Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, OR 97301-2540
(503) 373-0050
Fax (503) 378-5518
www.lcd.state.or.us

NOTICE OF ADOPTED AMENDMENT

12/15/2008

TO: Subscribers to Notice of Adopted Plan
or Land Use Regulation Amendments

FROM: Mara Ulloa, Plan Amendment Program Specialist

SUBJECT: City of Grants Pass Plan Amendment
DLCD File Number 004-08

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. Due to the size of amended material submitted, a complete copy has not been attached. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Tuesday, December 30, 2008

This amendment was submitted to DLCD for review prior to adoption. Pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

*NOTE: THE APPEAL DEADLINE IS BASED UPON THE DATE THE DECISION WAS MAILED BY LOCAL GOVERNMENT. A DECISION MAY HAVE BEEN MAILED TO YOU ON A DIFFERENT DATE THAT IT WAS MAILED TO DLCD. AS A RESULT, YOUR APPEAL DEADLINE MAY BE EARLIER THAN THE ABOVE DATE SPECIFIED.

Cc: Jared Voice/Tom Schauer, City of Grants Pass
Gloria Gardiner, DLCD Urban Planning Specialist
John Renz, DLCD Regional Representative
Amanda Punton, DLCD Regional Representative

<paa> YA/email

FORM 2

DLCD
Notice of Adoption

THIS FORM **MUST BE MAILED** TO DLCD
WITHIN 5 WORKING DAYS AFTER THE FINAL DECISION
PER ORS 197.610, OAR CHAPTER 660 - DIVISION 18



Jurisdiction: City of Grants Pass
Local file number: 08-40500003
Date of Adoption: 11/9/08 (Oral) / 12/3/08 (Written)
Date Mailed: 12/9/08
Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? **Select one** Date: 4/25/2008

- [x] Comprehensive Plan Text Amendment
- [ ] Comprehensive Plan Map Amendment
- [ ] Land Use Regulation Amendment
- [ ] Zoning Map Amendment
- [ ] New Land Use Regulation
- [ ] Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Adoption of the Urban Forestry Framework Plan as an element of the Comprehensive Plan. The goal of the UFF Plan is to "Restore establish and maintain a healthy urban forest with age and species diversity that keeps pace with urban growth, recognizing the numerous functions and benefits a healthy urban forest provides."

Does the Adoption differ from proposal? Please select one

Yes, the document was updated to incorporate input from the Urban Area Planning Commission.

Plan Map Changed from: to:
Zone Map Changed from: to:
Location: Acres Involved:
Specify Density: Previous: New:
Applicable statewide planning goals:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
☒	☒	☐	☐	☒	☒	☒	☒	☒	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐

Was an Exception Adopted? ☐ YES ☒ NO

Did DLCD receive a Notice of Proposed Amendment...

45-days prior to first evidentiary hearing?	☒ Yes	☐ No
If no, do the statewide planning goals apply?	☐ Yes	☐ No
If no, did Emergency Circumstances require immediate adoption?	☐ Yes	☐ No

DLCD file No. _____

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

Josephine County
Oregon Department of Forestry
Department of Environmental Quality

Local Contact: Jared Voice
Phone: (541) 474-6355 Extension: 6317
Address: 101 NW A St.
Fax Number: 541-476-9218
City: Grants Pass Zip: 97526
E-mail Address: jvoice@grantspassoregon.gov

ADOPTION SUBMITTAL REQUIREMENTS

This form **must be mailed** to DLCD **within 5 working days after the final decision**
per ORS 197.610, OAR Chapter 660 - Division 18.

1. Send this Form and **TWO Complete Copies** (documents and maps) of the Adopted Amendment to:

ATTENTION: PLAN AMENDMENT SPECIALIST
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT
635 CAPITOL STREET NE, SUITE 150
SALEM, OREGON 97301-2540

2. Electronic Submittals: At least **one** hard copy must be sent by mail or in person, but you may also submit an electronic copy, by either email or FTP. You may connect to this address to FTP proposals and adoptions: **webserver.lcd.state.or.us**. To obtain our Username and password for FTP, call Mara Ulloa at 503-373-0050 extension 238, or by emailing **mara.ulloa@state.or.us**.

3. Please Note: Adopted materials must be sent to DLCD not later than **FIVE (5) working days** following the date of the final decision on the amendment.

4. Submittal of this Notice of Adoption must include the text of the amendment plus adopted findings and supplementary information.

5. The deadline to appeal will not be extended if you submit this notice of adoption within five working days of the final decision. Appeals to LUBA may be filed within **TWENTY-ONE (21) days** of the date, the Notice of Adoption is sent to DLCD.

6. In addition to sending the Notice of Adoption to DLCD, you must notify persons who participated in the local hearing and requested notice of the final decision.

7. **Need More Copies?** You can now access these forms online at **http://www.lcd.state.or.us/**. Please print on **8-1/2x11 green paper only**. You may also call the DLCD Office at (503) 373-0050; or Fax your request to: (503) 378-5518; or Email your request to **mara.ulloa@state.or.us** - ATTENTION: PLAN AMENDMENT SPECIALIST.

ORDINANCE NO. 5470

AN ORDINANCE ADOPTING THE URBAN FORESTRY FRAMEWORK PLAN AS AN ELEMENT OF THE COMPREHENSIVE PLAN.

WHEREAS:

1. The Grants Pass and Urbanizing Area Comprehensive Community Development Plan was adopted December 15, 1982; and

2. The goal of the Urban Forestry Framework Plan is to restore, establish and maintain a healthy urban forest; and

3. The proposal is consistent with the goals and policies of the Comprehensive Plan; and

4. The applicable criteria from the Comprehensive Plan are satisfied, and approval of the proposal is recommended by the Urban Forestry Plan Advisory Committee and Urban Area Planning Commission to the City Council.

NOW, THEREFORE, THE CITY OF GRANTS PASS HEREBY ORDAINS:

Section 1: The Urban Forestry Framework Plan, as set forth in Exhibit "A", is hereby adopted as an element of the Comprehensive Plan.

ADOPTED by the Council of the City of Grants Pass, Oregon, in regular session this 19th day of November, 2008.

SUBMITTED to and Approved by the Mayor of the City of Grants Pass, Oregon, this 24 day of November, 2008.

Len Holzinger, Mayor

ATTEST:

David Keenan
Finance Director

Date submitted to Mayor: 11-21-08

Approved as to Form, Kris Woodburn, City Attorney

CITY OF GRANTS PASS COMMUNITY DEVELOPMENT DEPARTMENT

URBAN FORESTRY FRAMEWORK PLAN
COMPREHENSIVE PLAN TEXT AMENDMENT
CITY COUNCIL FINDINGS OF FACT- TYPE IV

Procedure Type:	Type IV: Planning Commission Recommendation and City Council Decision
Project Number:	08-40500003
Project Type:	Comprehensive Plan Text Amendment
Applicant:	City of Grants Pass
Planner Assigned:	Tom Schauer / Jared Voice
Application Received:	April 22, 2008
Application Complete:	April 25, 2008
Date of Planning Commission Staff Report:	June 18, 2008 *Revised October 1, 2008*
Dates of Planning Commission Hearings:	June 25, 2008 & October 8, 2008
Planning Commission Findings of Fact:	October 22, 2008
Date of City Council Staff Report:	November 12, 2008
Date of City Council Hearing:	November 19, 2008
City Council Findings of Fact:	December 3, 2008

I. PROPOSAL:

The proposal is to adopt the Urban Forestry Framework Plan, attached as Exhibit A to the adopting ordinance, which consists of the following chapters:

Chapter 1. Introduction
Chapter 2. Goals, Policies and Objectives (Revised August 11, 2008)- Annotated
Chapter 3. Technical Memo #1: Benefits and Functions of Urban Trees and the Urban Forest
Chapter 4. Technical Memo #2: Inventory of Existing Conditions
Chapter 5. Technical Memo #3: Existing Plans, Policies, Regulations, Programs and Resources
Chapter 6. Technical Memo #4: Review of Existing Attitudes, Perceptions, Strengths, Weaknesses, Opportunities, Threats, Constraints and Concerns
Chapter 7. Technical Memo #5: Review of Examples From Other Communities, Best Practices, and Technical Resources
Chapter 8. Refinement of Issues Memo

II. AUTHORITY AND CRITERIA:

Section 13.5.3 of the Grants Pass and Urbanizing Area Comprehensive Plan provides that the City Council may initiate a text amendment.

Sections 13.5.5 and 13.8 of the Comprehensive Plan provide that joint review by the City Council and Board of County Commissioners shall be required for amendment and revision to Comprehensive Plan findings, goals, and policies.

The review shall be in accordance with the procedures of Section 13.8.3 of the Comprehensive Plan, which provides for a recommendation hearing by the Urban Area Planning Commission prior to a joint hearing of the City Council and Board of County Commissioners.

However, with adoption of the 1998 Intergovernmental Agreement, this provision requiring a joint hearing is modified with the result that City Council will make the decision, and the County will have automatic party status, as summarized below:

> Section III of the 1998 Intergovernmental Agreement (IGA) provides for transfer of authority for provision and management of planning services from the County to the City for the Urbanizing Area. It provides:
>
> > The City is hereby vested with the exclusive authority to exercise the County's legislative and quasi-judicial powers, rights, and duties within the Urbanizing Area...
>
> Section V of the IGA contains provisions pertaining to notification and appeals for quasi-judicial and legislative decisions within the Urbanizing Area. For legislative decisions, the IGA provides:
>
> > The City agrees to provide written notice of all proposed legislative actions to the County at least 45 days prior to the public hearing at which the action is first considered. The County shall be deemed to have automatic party status regarding all such decisions for the purposes of standing for appeals.

Section 13.8.3 of the Comprehensive Plan provides that notice shall be as provided in Section 2.060 of the Development Code for a Type IV procedure. Section 13.8.3 further provides that the hearing shall be conducted in accordance with the Legislative Hearing Guidelines of Section 9 of the Development Code.

Therefore, the application was processed through a "Type IV" procedure, with a recommendation from the Urban Area Planning Commission and a final decision by City Council. The County has automatic party status for appeals.

The text of the Comprehensive Plan may be recommended for amendment and amended provided the criteria in Section 13.5.4 of the Comprehensive Plan are met.

III. APPEAL PROCEDURE:

The City Council's final decision may be appealed to the State Land Use Board of Appeals (LUBA) as provided in state statutes. A notice of intent to appeal must be filed with LUBA within 21 days of the Council's written decision.

IV. PROCEDURE:

A. The application for a Comprehensive Plan text amendment was submitted on April 22, 2008. The application was deemed complete on April 25, 2008, and processed in accordance with Sections 13.5.5 and 13.8 of the Comprehensive Plan, Sections III and V of the 1998 Intergovernmental Agreement, and Section 2.060 of the Development Code.

B. Notice of the proposed amendment was mailed to the Oregon Department of Land Conservation and Development (DLCD) on April 25, 2008, in accordance with ORS 197.610 and OAR Chapter 660-Division 18.

C. Notice of the proposed amendment was mailed to Josephine County on April 25, 2008 in accordance with the 1998 Intergovernmental Agreement.

D. Notice of the proposed amendment was mailed to the Oregon Department of Forestry and the Oregon Department of Environmental Quality on April 25, 2008.

E. Notice of the June 25, 2008 Planning Commission public hearing was mailed to potentially-interested parties on June 4, 2008.

F. Public notice of the June 25, 2008 Planning Commission public hearing was published in the newspaper on June 19, 2008 in accordance with Sections 2.053 and 2.063 of the Development Code.

G. A public hearing was held by the Urban Area Planning Commission on June 25, 2008 to consider the request and make a recommendation to City Council. The Planning Commission directed staff to present the issues they raised at their May 28, 2008 workshop to the Urban Forestry Plan Advisory Committee, and seek their feedback or a revised recommendation, before further action by the Planning Commission.

H. After working with the Urban Forestry Plan Advisory Committee, a new Planning Commission hearing was scheduled for October 6, 2008 to consider a revised proposal.

I. Notice of the October 8, 2008, Planning Commission hearing was mailed to potentially interested parties on September 17, 2008.

J. Public notice of the October 8, 2008, Planning Commission hearing was published in the newspaper on October 1, 2008, in accordance with Sections 2.053 and 2.063 of the Development Code.

K. A public hearing was held by the Planning Commission on October 8, 2008, to consider the revised proposal and make a recommendation to City Council. The Planning Commission made its oral recommendation on October 8, 2008, and approved the written recommendation, the Findings of Fact, on October 22, 2008.

L. Notice of the November 19, 2008 City Council public hearing was mailed to potentially-interested parties on October 29, 2008.

M. Public notice of the November 19, 2008, City Council public hearing was published in the newspaper on November 12, 2008 in accordance with Sections 2.053 and 2.063 of the Development Code.

N. A public hearing was held by the City Council on November 19, 2008 to consider the proposal.

V. SUMMARY OF EVIDENCE:

A. The basic facts and criteria regarding this application are contained in the City Council staff report and its exhibits, which are attached as Exhibit "A" and incorporated herein.

B. The minutes of the public hearing held by the City Council on November 19, 2008, which are attached as Exhibit "B", summarize the oral testimony presented and are hereby adopted and incorporated herein.

C. The PowerPoint presentation given by staff at the November 19, 2008 public hearing is attached as Exhibit "C" and incorporated herein.

VI. GENERAL FINDINGS- BACKGROUND AND DISCUSSION:

On June 7, 2006, City Council approved a resolution creating the Urban Forestry Plan Advisory Committee to provide recommendations on development of an Urban Forestry Plan. The Committee includes the members of the Urban Tree Advisory Committee, plus a representative from Citizens for a Voice in Growth and a representative from the Homebuilders Association. On April 14, 2008, the Committee adopted a recommendation for adoption of the Urban Forestry Framework Plan.

A workshop on the proposed Plan was held with the Urban Area Planning Commission on May 28, 2008, and a recommendation hearing was held on June 25, 2008. During the hearing, the Planning Commission approved a motion to send the plan back to the Urban Forestry Committee so that Planning Commissioner feedback, provided during the workshop and hearing, could be considered by the Committee.

The Urban Forestry Committee met on July 14, 2008. Prior to the meeting, staff distributed the minutes from the Planning Commission workshop and hearing and also a memorandum prepared by staff that summarized the feedback provided by members of the Planning Commission. During the meeting, the Committee discussed each of the issues presented in the memo and provided oral feedback to staff. The Committee ultimately directed staff to provide a written summary of the discussion, and to prepare a

revised draft of the Urban Forestry Framework Plan incorporating the feedback provided, for review at their August meeting. Committee members also agreed to review the Planning Commission minutes prior to the August meeting, to provide an opportunity for each committee member to be sure they had considered each of the Commissioner's issues.

The Committee met again on August 11, 2008, to review the July 14th meeting discussion summary and revised Urban Forestry Framework Plan. Committee members present at the meeting agreed that they sufficiently considered the Planning Commission's discussion and that the documents were an accurate representation of the group's direction. However, no quorum existed so no official decision could be made.

The Committee met yet again on September 8, 2008. This time quorum was reached, and the Committee adopted a recommendation for adoption of the revised Urban Forestry Framework Plan.

The revised Goals, Policies and Objectives document outlines the values and parameters (Goals and Policies section) recommended to be followed in long-term planning for a healthy urban forest, and provides a list of action items (Objectives section) to be carried out to implement the urban forestry plan. While some of the Objectives pertain to the urban forest itself, they are principally specific action items to implement the Goals and Policies. The supporting documents provide more detailed background information.

The "Objectives" section is annotated, with the annotations in bold italic text. Annotations indicate items that were discussed through a series of meetings and the direction provided by the committee on these items. Items without annotation were generally agreed to by the committee without more detailed discussion through the series of meetings.

The proposal is multi-faceted and includes a variety of action items. Some of the action items have clearly defined policy outcomes, while others will require additional work by the committee to resolve detailed and complex policy issues before the committee makes a final recommendation on a specific implementation measure. This is generally noted in the annotations where applicable. The recommendation includes items to update codes as well as numerous non-regulatory urban forestry programs.

The proposed plan is ambitious in scope. It is a long-term plan with a package of recommended implementation/action items that will not all be accomplished immediately. It includes some items that will require up-front City Council action to implement. Other items are longer-term and may be ongoing programs or implementation actions that will be undertaken by the standing Urban Tree Advisory Committee after the temporary Urban Forestry Plan Advisory Committee has completed its work. Because of the broad scope of the plan, the highest priorities have been identified, as well as what additional work should be undertaken by the Urban Forestry Plan Advisory Committee to fulfill its work as a temporary committee before it is disbanded. Other tasks will be undertaken by the standing Urban Tree Advisory Committee, the Urban Forester, and Field Operations staff.

VII. FINDINGS OF FACT- CONFORMANCE WITH APPLICABLE CRITERIA:

For amending the findings, goals, policies, and Land Use Map of the Comprehensive Plan, the City Council and Board of County Commissioners shall base their conclusions upon, and adopt findings in consideration of, all of the following criteria:

CRITERION (a): Consistency with other findings, goals and policies in the Comprehensive Plan.

City Council Response: Satisfied. The proposal is consistent with other findings, goals and policies in the Comprehensive Plan. Applicable provisions are listed below.

Element 3. Scenic, Rogue River, Historic and Natural Resources

Policy 3.2. The Development Code shall require an appropriate level of landscaping for all new development and redevelopment.

RESPONSE: The first objective listed within the proposal is to review existing development standards and regulations related to tree planting and other landscaping requirements.

Policy 3.5. In conjunction with the above policy and policies under the Fish, Wildlife and Natural Resource Section of this element, the city shall institute the necessary ordinances for the protection and restoration of the riparian and wetland habits along the river. This new ordinance must address the removal of river vegetation, the erosion of the riverbank, the allowable recreational uses of the waterway and the potential impact on aquatic and terrestrial wildlife.

Policy 3.9. The City and County shall act to conserve and enhance the quality and character of the Rogue River and its tributary streams, protecting streamside vegetation and discouraging the channelization, diking and filling of stream channels.

Locally significant wetlands mapped in the Local Wetlands Inventory shall be protected by buffers, appropriate to their identified class and function, to preserve habitat and protect and enhance water quality.

RESPONSE: The proposal is consistent with, and will help achieve, Policies 3.5 and 3.9. One objective of the proposal is to "consider establishing standards for new development to establish minimum tree plantings within riparian zones to improve water quality, riparian habitat and water temperature." Another objective is "coordinating planting efforts and other programs that might already exist that could be coordinated or expanded", including any programs of the Mid Rogue Watershed Council.

Element 4. Environmental Resource Quality.

Goal. To maintain and improve the quality of the air, water and land resources of the area.

RESPONSE: Information contained in Technical Memo 1 demonstrates that a healthy urban forest will help to improve air, water and land quality within the community. Specifically, trees and other vegetation help to reduce pollution, conserve energy and water, and buffer noise.

Element 5. Natural Hazards.

Goal. To reduce the risk of loss of life and damage to property both private and public, due to natural hazards.

RESPONSE: Information contained in Technical Memo 1 demonstrates that a healthy urban forest can reduce the risks posed by natural hazards. Specifically, trees and other vegetation help to minimize the volume and velocity of stormwater run-off (thereby reducing the risk for floods), assist in erosion prevention and sediment control (alleviating landslide hazards), and act as windbreaks.

Element 7. Recreation, Parks, and Open Space

General Policies

Policy 7.1. The City and County shall act to respect and conserve the natural resources in the area, to protect and enhance the quality and usefulness of the Rogue River, and to recognize that natural beauty is of great significance to the future of the area.

Policy 7.4. Community appearance is a major concern and should be a subject of a major effort in the area. With visitor income as a primary source of future economic growth and development, beauty becomes a matter of basic economic significance. Street tree planting and landscaping, sign regulation and building improvement and painting programs should all be utilized to improve the environment.

RESPONSE: The goal of the proposal is to "restore, establish and maintain a healthy urban forest with age and species diversity that keeps pace with urban growth, recognizing the numerous functions and benefits a healthy urban forest provides." This goal and the supporting policies and objectives are consistent with Comprehensive Plan Policies 7.1 and 7.4, outlined above.

Element 8. Economy

Policy 8.4. The acquisition and development of park and recreation facilities, as well as the conservation of natural resources and open space, shall be considered a vital part of the economic development and economic well being of the area, the region and the State, and appropriate efforts shall be made to keep both recreation development and natural resource conservation abreast of growth.

Policy 8.7(a). The implementing ordinances shall act to facilitate these economic policies, and shall contain a balanced mix of positive incentives (which may include rapid review procedure, clear and measurable standards of development, subsidized service extension, etc.), as well as exactive requirements (which may

include dedication or easement requirements, system changes, development requirements, etc.), as needed to assure realization of these policies.

RESPONSE: The goal of establishing and maintaining a healthy urban forest is consistent with policies that recognize the conservation of natural resources as a vital part of the economic well being of the area.

Element 12. Energy Conservation

Goal. To promote the wise and efficient use of all forms of energy.

RESPONSE: Information contained in Technical Memo 1 demonstrates that a healthy urban forest promotes energy conservation. Specifically, trees and other vegetation can act as windbreaks in the winter, and allow access to or shade from radiant heating from sunlight. This allows for less reliance on air conditioning in the summer and heating in the winter. Additionally, the shade from a mature tree can create a summer microclimate that is substantially cooler than surrounding un-shaded areas, thereby decreasing the need for air conditioning.

CRITERION (b): A change in circumstances, validated by and supported by the data base or proposed changes to the data base, which would necessitate a change in findings, goals and policies.

City Council Response: Satisfied. The proposed amendment is necessary due to a change in circumstances that is supported by the technical memoranda included within the plan that would be adopted as part of the database. As explained in Technical Memo 1, the body of research on urban forestry continues to grow. The benefits of mature urban trees are extensive and diverse. Although these benefits may have been intuitively assumed at the time the Comprehensive Plan was originally adopted in 1982, they have since been confirmed through documented research and are now quantified in a detailed manner. The proposal is being made in response to the documentation of these benefits, so that the necessary steps may be taken to restore, establish and maintain a healthy urban forest.

CRITERION (c): Applicable planning goals and guidelines of the State of Oregon.

City Council Response: Satisfied. The proposed amendment is consistent with applicable planning goals and guidelines of the State of Oregon. Applicable goals include the following:

Goal 1. Citizen Involvement.
Goal 2. Land Use Planning.
Goal 5. Natural Resources, Scenic, and Historic Areas, and Open Spaces
Goal 6: Air, Water and Land Resources Quality
Goal 7. Areas Subject to Natural Hazards
Goal 13. Energy Efficiency

The City's Comprehensive Plan is acknowledged, and the Goals are addressed through consistency with the acknowledged Comprehensive Plan rather than

directly through the statewide goals. Consistency with the Comprehensive Plan is addressed under Criterion (a).

ORS 197.610: Notice of the proposed amendment was mailed to the Oregon Department of Land Conservation and Development on April 25, 2008, in accordance with ORS 197.610.

CRITERION (d): Citizen review and comment.

City Council Response: Satisfied. Notice of the proposed amendment has been posted in accordance with the procedure required for a Type IV-B procedure. In addition, the agenda and packet for the June 25, 2008, and October 8, 2008, Planning Commission meetings were posted on the City's website in advance of the hearings. No written comments have been received from citizens as of the date of the staff report.

The City Council appointed a temporary Urban Forestry Advisory Committee to provide a means for a citizen group to be responsible for developing the Urban Forestry Plan that would be submitted for review and recommendation by the Planning Commission and final decision by the City Council through the public hearing process. The Advisory Committee is comprised of the eight members of the standing Urban Tree Advisory Committee, plus a member of the Homebuilders Association and a member of Citizens for a Voice in Growth. The Urban Forestry Plan Advisory Committee meetings were open public meetings, and citizen input was welcome throughout the process.

The City also maintains a webpage for this project on its website. Information and documents have been updated and posted to the site as work has progressed.

Additionally, a public Planning Commission workshop was held on May 28, 2008, and a City Council workshop was held on June 23, 2008.

CRITERION (e): Review and comment from affected governmental units and other agencies.

City Council Response: Satisfied. 45-day notice was provided to the Department of Land Conservation and Development (DLCD) in accordance with OAR 660 Division 18 and ORS 197.610. OAR 660-18-0035 provides that if DLCD is participating in the proceeding, they shall notify the local government 15 days prior to the first evidentiary hearing. DLCD has not provided notification to the City.

45-day notice was provided to Josephine County in accordance with the 1998 Intergovernmental Agreement for the Urbanizing Area. The County has replied and has no comments regarding the proposal.

Notice of the proposed amendment was also provided to affected agencies and governmental units, including the Oregon Department of Forestry and the Oregon Department of Environmental Quality.

CRITERION (f): A demonstration that any additional need for basic urban services (water, sewer, streets, storm drainage, parks, and fire and police protection) is adequately covered by adopted utility plans and service policies, or a proposal for the requisite changes to said utility plans and service policies as a part of the requested Comprehensive Plan amendment.

City Council Response: Satisfied. The proposal does not create the need for any additional basic urban services. It has been demonstrated that a healthy urban forest will actually help to manage storm water run-off. Additionally, an objective of the proposal is to encourage more native tree species where appropriate, potentially decreasing the need for water use through irrigation.

CRITERION (g): Additional information as required by the review body.

City Council Response: Satisfied. No additional information was requested by the Planning Commission at the October 8, 2008 hearing, or by the City Council at the November 19, 2008 hearing.

CRITERION (h): In lieu of item (b) above, demonstration that the Plan as originally adopted was in error.

City Council Response: Not Applicable. Criterion (b) is applicable. The Plan was not adopted in error. The proposed amendment is being adopted in response to a change in circumstances. See Criterion (b) for discussion of the change in circumstances.

VIII. DECISION AND SUMMARY:

The City Council found the applicable criteria were satisfied and **APPROVED** the Comprehensive Plan text amendment. The vote was 5-0-0, with Councilors Hyde, Kangas, Patterson, Renfro and Wendle in favor, and none opposed. Councilors Berger, Cummings and Richardson were absent.

IX. ADOPTED BY THE GRANTS PASS CITY COUNCIL this 3rd day of December 2008.

Len Holzinger, Mayor

NOTE: *This is a legislative decision. State law does not require that a decision be made on the application within 120 days.*

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City of Grants Pass Urban Forestry Plan

for Grants Pass and the Urbanizing Area

City of Grants Pass Urban Forestry Plan

for Grants Pass and the Urbanizing Area

Chapter 1:
Introduction

Chapter 2:
Annotated Urban Forestry Plan
Goals, Policies and Objectives
Recommendation to City Council

Chapter 3: Technical Memo #1:
Benefits and Functions of Urban Trees and the Urban Forest

Chapter 4:
Technical Memo #2:
Inventory of Existing Conditions

Chapter 5: Technical Memo #3:
Review of Existing Plans, Policies, Regulations, Programs and Resources

Chapter 6: Technical Memo #4:
Review of Attitudes, Perceptions, Concerns, Threats, Opportunities, and Constrains

Chapter 7: Technical Memo #5:
Plans from Other Communities, Best Practices and Technical Resources

Chapter 8:
Goals, Policies and Objectives Preliminary Discussion Memo

1 Introduction

City of Grants Pass
Urban Forestry Framework Plan
Introduction

The Urban Area Framework Plan is organized into the following Chapters:

Chapter 1.	Introduction
Chapter 2.	Goals, Policies and Objectives (Revised August 11, 2008) - Annotated
Chapter 3.	Technical Memo #1: Benefits and Functions of Urban Trees and the Urban Forest
Chapter 4.	Technical Memo #2: Inventory of Existing Conditions
Chapter 5.	Technical Memo #3: Existing Plans, Policies, Regulations, Programs and Resources
Chapter 6.	Technical Memo #4: Review of Existing Attitudes, Perceptions, Strengths, Weaknesses, Opportunities, Threats, Constraints and Concerns
Chapter 7.	Technical Memo #5: Review of Examples From Other Communities, Best Practices, and Technical Resources
Chapter 8.	Refinement of Issues Memo

Chapter 2 is the substantive portion of the Framework Plan which includes Goals, Policies, and Annotated Objectives.

The remaining chapters are the technical memoranda that were developed during the course of the project to inform the work that led to the Goals, Policies, and Objectives chapter.

The Objectives section of Chapter 2 identifies a number of action items to carry out the over-arching goal and policies. This section retains annotations that clarify and reflect discussion and direction provided by the Urban Forestry Plan Advisory Committee and the Urban Area Planning Commission during various meetings, workshops, and hearings. The annotations have been retained for ease of reference when the Urban Forestry Plan Advisory Committee, Planning Commission, and City Council undertake work on the action items. Those items will be undertaken in the implementation phase.

Special thanks to all of the current and former members of the Urban Tree Advisory Committee, Urban Forestry Plan Advisory Committee, Urban Area Planning Commission, City Council, staff and the citizens who devoted their time, energy, knowledge, and talents to this work, and the work that went before to lay the groundwork for this plan.

2

Annotated Urban Forestry Plan
Goals, Policies and Objectives
Recommendation to City Council

Annotated Urban Forestry Plan Goals, Policies, and Objectives
Urban Forestry Plan Advisory Committee Recommendation to City Council
August 11, 2008

GOAL:

Restore, establish and maintain a healthy urban forest with age and species diversity that keeps pace with urban growth, recognizing the numerous functions and benefits a healthy urban forest provides.

POLICIES:

1. Achieve a healthy urban forest through a multi-faceted approach, including regulation and enforcement, interagency coordination, incentives, education, training, planting programs, partnerships, and celebration of trees and their benefits.

2. Establish a forestry plan that addresses tree planting, protection and retention of existing trees, and ongoing health and maintenance of trees.

