CITY OF ROHNERT PARK
COUNCIL AGENDA ITEM TRANSMITTAL REPORT

Meeting Date: August 22, 2006

Department: Community Development

Submitted by: Peter Bruck, Building Official

Submittal Date: August 14, 2006

Agenda Title: Sustainability Ordinance Workshop

Requested Action: Receive and file
Staff requests direction from council on each of these measures.

History

- 5/11/04 – City Council adopts resolution 2004-111, which sets a goal for greenhouse gas reductions of 20% by the year 2010 for internal city operations (baseline year 2000). [This resolution also directed staff to develop a Climate Protection Action Plan for achieving the city's target. Staff is in the early stages of developing this plan with the Climate Protection Campaign.]
- 7/12/05 – City Council passed resolution 2005-224 adopting the Alameda Green Building Guidelines as a referenced standard for residential green building construction. The resolution also directs staff to begin formulation of a green building ordinance requiring the mandatory implementation of green building techniques in new construction.
- 7/19/05 – City purchases vacant office building at 130 Avram for use as the new City Hall. The building will be remodeled using green building techniques to a U.S. Green Building Council LEED™ Gold standard.
- 7/26/05 – City Council adopts resolution 2005-233, which sets a goal for greenhouse gas reductions of 25% by the year 2015 for community wide use, private and public (baseline year 1990).
- 10/25/05 – Staff went back to council asking for clarification of mandatory and voluntary green building programs. Council says staff should look at the various applications for green building and assess what would be the best based on construction type and location. Jake suggested staff consider a "working group" approach.
- 1/10/06 – City Council passed resolution 2006-27, Ahwahnee Water Principles for Resource-Efficient Land Use". (Encouraging the use of the principles in future land use decisions).
- 3/14/06 – City Council passed resolution 2006-67 adopting Build It Green's (BIG) *New Home Construction Green Building Guidelines, 2005 Edition* as City of Rohnert Park Referenced Standards.
- 3/28/06 – City Council passes Resolution 2006-89 creating the Creek Master Plan subcommittee.
- 4/25/06 – Staff presented update on Green Building (GB) ordinance. Council directed staff to continue work on development of GB ordinance for Council's consideration and recommendations.
- 5/23/06 – City Council approved agreement with University District LLC. Agreement includes provisions for high level of green building construction standards for all new construction.
- 7/14/06 – Climate Protection Everybody Profits II. Hosted by Rohnert Park

Background

Sustainability has been identified as one of the top five goals by the Rohnert Park City Council. While the term sustainability may mean different things to different people, the Brundtland[1] report's definition is widely accepted as it is applied to development – "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*" As the topic of sustainability is discussed and studied, one quickly learns that sustainability is not just about the environment, but about communities and the economy as well. At a previous council meeting on 4/25/06 when staff presented an update on the development of a green building ordinance, Council included direction to consider the inclusion of a Sustainability Element when the next General Plan update is done. In an effort to include the issue of sustainability sooner, rather than later with a GP update, staff is proposing the creation of a Sustainability Ordinance. At the very least, this proposed ordinance would include components for green building, energy efficiency, construction demolition and debris diversion, and universal design (which is explained later in this report). The intent of this ordinance is to integrate multiple components of sustainability and bring them together under a single program, providing a foundational structure upon which to build a viable future.

A sustainable community includes equity and a prosperous economy. One way to support these ideas is to tap into the existing economic and governmental structures in a manner that utilizes the best mix of the free market and local regulation. The programs and components considered for the Sustainability Ordinance are designed to do just that by capitalizing on competitive forces in the private sector coupled with strategic regulatory measures to "raise the bar" on the government side.

Organization

Staff proposes the creation of *Title 14 Sustainability* for the Rohnert Park Municipal Code. The chapters under this title would include various components of sustainability including, but not limited to, green building, construction demolition and debris, water conservation, solar access, and energy efficiency. Where other sustainability issues, such as affordable housing, are already located elsewhere in the municipal code, references will be provided. Having a separate title for sustainability provides a framework that concentrates similar issues together and reflects the City's commitment and vision to working toward a more sustainable future. *Title 14 Sustainability* will always be a work in progress. Codifying sustainability can be a vast undertaking. It is staff's intention to start small and create a firm foundation upon which to build. As technologies and the market change, chapters will be added, deleted, and amended to reflect the state of the art.

