction	Reduce or waive property taxes on an LID project for a given number of years.	Lower service requirements result from lower impacts.	Reduced revenues.	High
Reduced Application Fees	Waive all or a portion of the submittal fees on LID projects.	Due to lesser impacts to the community, lower fees are charged.	Impacts to jurisdiction resources. May be offset by reduced habitat restoration and environmental costs	Medium - High
Public Recognition	Emphasize LID projects on website, at Council meetings and in utility mailers.	Highlight the great development projects going on throughout the area & create public awareness.	Staff resource impacts.	Medium
Dedicated Review Team	Create an LID review team that is familiar with and dedicated to LID projects.	Specialized team with technical expertise is necessary and more efficient assistance and review.	Initial training of team members in LID techniques will be required in any event. Outside consultants could also be used - charged to applicant or paid for by jurisdiction.	Medium
Flexibility in Bulk, Dimensional & Height Restrictions	Allow greater building heights and floor area ratios as well as reduced setbacks.	Provides flexibility in overall site design. Allows reduction in building footprint. Addresses clustering needs.	Consistency/compatibility with existing development and urban design goals.	Low
Adjustments to the Required Parking	Reduce parking requirements.	Reducing parking is both an LID technique for reducing impervious surfaces as well as a way to encourage more projects.	May conflict with other community objectives.	Low
Lower Stormwater System Development Fees	Reduce charges when development meets thresholds.	Lower impacts to system capacity, so lower fees are appropriate.	Reduced capital funds. Compensate by raising charges for conventional developments.	Low



CITY OF KIRKLAND

Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.ci.kirkland.wa.us

MEMORANDUM

To: David Ramsay, City Manager

From: David Barnes, Planner
Stacy Clauson, Associate Planner
Scott Guter, Planning Information Specialist
Tom Jensen, Plan Review Supervisor
Paul Stewart, AICP, Deputy Planning Director

Date: April 19, 2007

Subject: Green Building Program

INTRODUCTION

Overview

The Vision for Kirkland as expressed in the Comprehensive Plan emphasizes the importance of community stewardship of the environment. This vision has been translated into two framework goals, FG-5 and FG-7, which emphasize protection of environmentally sensitive areas, preservation of a healthy environment, and encouragement of low-impact development (LID) and sustainable building practices. Additionally, the Natural Environment policy NE-1.5 also suggests that the City should educate, promote, support incentives and provide resources to encourage citizens, businesses, builders and the development community to adopt sustainable building practices.

As Kirkland develops and rebuilds, City leaders have acknowledged that we have an opportunity to create a healthier and more environmentally sensitive community and to save energy and building costs. To encourage the use of sustainable building practices within the City, the 2003 Natural Resources Management Plan identified the desire to implement a program to promote and provide incentives for low energy use and "green" construction in order to respond to air quality, climate change, and energy issues.

Project Goals

The primary goal for this project would be the creation of a Green Building Program. We would envision this program to involve three two components: (1) a public outreach and education program; (2) the creation of a green building permitting program; and (3) incorporating green building construction into the construction of renovation of City facilities. The purpose of the public outreach portion is to inform the public about sustainable building practices. A green building

Memo to Dave Ramsay

4/19/2007

2

permitting program would allow the Development Review Services (comprised of the Building/Fire, Planning and Public Works Departments) to guide the applicants through a green building process to further the goal of a more sustainably built environment. In addition, it is recommended that the City explore taking a leadership role by committing to meet Green Building standards for renovation and construction of new City facilities.

BACKGROUND

Introduction

In broad terms, sustainable development refers to development that "meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987).

Buildings have a tremendous impact on environmental quality, resource use, and human health and productivity. In the United States, buildings account for 36% of the total energy use [65% of electricity consumption; 30% of the greenhouse gas emissions; 30% of raw materials use; 30% of waste output (136 million tons annually); and, 12% of potable water consumption (U.S. Green Building Council)]. Sustainable building meets current building needs and reduces impacts on future generations by integrating building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction and operation of our built environment.

Sustainable building practices cover all aspects of development including: site preparation and layout; material selection and building construction and operation and maintenance. Sustainable design encompasses the following broad topics:

- efficient management of energy and water resources
- management of material resources and waste
- restoration and protection of environmental quality
- enhancement and protection of health and indoor environmental quality
- analysis of the life cycle costs and benefits of materials and methods

These practices can include the following benefits: reduced construction and maintenance costs; improved water quality and use efficiency; reduced surface water runoff and enhanced treatment for stream and fish habitat; increased retention of native trees and other vegetation; and more efficient use of materials. Some examples of the practices include integrated building and site design, vegetated roofs, reduced impervious surface, reuse of water, alternative heating and cooling systems, recycled building materials and landscaping used to reduce heat emissions and to treat surface water runoff.

Green Building Programs

There are national and local efforts to promote green buildings that the City has been evaluating for application to our own efforts. The first is Leadership in Energy and Environmental Design (LEED®) and the second is the Built Green™ program sponsored by the King County Masterbuilders. These two key programs have been initiated in the sustainable building industry.

Leadership in Energy and Environmental Design LEED®

The LEED program is an environmental rating system of the U.S. Green Building Council, and is the most widely recognized program for measuring the performance of green buildings. The LEED program is currently being used for commercial projects and multi-family construction over four stories, and recently began a pilot project for new residential development. Performance is measured on a points system, and buildings are certified (Platinum, Gold, Silver, Certified) based on the number of points achieved. The LEED points system is built around six primary categories:

1. Sustainable Sites - developing appropriate sites, adaptive reuse of existing buildings, protecting natural and agricultural areas, reduce need for auto use, protection/restoration of natural sites
2. Water Efficiency - reduce water needs of building and site, reduce demand for municipal supply and treatment
3. Energy and Atmosphere - optimize energy efficiency, renewable and alternative energy sources, ozone protection
4. Materials and Resources - materials with less environmental impact, reduce and manage waste, reduce amount of materials needed
5. Indoor Environmental Quality - indoor air quality, thermal comfort and systems control, occupant connection to the outdoor environment
6. Innovation in Design - exceptional performance, green building innovation beyond the categories

The following link to the United States Green Building Council's website will provide more information about LEED building standards and the LEED Home program:

<http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>.

Built Green™

Built Green is a non-profit, residential green building program created by the Master Builders Association of King and Snohomish Counties in partnership with King County, Snohomish County and the City of Seattle. It was developed to provide homeowners with comfortable, durable homes that are cost-effective to own and operate.