3. Establish age and species diversity of trees to ensure a healthy urban forest over the long term which is resistant to disease and insects, and which includes continual planting and replacement of trees to account for tree loss that occurs over time as a result of natural conditions, urban development, and mortality.

4. Recognizing that street trees comprise only part of the urban forest, plan for a healthy urban forest that addresses street trees and other trees.

5. Recognizing that many of the benefits and functions of trees are substantially greater with mature larger tree species, the plan should include provisions to ensure planting of large tree species.

6. Determine realistic tree canopy coverage targets and establish programs to achieve measurable targets within specific timeframes.

7. Take advantage of the "green infrastructure" provided by the urban forest, recognizing trees provide a cost-effective investment toward stormwater management, pollution control, energy conservation, "heat island" mitigation, and other related benefits.

8. Work within the framework of a "tree ethic" for the city that helps guide decision-making.

OBJECTIVES

I. City's Development Standards and Regulations (and Non-Development Regulations).

1. **Tree Guide and Street Tree, Front Yard Tree, Parking Lot Tree List.**
    a. Eliminate multiple permitted/prohibited tree lists. Provide a comprehensive tree list that serves the needs of the Development Code (permitted and prohibited trees) and is also educational and informational.
    b. Ensure the list identifies "the right trees for the right sites".
    c. Greatly expand list of permitted trees that are suitable to encourage species diversity and remove barriers to species diversity.
    d. Evaluate whether certain trees should be identified as "prohibited" street trees or front yard trees, or whether they should be allowed but not count as part of the "required" street trees, front yard trees or parking lot trees.
    e. Separate the list of permitted "street trees" from "front yard trees" to allow for a greater variety of front yard trees that might not be suitable for street trees.
    f. Consider defining categories of trees to aid selection, such as "parking lot trees", "street trees", "front yard trees", "shade trees".
    g. Include requirements that at least some trees be large species canopy or shade trees and include requirements to ensure long-term age and species diversity.
    h. Encourage more evergreens and native trees in suitable planting locations where they don't create conflicts with infrastructure.
    i. In addition to identifying various characteristics of trees and suitability for different sites, the street tree guide should also identify "green infrastructure" qualities for different species, such as the greater effectiveness of larger species for shading, pollution removal, and stormwater management.
    j. Where overhead utilities exist, provide for planting of smaller trees under utilities and planting larger trees where there aren't overhead utilities.
    k. Investigate whether it might be preferable to plant certain larger trees in planter strips that are smaller than optimal, but still achieving more desirable results than planting smaller trees in smaller planter strips, provided they don't create problems with infrastructure. A less than desirable result with a larger, longer living tree may still be preferable to a smaller, shorter living tree planted in its optimal location.
    l. Identify larger tree species that work well in narrower planter strips and tree wells. Determine whether wider planter strips and/or larger tree wells should be required.
    m. Consider whether some trees are appropriate based on their production of chemicals that may contribute to formation of smog or be toxic (reference p. 67 of Western Washington and Oregon Community Tree Guide). Balance this with other potential benefits.

    Staff will review the existing Street Tree list/requirements in the development code, the list developed by the tree committee, and other documents, and bring back some ideas for consideration by the committee that meets all of the needs: educational, informative, and regulatory. We will consult as needed with tree experts.

2. **Evaluate Planter Strip Standards.** ***(This issue deals with continuing to require new developments to install sidewalks behind planter strips. It doesn't address protection of existing old trees in planter strips).***
    a. Determine whether standards are sufficient for tree planting, balanced with recognition that additional right-of-way would be required for wider planter strips. ***The committee agreed that planter strip widths should remain as they currently exist (don't eliminate them, don't narrow them, and don't widen them recognizing trade-offs for wider right-of-way. It is possible to get some "canopy" species that are suited to these spaces. There is a need for sufficient technical planting requirements to be addressed, such as sufficient soil depth, etc.***

    b. Review standards that provide flexibility for front-yard tree planting requirements to ensure planting of trees in planter strips. ***The committee directed staff to change this to require at least some of the trees are planted in the planter strip.***

    c. Review the list of allowable planter strip street trees to ensure the list contains species that have the least potential for causing damage to adjacent public infrastructure such as utilities and sidewalks. Staff will also evaluate technical aspects of street tree planting for methods that prevent or minimize impacts to public infrastructure.

    d. Explore opportunities to allow for greater flexibility when incorporating planter strips into street designs, so that the impact on existing natural features can be minimized when street improvements are installed. ***This also partially addresses the issues related to item I-5(h) below, regarding narrower street standards in forested areas.***

3. **Parking Lot Trees.**
    a. Increase the requirements for parking lot trees, including size of species, planting area, and spacing in order to establish greater shading of paved surfaces. ***The committee agreed and identified some specific issues. Should eliminate "diamond" planting spaces as illustrated in development code that provide insufficient planting area. 6x8 planter concept between compact spaces is okay. If possible, standards should achieve the "canopy" objective in a way that doesn't substantially consume land that could otherwise be used for parking spaces. There was substantial discussion of technical issues: improve soil conditions (24" depth); need to ensure conditions allow for drainage after area has been compacted and paved; may need to auger to allow drainage. There was discussion about whether someone such as a landscape architect should be required to prepare the landscape plans, at least for commercial projects. There was also discussion about whether the landscape designer should be required to certify everything was installed according to approved plans prior to final inspection—and what qualification might be necessary to sign-off to have significance. This wasn't resolved, but staff will research this further and bring back information to help understand implications. Jim Love distributed research literature to consider in looking at these standards.***

    b. Eliminate exemptions for paved "outdoor storage" and "outdoor retail" areas for commercial properties, most notably retail car sales lots. ***The committee concurred.***

4. **Permitting.**
    a. Eliminate confusion and conflicts between Municipal Code and Development Code. For example, if a land use approval includes planting of new trees in planter strips within the right-of-way, do the permitting requirements of the Municipal Code also apply? Are Planning and Field Operations both required to approve the tree plantings? ***The committee concurred. Staff will draft recommended language.***

    b. Consider a requirement for tree removal permits on existing developed lots, to provide an indication of the number of trees being removed over time. ***The committee also suggested that a replanting provision may be appropriate in some instances where a certain number of significant trees have been removed from existing developed lots.***

5. **Tree Retention and Removal.** ***The tree retention issue and its resolution are of substantial interest and discussion. This will require additional committee work to resolve. Staff suggested a meeting with the members most interested in the issue (a small subcommittee) to work on this and come back to the full committee, especially discussion related to the tree valuation guide).***
    a. **Hillside Development.** Consistent with the community survey that identified a desire to protect hillside trees:
        i. Review adequacy of existing hillside tree retention provisions and community-wide tree retention provisions.
        ii. Review site plan review requirements and land division requirements, as site plan review may not contain the same requirements as land divisions. ***Committee concurred.***
        iii. Clarify provisions for parent parcels vs. new lots and rights-of-way. ***Committee concurred.***
        iv. Evaluate whether similar provisions should be added for non-hillside properties, including provisions governing tree deposits and replanting. ***Committee said these should also apply in non-hillside areas. Jeff Nelson raised the question about whether there is adequate area with larger homes on smaller lots for this to be feasible.***

    b. **Fees for Removal of Significant-Sized Trees.**
        - Evaluate current code provisions pertaining to fees for removal of significant sized trees. Identify whether fees should be tiered and based on relative value or size of trees. Evaluate whether maximum fee of $2,000 should be retained or eliminated. ***As noted for #5 above, the tree retention issue and its resolution are of substantial interest and discussion. This will require additional committee work to resolve. Staff suggested a meeting with the members most interested in the issue (a small subcommittee) to work on this and come back to the full committee, especially discussion related to the tree valuation guide).***

        - Ensure fees are evaluated to avoid unintended consequences. For example, if fees for tree removal are too severe, they may become a disincentive for people to voluntarily plant trees if they are concerned they may have a severe fee in the future if they want to remove it for something such as a home expansion. ***The committee will review these issues as part of the tree retention/removal discussion.***

        - Consider allowing a developer to replace trees on a property at a higher ratio than what was removed, in lieu of paying the re-vegetation fee. ***The committee felt it was important that if provisions allow removal of healthy significant trees, then the replanting requirements should be more than the minimum requirements.***

c. **"Significant Tree" Definition.** Amend the Development Code definition for "significant tree" to account for tree species. ***The committee would also like to add provisions that consider the health of existing trees, so the retention of unhealthy or diseased trees that meet the definition of "significant tree" would not be required, or could be addressed through replanting.***

d. **Eliminate Loopholes.** Review "development regulations" and "non-development regulations" and eliminate loopholes that allow for tree removal in advance of filing a land use application without the same tree-retention requirements that apply to development sites. ***The committee will review these issues as part of the tree retention/removal discussion.***

e. **Consequences of Development Site Alterations.** Evaluate how regulations can best provide a balance between minimizing avoidable impacts to existing significant trees that may occur during site development, versus preparing for unavoidable impacts that occur that could potentially cause retained trees to become hazard trees. ***For example, if piping an irrigation canal may cut off a tree's water supply, the impact should be recognized and, if feasible, separate irrigation provided. If separate irrigation cannot be provided, then the tree's health should be monitored to ensure it does not become a hazard, or the tree removed all together.***

f. **Stands vs. Individual Trees.**
   - Evaluate whether in some cases the Code should focus on preserving stands of trees rather than individual trees, recognizing there could be greater benefits in the long-term. ***There is no consensus on this issue yet. This needs to be discussed as part of the tree retention/removal discussion. Staff will need direction from the committee on this issue.***

   - Explore alternatives to ensure survival of trees that were retained in the interior of tree stands when surrounding trees have been removed, where the remaining trees may be susceptible to wind and sun damage due to inadequate root development and lower canopy vegetation. ***This is an issue that will require additional technical expertise and recommendations as part of the tree retention/removal discussion.***

g. **Required Trees.** Revise Development Code to prohibit removal of trees planted in conjunction with site plan approval and replacement with smaller or younger trees, predominantly for commercial development. Requirements for planting of long-lived or large canopy shade trees are ineffective if the trees die or are routinely removed and replaced. (See "Education" provisions to work with developers to plant trees where they won't obstruct signs when mature). ***The committee concurred that staff should recommend language to require retention of trees planted to meet the site plan review requirements, and to have a permit process for removal these trees when there is cause.***

h. **Street Standards.** Consider using existing (or similar) provisions within the Development Code that allow for flexibility in street design, such as Section 27.123 (11) and Section 27.313 (2), when installing streets in forested areas. Also consider the possibility of allowing the installation of utilities within the public right-of-way in certain cases, to eliminate the need for City Utility Easements adjacent to the right-of-way, reducing the width of the cross-section that would need to be cleared and cut or filled. ***This action would also require a determination for what constitutes a "forested area".***

i. **Cluster Development/Natural Resource Preservation.** Consider a development alternative somewhere between a conventional subdivision and a Planned Unit Development, which is more simplified than the PUD process and allows more flexible lot size and arrangement to simplify preservation of trees and natural resources. ***Staff recommended, and the committee concurred, that this not be addressed at this time as part of the scope and nature of the amendment,, but it may be considered as part of subsequent work on urban forestry or other ordinance amendments.***

6. **Groundcover Conditions.** ***Staff recommended, and the committee concurred, that code requirements for living groundcover be retained, but that types of groundcover suitable for and specified under trees be addressed if needed. Any changes would need to be clear about where living groundcover is/isn't required. Staff will seek technical consultation as needed and brig back proposal. This may also tie in with code provisions pertaining to stormwater management standards and water-conserving landscaping objectives.***
   - Evaluate groundcover impacts on root zones of trees and evaluate existing groundcover requirements to identify if any of the code provisions require plantings that might adversely affect tree health.
   - Evaluate whether there are alternatives that encourage retention of leaf litter and organic material around the root zone of trees to encourage conditions conducive to rainfall infiltration. ***The committee concurred that this should be addressed through education and tree planting programs that specify situations where full coverage with living groundcover wouldn't be required.***
   - Ensure these alternatives are consistent with aesthetic objectives which require groundcover.

7. **Initial Planting Conditions and Tree Survival.** ***The committee concurred that staff should bring back draft language to address these items. Staff will consult with others as needed to get technical information.***
   - In addition to ensuring the tree guide provides for trees that are suited to harsh planting locations, evaluate whether the code needs to be amended to ensure appropriate methods of establishing new trees to prevent shock and/or damage that will impact the health of the tree forever. Evaluate whether the inspections should be entirely based on staff review, or whether the installer should provide some certification or guarantee that soil conditions, tree protection, etc. was provided to ensure the survival and health of the trees. Examples include sun

damage to the cambium layer of new trees and alkaline soil conditions resulting from leaching of concrete and asphalt. Identify examples of locations where this has/hasn't been a problem to help determine variables.

- Evaluate whether requirements for size of initial stock should to a more optimal size that best ensures the survival and health of trees.
- Update Development Code to clarify irrigation requirements. Require automatic irrigation for planter strips. Evaluate and clarify requirements for automatic irrigation for front yard and/or other landscaping.
- **Financial Security.** Decide whether financial security should be provided from new development to guarantee survival or replacement of new tree stock for a specified time. ***Staff sought direction from the committee, and there was general direction from the committee that there should be some form of security, especially related to commercial projects, to ensure initial survival of trees until they are established.***

8. **Riparian Trees.** Consider establishing standards for new development to establish minimum tree plantings within riparian zones to improve water quality, riparian habitat, and water temperature. ***The committee concurred that staff should propose language that would require a certain amount of trees along a riparian area for new development (either retention or new planting). This isn't the same as a riparian setback which is independent of this discussion; for example, with this proposal, trees could be planted to the side of a structure rather than between the structure and the stream.***

9. **Street Tree Plan.** Consider development of a specific street tree planting plan in any core commercial areas that currently lack street trees/grates within the sidewalk area. ***Staff recommended that any location-specific street tree planting plans be done as a subsequent phase. Any new downtown plans should include a street tree planting plan component. Staff recommended that the committee request resources to do the inventory and work. This could be a task undertaken by the new urban forester. The committee concurred with these recommendations and recommended that resources be provided to do the inventory and work.***

10. **Property Owner Responsibility for Landscaping Along Existing Frontage Installed Through LID or Other Public or Developer Installed Project.** Together with evaluation of City responsibility for landscaping and irrigation requirements associated with street projects, explore alternatives for responsibilities of adjacent property owners where properties are vacant or already developed. ***This item will require further discussion before the committee decides on what, if any, recommendations to make on this item.***

11. **Heritage Tree Program.** Evaluate whether the City should establish a Heritage Tree Program. Heritage Tree Programs provide protection to significant trees of historic interest. Evaluate how this would interface with and/or affect the Significant Tree recognition program. Heritage Tree Programs are typically regulatory to ensure

protection and preservation while also providing recognition, whereas the Significant Tree recognition program is voluntary and provides recognition.

Staff initially understood this to be a program that required application for a specific tree to be included on a list and then received protection. The San Mateo example from committee member Allan Hammer is very different. It is basically a tree retention/removal ordinance that pre-designates trees based on a definition. That ordinance is really a more general "significant tree" retention/removal ordinance. It should be addressed in that discussion. Staff recommends that the committee consider a comprehensive approach that includes both components, a "significant tree" retention/removal ordinance that specifies tree retention and removal requirements for properties, including provisions that allow for removal of some trees for development, and a component that ensures retention of specifically designated trees that have special importance to the community. Staff understood there to be concurrence on this issue, but this issue appears to be unresolved and in need to discussion as part of tree retention and removal policies. Without making the distinction between the two in an ordinance that allows for removal of some percentage of "significant" trees, the true "Heritage" trees could then be removed as part of that percentage unless they were designated separately.

In short, the term "Heritage Tree Ordinance" is used very differently depending on the community. Some codes designate a class of trees as heritage trees, others designate individual special trees, and others have provisions that designate classes of trees and individually designated trees. It is important to be clear about the intended substance of the issue since the title can create some confusion.

II. City Budgeting

1. Evaluate staffing levels and qualifications and contracting options to determine if there is a need for a certified arborist to provide a role in management of the urban forest, especially related to street trees and parks trees. ***This is a management decision, and needs to be made by the Director based on program requirements. Staff suggested that the committee should provide clarification to the Director as to what current or proposed program activities they feel this position would specifically relate to. This position was budgeted and advertised, but has not been filled. One of the required qualifications is that the person be a certified arborist.***

2. Evaluate whether funding levels are adequate or should be increased for educational materials, educational programs, and planting programs to achieve objectives and targets. ***Staff recommended that Field Operations staff work with the committee to identify and set objectives and targets for programs, determine needs, and obtain information about current funding levels for the various programs to determine if current funding levels enable the desired level of program operations. Staff recommended that the committee and Field Operations staff complete program synopsis sheets and provided samples to help achieve this.***

3. Identify a funding source to underground existing overhead utilities. ***Staff sought a committee endorsement on this item. The committee concurred and made this recommendation. This is already be pursued by Administration through a potential amendment to franchise agreement.***

4. Consider whether the upcoming storm drainage utility should include a financial incentive for properties that have trees of a minimum caliper, with a tiered benefit for trees of larger caliper. Staff sought a committee endorsement on this item. ***The committee concurred and made this recommendation. Staff has already communicated this to the staff working on this issue. This provides an incentive for retaining trees and for planting trees when not otherwise required. The committee also recommended that staff come back to the committee with information about the types of incentives and their purposes and a staff recommendation about how to get what we need for the least cost.***

III. City Operations

-Inventory and Monitoring

1. Conduct a tree canopy analysis of the overall urban forest to assess the current state of the urban forest and help establish tree planting targets and monitor progress toward goals over time. ***Staff recommended that this be done and the committee concurred.***

2. Conduct a street tree inventory to identify age, species, size and health of trees to assess the overall health of this part of the urban forestry and enable management decisions to be made for street trees as a whole rather than on a lot-by-lot basis. Incorporate the inventory into GIS system. Identify sites available for street tree planting to identify potential increase in street trees, as well as constraints, such as overhead utilities. Consider including some information about front yard trees in this inventory to identify areas devoid of trees vs. areas where street trees are small or lacking but where large front yard trees are present and provide canopy. ***Staff recommended that this be done and the committee concurred.***

3. Consider creating a database of new street trees and front yard trees planted in new developments to facilitate a current and updated inventory of street trees. ***Staff recommended that this be done through update of inventory noted above and the committee concurred. The specific approach to managing the inventory will need to be addressed by staff.***

-Coordination of Plans

1. Ensure the Urban Forestry Plan is coordinated with the Stormwater Master Plan Update. Large trees are an important part of that plan due to the riparian and stormwater quality and management benefits they provide. ***No committee action is needed on this item. This will be coordinated by staff.***
2. Establish tree planting provisions that can be put in place before any UGB expansion, so the provisions will apply when urban zoning is provided.

-Financial Incentives

1. In conjunction with the stormwater utility and financing provisions, consider financial incentives for properties that have trees of a specified minimum caliper. Provide progressive incentives for larger trees, proportional to the benefit they provide. ***Staff has communicated this to the staff working with the committee on the stormwater utility and financing provisions.***

-City Staff Training and Coordination. ***No committee direction is required on these items. These need to be addressed internally.***

1. During inspections, staff needs to verify trees are meeting the minimum initial caliper requirements.

2. Provide staff training regarding tree-protection measures and ensure adequate cross-training and clear assignment of responsibility for Community Development staff to ensure appropriate tree protection measures for existing trees are in place at the time of initial inspections and remain in place during subsequent inspections.

3. Provide additional staff training for inspections for adequacy of initial tree health and planting conditions. Coordinate this effort with decisions as to whether landscape professional is required to sign off the final installation, provide financial security, and/or add more specialized technical staff.

4. Evaluate whether there is sufficient staff expertise regarding site modifications that can affect tree health. Provide training or evaluate need to staff specialization in this area.

-Street Tree Management. ***This is a substantial issue and will need significant committee and political discussion. This issue is very important to the committee. This needs committee discussion and feedback. The committee can help provide examples of codes from other communities with which they are familiar.***

1. **Street Trees.** Identify whether the City should take a more proactive role in the management of street trees. Identify whether the City should inventory these trees, evaluate the age and species diversity, health, disease, insect problems, and presence of trees relative to available planting spaces, and establish a proactive management plan. Evaluate whether the City should have in-house staff capacity such as a certified arborist or contract for such a program. If in-house staff, evaluate where in the organization that staff best fits. Evaluate whether the City should begin to directly manage the trees, including planting, pruning, and maintenance, or notify owners of required actions and have them perform the work.

   Some communities specify that trees in the public right-of-way are publicly owned and maintained. They have control over the planting and maintenance of these trees. There is cost and liability associated with this approach. A tree-by-tree inventory is frequently a useful management tool for these communities to establish a maintenance cycle and to assess health, age diversity, and species diversity and plan for planting and replanting based on this information.

The City of Grants Pass provides that these trees are privately owned trees in public or semi-public areas. Property owners are required to maintain the trees and have liability for these trees. Permits are required for planting, removal, and some pruning of these trees. The City has some control over tree species and removal(?), but is unable to establish a routine maintenance cycle, as this is the responsibility of the homeowners, and is handled on a code compliance basis.

-Park Tree Management

This plan won't focus on specific park tree management decisions, but may include recommendations for future parks to avoid potential conflicts. Staff recommended that this not be addressed as part of the current planning tasks, but could be an item for the Urban Tree Advisory Committee to address with Field Operations Staff and City Council.

-Progress Monitoring

1. Through tree and canopy inventories, evaluation of statistics, and community surveys, monitor progress over time from a technical and perception standpoint. ***Staff will bring back ideas to the committee, and the committee concurred. There was no specific committee feedback on the issues so far.***

-Program Summaries

Provide a 1-page synopsis of all existing programs/events for compilation in one location.

1. Programs
    a. Significant Tree Recognition Program
    b. Memorial Tree Program
    c. Joint Tree Planting Program
    d. Urban Forest Tree Program
    e. Hazardous Tree Program
    f. School /Other Partner Planting Programs (proposed)
    g. Tree Ambassador Program (proposed)
    h. Training sessions for homeowners/development community (proposed?)
    i. Downtown Tree Management Programs
    j. Distinguished Landscape Award (Beautification)
2. Events
    a. Tree Walks
    b. Arbor Day Celebration

IV. Code Compliance, Enforcement, and Penalties. ***This needs to be discussed as part of the tree retention/removal discussion.***

1. For trees to be retained, evaluate appropriate penalties for damage to trees or site alterations that will kill trees (altered drainage, inappropriate irrigation, root damage, heavy equipment damage, soil compaction, and imported fill soil placed over roots that suffocates roots).

2. Evaluate current code provisions pertaining to penalties for removal of trees in violation development approval or other law. Identify whether penalties should be tiered and based on relative size and value of trees.

3. Ensure penalties are evaluated to avoid unintended consequences. For example, if penalties for tree removal are too severe, they may become a disincentive for people to voluntarily plant trees if they are concerned they may have a severe penalty in the future if they want to remove it for something such as a home expansion.

4. Determine code enforcement resources and priorities for review of trees approved through site plan review continue to ensure they continue to thrive and ensure owners replace trees that die or are damaged.

V. Education

1. **Tree Walk.** Continue to provide programs such as Tree Walks. Evaluate programs for needs, such a printed materials, self-guided walks with a guide, etc. Determine if there are any resource needs to enhance the program. Consider expanding to a series such as a downtown tree walk, tree walks in different parks, etc.

2. Work with local nurseries to ensure they are aware of requirements and any new changes. Ensure they are aware of tree planting requirements and can have time to have available stock of sufficient size and species.

3. **Tree List.** Ensure the street tree list provides an educational and informative component, in addition to a regulatory role. ***No separate action required at this time. To be addressed as part of tree guide.***

4. **Work with property owners to avoid tree conflicts.** Education may help with a range of issues. Work with commercial developers to plant trees where they won't obstruct signs when mature. ***Options include the city newsletter, website, brochures, training sessions, etc.***

5. Increase property owner awareness of ownership issues and permitting requirements for pruning or removal of trees in the public right-of-way. ***Options include the city newsletter, website, brochures, training sessions, etc.***

6. **City Newsletter.** Write a series of short articles to be included in the monthly newsletter. Include information about the benefits of urban forestry. ***A committee member or subcommittee could develop series of article topics and write for the monthly newsletter? Staff can help with topics.***

7. **Brochures.** Develop a series of information brochures addressing key technical issues and explaining benefits of the urban forest. Identify existing sources that may already have such brochures, such as the National Arbor Day Foundation and University of Washington Urban Horticulture Program. ***The full set of brochures has been obtained from the National Arbor Day Foundation and is available in the Community Development Department. Materials from the National Arbor Day Foundation and University of Washington Urban Horticulture Program are now referenced and linked on the web page to applicable sites. Tree-related resources on the website have been***

provided on one tree resource page, bringing together information that had been compiled and presented separately on pages for different departments and committees.

8. **Case Studies, Current Events, and Examples.** Use case studies and current events as examples of what is happening in other communities, what is being done proactively and reactively, and the problems they are experiencing and the solutions they are using. ***Case studies should be used in educational materials to promote awareness, success stories, and examples of achievable results.***

9. Investigate reasons why some people and businesses have not planted trees or don't want to plant trees. If people haven't planted trees but aren't opposed, seek opportunities to plant trees or make it easy for them to have trees planted. If people don't want to plant trees, identify opportunities to overcome objections, whether education about benefits would help overcome objections, and whether incentives might overcome objections.

10. Work with developers to help them recognize that good tree perseveration and hillside development practices may reduce opposition to development. Some of the opposition to new development may not be related to growth as much as it may be related to certain development practices. ***Explore the best ways to address this. Examples include information sharing opportunities with different groups including the homebuilders association.***

11. Identify why property owners don't want to have trees replaced when trees are removed from under powerlines.

12. Provide training to staff, contractors, and landscape installers, and members of the development community on technical issues related to tree health, such as initial tree planting issues, proper protection of trees to be retained, etc. ***Staff recommended, and the committee concurred, that an annual training session should be planned and budgeted. It could be jointly sponsored by others.***

13. Make sure informational and educational materials are available on the website. A good first step has already been completed to make sure tree-related items are coordinated, rather than separated by department. ***Staff has completed work on a new tree resource page that brings together tree resources that were previously on separate department and committee pages. New resources have been added to the page. The committee should periodically review the site to determine if there are any additional resources or links that should be included on the website. (Copyright restriction prevented the Arbor Day Foundation brochures from being made available electronically, but there is an index on the website and the brochures are available in Community Development. The website can also be further publicized and referenced on educational materials.***

VI. Planting Programs

1. Identify direction on the replacement tree planting program: When trees under powerlines are removed, should smaller trees be replanted under powerlines as street trees, or should larger trees be planted in the front yard, but without replacing smaller trees under the powerlines too. (Gives up on the street trees in these locations). ***This item will require further committee direction.***

2. **Tree Planting Program.** Continue to use the tree planting program to plant larger canopy trees. Set targets for planting consistent with the targets of this plan and provide funding accordingly. Coordinate this work with a Tree Ambassador program, see item VII.4. below.

3. **Memorial Tree Program.** Continue the Memorial Tree Program. Determine if there are any resource needs to enhance the program. Identify whether the program is operating optimally or whether any aspects should be formalized. ***The committee indicated there is a need to better publicize this program.***

VII. Advocacy

1. Continue to advocate a healthy urban forest through current and expanded programs such as participation in Tree City USA
2. Find other opportunities to be an advocate, such as proclamations, etc. and when informal opportunities arise.
3. **Significant Tree Recognition Program.** Continue the program to recognize significant trees. Determine if there are any resource needs to enhance the program. Identify whether the program is operating optimally or whether any aspects should be formalized.
4. **Consider a "Tree Ambassador" program.** The City could extend its resources by having individual volunteers in the community help encourage people to plant and retain trees. ***The committee recommended this be pursued. There could be some specific requirements or training, but there should be some recognition for these efforts. If the Urban Tree Advisory Committee takes the lead, this can provide additional recognition for the committee's work. There could be a booth at the Growers Market, or similar.***
5. **Regularly Scheduled Items.** If not already in existence, the UTAC should set up a calendar and schedule regular annual events (maybe monthly) throughout the year to increase awareness and interest.

VIII. Partnerships. *These will need work to put together. Staff will look to the committee for ideas, existing work in progress, and to provide volunteer assistance with programs.*

1. Establish partnerships with public landowners, private landowners, individuals, volunteers, nonprofit groups, and service clubs to help achieve objectives for planting, education, and advocacy.

-Public Land Owners

1. Work with the School Districts, RCC, and the County to identify potential planting sites on their properties and coordinate voluntary planting and management plans.
2. Work with ODOT to identify locations within the public right-of-way where additional plantings can occur.