Primary Areas of Focus

Create a comprehensive Sustainability Ordinance that contains:

- An energy efficiency component that requires a level of energy efficiency in buildings that is greater than the state minimums
- A green building program with "doable" mandatory features and incentives for voluntary measures
- A construction demolition and debris component that requires a minimum percentage of construction demolition waste and debris to be diverted from landfills

[1] In 1987, the World Commission on Environment and Development (WCED), which had been set up in 1983, published a report entitled "Our common future." The document came to be known as the "Brundtland Report" after the Commission's chairwoman, Gro Harlem Brundtland. It developed guiding principles for sustainable development as it is generally understood today.

- A universal design component that requires developers to offer certain accessibility features in new homes that would allow for continued occupancy in dwellings regardless of a change in one's physical abilities
- Provisions for maintaining solar access to individual properties

Energy Efficiency

Global climate change has moved into center stage in terms of critical issues that require urgent attention. Leading climate scientists tell us that we may have only 10 years to make substantial inroads in reversing the current trends of climate degradation resulting from the emissions of greenhouse gases – predominately from the combustion of fossil fuels for transportation and the generation of energy. Reducing energy consumption locally can contribute to a reduction in greenhouse gases.

California currently has some of the most stringent energy regulations for new building construction in the nation. All building types account for 42% of energy use in the U.S. Residential buildings in California account for 31% of energy use in the state. Even with California's higher energy standards, it is clear that it will be a daunting challenge to reduce greenhouse gases emissions while providing the 220,000 housing units needed each year to meet the needs of a growing population.

The California Public Resources Code includes provisions for local communities to increase the State minimum energy standards for new construction, provided it can be shown that the increased requirements are cost effective. Staff has held preliminary meetings with an energy consultant to look into how much the energy standards can be increased and still be cost effective. It appears that increasing residential energy efficiency by 15% and non-residential energy efficiency by 5% - 10% can be achieved. The 15% level for homes is consistent with that of the EPA's Energy Star program.

Once a formal study has been completed and findings made, the proposed local changes in the energy study would need to be submitted to the California Energy Commission for approval. The format of the study and the details of the energy efficiency requirements would be prepared in a way that would allow for ease in upgrading of the local requirements when the State approves their next edition of the energy standards sometime in 2008.

These new energy efficiency measures would apply to all new construction, additions to existing non-residential buildings of all sizes, and to residential additions greater than 500 sq. ft. in area. The 15% requirement for residential could be reduced proportionally for houses that are smaller than the median size new home being constructed in the country (currently 2,140 sq. ft.) House size is the single most important factor in reducing energy use.

Costs to applicants for additional processing of permits would be negligible. Additional construction costs would depend on house design. With proper design, an increase in energy efficiency of 15% can be attained with little, or no, additional cost. The higher the energy efficiency, the lower the annual energy costs per home.

Energy Retrofit

Energy efficiency in existing buildings is responsible for much of the wasted energy use in California. The California Energy Commission (CEC) has been studying how much energy can actually be saved in existing buildings by implementing energy retrofits. The CEC has not indicated when, or if, they will be implementing standards for the retrofit of existing buildings.

Prior to 1978 there were no regulations for building energy conservation in California. The stringency of California's energy standards since then has been increasing gradually. A good portion of Rohnert Park's building inventory was built prior to the implementation of any CEC standards. Since there has been little residential development in the last eight years, very few homes have been built to the current energy standards.

The City of Berkeley has a *Residential Energy Conservation Ordinance* that requires certain energy efficiency retrofit measures whenever a house is sold or whenever an addition valued at over $50,000 is constructed. They also have a requirement that energy audits be performed for commercial buildings as a condition of sale. Any required upgrades are limited to a percentage of the sales price of the building. If council is interested in using these programs as models, staff recommends engaging homeowners and the real estate community in a constructive dialogue.

Staff supports the development of a retrofit program for both residential and commercial buildings. This would supplement the energy efficiency standards for new construction, remodels, and additions in that it would provide for energy efficient upgrades to entire houses. Increasing the energy efficiency of buildings not only reduces greenhouse gases, but lowers operating costs for building owners. This is especially important to lower-income households. In the case of commercial buildings, increased energy efficiency means lower utility bills for commercial tenants, which could translate into higher market value for commercial spaces. Specific details for this program have not been developed at this time, but some sort of graduated implementation would be recommended to minimize any potential economic impact on building owners. Another important feature of a retrofit program would be educational outreach to encourage and teach homeowners how to reduce energy use and increase energy efficiency in their homes.