The Built Green program provides architects and builders with a checklist of strategies and actions that will make a home healthier, more efficient, and easier on the environment. Topics include building to green codes and regulations, site and water considerations, energy efficiency, health and indoor air quality, materials efficiency, and promoting environmentally friendly homeowner maintenance. Points for the checklist items are tallied to designate the level of performance achieved by the home, from one to five stars. The more points attained, the higher the homes overall environmental and health performance.

There are four Built Green program checklists addressing different sectors of the residential market: Home Builder, Remodeler, Multifamily, and Communities. The Built

Memo to Dave Ramsay

4/19/2007

4

Green logo helps home-buyers and renters to find homes that reflect their values. Built Green homes are cost-competitive to purchase, save money on utilities, earn more value as an investment, are healthier, and help to preserve the Northwest environment.

The effectiveness of the Built Green program in King County can be shown by the increase of certified projects. Built Green estimates for 2006 that 20-25% more projects will be certified as compared with the level at inception of the program in 2003.

The following link to the Built Green website will provide more information:

<http://www.builtgreen.net/>.

Presently, the City of Kirkland has seen several projects recognized using green building principles. The 16 homes in Danielson Grove by the Cottage Company were built to meet the 4 Star standards of the Built Green program. Local builder, Tennyson Homes was also featured as a case study homebuilder for the Built Green Program and written up in the Kirkland Courier for their efforts to transplant trees and recycle building materials. In addition, the Ben Franklin Elementary School was recognized by the AIA Committee on the Environment (COTE) as one of the top ten green buildings for 2006. Staff is also aware of several projects currently in the design phase which plan to incorporate green building principles.

Other Local Green Building Efforts

It is important to understand the green building movement and how it is affecting local government and their response to this call. This brief study can help us understand where the City of Kirkland is on the topic of Green building and how we can position ourselves to continue to take a leadership role for Eastside Cities. The following brief summary includes selected jurisdictions that our team feels would be advantageous to evaluate on a local or regional basis.

Washington State:

On April 8, 2005 Governor Christine Gregoire signed Senate Bill 5509, requiring all state buildings and renovations meet LEED silver ratings. The law took effect on July 24, 2005 and applies to any new construction or remodeling project of more than 5,000-square-feet, with a few exceptions for hospitals, pumping stations and research facilities.

King County:

On February 7, 2005 King County Council adopted Ordinance #15118, requiring green building practices in all buildings the County constructs, remodels and renovates; directing offices and departments to incorporate the use of LEED methods and techniques as the primary method to measure the use of green building practices in constructing and operating county facilities.

Memo to Dave Ramsay

4/19/2007

5

King County's Green Building Team provides support to King County project managers and staff to help implement green building practices in new construction or the renovation or remodeling of county facilities.

Resources offered by the Green Building Team include:

- Technical support and training on LEED and other green building technologies for King County departments and offices.
- Assistance with project review and budget analysis for county buildings
- Strategies and policies relating to green building
- Incentive & Grant programs (See Attachment 6.b)
- Continually updated list of county projects that are working to incorporate LEED criteria
- Green Building Resource Center, including an electronic bibliography and online catalogue to provide staff with resources in project management, architecture, landscape architecture, design, budgeting, engineering and resource conservation

Green Building Tool Kit Rollout Event

The City of Kirkland has participated with other Eastside Cities and King County to help plan for a one day event to promote green building and unveil King County's new tool kit for suburban cities. The date and time is June 19th 2007 from 11AM to 5PM. This event is geared toward elected officials, city staff and managers who want to learn more about green building programs and how to create a vision for sustainability in their own city. This will be a great opportunity to hear speakers, converse with other jurisdictions and demonstrate support for green building. A save the date flyer has been attached to this package (See Attachment 6.c).

City of Issaquah:

The City of Issaquah's Green building Program is housed in the Resource Conservation Office (RCO). The program started three years ago and consists of an incentive based program for permit applications that identify themselves as being certified as Built Green or LEED. Issaquah has adopted an ordinance that supports the RCO and offers technical assistance to builders/developers and expedited review of applications that meet its sustainably built criteria.

Issaquah Highlands is an example of a large scale Built Green community. Port Blakely Development Company required all builders to submit building permit applications that met a 4 Star Built Green rating. The City of Issaquah has expedited a total of three applications to date for building permits that are certified Built Green.

Issaquah has the distinction of having the first fire station in the country to be LEED certified. They have committed themselves to require all public buildings to be LEED certified. Currently they are working with consultants and a developer to construct 10 "zero energy" (homes that produce as much energy as they use) homes in the Issaquah Highlands.

Memo to Dave Ramsay

4/19/2007

6

City of Redmond:

The City of Redmond does not currently have Green building program. They are in the investigation phase of creating a draft work program. Staff has begun to conduct an inventory to evaluate the missing pieces for a comprehensive sustainability program. Their Planning Department is the primary team of professionals working on this initiative and has indicated that they will be designing a green building program as soon as their city council adopts a resolution. They have identified the importance of adopting a green building resolution and their Design Review Board is working on this effort now.

The City of Redmond designed and built their City Hall in 2006 to a LEED silver standard and is currently in the certification process. Additionally, new buildings on the Microsoft campus in Redmond are proposed to achieve LEED Silver standards.

The Redmond campus of the Lake Washington Technical College is the first building in the city constructed to meet LEED standards. It was recognized in May, 2006 by the U.S. Green Buildings Council as the first among all buildings of the state's two-year institutions to have achieved LEED Silver Certification

City of Olympia:

The City of Olympia does not have a Green building program as of today. The City works with the Master Builders Association and endorses the Built Green program. They have a building official who is LEED certified and offer expedited review of all LEED buildings. Although there is not an official resolution/ordinance that endorses green building, by policy it is understood by development review staff that all LEED buildings will receive very high priority and are to be encouraged.

A new city hall is being built and will meet LEED standards and the Washington Public Utilities Building is slated to be certified LEED silver.

City of Bellingham and Whatcom County:

Bellingham City Council passed a resolution in May, 2005 that would require all new and renovated city buildings larger than 5,000-square-feet to meet a LEED silver rating. In July, 2005 the Whatcom County Council passed a similar resolution for county buildings.

Whatcom County has offered a new fast-track permitting incentive for builders who participate in the LEED for homes or Built Green programs. Whatcom County has provided \$35,000 to support Green Building efforts in its 2007-2008 budget process.

Memo to Dave Ramsay

4/19/2007

7

City of Bellingham appointed "Green Team" members to evaluate policy and education options for implementation into 2007. "New Whatcom" strategic guidelines recommend using LEED-ND standards to evaluate new master plans for development.