-Private Landowners

1. Work with interested property owners, including homeowners, churches, and commercial property owners to identify potential planting sites on their properties and coordinate voluntary planting and management plans. ***The committee members and/or "Tree Ambassadors" could potentially provide volunteer assistance.***
2. Work with private property owners along streams to identify options for plantings to improve streamside habitat and provide shading to reduce water temperatures. ***If committee members know of existing programs or funding sources for this, they will provide information? Staff will contact the watershed association and look at opportunities to coordinate efforts. Otherwise, staff can work on putting together an independent City program.***

-Other Organizations

1. Coordinate planting efforts and other programs with existing programs that might already exist that could be coordinated or expanded. Existing programs to explore are any programs of the Mid Rogue Watershed Council, Rotary, and the County Forestland planting program that involves youth and the Boy Scouts. ***Committee members could help coordinate efforts.***

-Other Agencies

1. Evaluate whether the City and Oregon Department of Forestry should implement a "land use compatibility" process to ensure requirements of both agencies are being satisfied. ***No committee action is required. Staff will investigate this.***

2. Inform the Oregon Department of Forestry of materials we have found and types of the types of materials that would be helpful to us and other communities, including technical information, more direct "how-to" resources and model plans and ordinances for communities undertaking similar planning efforts. ***No committee action needed. Staff will pursue.***

3. Much of the ODF outreach appears to focus on street trees and park trees. Encourage the program to include additional outreach with materials such as the Forest Service documents for watershed-based urban forestry, including links to such documents and similar materials from their website. ***No committee action needed. Staff will pursue.***

4. Coordinate with ODOT to establish agreements regarding planting of trees for state highway projects to help address aesthetic, stormwater, water quality, and air quality impacts of transportation facilities. ***No committee action needed. Staff will pursue.***

-Interagency and Multi-Organization Coordination

1. **School Programs.** Coordinate city programs, tree planting programs, and educational efforts to involve students and provide "hands-on" experience. ***This type of program will take time to develop. The committee concurs it should be pursued.***

2. **Utilities.** Review and, if necessary, formalize permitting and franchise provisions governing pruning and removal of trees in the right-of-way and easements. Clarify where "blanket" permitting is authorized for certain activities and where special permits are required from the city for other activities. Identify whether current pruning practices are acceptable and whether they are formalized in any permit or blanket agreement. Evaluate needs to be addressed as part of next franchise renewal. Identify whether power, phone, and cable all have authority to prune or remove street trees. Identify authority is provided to subcontract services to Trees Inc. or other subcontractors and whether they are obtaining required permits. ***Staff will review, work with City Attorney, and come back to committee with recommendations. No committee action needed at this time.***

IX. Lobbying. ***These items are not high priority, but could be pursued.***

1. Contact state and federal representatives to seek greater funding of Forest Service and Oregon Department of Forestry Urban & Community Forestry Programs to provide grants, staffing, and technical resources to assist communities in the development of Urban Forestry programs.
2. Evaluate whether other cities or the League of Oregon Cities have similar priorities and could lobby collectively for additional funding, especially in areas of growing importance related to "green infrastructure".

X. City as Property Owner

1. Evaluate City-owned properties to identify whether there are underutilized sites that could be more intensively planted. ***Staff recommended that a committee member or subcommittee evaluate sites and come back with recommendations, and the committee concurred.***

2. As part of this plan, don't address management of existing park use/tree protection issues, but develop recommendations for future park design and management that avoid similar conflicts. ***This item can be address independently from work on this plan by the UTAC if desired.***

XI. Public Works

1. Utilize trees to reduce costs associated with other infrastructure and facilities, such as stormwater management, energy conservation, water quality, and air quality. ***No action needed. To be addressed under other specific action items.***

2. Find the most effective ways to incorporate trees along streets when adjoining properties are vacant or already developed without irrigation in place. ***This should be further evaluated, but there is no specific direction on the best alternative.***

3. **Property Owner Responsibility for Landscaping Along Existing Frontage Installed Through LID or Other Public or Developer Installed Project.** Together with evaluation of City responsibility for landscaping and irrigation requirements associated with street projects, explore alternatives for responsibilities of adjacent property owners where properties are vacant or already developed. ***This should be further evaluated, but there is no specific direction on the best alternative.***

4. Evaluate ways to recapture investment from adjoining vacant or already developed properties when trees and irrigation are installed as part of a street project. Consider something similar to an Advance Finance District that would address capital expenditure and some mechanism for operational expenses such as a monthly fee for maintenance and irrigation. Coordinate with "street tree management" issues. This would become a non-issue if the City takes over responsibility for street trees. ***This should be further evaluated, but there is no specific direction on the best alternative.***

Non-Issues

1. There don't appear to be conflicts with state regulations governing forestry or urban-wildland interface issues where state requirements would pre-empt local decisions or alternatives that would be addressed in the forestry plan.

MISCELLANEOUS ITEMS

~~**Unsure What to do with the Following:**~~

1. ~~Require that trees are certified to be disease free. This appears to be more of a USDA or Oregon Department of Agriculture issue to be addressed statewide. Is there an existing certification program already? It doesn't appear this could be implemented locally without a statewide program in place.~~ ***The committee agreed this shouldn't be pursued further. This isn't a local issue.***

Overall Guidance

1. The Forest Service's Urban Forestry Planning for Watersheds provides excellent guidance for consideration. Many of the ideas in this document could be of use in carrying out the above items.

Existing Nonconforming Commercial Properties that Lack Trees

1. Explore alternatives to stimulate tree planting in nonconforming commercial properties and parking lots that are currently lacking trees. This may be a difficult area to address, but it is an area which could make a big difference. ***Staff can explore and also look for further information from the committee on good examples, and will bring back ideas.***

Technical Expertise Needs for this Plan

1. Obtain technical expertise to help address the following issues.
    - **a.** Tree planting guide
    - **b.** General tree health and planting conditions
    - **c.** What are some alternatives to retain native trees such as oaks, madrones, and manzanitas that may be well adapted to the climate and soils but may be susceptible to stress or death when residential planting and irrigation occur?
    - **d.** What is the most effective way to identify potential structural failure of trees that may occur such as loss of limbs or falling trees for trees that may appear healthy?

3 Technical Memo #1
Benefits and Functions of Urban Trees and the Urban Forest

City of Grants Pass
Urban Forestry Plan
for the City of Grants Pass and Urbanizing Area

Technical Memorandum #1:
Benefits and Functions of Urban Trees and the Urban Forest

To: Urban Forestry Advisory Committee
From: Scott Lindberg, Assistant Planner
Tom Schauer, Code Analyst
Date: August 16, 2006
CC: Jim Huber
Carla Angeli Paladino
David Frasher

Introduction

This is the first of eleven Technical Memoranda that will comprise the Urban Forestry Plan for the City of Grants Pass and the Urbanizing Area. It identifies the recognized benefits and functions of urban trees and the urban forest commonly cited in the literature pertaining to urban forestry.

Purpose

By identifying the benefits of urban trees and the urban forest, this memo explains the basis for undertaking an urban forestry plan. In short, it explains *why* the plan is being undertaken and what can potentially be achieved.

In addition, as the plan is developed, recognition and understanding of the functions of urban trees will be used to guide the development of alternatives that maximize the benefits. This will help identify *how* plan elements should be implemented.

Executive Summary

The body of research on urban forestry and urban horticulture continues to grow, providing an already expansive body of literature that identifies the benefits of urban forestry and discussion of best practices to maximize the benefits the urban forest can provide.

This document provides a summary of the key benefits cited in the prominent literature. The benefits are extensive and diverse, and the research continues to reinforce the value trees provide in an urban setting by performing multiple functions. The benefits range from quality of life, health, and well-being to acting as "green infrastructure", naturally performing functions that would otherwise require more expensive artificial and mechanical solutions, such as pollution removal.

Many of the benefits trees were once intuitively assumed to provide have now been confirmed through research, and benefits which were recognized in a generalized manner have now been

quantified in a detailed manner, identifying the extent to which trees of specific species, size, and age perform certain functions.

This memo provides an overview of the benefits and functions of the urban forest and a sampling of key findings drawn from the extensive body of research. Technical Memo #5 will provide more detailed information about these benefits in preparation for development of alternatives. The most common benefits are summarized in this memo under the following headings. Numbers do not indicate priority, but are rather provided for ease of reference.

1. Aesthetics
2. Stormwater Management
3. Erosion Prevention and Sediment Control
4. Pollution Reduction
5. Energy Conservation
6. Water Conservation
7. Sound Buffers
8. Microclimate Benefits
9. Psychological and Mental Health
10. Sociological Benefits
11. Economic Benefits
12. Economic Development and Tourism
13. Pedestrian Benefits
14. Traffic Calming
15. Habitat
16. Unique Character

In most cases, scientific and empirical studies are referenced in this memo to identify the source of the findings. In the publications consulted in preparation of this memo, a few of the items identified above were not quantified. In those cases, this memo identifies the need to further investigate these items through this planning process.

Additional References

The information contained within this memo is not exhaustive; rather it summarizes the findings from a substantial number of studies. Several sources were consulted in preparation of this memo to identify the benefits of an urban forest. There are many other studies, facts, figures, and considerations pertaining to the field of urban forestry. The sources consulted and cited in this memo are identified with endnotes. As there is a growing need for cities and other organizations to consult research, a number of organizations have begun to compile and format the research in a manner that is accessible for practical application. Additional information is provided in the appendices that summarizes material in a concise manner:

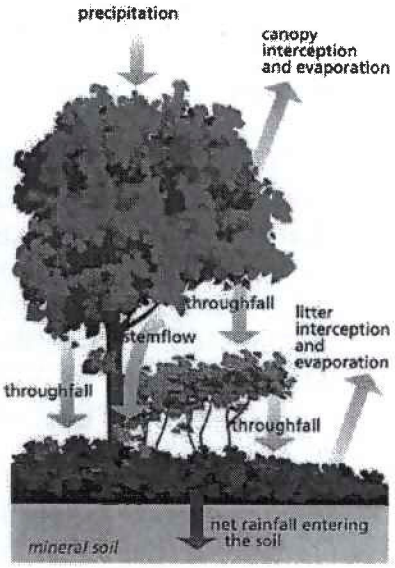
- Appendix 'A' provides a compilation of key findings by topic from the nonprofit organization *Colorado Trees*.
- Appendix 'B' provides a list of brief fact sheets and pamphlets published by the University of Washington Center for Urban Horticulture.

Summary of Benefits and Functions of Urban Trees and the Urban Forest

1. **Aesthetics**. Trees provide a distinct aesthetic purpose. They frame houses and create an edge to streets. Research and surveys indicate people prefer well-treed, landscaped places. It is important to note, however, that most aesthetic impacts from trees come at the time they're mature. Trees help moderate the visual environment, adding complexity to areas that lack interest, and reducing the adverse effects of visual clutter such as overhead utilities.

2. **Stormwater Management**. Trees provide substantial benefits through stormwater runoff mitigation. Trees provide this benefit by reducing the amount of rainfall that reaches the ground and by providing conditions that minimize the "runoff coefficient", reducing the volume and velocity of rainfall that becomes surface runoff rather than being absorbed into the ground. This improves watershed health by recharging groundwater and improving baseflow in streams, decreasing flooding and erosion, and reducing pollutants that are washed into streams from impervious surfaces.[1] Trees provide lower runoff coefficients than turf grass or impervious surfaces. Trees reduce stormwater runoff in the following ways.

   - **Rainfall Interception:** "Throughfall" is the term used to describe the portion of the rainfall that reaches the ground directly through gaps in the tree or dripping from leaves, twigs, and stems. The rest of the rainfall is intercepted. Intercepted water is either evaporated directly into the atmosphere, absorbed by the canopy surfaces, or transmitted to the ground via stems, branches, and other tree surfaces ("stemflow"). Interception of rainfall by leaves, branches, and moss can account for as much as 760 gallons per year for a mature deciduous tree and up to 4000 gallons per year for a mature evergreen. Evergreens are able to intercept more rainfall because they intercept rainfall year-round. In the Pacific Northwest, where the predominant rainfall is in the winter season, evergreens are important to perform this function. Rainfall interception for individual trees ranges from 10% to 68% of a rainfall event.[2]



   - **Transpiration:** Transpiration is the process of by which plants take up water from the soil through their root system and release moisture in the form water vapor from their leaves. It is a combination of capillary action and evaporation, moving water from the soil to the leaves and evaporating it. Tree roots create a network of capillaries that "soak up" water. The uptake of soil water by tree roots increases soil water potential,

lengthening the amount of time before rainfall becomes runoff. Evergreens generally have lower transpiration rates because they are more efficient than evergreens at retaining moisture due to the structure of their leaves. In general, a mature tree can transpire 100 gallons per day. A mature bald cypress tree can absorb up to 880 gallons of water a day if the conditions are right.[3] Redwoods are also excellent absorbers of excess water.

- **Infiltration:** Tree roots and organic matter from leaf litter create soil conditions that increase the capacity to infiltrate rainfall. Tree roots create interconnected pathways in the soil called "macropores", which aerates the soil and increases infiltration. Leaf litter and other organic matter produced by trees also help reduce the amount of runoff by holding water and promoting infiltration. Organic matter also provides a good environment for microorganisms and earthworms, which helps increase infiltration through the creation of additional macropores.[4] Macropores also provide a path that helps provide water and nutrients to the roots. In effect, the soil is analogous to a sponge rather than an impervious surface such as concrete.

  Studies have also shown the importance of the forest understory and leaf litter for infiltration. Tests in North Carolina found that a medium aged pine-mixed hardwood forest had an infiltration rate of 12.42 inches per hour. When the forest understory and leaf litter were removed, the resulting lawn had an infiltration rate of 4.41 inches per hour.[5]

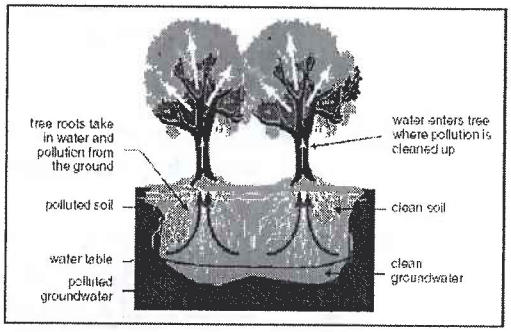
  Soils that are compacted during construction or other activities eliminate the macropores in the soils reducing the infiltration capability of the soils and impacting the soil conditions trees need for survival.

3. **Erosion Prevention and Sediment Control.** Hand-in-hand with stormwater management is erosion control and prevention.
   - **Water Erosion**: While trees do have deep roots, the majority of root action occurs within the first six inches of the soil[6] where they trap moisture and hold the soil in place. An average acre of land that is under construction without proper erosion control measures in place can deliver almost 30 tons of sediment downstream, or almost 50,000 tons per square mile per year. This is why trees are vital to retain during the construction process of a site, especially in a steep-slope area.

   - **Wind Erosion:** In addition to erosion affiliated with water, erosion also can occur from wind. On Midwestern farms, it has long been practice to plant windbreaks between sections of land as well as along the northern and western boundaries of the farmstead. This is because the trees act as a filter of sorts that slow down wind; if there was nothing to break the wind, it would whip across the open land and pick up small particles of dust. Lack of shelterbelts in the late 1920s in conjunction with dry seasons, created the dust bowl of the Depression. Richard Olson notes that, as of 1992, 2.1 billion tons of topsoil was being lost to

erosion nation-wide. At this rate, then, an area the size of Connecticut is seriously degraded yearly[7]. And, according to the Natural Resources Conservation Service, wind erosion is a problem in Oregon, with several tons per acre lost every year in cultivated crop land[8]. In urban areas, the windblown erosion is more frequently associated with soils exposed during construction activities. It is in these disturbed areas that wind erosion occurs most rapidly.

4. **Pollution Reduction (Air, Water, and Soil).** Trees and other vegetation act as natural filters for the environment around us.



An illustration showing the process of Phytoremediation. United States Environmental Protection Agency

- **Air Pollution:** Trees have two benefits for purifying air: Absorption of carbon dioxide and reduction of particulate matter.

  Carbon Sequestration. Carbon dioxide is converted into cellulose that is "stored" in the woody parts of each tree during photosynthesis. According to Colorado Trees, "A single mature tree can absorb carbon dioxide at a rate of forty-eight pounds a year and release enough oxygen back into the atmosphere to support two human beings[9]." This carbon sequestering happens at a massive scale in heavily treed areas, where trees store approximately thirteen pounds of carbon a year, mitigating the 2.9 tons of carbon dioxide that each American produces annually.

  Reduction of Particulates. Trees also act as air filters for particulate matter (small fragments of material) and pollution in the air we breathe, including dust from construction and roads, soot from exhaust, and other toxics and contaminants in the air. One sugar maple planted alongside a roadway removes 60mg of cadmium, 140mg of chromium, 820mg of nickel, and 5200mg of lead in one growing season[10]. Research also shows that the cooling and moisturizing affect of trees limits the amount of pollution that the air can contain[11]. Because particulates have adverse health affects, they are regulated by the Clean Air Act. Particulates smaller than 10 microns PM-10), when inhaled into the lungs, accumulate and aggravate respiratory conditions, especially asthma. Fine particles 2.5 microns and smaller (PM-2.5) are associated with heart and lung disease, increased respiratory symptoms and disease, decreased lung function, and premature death. (Grants Pass was previously a non-attainment area for PM-10, and is now a "Maintenance Area", with a maintenance plan. Standards are being developed for PM-2.5.)

- **Soil Pollution:** Phytoremediation is a term used to define the use of plants as a tool to remove contaminates in water and soil. Everything from heavy metals to

petroleum products can be removed with the use of plants[12]. In some instances, then, plants can be harvested and valuable metals removed from the plant.

- **Water Pollution:** Trees and other plant material act as biofilters because they process and retain some items that are seen as expendable, such as excess nitrogen. Stormwater runoff that contains large amounts of nitrogen invariably finds its way into streams, rivers, and lakes, contributing to algae growth and subsequent reduction in oxygen levels, with a detrimental effect on fish and other animals that live in rivers and water bodies. Trees planted in watershed areas intercept this nitrogen (and other contaminates) and uses it as nutrients for growth.

5. **Energy Conservation.** Another important impact of an urban forest is energy conservation, which helps in both the winter and summer months.

   - **Windbreaks:** In the winter, strategically planted trees act as a windbreak, sheltering structures from chilling northwest winds that strip the microclimate layer from around a heated building. Evergreen trees on the north and west sides afford the best protection from cold winter winds.

   - **Shade and Solar Access:** Trees allow access to or shade from radiant heating from sunlight. This allows occupants to rely less on air conditioning in the summer and heating in the winter, reducing energy consumption. Trees can have a canopy large enough to shade roofs, reducing cooling costs and increasing comfort.

     A properly located deciduous tree allows access to sunlight in the winter when the tree has lost its leaves and shade in the summer when the trees are leafed out. The best locations for deciduous trees are on the south and east sides of a house. When these trees drop their leaves in the winter, sunlight can reach the house to help in heating the home. Even without leaves, trees can block as much as 60% of the sun, making placement of trees critical to effectiveness. Evergreen trees on the north and west sides afford the best protection from the setting summer sun. Shrubs or small trees can be used to shade outside air-conditioning units, improving the efficiency of the equipment.

   - **Microclimate:** Additionally, the shade from a mature tree creates a summer microclimate that is substantially cooler then the surrounding areas. Air temperatures of 4 to 7 degrees Fahrenheit cooler have been recorded in urban areas with substantial tree cover[13]. This is because the tree not only shades the paved surfaces, preventing the well-recorded heat island effect, but transpiration and evaporation of water through the leaves creates a cooler atmosphere in the area around the tree. The more this microclimate can be regulated, the more energy is saved through heating and cooling costs.

6. **Water Conservation.** Trees that are native or well-adapted to a region can survive without artificial irrigation based on the natural rainfall available throughout the year. In drought years, carefully selected native and adapted trees conserve the amount of water they use, and in wetter years, take in as much as they can. When planted in urban conditions, they may rely on artificial irrigation until they are established or if they are in settings that aren't conducive to their natural condition. An article in *Stormwater* says horticulturists note that minimum weekly water needs for a mature tree is 5 gallons plus an additional 5 gallons per caliper inch[14], but trees can take in substantially more water. New trees typically need watering once a week for the first two summers and less often over the next two years. Deep waterings should be applied slowly within the area under the spread of the tree's crown and just beyond. Short frequent waterings wet only the top few inches of soil and encourage roots to grow near the surface.[15] Various slow-drip watering bags are available for newly planted trees in locations that aren't irrigated.

    - **Low-Impact Landscaping:** The shade of a tree also helps prevent the baking of groundcover by the sun, allowing shade-loving plants to flourish that may not need as much water to survive. A carefully designed low-impact landscape, including native plants and trees, conserve water by virtue of not using as much as imported species. Shade can also reduce the irrigation needs for more water-dependent groundcovers.

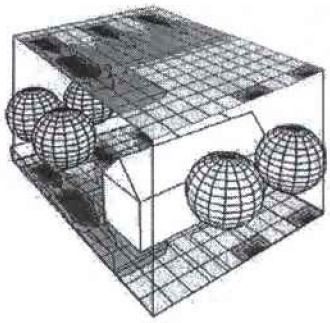
    - **Infiltration and Absorption:** Since trees act as natural aerators (see "Soil Aeration, discussed on page 3), loosening soil and preventing it from becoming too compacted, it creates an environment that is ideal for water absorption. This allows water to percolate back into the ground, recharging groundwater, rather than creating run-off.

7. **Trees as Sound Buffers/Noise Mitigation.** A row of trees can act as noise suppression. Just as trees screen views, they also screen noise; however, the extent to which vegetation can perform this function is often overestimated. Without reviewing all of the literature in detail, different conclusions about the effectiveness of trees to mitigate noise and different variables can be somewhat confusing.
    - A US Department of Energy study reports that trees reduce noise pollution by acting as a buffer and absorbing 50% of urban noise.[16]
    - According to the International Journal of Agroforestry, a carefully designed screen of trees and shrubs can help reduce noise by five to ten decibels[17]. This is because a tree, by virtue of its leaves, acts like a baffle, deflecting and diffusing direct sound waves, lessening their intensity.
    - However, even a planting of dense shrubs and trees can only reduce sound by about 3 to 5 decibels per 100 feet.[18]
    - There may also be some benefits from vegetation masking undesirable noises with white noise such as the sound of a fountain or sound of leaves in the wind.[19]

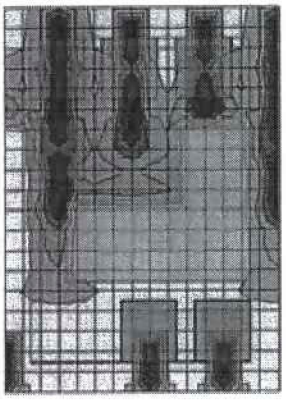
    Noise mitigation is an important issue in urban settings. Noise levels are regulated for physiological and psychological health reasons, with maximum decibels levels established. Urban environments may exceed these levels.. There are numerous

technical studies on the effects of noise on health and communities. Continuous exposure to noise over 30 decibels often results in complaints, and many communities regulate continuous noise over 40-45 decibels. The City's noise standards are based on DEQ standards, and regulate the amount of time maximum decibel levels are permissible.

8. **Microclimate Benefits.** As mentioned above, trees conserve energy by having an effect on the microclimate of an area. Integral to this cost-savings is the creation of a microclimate which helps to stabilize temperature spikes and influencing radiant flux[20]. By offering shade, trees prevent heat islands that occur with dark surfaces absorbing and radiating solar heat from the sun. Once the sun goes down, the hot, unshaded surface still radiates its heat, perpetuating the heat island effect for several hours after dark. Once the heat is expelled, temperatures can plummet. Foliage helps to even out these temperature swings.



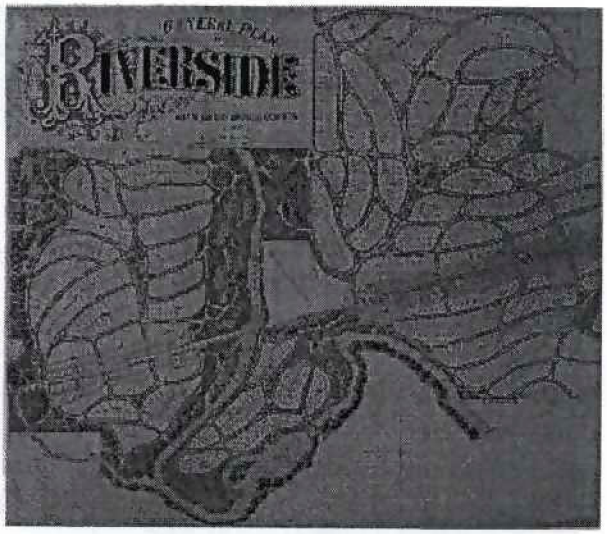
Saxena's interpretation of the "moisture island" effect of trees on a residential lot. The darker areas signify greater moisture content which creates an area of lower temperature.



A view from above of Saxena's moisture created by trees. Combination of many trees on adjacent lots in an urban forest creates a substantial amount of moisture, which cools surrounding areas as it evaporates.

9. **Psychological and Mental Health.** In 1984, Dr. Robert Ulrich published "View Through a Window May Influence Recovery from Surgery" where his research determined that patients who could view trees and other natural items from hospital windows healed more quickly from surgery than patients with similar wounds that did not have a view of nature from their beds. Ulrich's studies confirmed what planners and scholars of the Progressive Era believed: Planners such as Fredrick Law Olmsted were ardent advocates of the role of nature in urban life, and saw nature as the primary way to provide for public health and civilized behavior. Almost without basis, this belief drove the planning of great "natural areas" like Central Park in New York, the park plan for the City of Buffalo, and the city plan for Riverside, Illinois all based their design elements on the necessity of human interaction with nature[21].

Empirical data supports this, especially if the human environment is examined a bit further. An increased focus is placed on integrating indoor and outdoor spaces in the design of buildings, especially public spaces. This way of thinking has lead to the founding of organizations like The Center for Health Design and The Foundation for Hospital Art, both of which look to evidence by studies conducted by Ulrich and others that illustrate that the observation of, and interaction with, the natural environment is necessary for health and healing.



Olmsted & Vaux. Riverside, Illinois, 1870. The need for access to nature in urban life has been validated by research.

Trees and vegetation are effective at providing places for which people express preference. Research has shown that people have a preference for the level of "ordered complexity" that trees provide, helping to screen and mitigate the "sensory overload" of jumbled items such as overhead utilities and signs, and trees also mitigate the "sensory deficit" where visual interest is lacking , such as with large blank walls or paved areas.

10. **Sociological Benefits.** Some research has been conducted to evaluate the effects of trees on crime and other sociological issues. There are correlations between trees and social service issues and some crime. One study concluded that "trees have the potential to reduce social service budgets, decrease police calls for domestic violence, strengthen urban communities, and decrease the incidence of child abuse."[22] Staff hasn't investigated whether there is more research to corroborate these conclusions, but the City of Chicago's decision to spend $10 million to plant 20,000 trees was influenced by this research. Other research may help explain such conclusions, including the research that found trees help create relaxation and well-being, the research on the healing and mental health benefits of trees, and their ability to have mitigate urban noise and visual clutter.

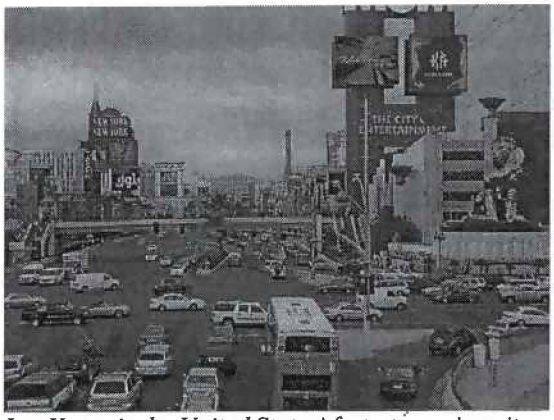
11. **Economic Benefits.** As previously mentioned, trees have a great value in the reduction of energy costs because of their effect on the microclimate of an urban area.

    - **Property Values:** As if this economic benefit isn't enough, trees also increase property values. Different studies have slightly different outcomes; however a common theme is that trees boost property values. According to the Christian Science Monitor, property values for treed properties are generally higher than similar properties without any trees and can increase by 7 to 25 percent[23].

- **Consumer Behavior:** Trees also boost consumer confidence. Studies by the University of Washington suggest that consumers rank business districts with tree cover as more inviting places to spend time and shop. In fact, some consumers are willing to pay *more* for products sold at stores in treed business districts. The Christian Science Monitor reports that consumers spend, on average, 13 percent more at shops in green areas[24]. Consumers also reported that they are willing to travel further, stay longer, and more frequently visit a well landscaped business district.[25]

12. **Economic Development and Tourism.** Rural forests, some of which fall under the umbrella of national forests, are spectacular places for individuals and families to recreate, get close to nature, and vacation. The *Grants Pass Development Code* recognizes the need for an attractive community to create a positive impression on visitors. It *notes "Major gateways to the City and key travel routes through the City and urbanizing area give a lasting impression to the visitor for good or ill, an impression critical to our tourist economy. The knowledgeable use of plant materials by experienced professionals can achieve these extraordinary benefits at very little cost."* Tourists remember places, and a community that is well landscaped, including trees, will stand out in minds as a nice place to visit.

13. **Pedestrian Benefits.** A street lined with mature trees provides several benefits for people in the pedestrian realms. First, it shades the sidewalk from the summer sun, creating a better pedestrian experience. Second, it provides a psychological and physical barrier between vehicular and pedestrian traffic. Third, trees planted in a sidewalk zone or planter strip adjacent to the street provides an area for necessary services like street signs and fire plugs. This creates a clear delineation between the pedestrian zone and vehicular traffic.



Las Vegas is the United States' fastest growing city. Apparently they are also near the bottom of the list for providing a pleasant pedestrian experience.



Proposed new street development in Atlanta. Note the trees and how they help buffer the person from the traffic.

14. **Traffic Calming.** Trees also serve as natural traffic control. On streets with few visual obstructions, traffic often flows fairly freely, slowing only for traffic lights. Tree-lined streets, on the other hand, create a visually narrower street that causes drivers to slow down and be more aware of their surroundings. This effect is further emphasized with the canopy created by streets lined with mature trees.