There would be some administrative costs associated with an energy retrofit program. A nominal fee could be charged to cover the cost of oversight for the program. The cost to retrofit a building will depend on the extent of the work that needs to be done. Energy consultants would need to be used for audits of commercial buildings. Depending on the programs implemented by the City, additional staffing may be required.

Construction Demolition and Debris

Sustainability also includes the reduction, reuse, and recycling of the waste stream that goes to the landfill for disposal, as mandated by the California Integrated Waste Management Act. Debris from the demolition and construction of buildings can represent a large portion of the waste stream and much of that debris can be recycled, so it is important to direct as much of that debris away from the landfill as possible. The recycling or reuse of existing materials also lessens the need to devote precious natural resources to new construction. For example, wood salvaged during a building's demolition can be reused in construction or, if inappropriate for such reuse, can be recycled into other wood products that would otherwise require virgin timber. Asphalt roofing shingles can be ground into a base course paving material for roadways.

Due to water quality issues, the central Sonoma County landfill is currently functioning as a transfer station. Solid waste is being trucked to Novato, Fairfield, and Contra Costa County. Trucks used to haul waste generate greenhouse gases from the use of fossil fuels. Minimizing construction debris will reduce greenhouse gases emissions that are generated by the hauling of waste.

Staff has prepared a Draft Construction Demolition and Debris Recycling Ordinance and sees this as an important component of the City's sustainability efforts. A copy of the draft which is based on a model ordinance is attached for the Council's reference. The draft ordinance would require that a construction,

demolition, and renovation project (including tenant improvements) with a total cost greater than or equal to $75,000 reuse or recycle at least 60% of the total construction and demolition debris generated by the project.

The City currently has a contract with a consultant to provide assistance in waste reduction and diversion. The consultant is currently working with building permit applicants and their specific projects to reduce construction debris. There would be minimal additional cost to implement this construction demolition and debris program. Costs for the program would be included in the Community Development Department's upcoming fee study and would likely be included in the building permit fee structure.

Issues related to refuse waste reduction that are not a part of this report include further diversion of household and commercial waste from the landfill and replacement of existing refuse trucks with lower emission vehicles. The City Council Solid Waste subcommittee will be presenting options of these issues at a future City Council meeting.

Water Conservation

The City's current water conservation provisions are found elsewhere in the municipal code. Staff is currently studying whether to incorporate some, or all, of these provisions into the sustainability ordinance.

Transportation

Transportation is a mainstay of sustainability. Staff has not addressed transportation issues as they relate to a sustainability ordinance at this time, but will do so in the near future.

Affordable Housing

Affordable housing is another key component of sustainability and can benefit from the advantages of green building and energy efficient technologies in order to provide healthy homes and lower utility costs. The City's affordable housing provisions, including density bonuses, are found elsewhere in the municipal code.

Solar Access

Solar access is the availability of unobstructed, direct sunlight to a project, which is important if a project includes the use of solar energy for space heating and cooling, water heating, electricity, or daylighting (i.e. the use of windows, skylights, and other openings to light the interior of a building). Solar access is becoming increasingly important as automobile manufacturers start to offer "plug in" hybrid cars. To offset electrical charging of vehicles at night, homeowners may opt to increase photovoltaic installations that will feed into the electrical grid during the day.

Zoning is a common method that a community can use to protect solar access. Zoning standards pertaining to height, setbacks from adjacent structures, lot coverage, lot orientation, and other dimensional requirements can be used to ensure that solar access is not impeded. For example, configuring properties so that they have a predominantly east-west street orientation promotes optimal building orientation for solar access. Limitations on building heights for structures situated within the solar path of an adjacent building can ensure that appropriate solar access is maintained.

The use of appropriate landscaping is also important, as the incorporation of suitable, "solar-access friendly" plant materials in landscape palettes is another way of using a community's regulations to achieve proper solar access. For example, the use of landscape materials that have the potential to grow

too large and block solar access is generally not favored; however the planting of trees that can allow for the appropriate shading of buildings in the summer for cooling and maximum solar exposure in the winter for heating may be acceptable.

Achieving equitable solar access is mostly a matter of design, especially in Rohnert Park where the majority of development is considered low-rise. It is possible that solar access may be more difficult to achieve in areas of higher density. With proper design, there should be little or no cost associated with providing solar access.