The City of Bellingham and Whatcom County have also been collaborating with Sustainable Connections, a non-profit membership organization of well over 500 businesses and community leaders working to transform and model an economy built on sustainable practices. The network is focused on Whatcom, Skagit, Island and San Juan Counties. One arm of Sustainable Connections is the Green Building and Sustainable Design Program, which works with local government, building industry professionals and community members to promote green building practices. Sustainable Connections has offered free or reduced rate design assistance to upcoming projects that have LEED & Built Green potential and has offered green building grant seeking assistance to help offset the increased design costs associated with green buildings.

The County and City have seen a number of projects built under either the LEED or Built Green program of Whatcom County

The organization offers comprehensive resources on their website at www.sconnect.org and has released a matrix of NW Washington Regional Green Building Materials.

Other information of note:

The Cascadia Region Green Building Council has issued the Living Building Challenge, a proposal to encourage the industry to go beyond the LEED Platinum standard and design buildings that have minimal impact on the earth: Buildings that produce as much energy as they expend (net-zero), that have systems for capturing and treating water on site, and are designed to be beautiful as well as efficient.

The Lopez Community Land Trust (LCLT) is working with Seattle-based Mithun Architects, and already has a plan in the works to create a small community of affordable net-zero-energy homes. Sandy Bishop, LCLT executive director, hopes that it will serve as a model for others who are interested in building sustainable communities.

Action Plan

A work program to implement a Green Building Program will be drafted in 2007. The action plan is a description of the general tasks that will be involved in the establishment of our own Green Building Program (See Attachment 6.a). The ultimate goal of the green building action plan is to have future homes and commercial structures constructed in a manner which conserves and preserves valuable resources such as air, water, energy and building materials. A positive outcome of this program would further demonstrate Kirkland's commitment to the environment by doing our part to reduce the impacts upon it.

The Kirkland Green Building Action Plan has three distinct phases with associated tasks that are required to complete each phase. Phase one is the research portion. It commenced in January

Memo to Dave Ramsay

4/19/2007

8

2007 with the purpose of informing us about what it would take to create a tailor-made green building program for the City of Kirkland. It is our goal to obtain the required information to prepare a recommended program scope by the end of August 2007.

The second phase of the action plan is the implementation phase. An assumption would be that we would have received direction to move forward with a green building program and the necessary approval from City Council and identified City departments. This phase would identify the necessary funding sources to commence and promote an effective green building and outreach program. It will also be the time when staff completes training to provide additional technical assistance to applicants and codes and/or fee schedule changes are finalized. It is likely that phase two will be completed as early as December 2007, but as late as Winter 2008.

Phase three will allow us to measure the success of our new green building program. This will be an ongoing effort. We will utilize a number of tools, including GIS mapping to quantify our program and developer forums to gather additional input and periodic check-ins with the Council in order to make necessary adjustments to the program that reflect our changing built environment.

Many jurisdictions have already begun the process or are investigating the creation of their own specific policies, codes that support a green building program. Our team has identified the needs of the Comprehensive Plan, Natural Resources Management Plan in relation to green building or sustainable building. The Green Building Action Plan is an interdepartmental solution that will require continued attention and work to achieve the goals of a successful program. Our proposal would include regular updates to the Green Team, City Manager and City Council. With proper approval it is our intention to work the action plan to its fruition. We are asking for City Councils favorable support in continuing this important and timely work.

cc: Green Team

Kirkland Green Building Program - Action Plan 04/07

Task	Action Items	Description	Due Date
Phase 1: Research/Startup. Phase I of the Action Plan focuses on background research on existing sustainable building programs as well as sustainable building practices. The following tasks would be associated with Phase I:			
Task 1: Research	Research general background information including:		June 1-30, 2007
	1. Existing programs for measuring the performance of green buildings, including LEED, Built Green, Energy Star, and Home Energy Rating System (HERS). Identify key benefits to each program and costs for builders to implement. Research to include interviews with local builders who have developed under these programs as well as staff from other jurisdictions familiar with the programs.		
	2. Identify existing sources for technical assistance, including King County Solid Waste, O'Brien & Associates, and Resource Venture.		
	3. Identify and compile resources for existing incentive programs, such as existing federal tax credits, rebate programs offered through Puget Sound Energy, King County grants, etc.		
	4. Investigate the costs, time commitment, and requirement for staff training. There are several different training opportunities that are available, including LEED Certification (LEED-AP), Sustainable Building Advisor Program through Seattle Central Community College), Workshops (e.g. Built Green conference)		
	5. Investigate funding sources for a Green Building Program.		
	6. Investigate existing green building programs (City of Seattle, King County, City of Issaquah) to determine structure of program, funding sources for program, staff resources, and incentives offered.		
	7. Identify any existing barriers to implementation of a green building program. This would include analysis of existing codes, permit processing, and fee structure. Identify any key strengths and opportunities to build upon.		June 1-15, 2007
	8. Identify key stakeholders, including staff, developers, and community leaders. Convene stakeholders group to gain input on program structure and components.		
9. Investigate potential incentives for promoting green building, including priority permit review, financial assistance for soft costs of certifying construction, development of a recognition program, variations to development regulations, fee reductions, etc.			
Task 2: Determine program scope	Prepare a recommendation for a program scope to present to City Council members, City Manager, Natural Resources Management Team and the Development Review Committee. In preparing a recommendation, the following issues should be considered: Vision, funding commitment, staff resources, anticipated benefits of program, developer interest, and standards for success.		August 1-31, 2007
Phase 2: Implementation			
Task 1: Service Package Request	Develop service package request, if necessary, to cover any identified funding requirements of program.		September 1, 2007
Task 2: Communication and Outreach.	Develop a public outreach program to promote program. Components could include:		Fall 2007-Winter 2008
	1. Development of website with links to sustainable building resources.		

Kirkland Green Building Program - Action Plan 04/07

Task	Action Items	Description	Due Date
		2. Develop Community Lecture series to inform developers and public of program and green building opportunities.	
		3. Investigate other outreach opportunities, including public access TV spots, City Update, newspaper article, etc.	
Task 3: Staff Training		Completion of any necessary staff training identified in Phase 1.	Fall 2007-Winter 2008
Task 4: Code and Fee Schedule Revisions		Move forward on any code or fee revisions identified under Phase 1.	Fall 2007-Winter 2008
Phase 3: On-going Program Maintenance			
Task 1: Benchmarking		Tracking of structures built under program.	
Task 2: Feedback		Communication with developers and community on successes and barriers to implementation of program	

Introducing the **2007 Built Green™ Incentive**

it pays to build green



Looking for an incentive to build a 4 or 5 star Built Green™ project?