15. **Habitat.** One of the most tangible by-products of urban trees is the creation of wildlife habitat, which also provides several direct human benefits. Isolated trees are good, but large areas of contiguous forest provide for the best habitat, as do urban areas with large areas of tree canopy. Some animals are able to freely move from place to place through these corridors of urban trees; with the construction of houses and cities in a manner that doesn't preserve or perpetuate an urban forest, the free movement of nature can be interrupted. Reforesting urban areas can help restore some of this movement and add the amenity of tree-bound wildlife to the urban fabric, providing recreational opportunities for residents as well as a chance to lesson the human impact on his environment. The presence of this urban wildlife can also provide beneficial effects such as management of the insect population.

    Trees are also important to aquatic life. They provide leaf litter and large woody debris, which create habitat for fish, macroinvertebrates, amphibians, and reptiles. Leaf litter is important to aquatic food webs. Leaves blown into a stream form packs that are broken down by fungi and bacteria. The fungi are an important food source for insects such as caddisflies and stoneflies, which are a good food source for small fish and other aquatic life. In urban watersheds, much of the organic matter that ends up in streams comes from upland areas, so they are also important for contributing organic matter to streams.[26]

    Riparian trees also provide shade which reduces summer air and water temperatures which are critical to fish and aquatic insects. Impervious area and lack of forest cover can increase summer stream temperatures by 2 to 10 degrees. Trees can also cool stormwater runoff, preventing thermal shock to streams.[27]

16. **Unique Character.** Trees play a significant role in defining the character of a place, whether natural, or designed. Many people choose to live in the Pacific Northwest because of its natural beauty, mountains, and forests. Southern Oregon has a unique climate all its own. With an urban forestry plan, a community has the opportunity to use the pallet of the native vegetation and trees in its planting scheme. By using these native species in the urban environment, a community can help retain its natural character as the community grows, rather than displacing the character that contributes to the



attractiveness as a place to live and visit. There tends to be greater community support for attractive, well-managed growth that retains the unique characteristics to which residents and visitors are drawn.

Trees and landscaping can also be used to generate a desired "designed" look that may differ from or contrast with the natural surroundings in a manner that is complementary. Many historic neighborhoods have uniformly-spaced streets trees that define their character, providing a natural element that relates to the grid pattern of streets and lots. This repetition can provide a pleasing rhythm that unifies disparate elements, tying them together.

Additionally, it is important to consider how provision and utilization of open space affects the character of the community. Pockets of open space and trees can provide visual relief in areas that are intensively developed.

Finally, it is important to consider how infill development affects the character of the community. Grants Pass, like other southern Oregon towns, has neighborhoods that capitalize on the uniqueness of the natural environment. For example, the Lawnridge Park neighborhood incorporates hills, mature trees, and Gilbert Creek into its design. Stately street trees can also define the character of a neighborhood, complementing the unique natural features. As infill development occurs, it can be important to neighborhood character that the new developments contribute to, rather than detract from, the elements that make the neighborhood special. As infill development occurs and as the city grows outward, continued expansion of the urban forest that keeps pace with new development can be important to ensure new development fits in with the existing physical fabric of the city and contributes the vital functions provided by the urban forest as the community grows.

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[1] Cappiella, et al., at 9
[2] Cappiella, et al., at 9
[3] Cappiella, et al., at 10
[4] Cappiella, et al., at 11
[5] Cappiella, et a1., at 11
[6] Johnson, at 22
[7] Olson, et al, at 37.
[8] http://www.or.nrcs.usda.gov/technical/nri/geoarea/state/weq/stweqratea.html
[9] www.coloradotrees.org/benefits.htm
[10] ibid
[11] Scott, et al, at 130.
[12] Cappiella, et al, at 12.
[13] Scott, et al. , at 129.
[14] www.forester.net/sw_0203_trees.html
[15] City of Ashland, at 5.
[16] www.coloradotrees.org/benefits.htm
[17] http://www.agroforestry.net/overstory/overstory60.html
[18] Thompson and Sorvig, at 270.
[19] Thompson and Sorvig, at 271.
[20] Skelton
[21] Peterson "Frederick Law Olmsted Sr. and Frederick Law Olmsted Jr." Sies, et al, eds Planning the 20th Century American City, 1996.
[22] www.coloradotrees.org/benefits.htm
[23] Gilsdorf
[24] Ibid
[25] www.coloradotrees.org/benefits.htm
[26] Cappiella, et al., at 12.
[27] Cappiella, et al., at 12.

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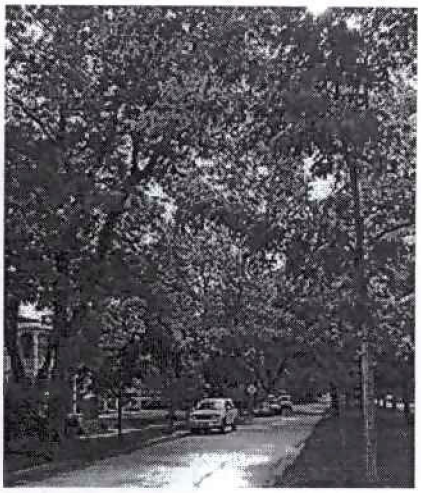
Appendix A

Benefits of Trees In Urban Areas



Mapleton Avenue, a well shaded street in Boulder, Colorado.

Trees are major capital assets in cities across the United States. Just as streets, sidewalks, public buildings and recreational facilities are a part of a community's infrastructure, so are publicly owned trees. Trees -- and, collectively, the urban forest -- are important assets that require care and maintenance the same as other public property. Trees are on the job 24 hours every day working for all of us to improve our environment and quality of life.

Colorado's urban forest provides many environmental benefits to our community. Aside from the obvious aesthetic benefits, trees within our urban forest improve our air, protect our water, save energy, and improve economic sustainability.

Unlike urban areas in the eastern U.S., canopy cover in Colorado decreases along an urban to rural gradient. In other words, since most trees have been planted much of the tree cover is in urban areas as opposed to "natural lands". Therefore, estimated pollutant uptake rates are higher for residential compared to natural or unmanaged lands. Possible management implications of these estimates are that air pollutant uptake benefits from tree planting may be optimized by planting in areas where air pollutant concentrations are elevated and where relatively high planting densities can be achieved thereby enhancing the health of urban dwellers.

Thank you to Kathleen Alexander for composing and compiling this information.

Urban Forests Improve Our Air Through:

- Carbon Sequestration
- Reduction of Other Pollutants
- More Info on Air Quality Enhancement

Urban Forests Protect Our Water

- Info on Rainfall Interception Provided by Greg McPherson

Urban Forests Save Energy

Urban Forests Can Also:

- Extend the Life of Paved Surfaces
- Increase Traffic Safety
- Improve Economic Sustainability
- Affect Consumer Perceptions and Behaviors
- Add Aesthetic Value
- Increase Real Estate Values
- Increase Sociological Benefits

Other Articles:

- Putting a Value On The Urban Forest of the Front Range (for Colorado Green Magazine)
- What A Large Tree Can Do For You

Urban Forests Improve Our Air

Source: http://www.coloradotrees.org/

Appendix A

Carbon Sequestration:

- Heat from Earth is trapped in the atmosphere due to high levels of carbon dioxide (CO_2) and other heat-trapping gases that prohibit it from releasing heat into space -- creating a phenomenon known as the "greenhouse effect." Trees remove (sequester) CO_2 from the atmosphere during photosynthesis to form carbohydrates that are used in plant structure/function and return oxygen back to the atmosphere as a byproduct. About half of the greenhouse effect is caused by CO_2. Trees therefore act as a carbon sink by removing the carbon and storing it as cellulose in their trunk, branches, leaves and roots while releasing oxygen back into the air.

- Trees also reduce the greenhouse effect by shading our homes and office buildings. This reduces air conditioning needs up to 30%, thereby reducing the amount of fossil fuels burned to produce electricity. This combination of CO_2 removal from the atmosphere, carbon storage in wood, and the cooling effect makes trees a very efficient tool in fighting the greenhouse effect. (11)

- One tree that shades your home in the city will also save fossil fuel, cutting CO_2 buildup as much as 15 forest trees. (16)

- Approximately 800 million tons of carbon are stored in U.S. urban forests with a $22 billion equivalent in control costs. (1)

- Planting trees remains one of the cheapest, most effective means of drawing excess CO_2 from the atmosphere. (15)

- A single mature tree can absorb carbon dioxide at a rate of 48 lbs./year and release enough oxygen back into the atmosphere to support 2 human beings. (10)

- Each person in the U.S. generates approximately 2.3 tons of CO_2 each year. A healthy tree stores about 13 pounds of carbon annually -- or 2.6 tons per acre each year. An acre of trees absorbs enough CO_2 over one year to equal the amount produced by driving a car 26,000 miles. An estimate of carbon emitted per vehicle mile is between 0.88 lb. CO_2/mi. – 1.06 lb. CO_2/mi. (Nowak, 1993). Thus, a car driven 26,000 miles will emit between 22,880 lbs CO_2 and 27,647 lbs. CO_2. Thus, one acre of tree cover in Brooklyn can compensate for automobile fuel use equivalent to driving a car between 7,200 and 8,700 miles. (8)

- If every American family planted just one tree, the amount of CO_2 in the atmosphere would be reduced by one billion lbs annually. This is almost 5% of the amount that human activity pumps into the atmosphere each year. (17)

- The U.S. Forest Service estimates that all the forests in the United States combined sequestered a net of approximately 309 million tons of carbon per year from 1952 to 1992, offsetting approximately 25% of U.S. human-caused emissions of carbon during that period.

- Over a 50-year lifetime, a tree generates $31,250 worth of oxygen, provides $62,000 worth of air pollution control, recycles $37,500 worth of water, and controls $31,250 worth of soil erosion. (2)

Source: http://www.coloradotrees.org/

Appendix A

Reduction of Other Air Pollutants:

- Trees also remove other gaseous pollutants by absorbing them with normal air components through the stomates in the leaf surface. (3).

  Some of the other major air pollutants and their primary sources are:

  - Sulfur Dioxide (SO_2)- Coal burning for electricity/home heating is responsible for about 60 percent of the sulfur dioxide in the air. Refining and combustion of petroleum products produce 21% of the SO_2.

  - Ozone (O_3) - is a naturally occurring oxidant, existing in the upper atmosphere. O_3 may be brought to earth by turbulence during severe storms, and small amounts are formed by lighting. Most O_3 - and another oxidant, peroxyacetylnitrate (PAN) - come from the emissions of automobiles and industries, which mix in the air and undergo photochemical reactions in sunlight. High concentrations of O_3 and PAN often build up where there are many automobiles.

  - Nitrogen oxides - Automotive exhaust is probably the largest producer of NO_x. Oxides of nitrogen are also formed by combustion at high temperatures in the presence of two natural components of the air; nitrogen and oxygen.

  - Particulates are small (<10 microns) particles emitted in smoke from burning fuel, particular diesel, that enters our lungs and cause respiratory problems. (10)

  There is up to a 60% reduction in street level particulates with trees. (1)

- In one urban park (212 ha.) tree cover was found to remove daily 48lbs. particulates, 9 lbs nitrogen dioxide, 6 lbs sulfur dioxide, and 2 lb carbon monoxide ($136/day value based upon pollution control technology) and 100 lbs of carbon. (1)

- One sugar maple (12" DBH) along a roadway removes in one growing season 60mg cadmium, 140 mg chromium, 820 mg nickel, and 5200 mg lead from the environment. (1)

- Planting trees and expanding parklands improves the air quality of Los Angeles county. A total of 300 trees can counter balance the amount of pollution one person produces in a lifetime. (10)

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Source: http://www.coloradotrees.org/

Appendix A

Urban Forests Protect Our Water

- Trees reduce topsoil erosion, prevent harmful land pollutants contained in the soil from getting into our waterways, slow down water run-off, and ensure that our groundwater supplies are continually being replenished. For every 5% of tree cover added to a community, stormwater runoff is reduced by approximately 2%. (1)

- Research by the USFS shows that in a 1 inch rainstorm over 12 hours, the interception of rain by the canopy of the urban forest in Salt Lake City reduces surface runoff by about 11.3 million gallons, or 17%. These values would increase as the canopy increases. (13)

- Along with breaking the fall of rainwater, tree roots remove nutrients harmful to water ecology and quality. (13)

- Trees act as natural pollution filters. Their canopies, trunks, roots, and associated soil and other natural elements of the landscape filter polluted particulate matter out of the flow toward the storm sewers. Reducing the flow of stormwater reduces the amount of pollution that is washed into a drainage area. Trees use nutrients like nitrogen, phosphorus, and potassium--byproducts of urban living--which can pollute streams.

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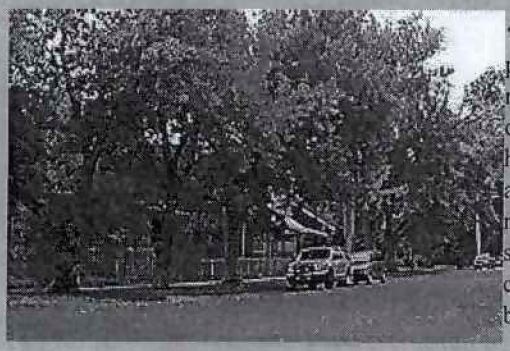
Source: http://www.coloradotrees.org/

Appendix A

Urban Forests Save Energy



- Homeowners that properly place trees in their landscape can realize savings up to 58% on daytime air conditioning and as high as 65% for mobile homes. If applied nationwide to buildings not now benefiting from trees, the shade could reduce our nation's consumption of oil by 500,000 barrels of oil/day. (12)

The maximum potential annual savings from energy conserving landscapes around a typical residence ranged from 13% in Madison up to 38% in Miami. Projections suggest that 100 million additional mature trees in US cities (3 trees for every unshaded single family home) could save over $2 billion in energy costs per year. (10)

- Trees lower local air temperatures by transpiring water and shading surfaces. Because they lower air temperatures, shade buildings in the summer, and block winter winds, they can reduce building energy use and cooling costs. (6)

- Help to cool cities by reducing heat sinks. Heat sinks are 6-19 degrees F° warmer than their surroundings (Global Releaf GA). A tree can be a natural air conditioner. The evaporation from a single large tree can produce the cooling effect of 10 room size air conditioners operating 24 hours/day. (18)

- USFS estimates the annual effect of well-positioned trees on energy use in conventional houses at savings between 20-25% when compared to a house in a wide-open area. (USFS meteorologist Gordon Heisler)(13).

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Urban Forests Can Extend the Life of Paved Surfaces

Source: http://www.coloradotrees.org/

Appendix A



The asphalt paving on streets contain stone aggregate in an oil binder. Without tree shade, the oil heats up and volatizes, leaving the aggregate unprotected. Vehicles then loosen the aggregate and much like sandpaper, the loose aggregate grinds down the pavement. Streets should be overlaid or slurry sealed every 7-10 years over a 30-40 year period, after which reconstruction is required. A slurry seal costs approximately $0.27/sq.ft. or $50,000/linear mile. Because the oil does not dry out as fast on a shaded street as it does on a street with no shade trees, this street maintenance can be deferred. The slurry seal can be deferred from every 10 years to every 20-25 years for older streets with extensive tree canopy cover. (19)

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Urban Forests Can Increase Traffic Safety

- Trees can also enhance traffic calming measures, such as narrower streets, extended curbs, roundabouts, etc. Tall trees give the perception of making a street feel narrower, slowing people down. Closely spaced trees give the perception of speed (they go by very quickly) slowing people down. A treeless street enhances the perception of a street being wide and free of hazard, thereby increasing speeds. Increased speed leads to more accidents. (20)
- Trees can serve as a buffer between moving vehicles and pedestrians.
- Street trees also forewarn drivers of upcoming curves. If the driver sees tree trunks curving ahead before seeing the road curve, they will slow down and be more cautious when approaching curves. (16)

top

Urban Forests Can Improve Economic Sustainability

- The scope and condition of a community's trees and, collectively, its urban forest, is usually the first impression a community projects to its visitors. A community's urban

Source: http://www.coloradotrees.org/

Appendix A

forest is an extension of its pride and community spirit.

Studies have shown that:

1. Trees enhance community economic stability by attracting businesses and tourists.
2. People linger and shop longer along tree-lined streets.
3. Apartments and offices in wooded areas rent more quickly and have higher occupancy rates.
4. Businesses leasing office spaces in developments with trees find their workers are more productive and absenteeism is reduced. (11)

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Urban Forests Can Increase Real Estate Values

- Property values increase 5-15% when compared to properties without trees (depends on species, maturity, quantity and location)
- A 1976 study that evaluated the effects of several different variables on homes in Manchester, Connecticut, found that street trees added about $2686 or 6% to the sale price of a home. (10)
- A more recent study indicated that trees added $9,500, or more than 18 percent, to the average sale price of a residence in a suburb of Rochester, New York. (8)

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Urban Forests Can Increase Sociological Benefits

Two University of Illinois researchers (Kuo and Sullivan) studied how well residents of the Chicago Robert Taylor Housing Project (the largest public housing development in the world) were doing in their daily lives based upon the amount of contact they had with trees, and came to the following conclusions:

- Trees have the potential to reduce social service budgets, decrease police calls for domestic violence, strengthen urban communities, and decrease the incidence of child abuse according to the study. **Chicago officials heard that message last year. The city government spent $10 million to plant 20,000 trees, a decision influenced by Kuo's and Sullivan's research, according to the *Chicago Tribune*.**

Source: http://www.coloradotrees.org/

Appendix A

- Residents who live near trees have significantly better relations with and stronger ties to their neighbors.
- Researchers found fewer reports of physical violence in homes that had trees outside the buildings. Of the residents interviewed, 14% of residents living in barren conditions have threatened to use a knife or gun against their children versus 3% for the residents living in green conditions. (15)

- Studies have shown that hospital patients with a view of trees out their windows recover much faster and with fewer complications than similar patients without such views. (13)
- A Texas A&M study indicates that trees help create relaxation and well being.
- A U.S. Department of Energy study reports that trees reduce noise pollution by acting as a buffer and absorbing 50% of urban noise.

top

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2. USDA Forest Service Pamphlet #R1-92-100
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Source: http://www.coloradotrees.org/

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11. Michigan State University Extension, Urban Forestry #07269501, "Benefits of Urban Trees"

12. American Forests, "The Case For Greener Cities", Autumn 1999

13. American Forests, "How Trees Fight Climate Change", 1999.

14. American Forests, "Why Plant Trees", 1999.

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17. American Forestry Association Tree Facts: Growing Greener Cities, 1992.

18. USDA Forest Service Pamphlet #FS-363)

19. Tree Guidelines for San Joaquin Valley Communities, March 1999. Published by the USDA Forest Service's Western Center for Urban Forest Research and Education.

21. American Forests Magazine, "Trees Tackle Clean Water Regulations", Summer 2000.

top

What a Large Tree Can Do For You

- A large front yard tree in a San Joaquin Valley community like Modesto (dry like Colorado) provides the following benefits each year:
- 1. Saves $30 in summertime air conditioning by shading the building and cooling the air (250 kWh), about 9% of total annual air conditioning cost.
- 2. Absorbs 10 lbs of air pollutants, including 4 lbs of ozone and 3 lbs of particulates. The value of pollutant uptake by the tree is $45 using the local market price of emission reduction credits. Uptake of NOx by the tree is equivalent to NOx emitted by a typical car driven 3,600 miles.
- 3. Intercepts 760 gal of rainfall in its crown, thereby reducing runoff of polluted stormwater and flooding. This benefit is valued at $6 based on local expenditures for water quality management and flood control.
- 4. Cleans 330 lbs of CO2 (90 lbs C) from the atmosphere through direct sequestration in the tree's wood and reduced power plant emissions due to cooling energy savings. The value of this benefit is $5 assuming the California Energy Commission's price of $30/ton. This tree reduces the

Source: http://www.coloradotrees.org/

same amount of atmospheric CO2 as released by a typical car driven 500 miles.

5. Adds about 1% to the sales price of the property, or about $25 each year when annualized over a 40-year period. This assumes a median residential property sales price of $100,000.

The value of all benefits is $111 in this example. Typically, a city will spend $20-$40 per year to maintain a street tree of this size (sometimes located in a front yard easement) and a resident will spend about $10 per year maintaining a large yard tree. Our benefit-cost analysis for Modesto's 90,000 street/park trees found $1.89 returned annually for every $1 invested in stewardship.

--Greg McPherson

(top)

Air Quality and Trees

We all know that trees give us shade, protect us from wind and rain, add beauty to a home landscape, soften the harsh lines of urban architecture, provide homes for birds and squirrels, and much, much more. Most of us can't imagine a city without trees. They have become part of the infra structure like the streets, lights, sidewalks, schools, and other city assets. Quantifying the value of these benefits is difficult but there are researchers doing just that. Here is some recent information from David Nowak, a researcher with the USDA Forest Service in Syracuse, NY. He is answering some questions asked by city forester.

I've heard that 1 ac of trees provides oxygen for 18 people every day a) how many trees per ac are we talking and what type & size of trees? b) how much oxygen does a person need every day?

Based on field data and modeling for Brooklyn, NY (Nowak et al, in review), one acre of tree cover in Brooklyn gives off an approximate net amount of 2.8 t O2/yr (this estimate does not include tree decomposition). Estimated annual average net oxygen production for Brooklyn trees is (for various dbh classes):

DBH Class (in)	Oxygen produced (lbs/yr)
0-3	6
9-12	49
18-21	115
27-30	148
39+	247

a) The average density in a forest stand is around 480 tree/ac (e.g., Raile and Leatherberry, 1988). Average tree density within tree covered urban areas is approximately 204 trees/ ac of tree cover. This estimate is based on field data from 7 cities (Dwyer et al., in review). In the Chicago area (Cook and DuPage Counties), 77% of the trees were less

Source: http://www.coloradotrees.org/

than 6 in. dbh. (Nowak, 1994a).

b) The average annual oxygen consumption for a person at rest at 20 degrees C and 760 mm Hg (standard pressure) is between 355 lbs/yr and 444 lbs/yr (average = 400 lbs O2/ yr). This is a conservative estimate as exercise will increase oxygen consumption.

Based on the above estimates of oxygen consumption and net oxygen production by an acre of tree cover in Brooklyn, one acre of trees would produce enough oxygen for 14 people. However, it is debatable as to whether oxygen production by an acre of trees or large tracts of forests are significant, because if the acre of trees did not exist, 14 people would not suffocate from lack of oxygen. There are many sources of oxygen and plenty of oxygen in the atmosphere, but trees do contribute oxygen to the atmosphere. "We have a large number of serious ecological problems, but suffocation from lack of oxygen is not one of them (Broeker 1970, SCEP 1970). The oxygen content of the atmosphere remains essentially constant, with the oxygen consumed by all animals, bacteria, and respiration processes roughly balanced by the oxygen released by land and sea plants during photosynthesis. The present atmospheric oxygen content seems not to have changed since 1910 (SCEP 1970). Furthermore, because air is about 20 percent oxygen, the total supply is immense (Broeker 1970)" (Miller,1979). Waters of the world are the main oxygen generators of the biosphere; their algae are estimated to replace about 90% of all oxygen used (Encyclopedia Brittannica, 1994). Also, most of the oxygen produced by trees will be consumed when the tree dies and decomposes.

I've read that 1 ac of trees absorbs enough CO_2 in a year is equal to that produced from driving a car 26K miles. a) how much CO_2 does 1 ac of trees absorb in 1 year? b) how much CO_2 does driving a car 26K mi produce?

a) this answer depends on tree density per acre, diameter structure, species composition, and growth rates. Estimates from Chicago are 2.7 t C/ac of tree cover/yr (Nowak 1994b); the Chicago area: 2.2 t C/ac of tree cover/yr (Nowak, 1994b); and in Brooklyn, NY: 1.0 t C/ac of tree cover/yr (Nowak et al., in review). These are gross carbon sequestration estimates and do not account for carbon emitted due to decomposition. The Chicago estimates are likely liberal as they do not account for tree condition or stand structure effects on growth. Gross carbon sequestration estimates for individual trees in Brooklyn, by various diameter classes are (Nowak et al., in review):

DBH Class (in)	Carbon Sequestration (lbs/yr)
0-3	2
9-12	19
18-21	43
27-30	55
39+	93

b) Estimate of carbon emitted per vehicle mile is approximately 0.24 lb C/mi (see Nowak, 1993 for calculation and references) but is as high as 0.29 lb C/mi if carbon produced from transportation and fuel processing is included. Thus, a car driven 26,000 miles will emit 6,240 lbs C (22,880 lbs CO_2) or 7,540 lbs C (27,647 lbs CO_2) if the whole fuel process is included. Thus, one acre of tree cover in Brooklyn can compensate for automobile fuel use equivalent to driving a car between 7,200 and 8,700 miles, depending on which estimate you choose to use. However, when the tree dies, most, if not all, of the carbon stored will eventually be released back to the atmosphere and form CO_2. Thus, the CO_2 gains made by trees are sustained as long as the forest structure is sustained. Also, the gains made are

Source: http://www.coloradotrees.org/

only good for the first generation of trees, unless the carbon is prevented from decomposing. If first generation decomposes, the second generation of trees will only compensate for the loss of the first generation (Nowak et al., in preparation).

What about the statement, 1 ac of trees store 2.6 tons of carbon each year (removed from the air) where does the carbon in the air come from?

See answer 2a for urban forest estimates.

Carbon in the atmosphere comes mainly from fossil fuel combustion (emissions of approximately 5 billion metric tons/yr) and deforestation (loss of stored carbon in biomass) (emissions of about 1-2 billion metric tons/yr) (Schneider, 1989). Carbon in trees comes from atmospheric carbon dioxide (a very minor portion may come from other chemicals containing carbon [e.g., carbon monoxide], but many of these chemicals convert to carbon dioxide through time).

Trees remove several tons/day of O_3, CO_2, SO_2, NO_2, PM_{10}. How many trees does it take to remove so many tons of one element?

We are currently completing a comparison of pollution removal by trees in 50 cities across the United States. Pollution removal varies based on meteorology, amount of tree and shrub cover (acres), pollution concentration, and length of growing season. Pollution removal (ozone, particulate matter, sulfur dioxide, nitrogen dioxide, and carbon monoxide) by trees and shrubs in Chicago in 1994 was estimated at 651 tons (rates varied for each pollutant) (Nowak, 1994c). In Brooklyn,1994 pollution removal (same 5 pollutants) by trees and shrubs was estimated at 287 tons (Nowak et al., in review). Average individual tree pollution removal estimates for Brooklyn by various diameter classes are:

DBH Class (in)	Pollution Removal (lbs/yr)
0-3	0.07
9-12	0.8
18-21	2.2
27-30	2.0
39+	5.3

Differences in removal rates per tree by diameter classes are due to differences in the average amount of healthy leaf area per tree among the diameter classes.

Where did the info come from on trees reducing urban temps & the 2% increase in electricity consumption for every 1 deg.?

"For U.S. cities with populations larger than 100,000, peak utility loads will increase 1.5 to 2 percent for every 1 degree F increase in temperature" is from page 16 of Akbari et al. (1992). On page 18 it reports "the nation-wide response of peak-cooling electricity load to temperature in the United States could range from 0.5 to 3 percent for each 1 degree F rise in temperature." It appears that these figures may come from Linder and Inglis (1989). It is important to note that these data are for peak loads. However, from a graph on page 20, it appears that annual energy use could increase between 0.25% and 3% (average of approx. 1.1%) per degree F rise in temperature, depending on city location.

Source: http://www.coloradotrees.org/

Appendix A

How much carbon does a tree store in its wood? Is it based on size ?

One half of a tree's dry weight is carbon (see Nowak, 1994b for various citations). Thus carbon storage is directly related to size (i.e., bigger trees have more carbon stored). Annual carbon sequestration (the amount of carbon removed from the atmosphere each year) is related to tree size and growth rates (large trees with fast growth rates will remove more carbon annually than small trees with slow growth rates).

How is the value derived from the in leaf pollution removal (Dave Nowak's research)?

Values are derived based on median environmental externality values for the United States for each pollutant from Murray et al. (1994) (Nowak et al, 1998). Environmental impacts or damage caused by pollutant emissions are one type of environmental externality. Externalities include benefits and costs resulting as an unintended byproduct of economic activity that accrue to someone other than the parties involved in the activity. Externality values attempt to account for

the cost to society due to the pollutant emission, and are usually given in $/ton. There are various limitations with certain approaches to obtaining externality values, but externality values are one of the most reasonable approaches to valuing the functions of urban forests, particularly if the externality value is directly derived from the societal costs of the pollutant emitted into the atmosphere (e.g., human health, materials damage, etc.).

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(top)

Rainfall Interception of Trees

This info was requested by Bailey Hudson and I pass it on in case anyone else is interested. It is an estimate of rainfall interception by a thoroughly saturated tree (0.5 inch storm). Tree data are based on destructive sampling of a callery pear tree in Davis and interception is based on our measurements and modeling studies using this tree. Visit our web site for related publications (http://wcufre.ucdavis.edu). -- Greg.

Tree age: 9 years
Size: 28 ft tall, 19 ft crown diameter, 276 sq ft crown projection area (CPA), 1,923 sq ft leaf area, 446 sq ft stem area
Saturation storage: leaf = 0.04 inch, stem = 0.04 inch
Rainfall: 0.5 inches
Interception by leaf: 47.2 gal
Interception by stem: 10.9 gal
Total interception: 58.1 gal
Total precip in CPA: 86.1 gal
Interception %: 68%

These values assume no evaporation from the crown so actual interception will increase as temperatures and wind speed increase and thereby drive higher evap rates. Inotherwords, this is a lowball estimate for an in-leaf pear. We are beginning to measure the saturation storage capacity for different tree species

Source: http://www.coloradotrees.org/

Appendix A

and this info will improve our ability to accurately model impacts of urban forests on stormwater runoff.