Green Building

Incorporation of green building strategies can reduce impacts on the environment that result from reduced energy use, water conservation, site development that preserves bio-diversity and limits use of green fields, use of renewable and locally manufactured materials, and limiting the use of chemicals in construction materials and processes. Many of these strategies are not only related to the reduction of greenhouse gases (directly, or indirectly), but they lend themselves to reducing the destruction of the many diverse eco-systems that clean our air and water, absorb carbon dioxide, and provide habitat for wildlife. A green building is a healthy building that will endure the test of time, provides homeowners with satisfaction of their project long after it's been completed, and has minimal impact on the environment and community not only when it is originally constructed, but throughout the life of the building.

Covered Buildings and Green Building Standards

All new building types would be covered under the green building chapter. This includes City owned buildings, commercial buildings, multi-family construction, single-family homes, mixed use, and live-work. The Green Building standards used would depend on the particular type of building.

- **New Single-Family Dwellings (SFD)** would be covered by the Build It Green (BIG[2]) *2005 New Home Construction Green Building Guidelines* (GreenPoints rating system)
- **SFD Additions** greater than 500 sq. ft. would be covered under the Alameda Waste Management Authority *Home Remodeling Green Building Guidelines* (available from BIG).
- **Multi-Family Dwellings (MFD) new** construction would be covered by the Alameda County Waste Management Authority *Multi-family Green Building Guidelines.*
- **New Commercial buildings and Tenant Improvements (TI) greater than 20,000 sq. ft.** would be covered by the U.S. Green Building Council's LEED™ rating system[3].
- **Commercial buildings (new and TI) less than 20,000 sq. ft.** would be covered by a green building standard yet to be determined.
- **Mixed-Use** buildings would be covered by a green building standard yet to be determined.
- **Live-Work** units would be covered by either the *New Home Construction Green Building Guidelines* or the *Multi-Family Green Building Guidelines.*
- **City-Owned** buildings would be covered by the U.S. Green Building Council's LEED™ rating system.

[2] Build It Green is a professional non-profit organization whose mission is to transform the building industry so that buildings are remodeled and built using green practices and products. Partnering with public agencies, building industry professionals, manufacturers, suppliers, and non-profits, Build It Green offers education and training, unbiased product information, technical assistance, and networking opportunities. BIG's green building guideline development process involves all major stakeholders including representatives from government, developers, contractors, material suppliers, and realtors.

[3] Some communities follow the LEED™ guidelines for building construction, but allow the builder to "self-certify" due to higher proportional costs for following the U.S. Green Building Council's formal LEED™ process. Staff may consider this an appropriate approach for a Tier 1 level building.

Tiers

Staff proposes setting up a system of "Tiers" for each type of construction (SFD, MFD, etc.) that will allow for a difference in threshold of green depending on building type, size, or number of units. Tier 1 would be a basic level of green. Tier 2 would be a medium level of green and Tier 3 would be the highest level of green. The assumption is that larger projects have the advantage of economy of scale; therefore they would have greater ability to provide a higher level of green building. City buildings would be expected to attain a higher level of green to demonstrate leadership in the area of green building. Tier levels would be set by ordinance. The specific level of green required, and the green building standard to be followed, would be adopted by resolution.

	Tier 1	**Tier 2**	**Tier 3**
SFD New	≤ 20 Homes	≤ 50 Homes	>50 Homes
SFD Addition	> 500 ft^2	N/A	N/A
MFD New	≤ 20 units	≤ 50 units	> 50 units
Commercial New	≤ 20,000 ft^2	≥ 20,000 ft^2	≥ 50,000 ft^2
Commercial TI	≤ 20,000 ft^2	≥ 20,000 ft^2	≥ 50,000 ft^2
Mixed-Use	≤ 20,000 ft^2	≥ 50,000 ft^2	≥ 50,000 ft^2
Live-Work	Same as SFD or MFD	Same as SFD or MFD	Same as SFD or MFD
City-Owned	< 10,000 ft^2	≥10,000 ft^2	≥ 20,000 ft^2

Costs and Funding Sources for Green Building

Costs incurred by a green building program can include review of permit application submittal documents, inspection and verification of green building features, education of staff and contractors, record keeping, public awareness campaigns, and program evaluation. Sources for funding these activities can come from building permit fees, general fund, creation of a special "sustainability" fee, or requiring applicants to pay directly for some of the services required (e.g., 3rd party plan review and inspection). There may be some objections from applicants to pay additional fees when they are trying to build a better and more environmentally responsible building. It's possible they might perceive it as a penalty for doing the right thing.