It's here! Applications are now open for the

2007 Built Green Incentive!

Sponsored by King County and the City of Seattle

The Built Green Incentive provides funding for single-family residential, town home, and community development projects to help offset the cost of certifying and designing innovative green projects. Projects in Seattle and King County are eligible to apply. Incentives range from \$2,500 - \$15,000, depending on the star level achieved and type of project. The higher the level of green, the bigger the potential incentive.

Incentive funds are limited and will be competitively awarded.
See www.builtgreen.net/incentive.html for details and instructions.

Mark your calendars! The application deadline is Friday, May 4, 2007.

For more information contact:

Koben Calhoun
Built Green Program Coordinator
(425) 460-8238
kcalhoun@mbaks.com



ATTACHMENT 6b

Sponsored by:



Save the date for this upcoming event!

June 19, 2007 • 11am - 5pm • Bellevue City Hall

GreenTools for the Built Environment a confluence of local leadership

GreenTools powered by King County is designed to help suburban cities create and sustain green buildings, developments and communities while addressing critical environmental issues, such as global warming, critical habitat restoration and solid waste

reduction. On June 19th the GreenTools program will launch their first ever toolkit for suburban cities, a "how to" for building departments, elected officials and other staff interested in jump starting or enhancing their city's green building efforts.

Green Tools

Powered by King County

For more information contact
Patti Southard Green Tools Coordinator
patti.southard@metrokc.gov
206-296-8480




**GreenTools for the Built Environment
a confluence of local leadership**

con·flu·ence (kɒn' flʊ-əns) *n.*

- A flowing together of two or more streams.
 - The point of juncture of such streams.
 - The combined stream formed by this juncture
- A gathering, flowing, or meeting together at one juncture or point.

www.greentools.us

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Special thanks to Cheri Westphal of Northwest Property Imaging for providing the two bottom right photos on the front. www.nwpiimaging.com

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ATTACHMENT 6c



MEMORANDUM

To: Dave Ramsay, City Manager
From: Jennifer Schroder, CPRP, Director
Date: April 16, 2007
Subject: Green Kirkland Partnership - update

The purpose of this memorandum is to provide a status report on the Green Kirkland Partnership. The Green Kirkland Partnership is a partnership between the City of Kirkland, the Cascade Land Conservancy (CLC) and the community, created to restore and sustain Kirkland's urban forest. There are currently 324 acres of publicly owned urban forest within the City of Kirkland. Invasive plants such as English ivy, Himalayan blackberry, and holly are threatening the sustainability of this important natural resource. A healthy urban forest cleans the air, moderates temperatures, enhances aesthetics, can stabilize hazardous slopes, and absorbs surface water runoff, thus reducing erosion and flooding.

The goal of the Green Kirkland Partnership is to restore the 324 acres to a sustainable urban forest condition – invasive free – and create an aware and energized community in which individuals, neighborhoods, nonprofit organizations, businesses and City government are working together to protect and maintain Kirkland's urban forests for current and future generations.

There are two main goals that summarize the program:

- Restore Kirkland's urban forests by removal of invasive plants and planting native species for the sustainability of the forest and its habitat.
- Build the community's capacity for long-term stewardship of the urban forest through increased public awareness of and engagement in protecting, restoring and helping to maintain healthy urban forests.

To achieve these goals, the Green Kirkland Partnership program includes the following strategies: 1) develop and implement a 20-year restoration plan for the City's open space and natural areas; 2) implement an Environmental Education and Outreach program to educate and engage the community in stewardship projects to remove invasive plants and to replant with native species, seek support from businesses in both funding and stewardship, and seek grants to support stewardship activities; 3) create a sustainable volunteer stewardship program for ongoing restoration and care of our urban forests; and 4) acquire land that has ecological and habitat benefits. The following is a status report of each strategy:

20-year restoration plan: This document will be a comprehensive restoration plan for Kirkland's forested Open Spaces and Natural Areas. The work to complete the plan will occur in two phases. In Phase I, CLC will conduct a land inventory and needs assessment of current open space/natural area ownership, assess the environmental quality and land use, and assess the capacity of the City of Kirkland and local community groups for restoring open space/natural areas. In Phase II, the products from Phase I such as data collection, maps and narrative descriptions will be compiled by CLC to develop the 20-year restoration plan that prioritizes restoration and includes criteria for acquisition of natural areas.

To date, the data collection and assessment elements of Phase I have been completed and are in review by the Green Team, the City's inter-departmental service team on environmental sustainability. Phase II is scheduled for completion this November.

Environmental Education and Outreach: Education is a key component in effecting change. To increase awareness and understanding of the adverse affects that invasive plants, like English ivy, have on the urban forest, staff and CLC jointly developed a presentation that explains the benefits of a healthy forest, the consequences of invasive plants if no action is taken to eradicate these plants from our open spaces and natural areas, and what citizens can do to restore these lands.

In 2005, members of the Park Board gave presentations to several of the 13 Neighborhood Associations and in 2006 Leslie Batten of CLC revised the presentation. Her revision includes the Land Inventory and Environmental Quality Assessment data that was collected in Phase I and a GIS mapping product which identifies an analysis and location of the percentage of native tree canopy cover, percentage of the canopy cover that is evergreen and the percentage of invasive cover that each one of our natural areas contains. Attached is an exhibit of the parks within the Central Houghton Neighborhood that shows the quality assessment mapping.

This year, presentations have been made to the Kirkland Alliance of Neighborhoods (KAN) and the following Neighborhood Associations: Highlands, Lakeview, Norkirk, Market, Houghton, and North Rose Hill with a goal to present to all of the 13 Neighborhood Associations this year.

In addition to presentations, information on the Green Kirkland Partnership, the PowerPoint presentation, announcements of ivy pull events, and links to provide additional information on native plants, invasive plants and reforestation techniques are available on the department's Green Kirkland web page.

In the 2007/2008 Biennium Budget, Council funded for 12 months a 0.5 FTE Environmental Education and Outreach position. This position's primary job is to develop and implement long-term environmental stewardship and education strategies to support the Green Kirkland programs. This position will begin April 16th and will significantly improve our efforts to implement the 20-year forest restoration plan.

Grants: In 2006, the City was successful in obtaining a grant from the King Conservation District in the amount of **\$32,039** to implement a summer youth field crew program. This program, which we named TASK (Teens Assisting for a Sustainable Kirkland) was to develop a work readiness training program for youth to teach them job skills required for urban forest restoration. Project sites included Juanita Bay, Woodlands, Carillon Woods and Watershed Parks.

The City received a second grant form the King Conservation District in the amount of **\$36,000** to fund Phase II of the Green Kirkland 20-year restoration plan.