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(top)

Trees and Commercial Business

Trees and business - It's often a love-hate relationship! There are certainly costs that come with having trees on streets. Yet, a new study provides evidence that trees have positive effects on consumers. Despite their costs, trees do provide indirect benefits to businesses.

About 70% of America's gross domestic product is generated by the purchases of individuals. Consumers consider many factors when deciding on what products and services to buy. Value, quality and convenience are major messages that marketers communicate about their products. Often overlooked is the importance of the retail place on shopping decisions. A pleasant, welcoming retail environment is important to consumers.

How does the community forest influence consumers? A national study, conducted by social scientists at the University of Washington, used survey questionnaires to investigate public perceptions about the role of trees in revitalizing business districts. Surveys were sent to selected districts in cities of the Pacific Northwest, Austin, Los Angeles, Chicago, Pittsburgh, and Washington, DC.

CONSUMER PERCEPTIONS AND BEHAVIORS

Place Perception
Four categories of perceptions emerged from participant' ratings of three business districts: ***Amenity and Comfort, Interaction with Merchants, Quality of Products, Maintenance and Upkeep.***

Consumers' ratings on each of the categories was significantly higher for districts that had street trees and other landscape improvements. For instance, ***Amenity and Comfort ratings*** were about 80% higher for a tree lined sidewalk compared to a non-shaded street. Also, ***Quality of Products,*** ratings were 30% higher in districts having trees over those with barren sidewalks. Interaction with Merchants items included customer service issues; ratings were about 15% higher

Source: http://www.coloradotrees.org/

Appendix A

for districts with trees.

Patronage Behavior
Actions follow our impressions of a place. Respondents were asked to give opinions of their behavior within the three shopping districts, including travel time, travel distance, duration of a visit, frequency of visits and willingness-to-pay for parking. Again, trees make a difference! Considering ALL behaviors, higher measures were reported in the districts having trees. For instance, respondents claimed they would be willing to pay more for parking in a well landscaped business district. This suggests greater revenues from shaded parking could offset the costs of parking space loss, a frequent objection by merchants.

Pricing Patterns
Do trees influence how much people are willing to pay for goods? Contingent valuation methods were used to assess how amenity values relate to customers' price valuations. Survey respondents were asked to specify a price for each of 15 items in a "basket of goods" in the business districts. The survey participants consistently priced goods significantly higher in landscaped districts! Prices were, on average, about 11% higher for products in the landscape compared to the no-tree district. This was true of low-price, impulse-buy convenience goods (e.g. lunch sandwich, flower bouquet), as well as bigger ticket, comparison-shopped items (e.g. sports shoes, new glasses). Give the low profit margins of most retail businesses, trees appear to provide a significant "amenity margin."

(top)

Source: http://www.coloradotrees.org/

Appendix B

Summary of Publications from:

University of Washington
College of Forest Resources
Center for Urban Horticulture

Relevant Fact Sheets, Professional Publications, and Scholarly Publications can be found at:

http://www.cfr.washington.edu/research.envmind/urban.html
http://www.cfr.washington.edu/research.envmind/transportation.html

The fact sheets will also be compiled and available at the Community Development Department.

Below is a sampling of the 2-page fact sheets:

Fact Sheets:
Fact Sheet #1: Urban Nature Benefits: Psycho-Social Dimensions of People and Plants
Fact Sheet #3: Urban Forest Values: Economic Benefits of Trees in Cities
Fact Sheet #6: Nature Experiences: Readings and References on Human Benefits
Fact Sheet #7: Transportation Studies: Social Science Approaches and Contributions
Fact Sheet #8: The Calming Effect of Green: Roadside Landscape and Driver Stress
Fact Sheet #9: The Freeway Roadside Environment: Testing Visual Quality at the Road Edge
Fact Sheet #10: Community Image: Roadside Settings and Public Perceptions
Fact Sheet #11: Using Case Studies in Urban Forestry Education
Fact Sheet #15: Trees, Parking, and Green Law: Legal Tools and Strategies for Sustainability
Fact Sheet #18: Trees in Urban Streetscapes: Research on Traffic Safety and Crash Risk
Concept Paper: Human Services Provided by Urban Forests: Economic Valuation Opportunities

4 Technical Memo #2
Inventory of Existing Conditions

City of Grants Pass
Urban Forestry Plan
for the City of Grants Pass and Urbanizing Area

Technical Memorandum #2:
Inventory of Existing Conditions

To: Urban Forestry Advisory Committee
From: Michelle Calvert, Associate Planner
Scott Lindberg, Assistant Planner
Tom Schauer, Code Analyst
Date: August 16, 2006
CC: Jim Huber
Carla Angeli Paladino
David Frasher

Introduction

This is the second in a series of eleven Technical Memoranda that will comprise the Urban Forestry Plan for the City of Grants Pass and the Urbanizing Area. It provides an inventory of existing conditions of the urban forest within the City of Grants Pass and Urbanizing Area. It also summarizes other inventory methods that are available but have not been conducted.

Purpose

In order to identify and define examples of the urban forest that are both healthy and unhealthy, and both desirable and undesirable, it is necessary to document a variety of existing conditions. This document summarizes the inventory work that was completed as part of the plan and also identifies other inventory methods that are available any may be desirable or necessary to develop and implement the plan, including both qualitative and quantitative inventory methods.

The information from this inventory will provide a baseline "existing conditions" report that will help identify the state of the urban forest in Grants Pass, with examples of what to preserve and strive for and examples of what to avoid. When the inventory data is considered in the context of other documents compiled as part of this plan, the synthesized data will help identify the best implementation methods to target to accomplish desired objectives of the plan. This will be used to evaluate and make recommendations regarding strengths and deficiencies of existing plans, regulations, education and training, voluntary programs, incentives, and other programs, and enforcement.

Executive Summary

Task 4 of the Work Plan called for a photo inventory of a variety of urban forest conditions throughout the City and urbanizing area. The work plan also noted that staff would work with the Oregon Department of Forestry to determine if there are low-cost

methods to evaluate the amount of overstory canopy and its change over time, recognizing that more detailed evaluations might or might not be possible within the scope of the plan and might need to be identified as a recommended "next step" in this plan.

The photo inventory was to provide both good and bad examples of trees providing (or not providing) the benefits identified in *Techncial Memo #1: Benefits and Functions of Urban Trees and the Urban Forest*. The committee and staff developed a table listing various types of settings throughout the community that would help illustrate trees providing those benefits. Committee members and staff were assigned to different photo documentation tasks. The members took photographs and summarized the issues illustrated in the photos. Staff compiled this information and supplemented the information with aerial photography to help illustrate conditions that were less obvious on the ground. The results of this inventory are provided below. At this time, staff has not initiated other inventory methods, but a summary of other available inventory methods is provided in this document. Other inventory methods available to quantify the extent of existing conditions are generally of two types: (1) a canopy and urban ecosystems analysis, and (2) a detailed tree-by tree inventory. More information about these inventory methods is provided below.

Field Inventory - Photo Documentation

The photo inventory provides a micro-scale "thumbnail" sample of a variety of conditions, but doesn't necessarily reflect a scientific or representative sample of conditions throughout the urbanizing area. The photo inventory provides a qualitative inventory. It also helps document conditions that may not be captured through other inventory methods, such as temporary conditions that occur on a construction site during the development phase. However, the time spent in the field by the committee members and staff is valuable in providing first-hand knowledge of the extent to which some of these conditions are present. Aerial photography also helps with quantifying the extent of some conditions observed in the field.

The table developed for the Existing Conditions Inventory Categories is attached as Exhibit 1. There were some variations from this table in the final inventory work. The photo inventory including brief descriptions of the photos is attached as Exhibit 2. It includes the examples of the items listed below. The numbers below correspond to the order of the inventory attached as Exhibit 2. The numbers are for ease of reference and don't indicate priority.

1. Old trees
2. Large canopy trees
3. Tree well utilized for energy conservation
4. Well pruned/poorly pruned
5. Trees thriving in difficult conditions
6. Stands of trees vs. individual trees
7. Ornamental trees
8. Trees that add interest to area lacking interest

9. Mitigate effect of visual clutter
10. Tree issues with good soils vs. poor soils
11. Trees that are stunted or dying trees
12. Hillside development
13. Wildland Interface areas
14. Trees and powerlines
15. Street trees in planter strips
16. Poorly chosen tree species for non-irrigated conditions
17. Irrigated trees
18. Parking lot trees
19. Preservation of pre-development trees
20. Diversity of tree species within a given location
21. Trees in wetlands and wet areas
22. Favorite spots

The photo inventory was valuable for documenting existing conditions to provide a pictorial sampling of ***what*** is present. The photos provide an opportunity to compare and contrast different circumstances to provide some guidance in how to approach different situations. Where problems have been documented, there are also typically examples of similar situations where good practices have been employed and the problems have been avoided. The photo inventory also provides the benefit of documenting conditions without having to answer ***why*** the conditions are the way they are. Those people with the knowledge to explain the conditions have done so, while others have provided valuable documentation that can now be evaluated to determine why the conditions are as they are.

While the photo inventory is a sample of conditions, some patterns and trends became apparent in the field when looking for different examples to photograph. These patterns and trends were also observable from the aerial photography. These are summarized below. We would expect these conditions to be confirmed through one of the more comprehensive inventory methods. A more detailed inventory would help quantify the extent of the issues and provide data useful to help establish targets.

There were also numerous other issues identified through the photo inventory which will be addressed in future stages of the plan, but are not summarized in this section because the issue identified may have been of substantial interest but was not necessarily identified as part of a larger trend or pattern that could be generalized.

Highlights

1. **Commercial Trees.** There is virtually no over-story tree canopy in most commercial areas. Some commercial areas that developed before the City adopted landscaping standards often have parking lots that are devoid of trees, at the perimeter and in the interior. Many retail commercial properties that have front-yard and parking lot trees have planted small species that are providing virtually no canopy or shading, especially throughout the parking lots. In many cases, the trees have not grown substantially over time and many do not have branches that extend beyond the limits of the small

parking lot cut-outs. Many trees planted throughout parking lots are often poorly maintained, missing, stunted for their age, or dying. Some trees appear to be smaller than the initial required diameter, suggesting enforcement may be an issue. The aerial photography is striking in terms of the lack of canopy. The species planted in these areas are often homogenous, with the same small ornamental trees used extensively throughout the development. The same species are frequently used for many commercial and residential developments, resulting in low species diversity.

In some cases, smaller parking lots have used plantings of smaller stature trees and shrubs which provide a positive aesthetic appearance, but the multiple functions provided by larger canopy trees are lacking. Some types of businesses appear to have a greater number of larger trees, such as offices, medical uses, and banks, while retail stores often lack larger trees, even when there are large planter areas suitable for planting larger trees.

Further investigation is needed to determine the reason for these conditions. Some of these may be by design due to maintenance cost, preferences, concerns about visibility, etc.; or they may be inadvertent due to lack of knowledge or concern about the health and maintenance needs.

2. **Residential Trees.** As would be expected, older neighborhoods have more mature trees than newer neighborhoods. However, many of the mature trees in the older neighborhoods are also trees that were present prior to development and were retained. In these neighborhoods, there is also a higher percentage of native tree species such as maples, oaks, pines, firs, and redwoods.

   New residential subdivisions vary greatly in the presence of trees. Some neighborhoods have virtually no trees present anywhere on the properties. Others have attractive landscaping comprised primarily of smaller tree species with shrubs and groundcovers. As with the commercial properties, the lack of canopy is strikingly evident from the aerial photography. Other developments may have larger species, but the neighborhoods are new enough that the trees haven't had time to mature. From this inventory, it is difficult to assess whether mature pre-development trees were removed. Some residential subdivisions have been established long enough for trees to have matured, and the lack of larger trees is evident. Small ornamental trees are often planted in areas which are well-suited for larger trees. As with commercial development, some trees appear to be smaller than the initial minimum caliper requirement, suggesting enforcement may be an issue. Newer areas tend to lack evergreens, which may be exacerbated by the Development Code, which provides a single tree selection list for planter strips and front yard trees, and evergreens are not well represented and even discouraged. However, underlying causes for lack of larger species trees

also needs to be investigated to identify the most effective approaches to achieve tree canopy objectives.

3. **Overhead Utilities.** Overhead utilities continue to provide an obstacle to planting of larger trees. There are areas where larger trees coexist with overhead utilities, but there are also conflicts. There are numerous examples where smaller species trees have been planted in planter strips under overhead utilities and larger species are setback slightly behind the sidewalk, allowing many of the aesthetic and benefits of larger canopy trees while avoiding the conflicts with the overhead utilities.

4. **Planter Strips and Street Trees.** Despite cautions about tree wells and planter strips being too narrow, there are examples of large and medium-sized species in these small planting areas that appear healthy and which are providing desirable shading and other benefits. This suggests these situations should be further investigated to determine whether they are in fact healthy and if so, what is needed to ensure other trees in similar planting conditions can also thrive.

5. **Public Street Projects with Planter Strips.** Maintenance and irrigation of planter strips and street trees is the responsibility of the adjoining property owner. When a street improvement project is constructed through a local improvement district or similar process, there are adjoining properties that are already developed or vacant, so these properties aren't set up for irrigation and maintenance. The City has used different approaches in these situations, with different levels of success, including: agreements to irrigate and maintain for a limited time before turning obligations over to property owners; installing trees and landscaping areas without irrigation and maintaining them for a defined period; installing trees in areas without irrigation with agreements from the owners to water and maintain them; and installing no trees or landscaping and leaving the planter with bark cover until an indefinite time when the owner will plant trees and install irrigation.

   When trees have been planted as part of these projects, they are sometimes smaller species trees, where some planting areas may be suitable for larger species.

6. **Damage to Young Trees.** Many young trees are experiencing sun scald, which damages the trees for their remaining lives. This issue needs to be addressed for new plantings to ensure tree survival and employ practices and select species that prevent this problem.

7. **"Gateways".** The character of "gateway" entrances into the community is substantially affected by the presence or lack of trees. These areas provide a first impression. The Parkway has benefited from landscaped medians and landscaped areas along the business frontages. In other areas, such as

Redwood Highway, concrete medians are present in some areas, and with an expressway designation, many properties back up to the highway presenting soundwalls and a lack of landscaping facing this major gateway. The rural areas which are still treed and the intermittent properties that haven't been developed provide a landscaped buffer of large trees adjacent to the highway, where even a narrow vegetated buffer can dramatically affect the character.

8. **Tree Retention.** Tree retention has been mixed. Tree retention is very well done in some areas and almost nonexistent in others. Even when trees are retained, the results are mixed. In some cases, trees are improperly protected during construction, and they will likely die within a short time. Damage to the roots, changes in drainage and grading, soil compaction, and stockpiling of soil can kill trees. Even trees that are well-protected may be in environments that are dramatically changed by residential development, with trees that are adapted to dry soil conditions being affected by excessive residential irrigation. When trees existed in stands, and are thinned to accommodate development, trees that were located within the interior of standards or protected by other trees may be subject to environmental conditions for which they aren't well adapted, making them more susceptible to wind or sun damage.

Other Inventory Methods

Staff investigated other methods for conducting urban forest inventories. The methods available for conducting inventories of the urban forest are predominantly of two types. Each method has its own strengths and weaknesses, and each is useful for different applications. The first method uses satellite imagery or aerial photography to identify different types of land cover. The other method is a tree-by-tree field inventory. These are summarized below.

Land Cover and Canopy Analysis

There are three commonly used approaches for conducting canopy analysis from imagery. They all rely on classifying the imagery into different types of land cover, such as impervious areas, forest canopy cover, and non-canopy vegetative cover, and water. Any method used to inventory canopy closure must be completed during full green leaf foliage to determine the highest percentage of existing canopy closure in any given year. The first two methods use high resolution, multi-spectral imagery and software to classify the land cover layers. The third method uses aerial photography and requires direct digitizing of layers from the imagery.

1. **American Forests/CITYGreen.** American Forests uses their CITYGreen software to interpret the imagery and develop the land cover categories. The data collection portion of the inventory process would take approximately three months. This method produces a "green data" layer. This layer is used to develop an urban ecosystem analysis to calculate the benefits of the canopy in terms of runoff reduction, air quality, carbon storage, and energy savings.

Data classification of the imagery and land cover analysis would be completed approximately one month after the data collection inventory is finished, followed by the urban ecosystem analysis taking one month. They recommend setting targets for the percentage of tree canopy cover to be achieved. The data can be used to identify the planting requirements necessary to achieve desired targets and calculate the benefits derived from the specified percentage of canopy cover. This method has been used extensively for cities, metropolitan areas, and regional analysis. American Forests provides a variety of services, with a basic service of interpreting the imagery, generates the ecosystems analysis and providing the CITYGreen software and data to the City and providing training. The software works with standard GIS applications and allows for customized queries of the data in relation to other GIS data.

2. **Baltimore Strategic Urban Forests Assessment (SUFA).** This method also uses high resolution imagery and creates "masks" of the tree-canopy cover, non-tree vegetation, and impervious surface within the jurisdiction. The masks are overlaid with local land use and zoning information to create an "opportunity mask" of potential planting sites prioritized based on local need.

3. **Digitizing Aerial Photos.** This method requires someone to digitize land cover layers from aerial photos. They conduct the inventory, provide the analysis, generate the report and provide the software and training to the organization.

This type of inventory can be conducted periodically to provide an indicator of change over time. This type of inventory is needed to conduct urban forestry planning using targets for tree canopy cover, as advocated by American Forests and in the USDA publication ***Urban Watershed Forestry Manual.*** These targets may be based on different geographic areas: the city or urbanizing area as a whole, by watershed, by zoning etc.

This method of inventory and planning also provides information on the urban forest as a whole, including trees on public and private lands. It does not provide detailed data regarding individual tree health, age, or species which may be needed to design an effective operations and maintenance plan. The second type of inventory is better suited to that purpose.

Tree-by-Tree Inventory

This type of tree inventory is also frequently used by cities. However, this inventory method is frequently used to inventory public trees, including trees in parks and street trees in communities where street trees are publicly owned and maintained. It provides information about trees under the city's jurisdiction, but doesn't provide information about the overall urban forest which includes trees on private property, including areas of special interest such as along riparian areas.

This method of inventory is often conducted by a consultant on a cost per tree basis. This method provides detailed information about size and species of trees and their health. This type of inventory is often used by cities to establish an operations and maintenance plan for public trees, including establishing a maintenance cycle. This type of inventory is useful for determining species and age diversity and associated trends. With this type of inventory one community found that it had moved toward a homogenous urban forest and found that some of the best species hadn't been planted for many years. This helped them identify desirable trees that should be planted for a healthy and diverse urban forest.

This type of inventory has also been used by cities to identify available public planting areas and to set targets for increasing trees planted in these public planting areas. One example where this approach was used is Olympia, Washington.

The data from this type of inventory can be entered into software programs to obtain an assessment of the aggregate benefits provided by the inventoried trees. The downside of this it only provides data about the trees that have been inventoried, rather than the overall urban forest. This often includes only the public street trees and park trees, which may represent only a percentage of the overall urban forest. In addition, this type of inventory must be constantly maintained and updated to continue to be useful.

The Forest Service, in partnership with other organizations, has developed a software suite called i-Tree that provides an analytical tool, STRATUM (Street Tree Resource Analysis Tool for Urban Forest Managers), used to describe tree management needs and quantify annual benefits. The i-Tree suite also includes UFORE (Urban Forest Effects Model) that uses sample data or a complete tree inventory to quantify urban forest structure, environmental effects, and value to communities. The suite also includes other management applications and utilities.

Conclusions

The inventory is very useful in itself to identify issues that need to be addressed with the urban forestry plan. The information will also be useful when reviewed in the context of other reports to help identify the causes of some of the documented conditions and to develop policy and objectives to achieve desired outcomes and best methods to implement the plan.

After reviewing forest canopy inventory alternatives, there may be substantial benefit in conducting an inventory, using the American Forests CITYGreen program, if there should be agreement that urban tree canopy targets are a desirable approach for planning for the urban forest.

Attachments

Exhibit 1. Table of Photo Inventory Categories
Exhibit 2. Photo Inventory with Descriptive Text

Urban Forestry Advisory Committee
Existing Conditions Inventory Work

	George Greer	Cynthia Charat	Gordon DeYoung	Marple	Allan Hammer	Carmen Lawson	James Love	Alecia Jones	Steve Williams	John Chmelir
Individual Responsibilities:										
1. "Gateway" entrances to community			X							
2. Public park lands						X				
3. Street trees in planter strips							X			
4. Trees under power lines			X					X		
5. Parking lot trees							X		X	
6. Commercial front yards					X					
7. Residential front yards									X	
8. Hillside development			X						X	
9. Wetland plantings				X						
10. Riparian plantings					X					
11. Old trees	X								X	
12. Trees that have thrived	X									
13. Trees that are stunted or dying							X			
14. Stands of trees vs. individual trees	X									
15. Wildland interface areas			X							
16. Preservation of development sensitive trees: pines, Manzanita, Madrone, etc.			X						X	
17. Tree issues with good soils	X									
18. Tree issues with poor soils							X			
19. Ornamental trees	X	X	X	X	X	X	X	X	X	X

20. Large canopy trees	Jeff									
21. Tree canopy from trees in back yards	Jeff									
~~22. Tree retention or alteration location visible across the community~~										
23. Trees with/without irrigation	Jeff									
24. Health of trees of different caliper sizes at time of initial planting					X					
25. Trees thriving in difficult conditions	X	X	X	X	X	X	X	X	X	X
26. Maintain native, natural pre-development character vs. more formal "designed" character.	Scott									
27. Examples where trees are well utilized for energy conservation or other benefits /adversely used contrary to energy conservation.	Scott									
28. Add interest to area lacking interest	X	X	X	X	X	X	X	X	X	X
29. Mitigate effect of visual clutter ~~like overhead utilities, etc~~.	X	X	X	X	X	X	X	X	X	X
30. Good/bad pedestrian benefits				X						
31. Well pruned/poorly pruned			X	X						
Everyone:										
32. Some of favorite places in town	X	X	X	X	X	X	X	X	X	X
33. Some examples of favorite places not in town	X	X	X	X	X	X	X	X	X	X
34. Best/worst examples	X	X	X	X	X	X	X	X	X	X

Within each category—look for good and bad examples, healthy/unhealthy, newer/older establishment of trees.

There is some overlap in categories. That's okay.

On the last three, don't tell one another what you will be documenting. It will be interesting to see/compare what people document.

Urban Forestry Advisory Committee
Photo Inventory Summary

August 17, 2006

1) Old trees

Most of the old trees, trees in stands, trees that have thrived, and trees in good soils, are located in Grants Pass's city parks. The majority of these examples are conifers.

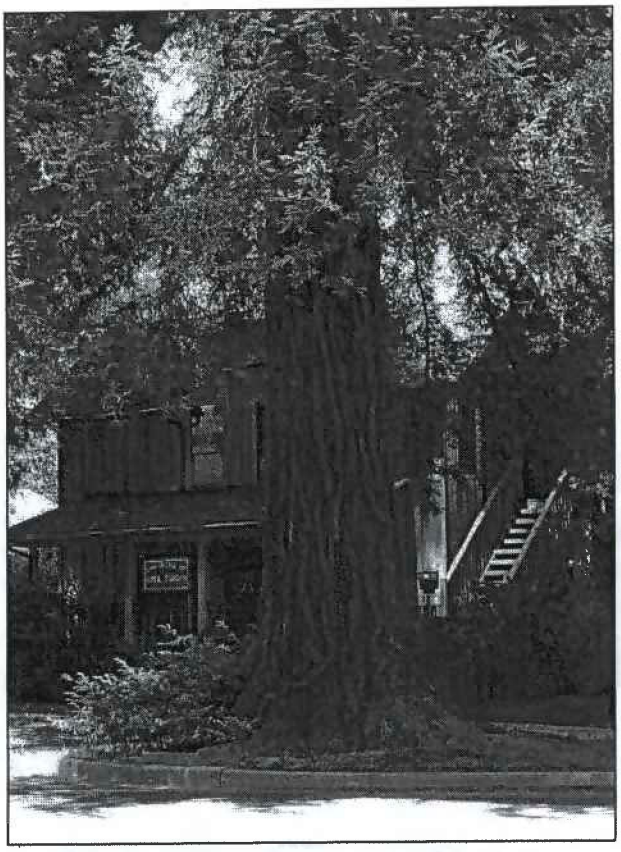
The majority of the pictures below are located within Riverside Park, which is noted by the community and visitors, as one of, if not the highlight park area for the city.



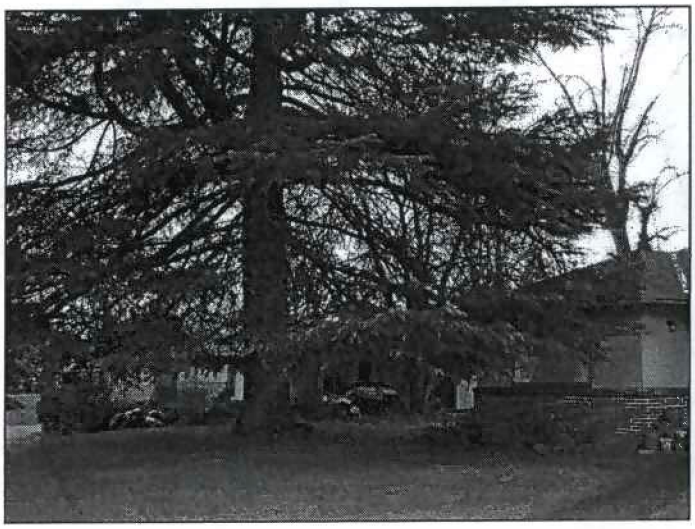








There are quite a few old trees throughout the city, such as this redwood on B St., and each year the City seeks to recognize such trees during the Arbor Day celebrations through its Significant Tree Program. The Significant Tree Program selects for tree size, vigor, suitability to the site, and other similar criteria. Since 1993, over 100 such trees have been recognized by the City in an effort to increase awareness of these valuable assets to the community. Almost half of the trees which have been recognized are native species and another quarter of the total is made up of western US trees whose native range is either very close to Grants Pass or has similar growing conditions. Here is a brief gallery of this year's winners:





102 Ft. tall Cedar of Lebanon owned by Rev. & Mrs. Boston, 518 Dean St.



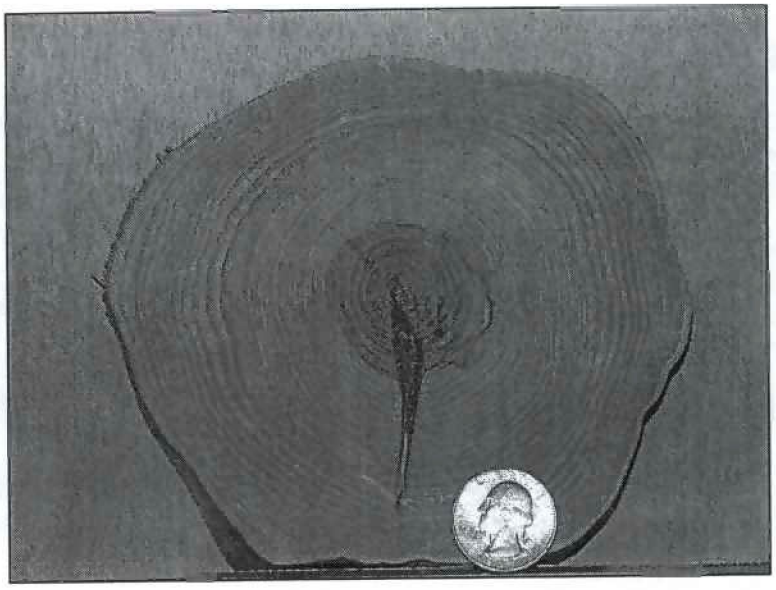
100 Ft. Coast Redwoods (Group of 3 Trees), Maureen Smith & Evelyn Davis, 1249 Plummer



60 Ft. Blue Atlas Cedar, Thelma Wolff of 414 Dean St.

The above tree was planted almost 50 years ago. It is very unusual for a tree to have continual ownership over such a span of time. One of the major reasons yard trees are cut down is that new owners want low maintenance trees, are concerned about hazard trees such as limbs falling on their house, or may prefer more open space. Frequent turnover of ownership substantially contributes to private tree loss each year.

So for the purposes of this study, the term "old trees" is referring to mature, healthy, and well adapted trees. Most of the benefits outlined in Technical Memo #1 are not realize until a tree reaches maturity. The Urban Forestry Advisory Committee recommends considering the factors which prevent trees from developing to the point where functional benefits result.



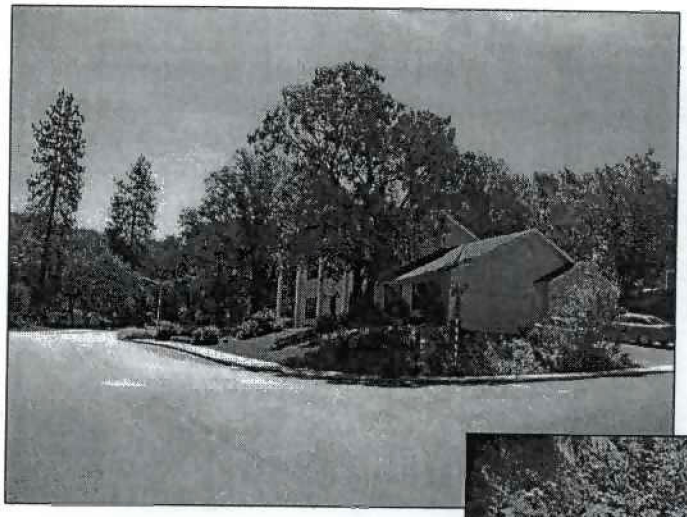
2) Large canopy trees



These old trees and good shade providers are on 4th near A:

4th St. is attractive and, most importantly at this time of year, cool and inviting due to the mature trees which line it. However, some of these areas have damage to the older, larger canopied trees where a "tunnel" was cut through the canopy to accommodate power lines. The tree in the left photo is a native black oak.