Staff is in the process of requesting proposals for a fee study of the Community Development Department. The study will include costs to provide green building plan check and inspection services. This way, building permit fees would include the cost for green building inspection and plan check. The Building Division would be responsible for handling the green building inspection and plan check as a normal course of doing business. The Building Division currently utilizes outside consultants for much of their plan check and some of the inspections. It is anticipated that green building plan check and inspection services would be carried out by these same consultants, provided they have the proper green building certifications and credentials to do so.

Staff was directed to formulate a mandatory green building ordinance and to consider voluntary measures if deemed appropriate. Implementation of voluntary programs takes up additional staff time and City resources. Establishing tiers within a mandatory system simplifies implementation, reduces staff time and cost, and allows the council to set various levels of green for different types of projects, including a basic level that is not onerous to the builder. Builders are becoming more educated about green building. It will be incumbent upon the Community Development Department to provide assistance to help builders and applicants understand the requirements of the various tier levels.

Depending on the scope and number of programs desired to be implemented by the Council, it may be necessary to add staffing resources. Once direction is received from the Council, staff will return with additional staffing requirements, if any.

Universal Design

A sustainable community is one that provides for the well-being of all its citizens throughout the full span of their lives. As we get older, become infirmed or disabled, access to our homes may become limited or restricted to the point where we may be forced to move. Universal Design is the design of products, services, and environments, including homes that enable them to be usable by as many people as possible regardless of age, ability, or situation. In 2002 California enacted a law directing the State Department of Housing and Community Development to develop and certify one or more model universal design ordinances applicable to new construction and alterations for voluntary adoption by local governments. The statute also required that the model ordinance not significantly impact housing cost and affordability, as well as enhance the full life cycle use of housing without regard to physical abilities or disabilities of a home's occupants or guests.

Universal design as applied to housing would require builders to offer features that would enhance the accessibility and usability of homes to potential buyers. Some of these features might include flush thresholds at entry doors for ease of use by persons in wheelchairs, wider doors and hallways, accessible tubs and showers, and larger maneuvering areas in front of appliances for people with mobility impairments.

Costs for such upgrades would be borne by the buyer. If adopted by the City, the State's model ordinance could be modified to specifically include which universal design features are to be offered. Copies of the State's model ordinance, information bulletin, and universal design checklist are attached for council's reference.

Climate Neutral Construction

While all of the new green building and enhanced energy efficiency measures are important first steps, as long as these activities use fossil fuels that generate greenhouse gases, the threat of global climate change will continue to loom ever larger over us. The ultimate goal is to create buildings and transportation systems that are "climate neutral" in regards to their impact on the environment – i.e., no use of fossil fuels. This is achievable with today's technology, but may not be practical in terms of cost-effectiveness in today's economic structure.

There are efforts underway that are pushing the current envelope of sustainability in building construction. Great Britain has recently announced a program that promotes the construction of carbon neutral homes. In June of 2006, the U.S. Conference of Mayors called for all new buildings and major renovation projects to be climate neutral by 2030. A new home was recently built in the City of Santa Monica that produces all its own power and captures and recycles all of its water. While it would be unreasonable to require this type of sustainable construction for all new homes, the council may want to consider an incentive that would encourage developers to construct one, or a small number, of these types of houses each year. The incentive could come in the form of a general fund subsidy of some, or all, fees in return for a developer constructing a truly carbon neutral home. There may also be zoning requirements that could be modified to make this more attractive, such as the potential for density bonuses to allow more units to be built if they are sustainable. The lessons learned from such a project could benefit all builders, which in turn, ultimately benefits the homeowner and raises the bar for what is considered "normal construction. Staff would work with green building and energy consultants to

develop standards for a climate neutral home. Council may wish to adopt targets for climate neutral construction for City owned buildings similar to resolution #50 by the U.S. Conference of Mayors. (See copy of resolution #50 attached.)

Staff requests direction from council on each of these measures.

Enclosures: Draft Construction Demolition & Debris Recycling Ordinance
California model Universal Design Ordinance w/associated documents (6 docs total)
U.S. Conference of Mayors Resolution #50
City of Santa Monica Sustainability Plan

CITY ATTORNEY'S REVIEW:
Relevant documents for this agenda item have been reviewed and approved as to form by the City Attorney.

CITY MANAGER'S RECOMMENDATION: ( ) Consent Item ( ) Regular Time
( ) Approval ( ) Public Hearing Required
( ) Not Recommended ( ) Submitted with Comment
( ) Policy Determination by Council
( ) City Comments:

City Manager's Signature: _____ Date: _____