Additionally this year, the City received a **\$10,000** grant from King County Natural Resources' "Wild Spaces in Urban Spaces" program for community outreach and stewardship activities.

Donations: In 2005, CLC notified the City that an anonymous donor wanted to make a \$400,000 donation to conduct an Urban Forest Restoration Demonstration project at Watershed Park. With this funding, CLC contracted with Dyanne Sheldon and Associates to develop a vegetation management plan for Watershed Park. The plan identifies the park's variety of native tree canopy, the location and percentage of invasive species and prescribes a restoration plan that can be achieved with volunteer and contracted resources. The donor's vision was not only to engage community stewardship but also encourage the landscaping maintenance industry to learn and specialize in the techniques of removing invasive plants. Unfortunately, the donor recently passed away and the funding commitment to this project has ended.

CLC recognizes the importance of this demonstration project and is looking into alternative funding sources. Eastside Preparatory School is interested in adopting this project which will provide a unique restoration and educational partnership and will also add additional merit in making the restoration project competitive for potential grants.

Stewardship Activities: In 2005, the City launched the Green Kirkland Partnership to educate and engage the community about natural area stewardship. Work parties to remove ivy were hosted the first Saturday of each month at Carillon Woods between April, 2005 and September, 2006. The work parties were advertised on the City web page and government channel, at City Hall and community center bulletin boards and articles were submitted to local papers. The events were well attended and total volunteer time at Carillon Woods reached 1,120 hours. Two other parks, Everest and McAuliffe, were also included in the Green Kirkland Partnership through the efforts of North Star Junior High and Christ Church Academy. The City also received requests from other groups or individuals to remove ivy from other parks. This resulted in additional restoration activities at Waverly Beach, South Rose Hill Park, Juanita Bay Park, Ohde Pea Patch and Kiwanis Park. Total Green Kirkland Partnership hours through March, 2007 comes to 2,040.

This year's primary restoration site will be Watershed Park. To avoid hosting the restoration stewardship events on holiday weekends, they will be held the 2nd Saturday of the month, April - September. Carillon Woods will not host restoration events this summer due to the park closure while capital improvements are underway.

Attached is a summary of the volunteer restoration activities that have occurred since 2005. Compared to 2005, 2006 saw a decline in the number of volunteers and in total volunteer hours. Some of the decline may be attributed to conflicts with summer vacations, events that coincided with holiday weekends and other summer activities.

It is commendable what staff has accomplished with our existing resources, but there is a need for greater community outreach and engagement to build and maintain volunteer capacity and participation. We are looking forward to begin utilizing our new Environmental Education and Outreach position which will provide a dedicated resource to develop and implement a long-term environmental volunteer stewardship and education strategies to support the Green Kirkland Partnership program.

Acquisition: Public acquisition of land that meets the criteria of open space is action that protects critical habitat, improves air quality, provides recreation benefits and prevents these lands from being lost to development. Once natural areas are lost to development, it is almost impossible to return them to their original condition. Supporting this strategy, the 2002 Kirkland Park Bond included the acquisition of Carillon Woods (8.7 acres), and provided a \$1 million opportunity fund for acquisition of other open space lands. From this fund, and with an \$80,000 grant from King County Conservation Futures, the City purchased the Schott property (7.5 acres) which is contiguous to Heronfield Wetlands and acquired parcels contiguous to the Yarrow Bay Wetlands (4.47 acres).

Milestones for the year ahead:

- Complete the 20-year plan
- Develop and implement a comprehensive volunteer stewardship program
- Seek grants to support and expand volunteer stewardship

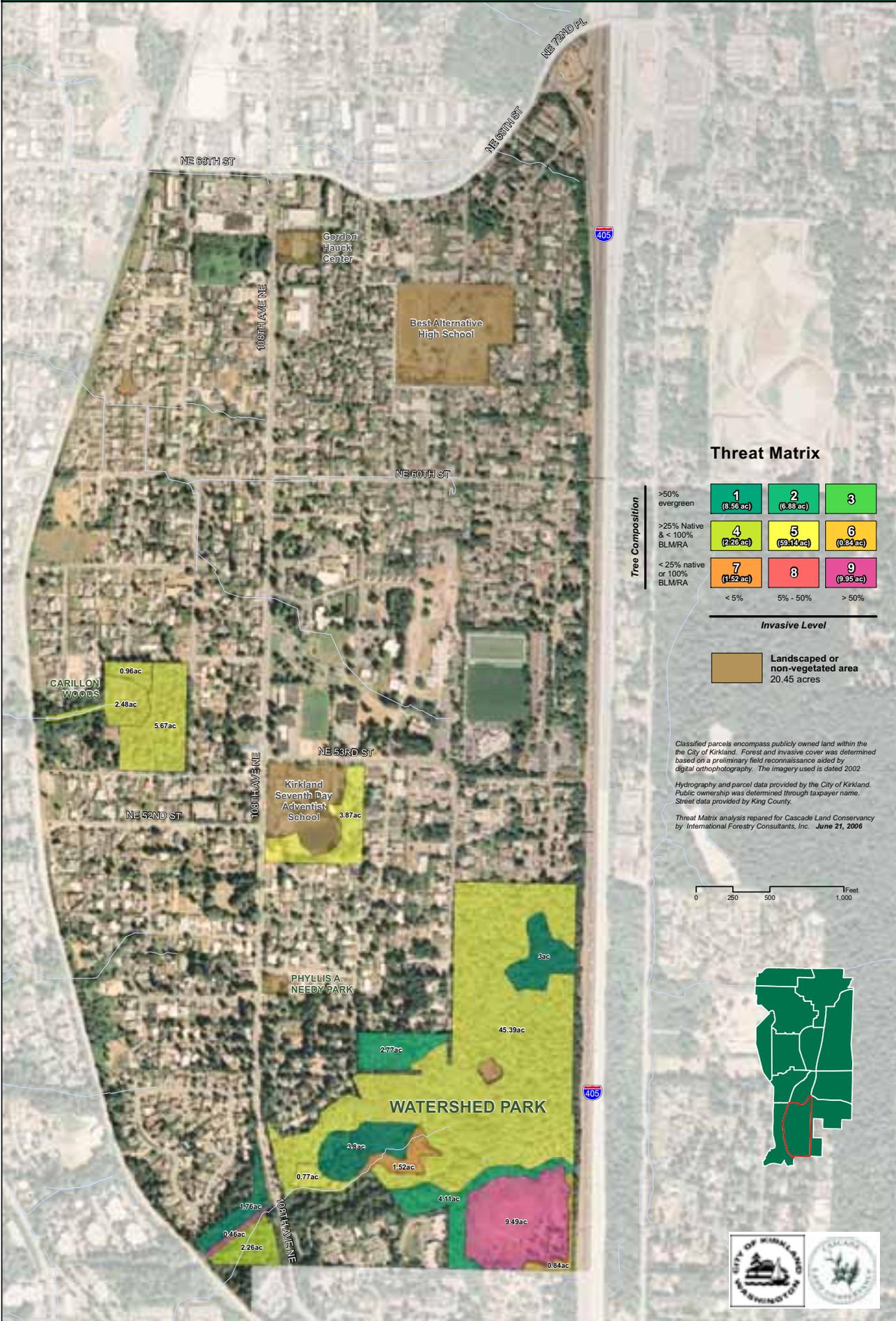
**Green Kirkland Partnership
Stewardship events/volunteer summary**