There are more mature trees in the older sections of town, which is important to consider in the time lags involved to establish these conditions from new tree plantings and the need for consistent, long range policies.

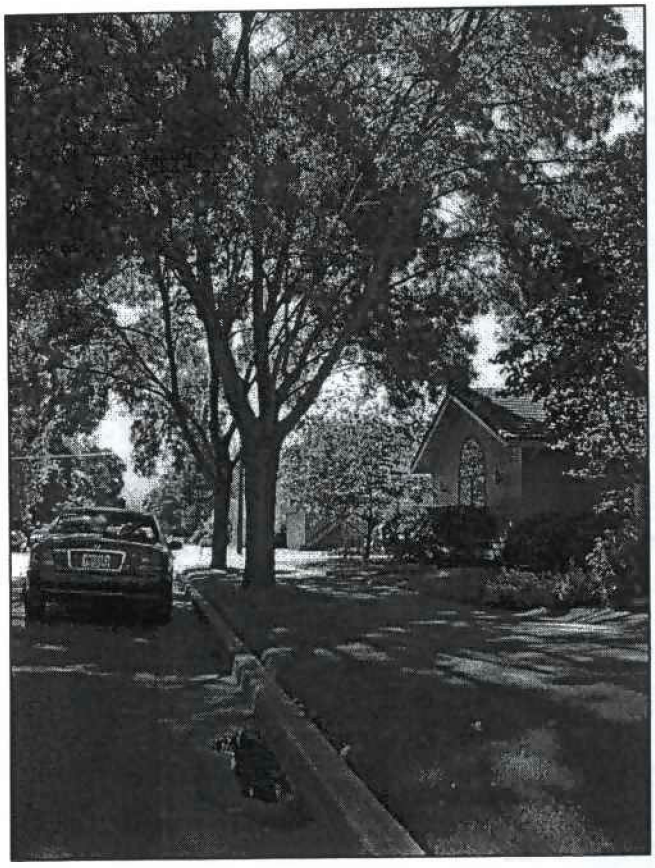


The photo at left, illustrates a new development with a substantial shade tree. This example supplies evidence that attainment of notably higher percent canopy closures may not take several decades for some species.





Along Ashley Place, there is a significant difference between the two sides of the street. The right side has mature attractive trees shading houses and yards. The left side has power lines and little else. There are no sidewalks or planter strips, so in front of each house only the small front yard offers space to plant trees. This is sufficient space on the right side of the street, but the power lines on the left leave little room in front yards for trees, the space is more suited for large shrubs and a few small decorative trees. Room for larger trees is on the left in the side and back yards.

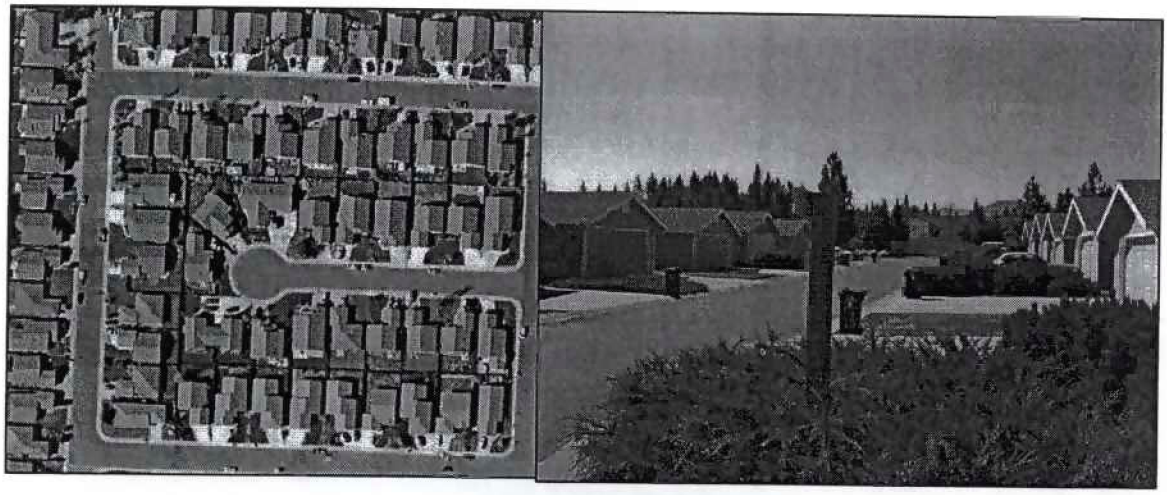


Fifteen year old street trees in downtown neighborhood. Notice the shade that these trees provide to the adjacent street and structure.



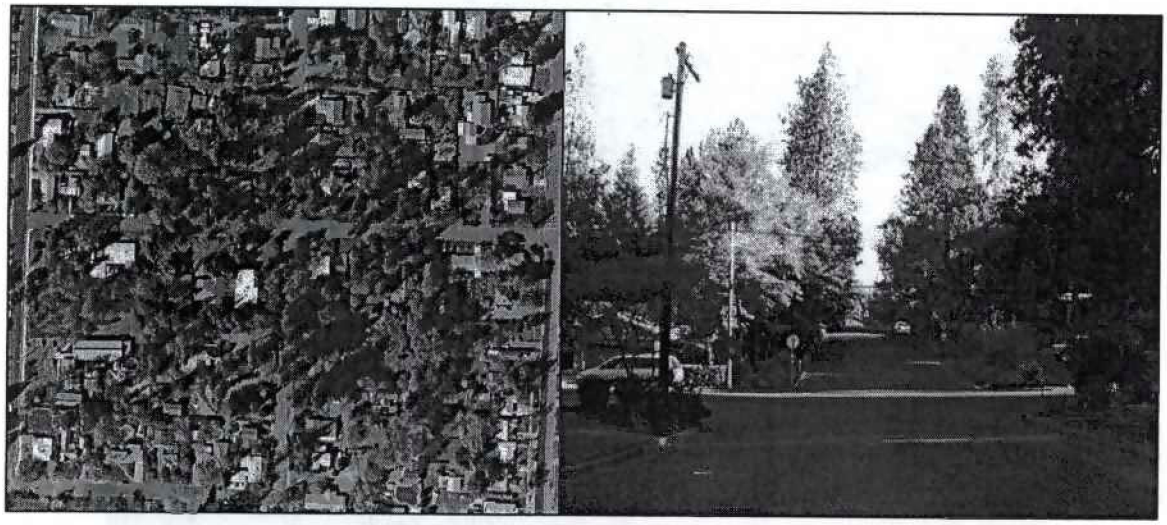
No trees or vegetation planted on boundary of properties throughout this particular neighborhood west of Redwood Avenue.

Contrasts : Adequate and inadequate shade

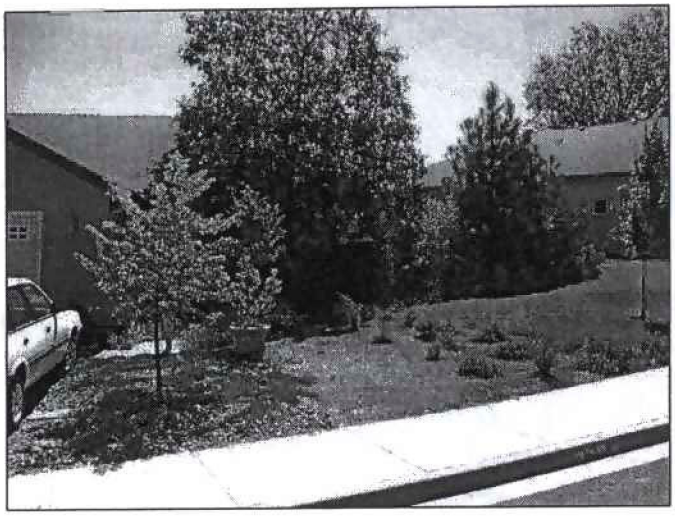


The aerial photo (at left) illustrates the lack of sizable canopy trees in this neighborhood. View within the neighborhood (at right) is the same area as seen from aerial (above). Many front yards have no trees. Though the neighborhood interior photos demonstrate there is insufficient to no canopy providing trees, the aerial is a more dramatic visual representation of this fact.

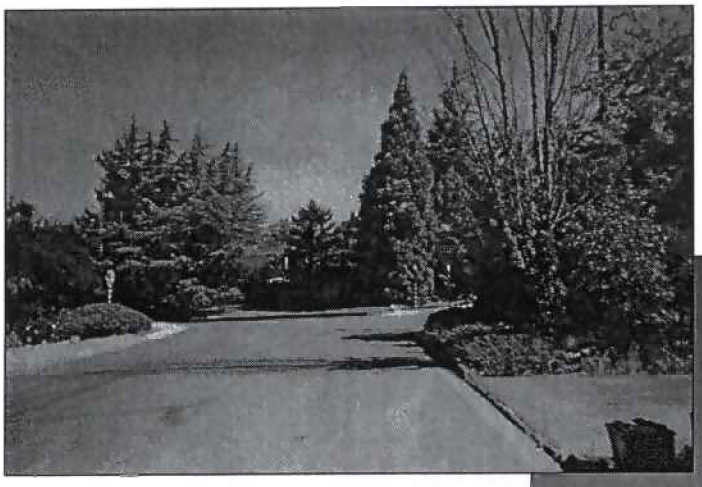
The aerial photo (lower left) and photo (lower right) provides a contrast to the area above. The condition below has substantially higher canopy closure. The sample photo within this neighborhood was selected within one of the highest areas for canopy closure to illustrate the potential difference in shade conditions that could be present within particular neighborhoods.



3) Trees well utilized for energy conservation (shading house)

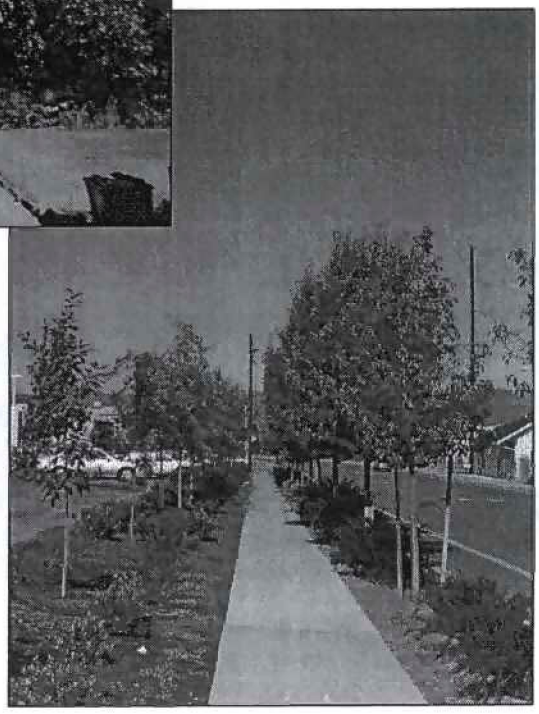


The well placed trees in the photo, upper and lower left, cools the house with their foliage during warmer months.



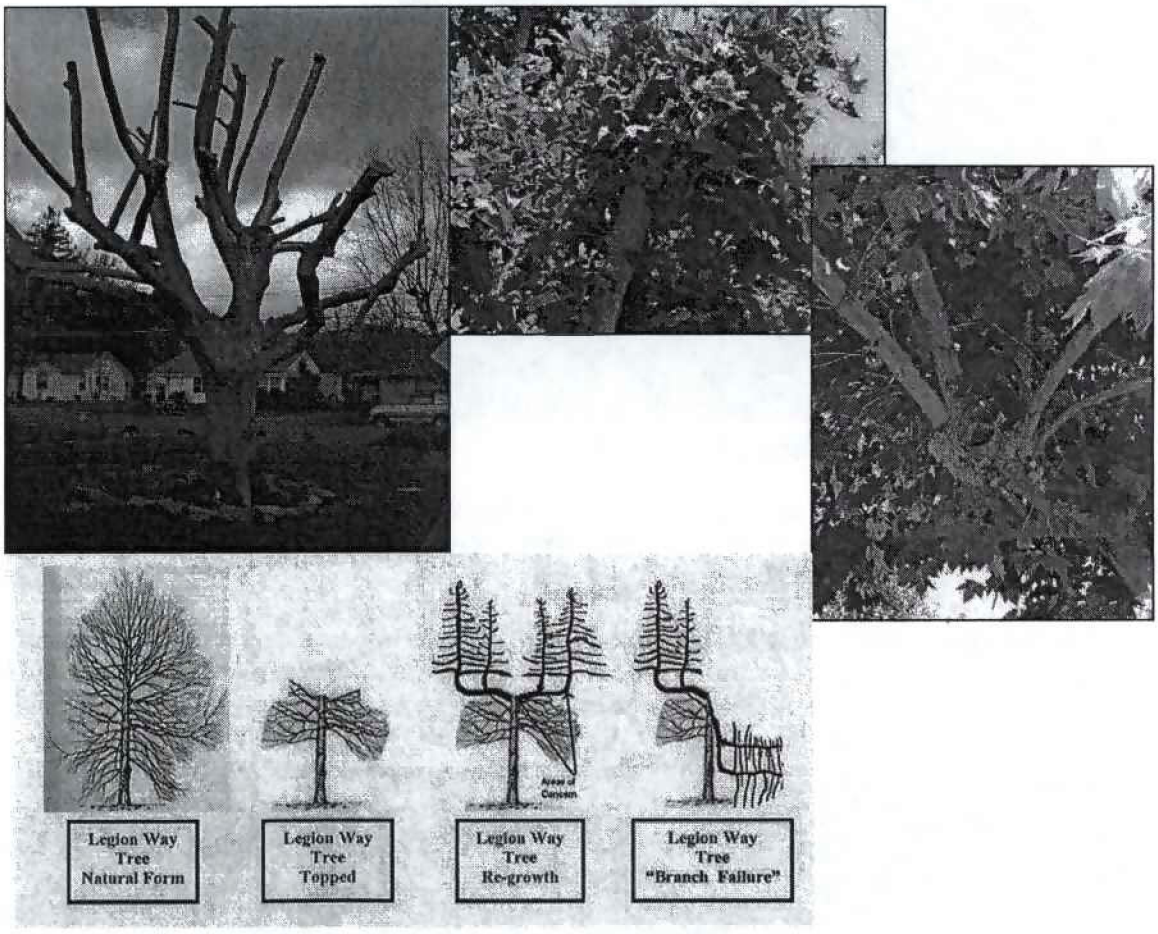
Future sources of shade

The photo at right, is a good example of street tree plantings. The smaller flowering pear at close spacing and large growing pin oaks planted on the property side of the sidewalk. In time this sidewalk will be fully shaded and the street will be adequately shaded.



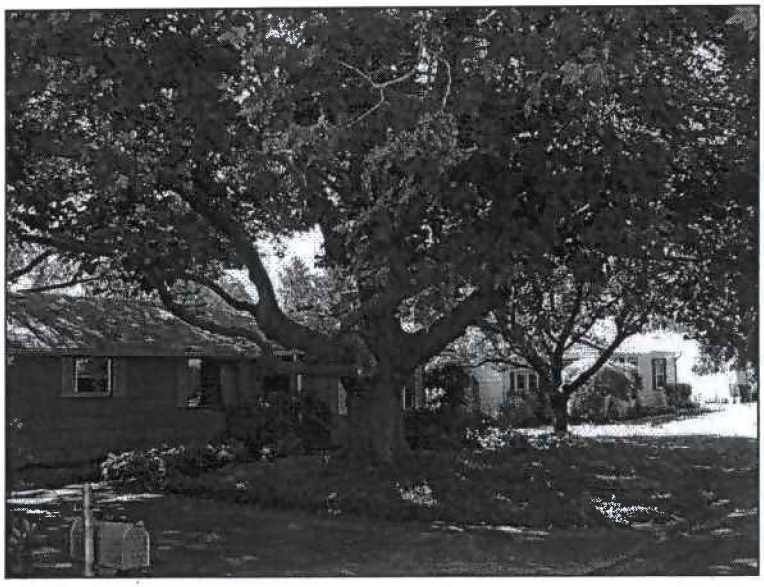
4) Well pruned/poorly pruned

Topping is the severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown. This results in a large number of small shoots growing up around each stub. The sequence of these photos was taken this year on Dean Street.



Each shoot's connection to the stub is weak and as the shoots grow into limbs they become large weights which can easily break off and cause damage. See sample depiction above. Topping is done to limit the size of the tree. It used to be called "pollarding" and was a common cure for the sycamore's tendency to outgrow its space. It's now disapproved by the National Arbor Day Association and the International Society of Arboriculture.

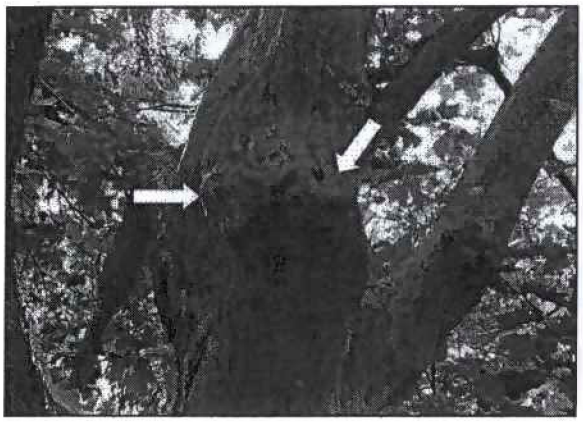
Example of corrected pruning



Sycamore on Ashley Place south of N St.

The ranch houses in this area were likely built in the 1950s or 1960s and have reached mature status. Notice the shade, the tree is likely keeping this house several degrees cooler than the neighbor's house with no shade.

When taking a closer look at the sycamore, there is evidence that it was "topped" when it was younger. Fortunately for the Ashley Place homeowner, someone reversed the effects of the pollarding by cutting several of the weak shoots and allowing just a few strong branches to develop. The scars of those branches are evident in these photos.





5) Trees thriving in difficult conditions



The city discourages planting some species of maples as street and parking trees because their roots tear up sidewalks and foundations as can be seen in this photo taken in a downtown parking lot.





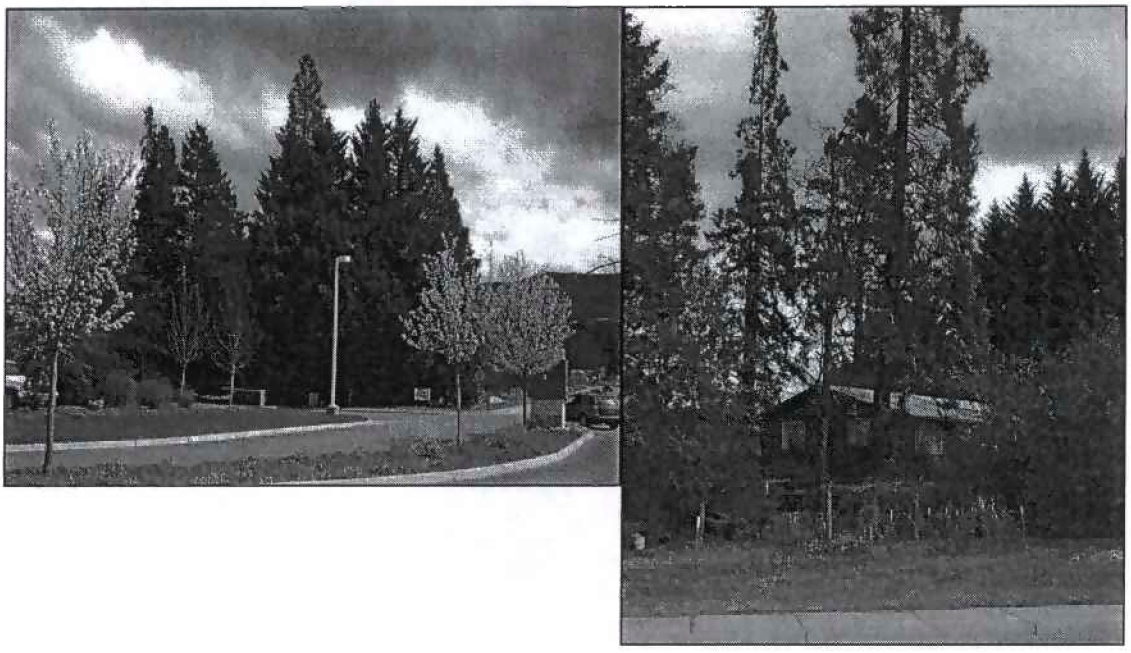
The above two photos illustrate substantial shade trees surviving well within relatively narrow planting strips. Sidewalk strip at left is less than 5 ft width and sidewalk planters at right range from 4 ft by 4 ft to 4 ft by 6 ft. Some plans recommend larger size planters to accomplish the above conditions. There is evidence throughout the city where large trees are doing well in such sized planters. Further investigation is needed to determine when larger planters are necessary.

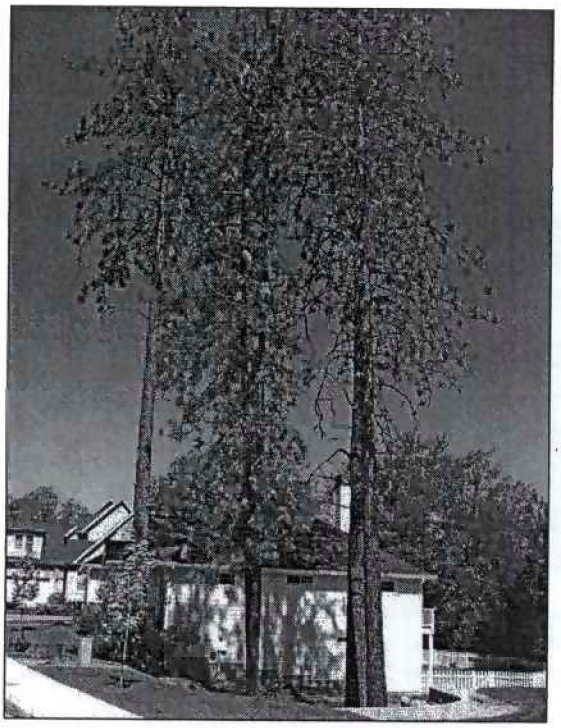
6) Stands of trees vs. individual trees

Most of the stands of trees within the city are within the parks, public land, or hillslides not yet developed.

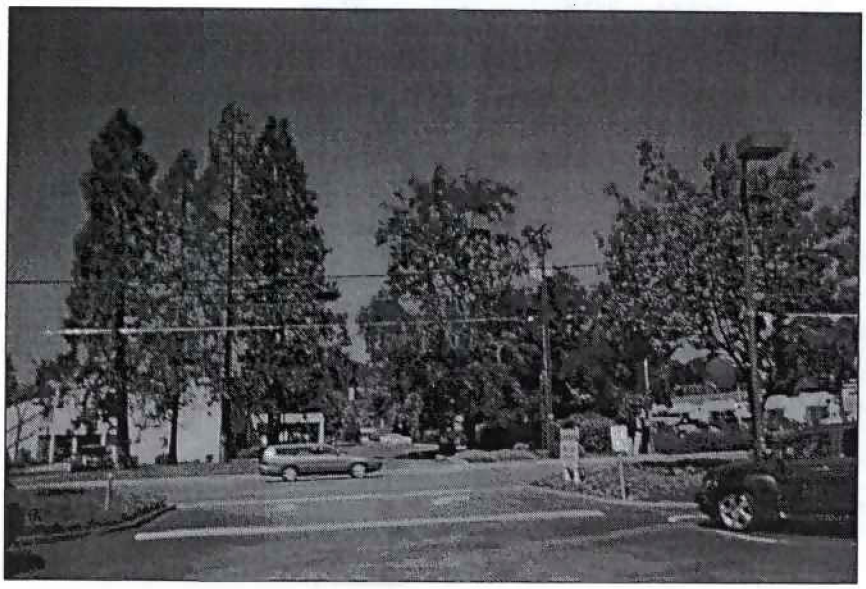


Scattered around town, however, are a few remnants of the city's early years when land was much cheaper and people often bought enough land for a garden, a small orchard, or a screen of trees for privacy. A case in point is on the corner of Ramsey and Meridian, across from the entrance to the hospital:





Above is an example of tall conifer trees (in this case, pines) in a residential area. In retention scenarios, leaving of a few more tall trees in groups is a safer bet to protect against trees falling, though rare, as a result of high winds within valley conditions. Trees that were formerly part of larger groupings of stands may have smaller diameter trees in relation to tree height that could be more susceptible to windthrow. However, *new conifer plantings* may not need the same requirement for grouping, as trees beginning in open conditions are likely to have larger diameters in relation to height. Trees that are light limited provide for a more stable structure.



7) Ornamental trees



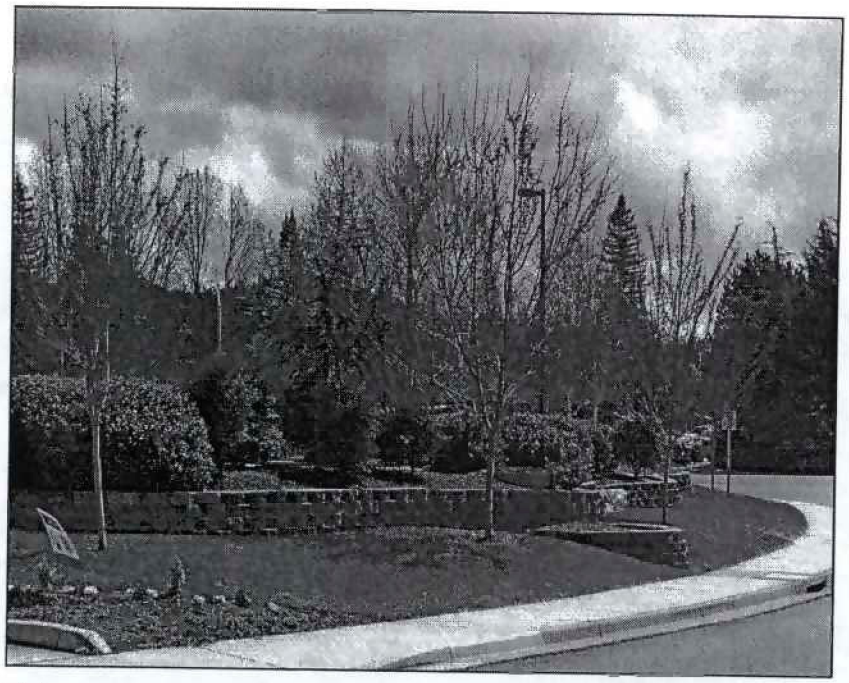
Ornamental maples planted at the entrance of Reinhart Park.
As used in our parks, however, ornamentals are balanced with other trees – no single species prevails. Also, these maples grow to be full sized trees with many other benefits other than fall beauty.

The same cannot always be said for trees being planted in planter strips or front yards as part of new construction. Ornamentals are being used extensively in these areas.

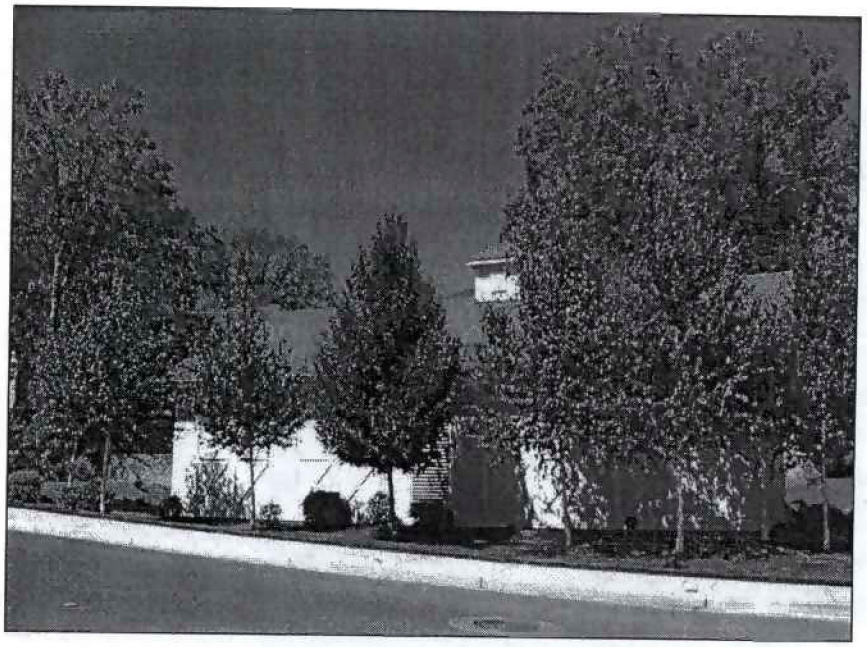
8) Trees that add interest to area lacking interest

Good examples





This area uses trees, shrubs, and other landscape to soften and disguise the hard edges of a parking lot on Ramsey.