Green Kirkland 2005 Group/Individual	DATE	VOLUNTEERS	HOURS	TOTAL HOURS	PROJECT/SITE
Green Kirkland	5/21/05	26	3	78	Carillon Woods
Green Kirkland	6/18/05	35	3	105	Carillon Woods
7th Day Adventists	9/16/05	40	2	80	Carillon Woods
Green Kirkland	9/17/05	23	6	138	Carillon Woods
Northstar Junior High	9/23/05	100	4	400	Everest
Green Kirkland	10/8/05	42	3	126	Carillon Woods
Green Kirkland	10/22/05	35	3	105	Carillon Woods
City of Kirkland	10/30/05	13	2	26	Waverly Beach Park
Northwest College	11/16/05	18	1	18	Carillon Woods
Totals	9 EVENTS	330		1072	

Note:
Green Kirkland: City-initiated volunteer event

Green Kirkland 2006 Group/Individual	DATE	VOLUNTEERS	HOURS	TOTAL HOURS	PROJECT/SITE
Christ Church Academy	3/23/06	19	2	38	Everest
Green Kirkland	4/1/06	44	3	132	Carillon Woods
City of Kirkland - Youth Services Volunteers	4/29/06	21	3	63	Carillon Woods
Green Kirkland	5/6/06	21	3	63	Carillon Woods
Christ Church Academy	5/12/06	21	3	63	Everest
Green Kirkland	6/3/06	22	3	66	Carillon Woods
Green Kirkland	7/1/06	15	3	45	Carillon Woods
Green Kirkland	8/5/06	18	3	54	Carillon Woods
Green Kirkland	9/2/06	17	3	51	Carillon Woods
Christ Church Academy	9/26/06	20	2	40	McAuliffe Park
Christ Church Academy	9/28/06	30	2	60	McAuliffe Park
Christ Church Academy	12/4/06	20	2	40	McAuliffe Park
Totals	12 EVENTS	268		715	

Green Kirkland 2007 Group/Individual	DATE	VOLUNTEERS	HOURS	TOTAL HOURS	PROJECT/SITE
South Rose Hill Neighbors	1/20/07	6	3	18	South Rose Hill Park
Christ Church Academy	2/20/07	20	2	40	McAuliffe Park
Eagle Scout project	3/10/07	14	4	56	Woodlands Park
Eagle Scout project	3/17/07	14	4	56	Woodlands Park
Lake Washington School District Capstone program	3/17/07	2	6	12	Juanita Bay Park
Lake Washington School District Capstone program	3/17/07	1	3	3	Ohde Pea Patch
Eagle Scout	3/24/07	14	4	56	Woodlands Park
Lake Washington School District Capstone program	3/24/07	2	6	12	Juanita Bay Park
Totals	8 EVENTS	73		253	





Stephen P. Reynolds
Chairman, President and
Chief Executive Officer

Puget Sound Energy, Inc.
P.O. Box 97034
Bellevue, WA 98009-9734

cc: Mayor
Dave
Eric

April 12, 2007

The Honorable Jim Lauinger
City of Kirkland
123 Fifth Avenue
Kirkland, WA 98033-6189

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CITY OF KIRKLAND
CITY MANAGER'S OFFICE

Dear Mayor Lauinger:

Puget Sound Energy (PSE) recently received notice that the City of Kirkland has achieved the National Arbor Day Foundation "Tree City USA" distinction for five years. I would like to congratulate you on this honor and, in recognition of your achievement and last year's severe storm season, donate a tree from PSE to be planted at a place of your choice within Kirkland.

Trees make our region more livable and help clean the air. I commend you for your commitment to the environment. Additionally, focusing on issues like trees, even in times of economic pressures, demonstrates your community's dedication to future generations.

PSE is pleased to be named a Tree Line USA Utility for the seventh year by the National Arbor Day Foundation. Whether protecting street trees when working on road projects involving our underground facilities or trimming overhead lines for safety and reliability, I hope we can continue to work with Kirkland on tree issues.

Jim Hutchinson, manager of local government and community relations for PSE, will be in touch with you to work out the tree-donation arrangements. Congratulations once again.

Sincerely,

Stephen P. Reynolds
Chairman, President and Chief Executive Officer

ATTACHMENT 8



CITY OF KIRKLAND

Department of Parks & Community Services

505 Market Street, Suite A, Kirkland, WA 98033 425.587.3300

www.ci.kirkland.wa.us

MEMORANDUM

To: Dave Ramsay, City Manager

From: Jason Filan, Park Operations Manager
Jennifer Schroder, CPRP, Director

Date: June 6, 2006

Subject: INTEGRATED PEST MANAGEMENT POLICY AND GROUNDSKEEPING PRACTICES

At the May 10th Park Board meeting Staff had an opportunity to share our current Integrated Pest Management (IPM) Policy and grounds keeping practices. Park Board commended Staff's effort within the arena of IPM and supported current practices that are helping to keep Kirkland green.

Our IPM approach will continue to focus on education, environmental stewardship, new technologies and strategies, public involvement, and an assortment of other tools to help keep our parks and natural areas in good shape.

A noteworthy outcome of the Park Board meeting was the long-range goal of having parks and open spaces be pesticide-free. We have identified two locations as pilot program "pesticide free parks": Ohde Pea Patch and Tot Lot Park. Ladybug stickers have been placed onto our existing park rule signs denoting these as pesticide-free parks. Ladybugs are the moniker for pesticide-free areas. We will monitor the success of the pilot program and provide updates as to its successes and challenges.

The following are some details of the IPM program and examples of different strategies used to combat the on-going challenges we face with invasive species within our parks.

BACKGROUND

Since 1998, the Kirkland Parks Department has been following an Integrated Pest Management (IPM) program. IPM is a sustainable approach to managing pests by combining cultural, mechanical, biological and chemical methods in a way that provides effective and efficient maintenance of the City's park system.