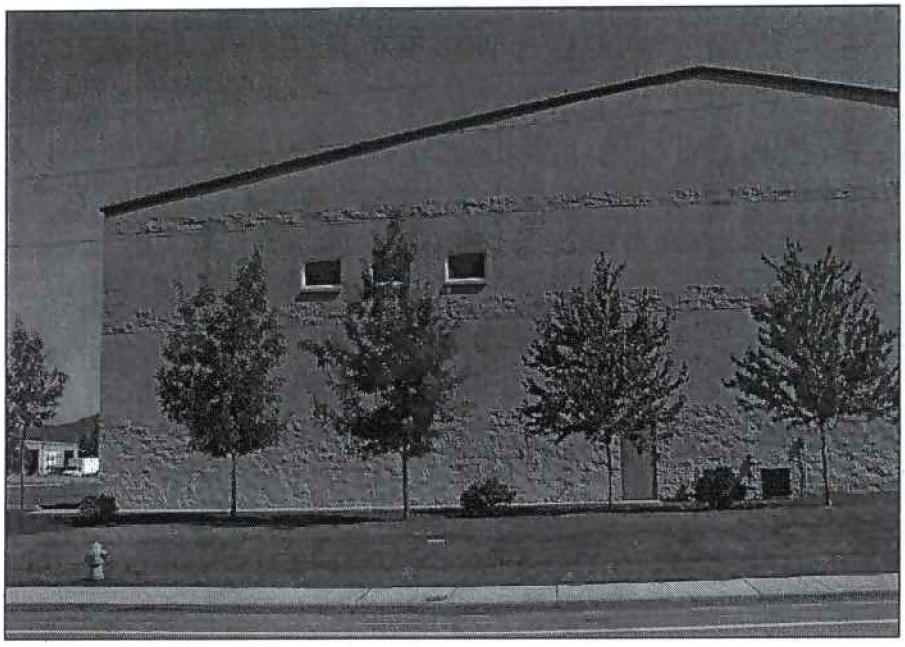


Here trees obscure a non-residential structure (well house) in a Grants Pass subdivision. Since the building is not accessible to the public, it does well to screen it from view with trees.

9) Mitigating Effect of Visual Clutter

Landscape blending the lines of a large warehouse into its surroundings. Although this landscape works beautifully as a whole, only the blue atlas cedars will actually become large enough to effectively break up the outline of the very large wall.



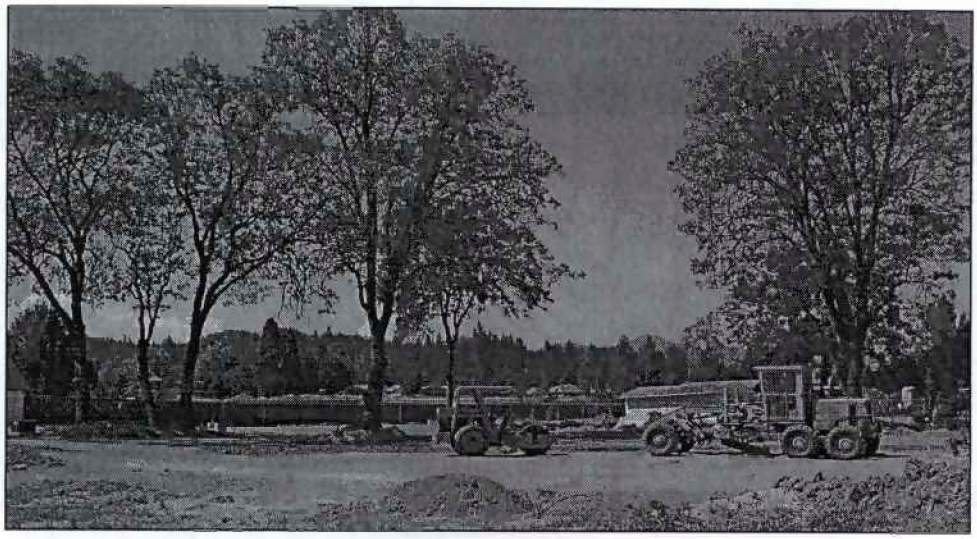


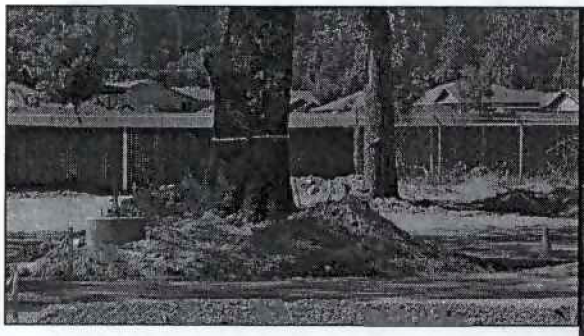
The same idea is at work at this industrial building on M St., although less effective.

The uniform use of trees (placement, size of trees, and same species) attracts more attention to the building's outline. Diversity attracts the eye when trying to camouflage from a large basic structure.

10) Tree issues with good soils vs. poor soils

This may be both a best and a worst example. The construction requirement was to retain six mature black oaks. In addition, the parking lot is to have a minimum number of parking spaces based on the number of businesses as well as creating sufficient slope to the ground for rainwater runoff. Below are a few photos of the area as it appeared during construction.



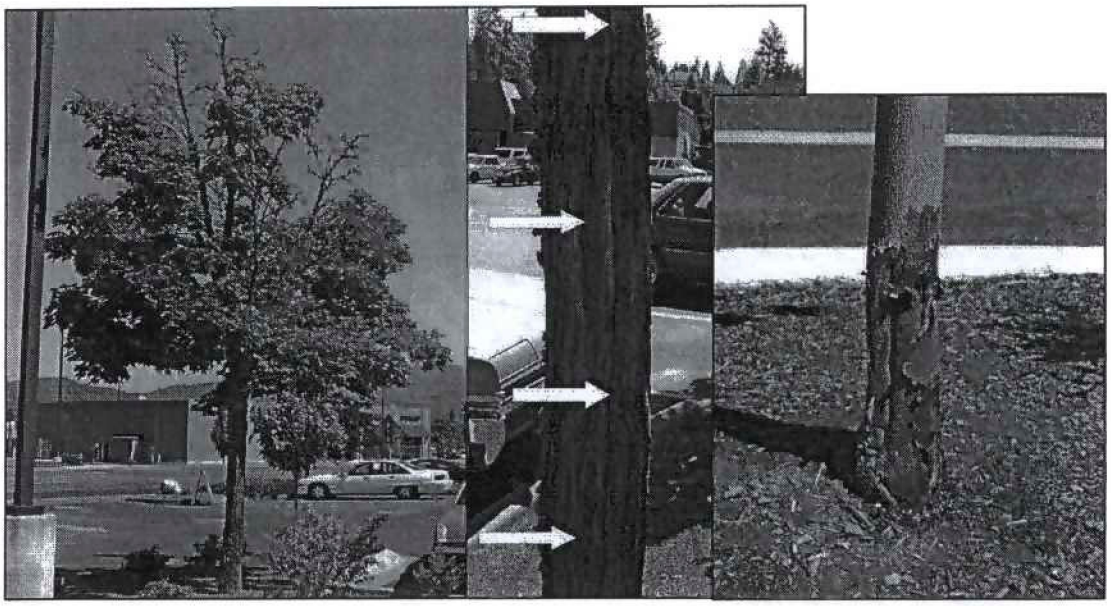




Here are a few closer views of the trees in which we can see three causes for concern. Part of the top soil was removed to accommodate drainage requirement. The packed road surface appears to be within the drip line of the tree, close enough to impact the roots. Over a foot of soil was deposited at the base of the trees which could smother the roots of mature trees.

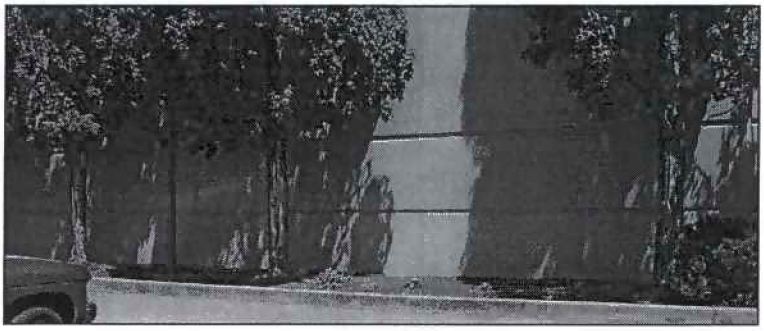
11) Trees that are stunted or dying trees

Sunscalding. This maple has been in the ground several years and should have a healthy canopy. It's planted in good soil and irrigated, but at least three limbs are dead, one of which is the leader, as a result of sun scald.



Sun scald occurs when the bark of a tree is warmed by the winter sun, usually on the southwest side of the trunk. The bark and cambial tissues deacclimate and are not able to reacclimate quickly enough when the sun sets and the temperature drops abruptly. The result is damage or death of tissue, frequently of saplings that are too young to develop an insulating layer of corky bark[1].

This condition is evident in missing bark on the sun exposed side of the tree. The main problem is the missing bark which contains the tree's cambium layer. Without it the tree is not producing those cells which allow transportation of water and nutrients between leaves and roots. As a sapling, the tree lost a considerable amount of its circulatory system. The same is true for these stunted maples which have been standing against the Fred Meyer west wall for over 15 years. Even some street trees, planted and maintained by the city, have this problem. These trees do not recover and will not be able to develop into the mature canopy trees desired. Sunscald may affect as many as ¼ of new plantings.



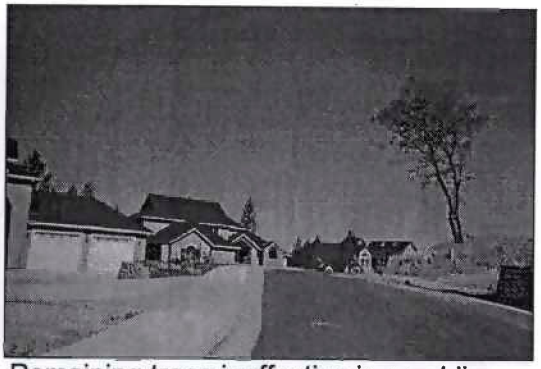
Sunscald on trees can be prevented by wrapping the trunks with a commercially available tree wrap, burlap, or agricultural fleece. Painting the bark of young trees with white interior latex paint mixed with water (1:1 in the fall), is also an effective method. The light color reflects the sun's rays and prevents sudden temperature changes. Dark-colored mulching material will also absorb the sun's heat, rather than reflecting it onto the tree's trunk.

12) Hillside development

Worst case scenarios, development currently without trees



Hillside development without trees



Remaining trees ineffective in providing adequate shade



Although trees may be planted, due to the extensive amount of earth moved, the success of any planted trees is greatly compromised. This is because nutrients trees need are in the first few inches of topsoil and once removed, it takes years for it to return.

13) Wildland Interface Areas

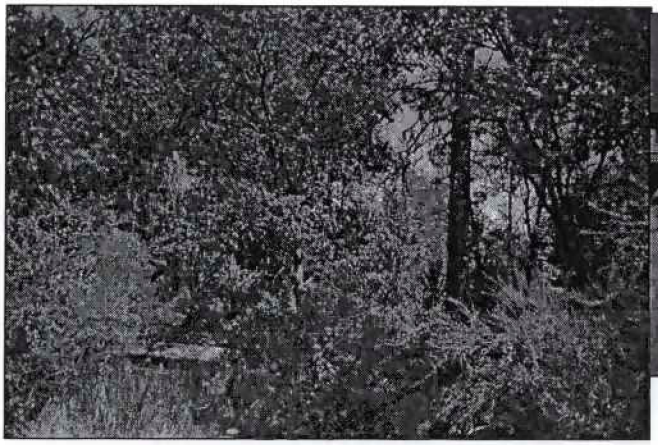
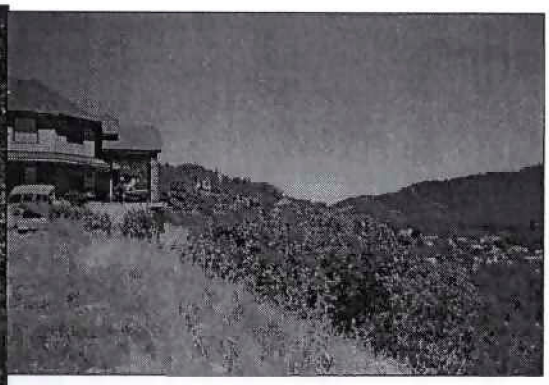


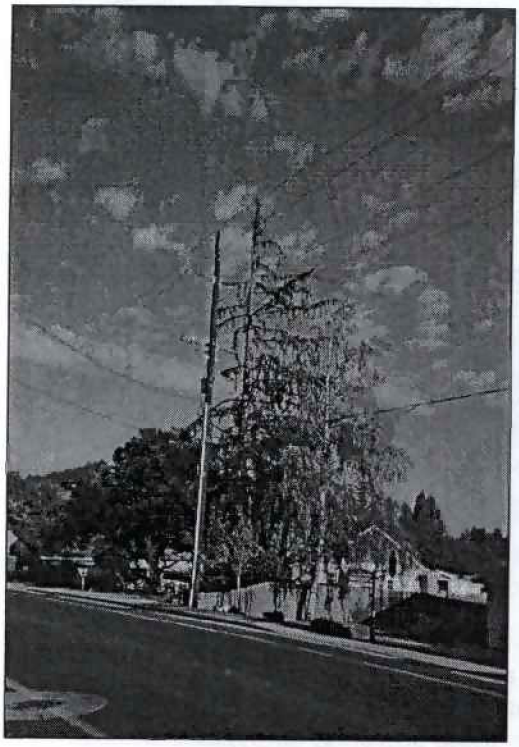
Photo above captures an area that is a potential fire hazard. Dense ladder fuels are present. Should a fire start in this area, the ladder fuels could quickly carry the fire through the tree crowns and to the upper canopy resulting in stand loss.



Brush field adjacent to new development, is a potential fire hazard.

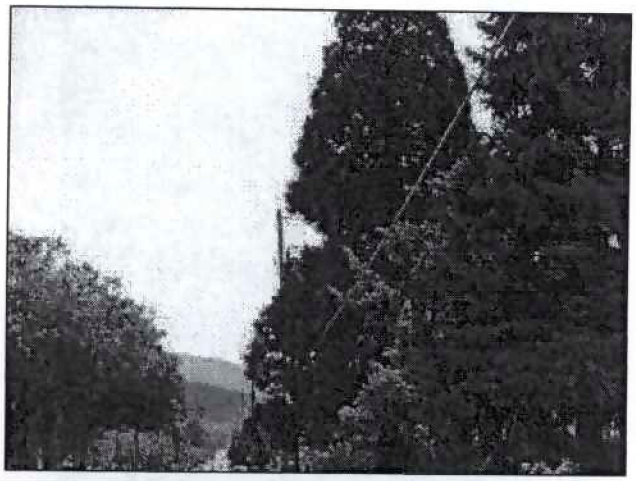
14) Trees and powerlines

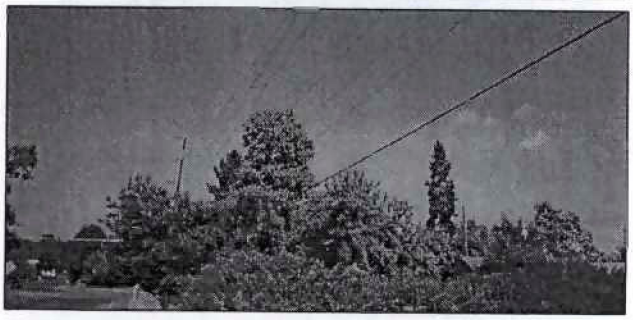
Some trees appear to coexist with powerlines fairly well while others do not.



The incense cedar, above, has lost the majority of its branches on the side adjacent to the powerline. Further research is needed to determine whether the powerline is the cause or if there is some other factor.

More information is needed to determine if there are certain species more suitable to grow around or through powerlines, rather than exclusive selection of trees that would not reach powerline height.

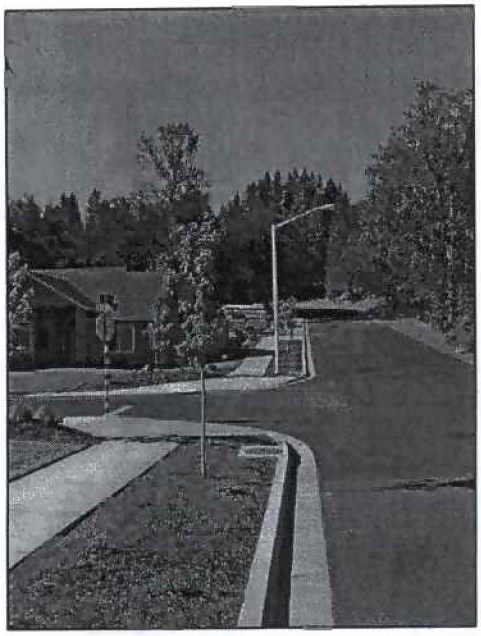






The trees, directly above, appear to be coexisting adjacent to, around, and/or through powerlines without creating damage to the powerline and vice versa.

15) Street trees in planter strips

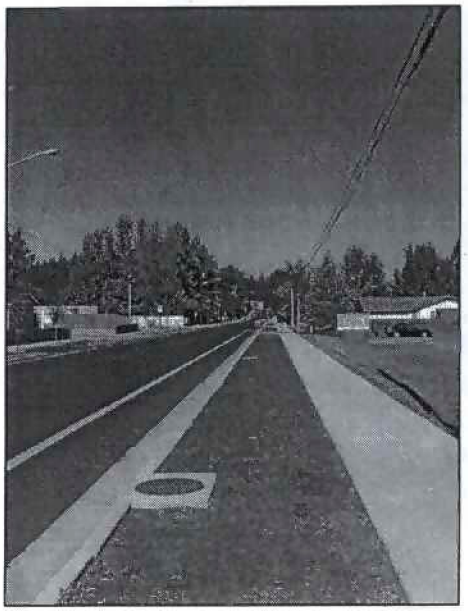




Trees too small for planting devices and surrounding conditions

New subdivision street tree planting. Trees are upright flowing pears (no overhead powerlines) to limit selection of a taller and denser canopy tree. Trees are irrigated and are on east side of street.

Newer street tree in traffic calming device. Tree is not located under power lines although the tree that is planted is a low growing flowering cherry.

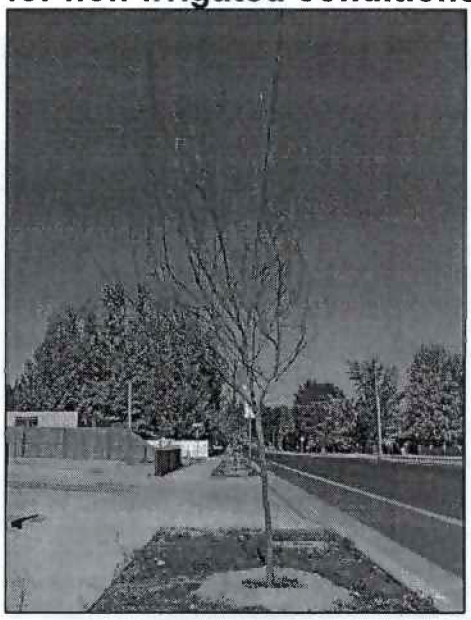




Gateway location into the city along Redwood Highway. No trees planted along median.

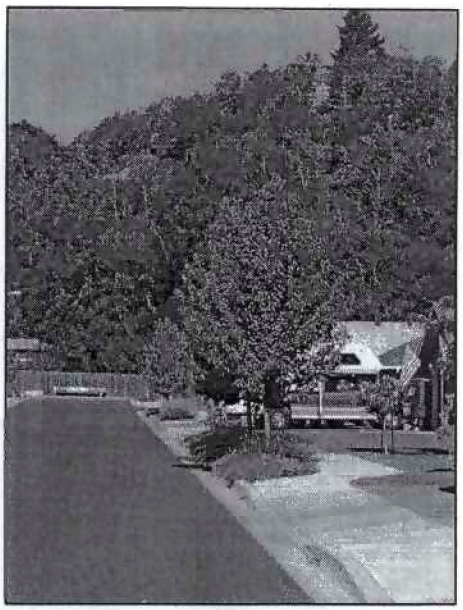
West Harbeck Road. Street planted strip not planted with trees as adjacent property is vacant.

16) Poorly chosen tree species for non-irrigated conditions



Western Redbud with no irrigation. A larger tree could of have been planted in this size planter strip. Along this street over two thirds of this variety of tree have perished. Though not certain, lack of water may be the reason. The other tree variety planted in this area is the flowering pear. They have had a better survival rate.

17) Irrigated trees



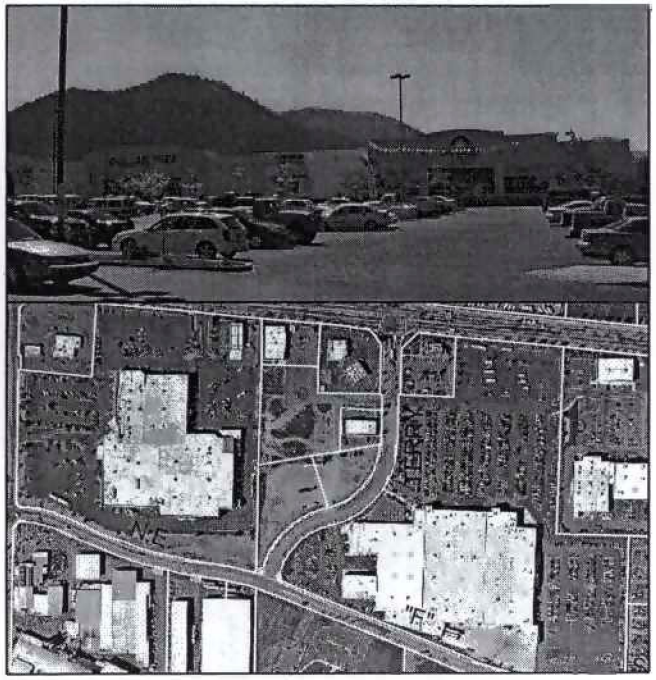
Street Trees – newer subdivision with 5 ft planting strip. All trees in this subdivision are upright flowering pear. Planters are irrigated. There is a noticeable difference between the canopy conditions between this photo and the one at left.

18) Parking Lot Trees



Furthest tree at left has no lower branches and is missing half its canopy. Further investigation is needed to determine cause, such as whether poor soil conditions, or other inadequate conditions, are present.

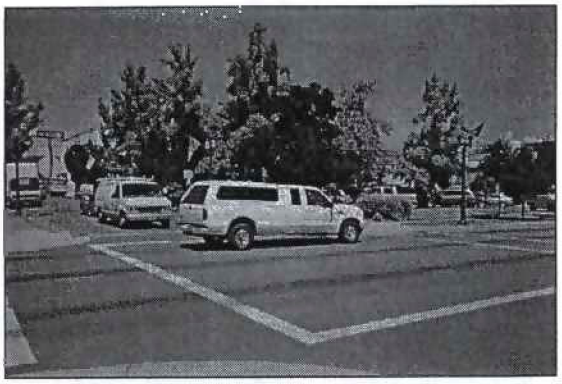
A poor tree choice for an approximately 15 acre parking lot that has little canopy and provide essentially no shade.

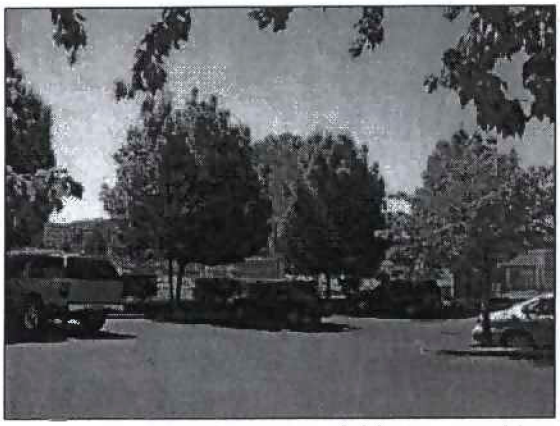


The aerial above demonstrates the lack of canopy cover in general over approximately 35 acres.

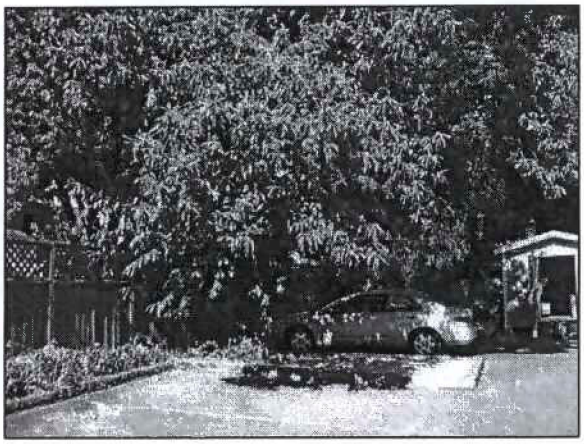
Large trees present in parking strips



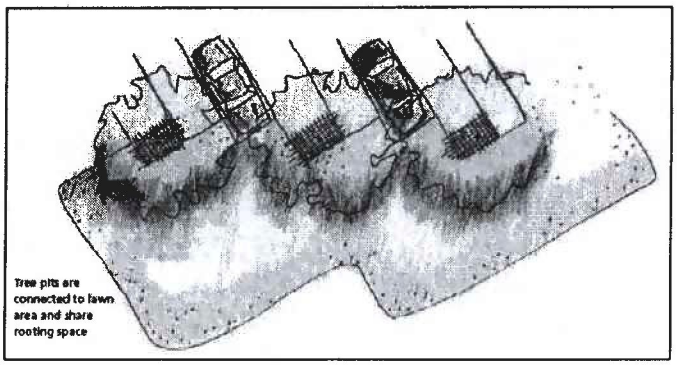




Above three photos, show fairly new parking lots with medium sized tree species. Offers good shade presently and will give more in coming years.



This single tree is providing considerable shade. The health of this tree may be a result of the contiguous planter strip to other portions of vegetated land. See diagram below.



Many planter strips only contain portion 1, while the situation within the photo at left contains portions 1 and 2. Such a situation allows for wider reach of the tree's root system.

Best/worst use of space parking/street lights in planter strips



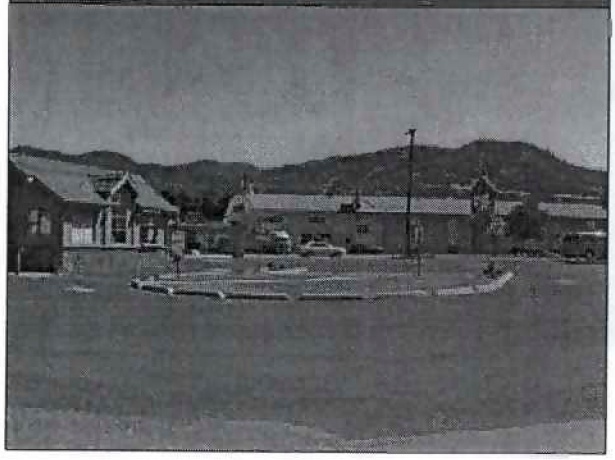
Had light been placed in a stall, this planter could support a tree.



Better use of space and planters for trees.



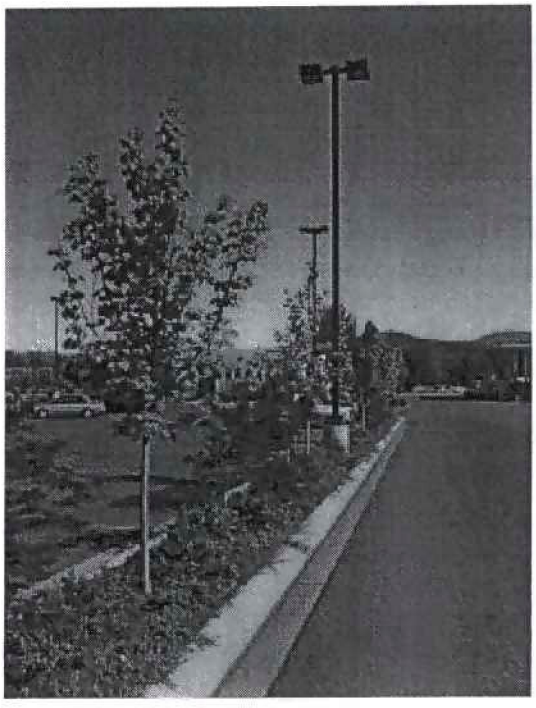
Another good example of a young parking lot tree planting. The species of trees selected will provide ample shade once trees reach maturity.



This example shows a large expanse of asphalt, with a large expanse of turf. There are two flowering dogwoods in the very narrow parking islands. The 20 x 20 ft lawn area presents an excellent opportunity to provide one or more large shade trees. Given that this lawn area also serves stormwater runoff a large canopy tree would be well suited here.