The City's parks and natural areas are a reflection of the values of the Kirkland community. The Parks Department strives to ensure that the public landscape remains attractive while meeting the expectations of our users and preserving our parks and natural spaces for generations to come.

The objectives of the IPM policy are:

- Protect the health, safety and welfare of the environment and community.

- Provide efficient, cost effective maintenance of the City's park system using non-chemical controls whenever possible.
- Design new and renovate existing landscape areas that suit site conditions with sustainable maintenance practices.
- Restore, create and protect environmentally valuable areas such as wetlands, riparian areas, forests, meadows, ball fields and wildlife habitat.

IPM TODAY AND TOMORROW

The IPM decision making process brings into play multiple strategies that are utilized as tools to help implement the program.

Cultural Controls

- The use of sound horticultural practices to optimize plant health and suppress insects, disease and weed growth.
- Site appropriate design with the use of disease and drought tolerant native plants.

Examples

- *Turf program* - Coring, topdressing, over-seeding, fertilizations, regular mowing, and watering with the intent of growing a very dense stand of turf that out-competes the broadleaf weeds.
- *Sheet mulching* - Remove weeds and apply a thick barrier (i.e. cardboard, chips, leaves, mulch, etc) to help prevent invasive or noxious weed species from returning.
- *Right plant, Right place* – The utilization of natives, disease- and drought-tolerant plant species that can out-compete invasive vegetation.

Biological Controls

- The use of natural control agents that act as predators or parasites of pest species.
- The use of beneficial organisms that improve plant health by enhancing the soil quality.

Examples

- *Composting* – Kirkland invests hundreds of yards of compost every year into our landscape beds in an effort to help build the soil profile while helping to suppress annual weeds.
- *Loosestrife beetle* - The application of loosestrife beetle to the noxious weed purple loosestrife in some of our wetland areas (the beetles are purchased from the Washington State Department of Agriculture). The beetle is a natural vector of purple loosestrife.
- *Microrisa* - Fungi added to the landscape soil that enhances root development and plant health.

Mechanical Controls

- The use of a variety of tools, equipment and, most importantly, people to assist with pest control.

Examples

- Pruners, hoes, rakes, shovels, picks, weed wrenches, mowers, flails, trowels, torch burners, etc.
- The most important component of this control is the staff and the wonderful volunteers that utilize these tools. Last year alone we had 700 volunteers log over 2100 hours.

Chemical Controls

- When chemical means become necessary, all policies set forth by the Washington State Department of Agriculture are adhered to. Considerable investment is made each year into the training and continuing education of staff. Parks continues to research and try new controls in an effort to utilize the least toxic, most effective methods available. We have a tolerance for pests within our Park system. A short walk through any of our Park sites demonstrates our acceptance of weeds. It is important to note that Kirkland Parks has an ongoing battle with some very aggressive pest species. A sampling of the pest species includes scotch broom, knot weed, reed canary grass, English ivy, horsetail, and blackberries. We do have some species throughout our Parks system that are classified by the State of Washington as “noxious weeds” that Kirkland is mandated to control.
- Glyphosate is a non-selective, systemic herbicide used for control of annual and perennial grasses and weeds. It's the most widely used herbicide in our county today primarily for its effectiveness and efficiency. The glyphosate-based product that most people have heard of is Round-up™. Round-up has been around for about 30 years. Other glyphosate products that we use within the parks system include Finale, AquaMaster, and Kleen-Pro. Thousands of research projects and studies have been done over the years on glyphosate. The EPA classifies its toxicity as category III or IV – Caution and Caution – Least toxic and irritating. The EPA also categorizes Round-up as “E” for Evidence of non-carcinogenicity for humans.
- Crossbow is a broadleaf herbicide known for its effectiveness on blackberries, which is how it is used by park maintenance staff. Its active ingredients, 2-4D and Triclopyr, are similar to glyphosate, but its toxicity makes Crossbow a greater concern to aquatic habitat. Because of this, as with use of all chemicals, staff receive specific training on following the manufacturer's instructions.

ANALYSIS

Analysis of the past five years of chemical control strategies within our IPM program produced interesting results. Highlights include:

- 5 year park-wide applied average was 349 ounces (2.72 gallons) of herbicide per year.
- 95% of herbicides used are glyphosate-based (Round-up, Finale and AquaMaster).
- The other 5% being the utilization of Crossbow.
- No insecticides were used with the exception of wasp/hornet spray.
- The majority of herbicide use targeted fence lines, warning tracks and gravel pathways. (See matrix)

<u>Park Property</u>	<u>Pesticide Used</u>	<u>Purpose</u>
Brookhaven	Glyphosate - Round-up / Finale	Fence line, gravel path
Carillon Woods	None	n/a
Cedar view	Glyphosate - Round-up / Finale	Gravel pathway
Cemetery	Glyphosate - Round-up / Finale	Fence lines
City / School Partnership Sites	Glyphosate - Round-up	Fence lines
Crestwoods	Glyphosate - Kleen-up Pro / Round-up / Finale	Fence lines
St. End Park	None	n/a
David E. Brink	Glyphosate - Round-up / Finale	Cracks in sidewalk
Everest	Glyphosate - Kleen-up Pro / Round-up / Finale	Fence lines, warning tracks
Forbes Creek	Glyphosate - Round-up / Finale	Fence lines, edge of courts
Forbes Lake (undeveloped)	None	n/a
Heritage Hall (Waverly Site)	Glyphosate - Round-up / Finale	Gravel pathways, structures
Heronfield Wetlands	None	n/a
Highlands	Glyphosate - Round-up / Finale	Fence lines
Houghton Beach	Glyphosate - Round-up / Finale	Sidewalks, turf once, beds
Houghton Neighborhood	Glyphosate - Round-up / Finale	Fence lines
Juanita Bay	Glyphosate - AquaMaster	Noxious weeds (loosestrife)
Juanita Beach	Glyphosate - Round-up / Finale	Fence lines, landscape beds
Kiwanis	None	n/a
Lake Ave. West	Glyphosate - Round-up / Finale	Fence lines
Marina Park	Glyphosate - Round-up / Finale	Cracks in sidewalk
Mark Twain	Glyphosate - Round-up / Finale	Fence lines
Marsh	Glyphosate - Round-up / Finale	Cracks in sidewalk, patio
McAuliffe	Glyphosate - Round-up / Finale	Gravel lot, fence lines, driveway
SRH / 124th Site	None	n/a
NKCC	Glyphosate - Round-up / Finale	Fence lines
Norway Hill	None	n/a
Ohde pea patch	None	n/a
Peter Kirk Park Campus	Glyphosate - Kleen-up Pro / Round-up / Finale	Warning tracks, fence lines, cracks
Pool	Glyphosate - Round-up / Finale	Cracks, fence edge
Reservoir	None	n/a
Settler's Landing	None	n/a
Snyders Corner	None	n/a
South Rose Hill	None	n/a
Spinney Holmstead	Glyphosate - Round-up / Finale	Fence lines, gravel pathway
Terrace	None	n/a
Totem Lake Wetlands (KCD)	None	n/a
Tot lot	None	n/a
Van Aalst	Glyphosate - Round-up / Finale	Fence lines
Watershed	None	n/a
Waverly Beach	Glyphosate - Round-up / Finale / Crossbow	Fence lines & blackberries
Woodlands	None	n/a
Yarrow Bay Wetlands	None	n/a

PUBLIC WORKS DEPARTMENT, STREET DIVISION, INTEGRATED PEST MANAGEMENT PROGRAM

The City of Kirkland Public Works Department provides the community with a multitude of services. These include Right of Way (R.O.W.) maintenance of various types including general sidewalk maintenance and natural resource management including the urban forest. Primarily, this work is performed by the Street Department, Grounds staff. Grounds staff is dedicated to continuing established levels of service through the highest quality care and thoughtful consideration of all methods used in performing their work.

Integrated Pest Management (IPM) is an approach to pest control that utilizes regular monitoring to determine if and when treatments are needed. The operation of an IPM program employs physical, mechanical, cultural, biological, and educational tactics to keep pest (undesired plant material or insects) numbers low enough to prevent intolerable damage or annoyance. Chemicals with the least amount of controls are used as a last resort. The use of this approach aligns the Public Works and Parks Departments

The City of Kirkland Public Works, Maintenance and Operations (M&O) Division is dedicated to preserving and providing maintenance methods that promote a safe environment. Our IPM objective is to provide a foundation for pesticide use, which enables staff to perform their jobs in a productively efficient and cost effective manner, while continuing to pursue alternative methods.

- In accordance with the pesticide laws and regulations enforced by the Washington State Department of Agriculture, the Street Division of the City of Kirkland Public Works Department manages an IPM program. Our program promotes plant health care, non-chemical pest control, and when applicable, the safe usage, storage, and application of pesticides.
- The Street Division utilizes and encourages sound horticultural practices, which result in decreased reliance on chemicals to control adverse environmental conditions. To this end, we review development plans to insure appropriate plant choices, ROW conditions, amenities, and implement procedures to produce the healthiest plants and safest ROW's possible. Maintenance practices reflect a similar concern and emphasis. Staff continues to train and research new methodology, continually updating operational practices.
- It is the Public Works policy to tolerate certain levels of weeds, insects and plant disease on City owned ROW's, to the extent that public safety, the environment, aesthetics and the safe use of ROW's isn't negatively impacted and compromised.

- Grounds crews practice and encourage the use of low phosphate/time released fertilizers near all waterways, including lakes, streams, wetlands, utility and storm drainage basins. Grounds recognizes the importance of minimizing phosphate loading in surface water, which may ultimately end up in our lakes, streams and waterways.
- Grounds requires that all staff members “operate” in accordance with the Washington State Licensing Guidelines. Currently, all Grounds FTE staff maintain a Pesticide License.
- It is Public Works policy to consider minimizing the use and frequency of applications of pesticides whenever possible. Target applications of pesticides are preferred over the broad-based applications.
- To minimize the effects on the environment, when the use of pesticides is necessary, it is our policy to use the least controlled pesticides available.
- All chemicals used on ROW's managed by the Public Works Department will be used in accordance with the manufacturer instructions and recommendations. Material Safety Data Sheets (MSDS) for each chemical on record will be on file. The MSDS information will be available to staff and the public upon request.
- To promote public understanding and support the benefits of an Integrated Pest Management Program, it is the intent of Public Works to provide educational assistance and information to the adjacent property owners regarding the use of any and all pesticides.
- Public Works relies, heavily, on City Ordinances that require that adjacent property owners maintain adjacent ROW's to be clear of unwanted vegetation (weeds).
- Based on proximity or location, public notification may be appropriate. Although not a legal requirement, Public Works strives to be up front when appropriate, with the public who use these areas.

It's important to note that the public Works Street Division uses various other methods to help keep our Rights of Ways and medians in a safe manner. They include: the use of chips and mulch each year, hand and mechanical means of weed suppression and sheet mulching (historically, we have even burn/torched weeds periodically, in the past). Public Works feels that we are compliant with the definition of IPM as defined below.

WAC 173-270-030.

(10) "Integrated pest management" or "IPM" means the selection, integration, and

implementation of pest control that consists of: Prevention of pest problems; monitoring and evaluation of pests, damage and results of treatment; acknowledgment of population levels of pests that can be tolerated based on legal, economic, health, or aesthetic thresholds; use of natural control agents in an ecosystem; reliance to the maximum extent possible on non-hazardous biological, mechanical, and cultural treatment of pests; application of pesticides in a manner that minimizes damage to the ecosystem's natural controls and integrity; and use of pesticides only after all other methods have been evaluated.



- Natural Resource Management
- Sustainable Building & Development Practices
- Climate Protection Efforts
- Tree Management
- Solid Waste/Recycling Programs
- Educational Information Partnerships

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Green Kirkland

> [Home Page](#) > [Departments](#) > [Green Kirkland](#)

Kirkland is dedicated to protecting its environmental resources and promoting sustainability. One of the central tenets of the City's Comprehensive Plan is to recognize the importance of environmental quality and its contribution and to Kirkland's identity and livability. This is reflected in the following goal adopted by the City Council.



"We commit to the proactive protection of our environment. An integrated system of natural resource management focuses on the preservation of wetlands, trees, open space and other sensitive areas, water quality, clean air and waste reduction."

Kirkland has a variety of environmental policies, Programs and regulations that are implemented through several city departments. An intern-departmental "Green Team" coordinates these city-wide efforts through the Natural Resource Management Plan adopted by the City Council. More information can be found on this page or at the other links listed.

Useful Links

Reuse Recycle Conserve Newsletters (all in PDF format)
[Fall 2005](#) | [Spring 2006](#) | [Summer 2006](#)

Exploring Wetlands Stewardship:

[A Guide for Washington Landowners and Communities](#)

BioDiversity.wa.gov

Find out more about Recycling from our [Recycling and Solid Waste Page](#)

Cascade Water Alliance's [Water Conservation page](#)

[Puget Sound Clean Air Agency](#)

[FuelEconomy.gov Website](#)

[Climate Protection Agreement - City of Seattle](#)