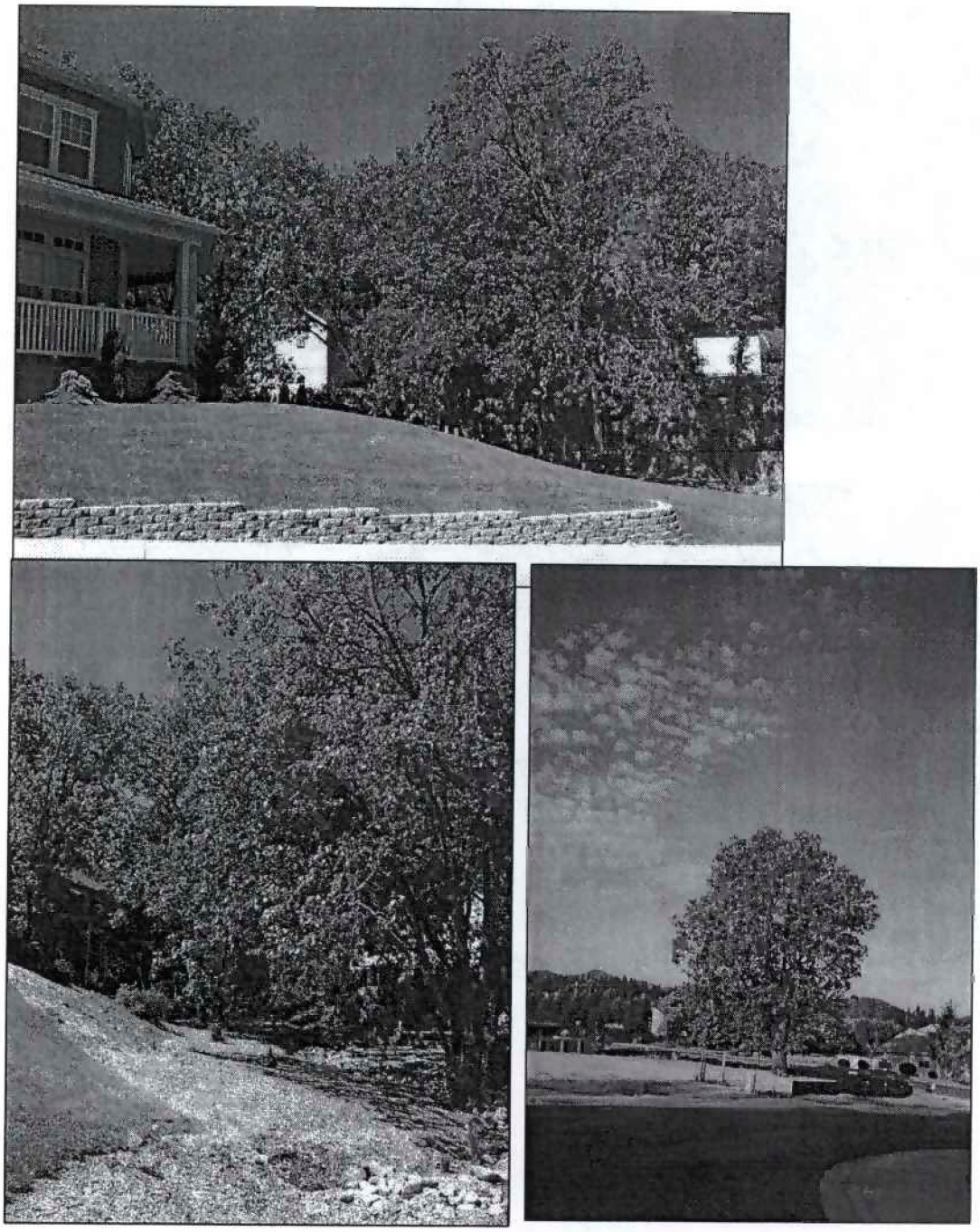


This planter is more suited for a light standard than a tree that would spread to at least 15 ft in well suited conditions. This space is 18 inches x 36 inches and the tree has been backed into by a vehicle.



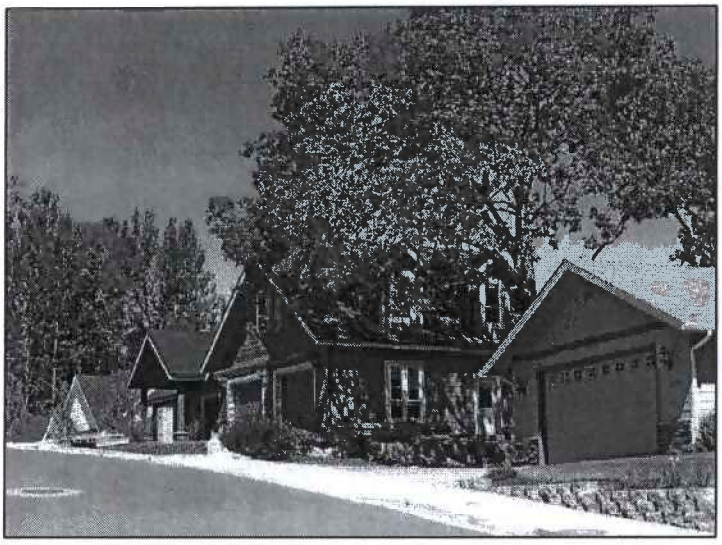
The theme of the larger trees is appropriate for this parking lot, however the smaller laceleaf japanese maple is not appropriate for this location since its full potential size will remain relatively small and its dislike of radiant heat.

19) Preservation of pre-development trees



These trees are likely to remain intact as long as damage has not occurred to the roots and top soil nutrients remain after construction.

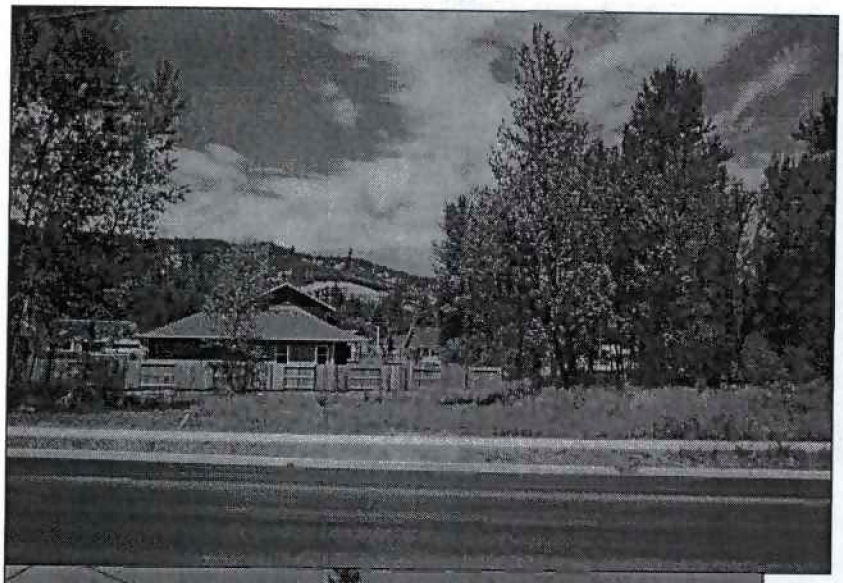




These photographs (this and the previous page) are all from the Meadow Wood Subdivision in Grants Pass. This subdivision represents excellent retention of pre-development trees with post-development homes. 84% of significant sized trees were retained. Significant trees are defined as having a diameter, of a tree measured 4.5 ft from the base of the tree, greater than 12 inches or 24 inches for a Madrone.

This is well in excess of the 60% retention rate required by the *City of Grants Pass Development Code*.

20) Diversity of tree species within a given location







These photos represent areas in the community with diverse tree species retained after development. Diverse stands of trees are more resilient to disease, drought, and other forms of environmental stress as well as contribute a wide variety of environmental benefits for storm water retention, nutrient cycling, processing air pollution, and wildlife habitat.

21) Trees in wetlands and wet areas



While these (oak and pine) may not be the optimum trees for wet areas, they seem to be surviving well, and, in the bottom picture, working to mitigate some stormwater run-off.

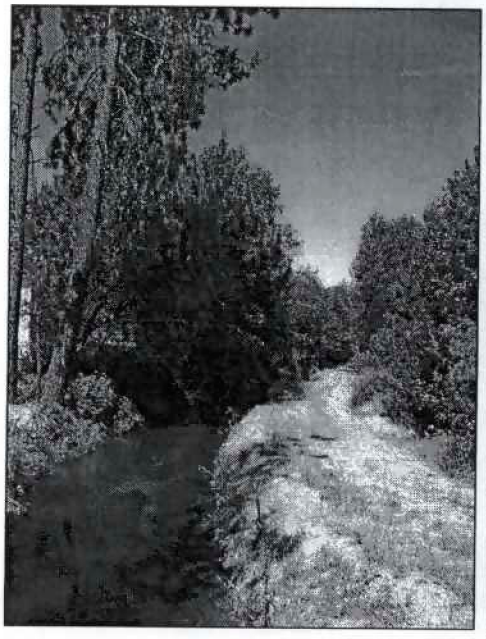


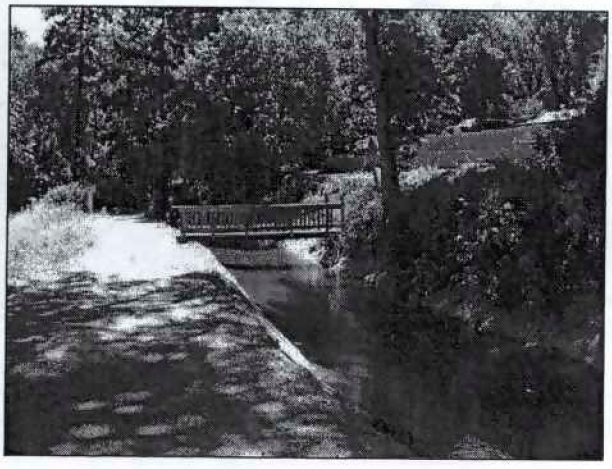
It appears that many of the wetlands within the Urban Growth Boundary have been mitigated outside of the interior. Further investigation could be completed to inventory the state of wetland retention within this boundary and its effect on storm water. Retention selection of hydrophilic tree species would assist in using trees for storm water infiltration.

22) Favorite spots

Trees along an irrigation ditch





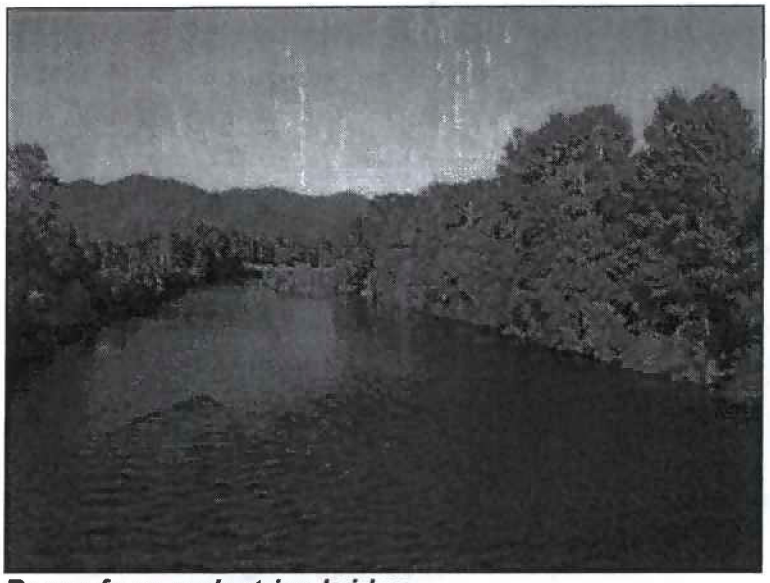


The access easements along the Grants Pass Irrigation ditches and canals are often impromptu and unofficial neighborhood trails. In the summer months, the shaded canals are pleasant places to walk and offer a chance for area residents to recreate and have some access to nature.

View of trees along the Rogue River



Riverside Park. Provides view of old native trees to the area. Diversity of composition (height, shape, and species).



Rogue from pedestrian bridge

The community values the view along the Rogue River for a variety of reasons, one of which is several predevelopment trees are retained along its banks.

References

[1]http://cru.cahe.wsu.edu/CEPublications/eb1645/eb1645.html (Winter Injury of Landscape Plants in the Pacific Northwest).

5 Technical Memo #3 Review of Existing Plans, Policies, Regulations, Programs and Resources

City of Grants Pass
Urban Forestry Plan
for the City of Grants Pass and Urbanizing Area

Technical Memorandum #3:
Existing Plans, Policies, Regulations, Programs, and Resources

To: Urban Forestry Advisory Committee
From: Scott Lindberg, Assistant Planner
Tom Schauer, Code Analyst
Date: August 21, 2006 with September 2006 revisions
CC: Jim Huber
Carla Angeli Paladino
David Frasher

Introduction

This is the third of eleven Technical Memoranda that will comprise the Urban Forestry Plan for the City of Grants Pass and the Urbanizing Area. It identifies the existing local, state, and federal laws and programs, and other non-regulatory programs from agencies and non-profits that relate to an urban forestry plan in Grants Pass.

Purpose

In developing the urban forestry plan, it is necessary to identify the existing laws and programs. This memo will help identify whether the forestry plan requires minor adjustments or major changes to existing plans and programs or of existing programs. It will also help identify if there are new programs that don't exist in Grants Pass that should be implemented. This memo also identifies regulatory issues that may present fixed parameters for the urban forestry plan.

Technical Memo #4 will provide an opportunity to cross-examine and synthesize the data in technical memos 1, 2, 3, and 5, which are largely compilation documents. The review of existing plans and programs in this memo will be valuable when used in conjunction with Technical Memos #1, 2, and 5.

- Technical Memo #2 provides an inventory of existing conditions. Together, these documents will enable a comparison of those conditions to existing laws and programs to determine whether the laws and programs are accomplishing desired objectives, and to determine whether there are any problems with existing laws and programs that may be ineffective, have gaps, present obstacles, or lack adequate enforcement to accomplish the forestry objectives.

- Technical Memo #4 provides a review of attitudes, perceptions, threats, opportunities, and constraints. It identifies the legal, financial, physical, practical, and value-based parameters that will help guide development of and revisions to policy and alternatives for implementing the urban forestry plan. It helps summarize the findings of this memo and put it in the context of the findings from Memos 2, 3, and 4. While this Memo 5 is

largely an inventory, Memo #4 will include analysis to put the information from the other memos into context. It will help identify issues with existing laws and programs and consider changes to them, to accomplish desired objectives, in the context of other laws and programs that may be fixed parameters and can't be changed. It will also identify where urban forestry practices may the most effective practices to accomplish related mandates in related law such as addressing non-point source pollution affecting air and water quality.

- Technical Memo #5 provides a review of recommended best practices and guidelines for urban forestry and provides examples of plans from other communities that have put best practices into place. Together with this memo, these documents will help identify whether the existing laws and programs that apply to Grants Pass have sufficient goals, policies, and objectives to accomplish best urban forestry practices, or whether there is a different model Grants Pass should consider, which models might be desirable, and whether it is necessary to establish or amend the laws and programs to accomplish new goals, policies, and objectives.

Executive Summary

The laws and programs affecting urban forestry in Grants Pass include local, state, and federal laws and programs and laws and programs of other agencies and nonprofit organizations. Some of these are regulatory and others are voluntary, and some include incentives. Some of the local laws and programs in Grants Pass are established to meet eligibility requirements for other state and federal programs.

In summary, there is substantial flexibility in approaching urban forestry planning in Grants Pass. Most of the governing regulatory documents are local ordinances which can be revised if the City Council chooses to do so. There are some elements of the City's current forestry program which are necessary for continued eligibility for participation in the Tree City USA program.

Upon review of state statutes pertaining to urban forestry and wildland/urban interface and discussions with agency representatives, it does not appear that there are substantial constraints or conflicts that would limit the city's discretion in developing an urban forestry plan.

There are several regulatory programs dealing with air quality, water quality, and stormwater management that don't directly have mandates related to the urban forest, but they involve issues where the urban forest can be a critical tool to help solve the issues addressed in these programs.

The Oregon Department of Forestry has a Department of Urban and Community Forestry which includes technical assistance and grant programs, but funding cuts have reduced the resources available to some of these programs which are of importance to local communities addressing urban forestry issues.

Several non-profits offer resources and grants that may be helpful in developing or implementing the urban forestry plan.

Listing of Plans, Laws, and Programs

The plans, laws, and programs reviewed for this document are listed below, and the key provisions of these laws and programs are summarized in this document. In some cases, the documents are attached when a more detailed understanding of their specific provisions is required. Exhibit A provides a more detailed summary and copies of the Grants Pass ordinances.

Local

1. Grants Pass Comprehensive Plan
2. Grants Pass Development Code (mainly Articles 13, 17, 18, 19, 23 and 24)
    a. Article 13. Steep Slope Provisions (tree retention and replacement)
    b. Article 17. Land Division (tree retention)
    c. Article 18. Planned Unit Developments (tree retention)
    d. Article 19. Site Plan Review (landscaping, preservation of significant natural resources)
    e. Article 23. Landscaping requirements (mainly for yards and parking lots)
    f. Article 24. Preservation of Riparian Vegetation
3. Chapter 6.42 (and partially 6.36) of the Grants Pass Municipal Code, recent draft developed by Urban Tree Advisory Committee
4. *(Building Code – No specific related provisions)*
5. *(Fire Code – No specific related provisions)*
6. *(City has not adopted ICC International Urban-Wildland Interface Code)*
7. "Joint Tree Planting Program"
8. Tree City USA Designation
9. Draft Stormwater Master Plan, Manual, and Ordinance
10. Mayor's Landscaping Award
11. Memorial Tree Program
12. Redevelopment Agency
13. PP&L Franchise Agreement
14. Urban Tree Advisory Committee
15. Urban Forestry Advisory Committee
16. City of Grants Pass Parks, Tree, and Vegetation Management Policies

State

1. ORS 526 and 527. Forestry Statutes
    a. ORS 526.500-526.515. Urban and Community Forestry.
    b. ORS 526.780-526.789. Forestry Carbon Offsets.
    c. ORS 527.722. Restrictions and local government adoption of rules regulating forest operations; exceptions.
    d. ORS 530.600-530.628. Community Forest Authorities.
    e. ORS 527.610-527.785. Oregon Forest Practices Act.
        i. Reforestation exemptions for land use changes.
2. Oregon Forestland-Urban Interface Fire Protection Act of 1997
3. Oregon Department of Transportation (ODOT).
4. Oregon Department of Forestry
5. Oregon Department of Environmental Quality (DEQ).

Federal

1. Clean Water Act and Endangered Species Act
2. Clean Air Act
3. Bureau of Land Management

Other Agencies and Utilities

1. Josephine County
2. PP&L (Pacific Power and Light)

Nonprofits and Other Programs and Resources

1. National Arbor Day Foundation. Tree City USA Program
2. Oregon Community Trees
3. Middle Rogue Watershed Council

Summary of Plans, Laws, and Programs

Local

1. **Grants Pass Comprehensive Plan**. The 1982 *Comprehensive Community Development Plan* was written to guide the future development of the City of Grants Pass and urbanizing area. Contained within the Plan are references to the 19 Oregon Statewide Planning Goals; germane specifically to the urban forest are Goals 2, 3, 4, 5, and 6, which apply to natural resources. Chapter 3, Scenic Rogue River, Historic, and Natural Resources Index was adopted to inventory natural resources and identify land uses that may conflict with these resources, and to find the best ways to preserve them. Chapter 5, Areas Subject to Natural Hazards Index was written to identify areas subject to natural hazards, such as steep slope districts, and to describe measures that can be adopted to protect them. Chapter 7, Recreation, Parks, and Open Space Element was adopted to provide for open space within the urbanizing area.

2. **Grants Pass Development Code (mainly Articles 13, 17, 18, 19, 23, and 24)**. The Development Code establishes regulations for tree planting and retention requirements for new developments on private property and in planter strips, and requires owners to provide for their ongoing maintenance. Please see Exhibit A for a summary and the text of the relevant provisions of the Development Code.

   Staff is working on an amendment to Steep Slope provisions in the Development Code, and the amendment may included revisions to tree retention provisions.

3. **Municipal Code (Chapter 6.42 and part of 6.36)**. Section 6.42 of the Municipal Code pertains to street trees, specifically the planting of trees public areas like parks or parking strips, prohibited species of trees, and maintenance of trees. Section 6.36 of the Development Code provides requirements for encroachment permits for work in the public right-of-way, and has some applicability to trees in the right-of-way. Please see Exhibit A for a summary and the text of the relevant provisions of the Municipal Code.

The city had a tree ordinance dating to 1947 when the Planning Commission recommended that adoption of a street tree plan would be beneficial to the City. The Council adopted an ordinance in 1948 (Ordinance 1433). The information referenced in the ordinance came from "Street Trees for Cities," published by the University of Oregon and the League of Oregon Cities in 1947.

This ordinance remained in effect until 1988, when Chapter 6.42 was amended, repealing provisions adopted by Ordinance 1433 with those contained in Ordinance 4633. Upon researching Council minutes, it appears that the new ordinance was adopted so that the City would meet eligibility requirements for designation as a "Tree City USA." Also in accordance with the Tree City USA requirements, the City formed a committee to study tree regulations in public and semipublic areas and budgets two dollars per citizen for tree maintenance (the previous requirement was one dollar per citizen).

4. **Building Code**. No specific provisions pertain to this plan.

5. **Fire Code**. No specific provisions pertain to this plan.

6. **ICC International Urban-Wildland Interface Code).** The City has not adopted this Code.

7. **"Joint Tree Planting Program".** The Parks Division administers this program. There are no formal policy documents outlining this program. Each year, the Parks Division budgets for this program, with approximately $2,500 for the program to plant trees. The Parks Division advertises the program, and citizens can purchase and have City crews plant a tree on a residential property for $50. The trees are selected from a list, and crews ensure the location is adequate for survival of the tree. In short, it allows for "the right tree at the right location". The program used to be limited to planting of street trees, but has been expanded to allow any location between the front of the building and the street. There has been limited interest, with about 50-60 trees planted per year. This program is not a requirement of the Tree City USA program. More recently, the tree list has been limited to larger species trees to begin achieving more tree canopy.

8. **Tree City USA Program.** The City has been a Tree City USA for several years now. The program is a voluntary program of the National Arbor Day Foundation. To remain eligible, the City must meet four provisions:
    a. Provide an investment of at least $2.00 per capita
    b. Have a tree ordinance
    c. Have an Annual Arbor Day celebration
    d. Have a tree committee

9. **Draft Stormwater Master Plan, Manual, and Ordinance.** The draft stormwater plan takes a different approach to stormwater management than the current plan. The

plan focuses on managing stormwater closer to the source. It also focuses on vegetated systems to perform stormwater treatment, infiltration, detention, and retention. Trees serve as both specific methods for managing stormwater as well as performing secondary roles in conjunction with other vegetated systems. This plan will include amendments to the Development Code provisions referenced above.

10. **Mayor's Landscaping Award.** This award is made on an annual basis to recognize landscaping projects that provide beautification to neighborhoods. There is no formal policy for selecting the recipients and there are no specific categories for awards.

11. **Memorial Tree Program.** The Urban Tree Advisory Committee administers this program. Individuals may make a contribution to the program to have a tree planted in a public park in honor of someone, whether to honor someone living or deceased. There are no formal written policy documents for this program.

12. **Redevelopment Agency.** The redevelopment agency provides some financial incentives for properties within the Redevelopment District that provide landscaping in excess of the minimum requirements of the Development Code.

13. **Urban Tree Advisory Committee.** This is a standing committee that advises City Council on issues related to urban trees. The Tree City USA program requires the City to have a committee for eligibility in the program.

14. **Urban Forestry Plan Advisory Committee**. This is a temporary committee comprised of the members of the Urban Tree Advisory Committee plus one representative of the Homebuilders Association and one representative of Citizens for a Voice in Growth. It is charged with advising the Planning Commission and City Council regarding development of the Urban Forestry Plan.

15. **PP&L and Other Franchise Agreements.** The City enters into franchise agreements with utilities, authorizing them to use the public right-of-way within City limits. These agreements specify terms of the agreement.

    The PP&L agreement was renewed in 1988 for a 20-year term with provision for renegotiation every five years. The agreement will be up for renewal in 2008, providing a window of opportunity to address any issues that may be necessary. It may also be desirable to consider the franchise agreements for utilities that have overhead services such as phone and cable.

    The current agreement specifies that they "shall have the right and privilege of trimming all trees which overhang said streets, in such a manner and to such an extent as will prevent the branches or limbs or other parts of such trees from touching or interfering with its facilities; providing no such trees are trimmed or cut back further than may be reasonably necessary to prevent such interference and to allow the proper operation and maintenance of said facilities. Nothing contained in this Section shall prevent Grantee, when necessary and with the approval of the owner of the

property on which they may be located, from cutting down and removing any trees which overhang said streets."

The PP&L agreement doesn't exempt them from City ordinances. These documents and any associated formal and informal agreements need to be reviewed to determine how encroachment permit requirements and work in the right-of-way are being addressed. These are likely handled through blanket encroachment permits that provide for on-going pruning and maintenance.

16. City of Grants Pass Parks, Tree, and Vegetation Management Policies. Most street trees are maintained by adjoining property owners; however, the City of Grants Pass maintains several areas of street trees, street wells, parking lots, and planter strip landscaping. The City contracts to maintain the downtown trees primarily extending from 'C' street to the Rogue River bridges and between 4th to 8th streets; through the Downtown Services Program. The center median strip including the street trees of Washington Boulevard, extending from Savage to Evelyn streets, are managed by the City's Field Operations Department. The street trees along the Parkway Street sound wall are maintained by the Redevelopment Agency (see #12). There is currently no formal provision for ongoing maintenance once this redevelopment district expires. Oregon Department of Transportation (ODOT) maintains the Parkway median street trees. Several parking lot trees are also maintained including: 5th and 'I'; 5th and 'H'; 7th; and 'G'; 7th and 'I'; 6th and 'G'; Champion parking lot ('I' between 6th & 7th); Midtown parking lot & Alleyway (7th and 'G'); Saturday Morning Growers' Market (4th and 'F'); 6th Street landscaped alleyways and rest area planters (2, east and west); and the pedestrian area south of post office including memorial garden.

The City's Urban Tree Advisory Committee is working on an amendment to this ordinance and has completed a preliminary draft.

State Documents and Agencies

1. ORS 526 and 527.

a. ORS 526.500-526.515. Urban and Community Forestry.
b. ORS 526.780-526.789. Forestry Carbon Offsets.
c. ORS 527.722. Restrictions and local government adoption of rules regulating forest operations; exceptions.
d. ORS 530.600-530.628. Community Forest Authorities.
e. ORS 527.610-527.785. Oregon Forest Practices Act.
    i. Reforestation exemptions for land use changes.

The forest practices act has limited applicability within the UGB. The act covers commercial operations, which means any cutting for commercial purposes. It is possible that trees are being cut for new development and subsequently being sold without addressing the requirements of this act.

The act exempts properties from reforestation requirements for development that changes a land use from forestry to a different use. However, a plan may be required in order to address issues such as water quality while the property is deforested.

2. **Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB 360).** This bill became law in 1997, and the act is being implemented county by county. Josephine County has a committee that is currently in the process of classifying properties that will be designated as Forestland-Urban Interface, and the standards of SB 360 will apply upon adoption, affecting properties within the county, including properties they may be within or adjacent to municipal boundaries. SB 360 is implemented and codified in ORS Chapter 477. "Fire Protection of Forests and Vegetation", and OAR Division 629-044-1000.

    a. ORS 477.015-477.061. Urban Interface Fire Protection. (Oregon Forestland-Urban Interface Fire Protection Act of 1997).

    b. OAR 629-044-1000. Wildland-Urban Interface

    This act is administered through the Department of Forestry directly with property owners and contractors, so the City is not required to adopt regulations to administer or enforce the provisions of this act. The act deals with removal of "ladder fuels" and understory vegetation, and there are no provisions that prohibit planting trees or tree species on the property. There are requirements pertaining to the removal of dead limbs and pruning limbs to prevent the spread of wildfire.

3. **ODOT**. The Oregon Department of Transportation (ODOT) has standards for state highways in the community. These are some of the most visible corridors and can have a dramatic impact from an aesthetic standpoint. They can also present a substantial amount of impervious surface, becoming a critical issue for stormwater management.

    ODOT addresses trees within the right-of-way from two perspectives: maintenance and safety. On new projects ODOT no longer provides maintenance of trees within medians. Their concern is the cost associated with maintaining the landscaping and irrigation and street sweeping. On new state highway projects with medians, they install concrete medians unless the local jurisdiction accepts maintenance responsibility for landscaping in the median. ODOT also considers trees to be obstacles that may increase the likelihood of injury of fatality if a vehicle leaves the roadway traveling at a high rate of speed. On one recent development adjacent to the state highway, ODOT initially informed the City that planting of street trees in the planter strip would not be permitted. That issue has since been resolved. ODOT is also interested in the safety of trees from the perspective of visibility, especially at intersections and driveways.

4. **Oregon Department of Forestry (ODF).** ODF was established in 1911 and is under the direction of the State Forester, who is appointed by the State Board of Forestry.

The Department manages all aspects of Oregon's forests, from protecting forestlands and conservation of forest resources. Under the directive of the Director, ODF maintains several public programs, such as protection from fire, resources planning, and education for private forest owners pertaining to maintenance and conservation of woodlands.

a. ODF administers the Oregon Forest Practices Act described above.

b. ODF administers the urban-wildland interface program.

c. **Urban and Community Forestry Division.** ODF has an Urban and Community Forestry Division that provides technical assistance and informational resources to communities and oversees grant programs.

The Urban and Community Forestry Division informs and educates the public about urban forests, and also provides some financial assistance to municipalities in the form of grants, which fall into two categories: Community Forestry Assistance Grants and Urban and Community Forestry Small Projects Fund. In both cases, ODF administers grant monies provided by various public and private sources. Selection is made with a complete grant application and a through review of proposed projects.

Community Forestry Assistance Grants are intended to improve the quality of life in Oregon communities as they're impacted by urban forestry issues, such as the health and maintenance of the urban forest, or the implementation of forestry programs at the city level

The Urban and Community Forestry Small Projects Fund is intended to provide for smaller amounts of assistance directly related to expenses for the operation of city forestry programs.

It is important to note, however, that ODF receives a substantial amount of funding from the United States Department of Agriculture, Forest Services Division (Forest Service), which as been faced with budget cuts in recent years. This has an influence on the amount of funding available for community forestry assistance programs and has effectively eliminated both categories of grant assistance that ODF was able to provide. However, the City of Grants Pass has worked with ODF in recent years on grants, and ODF will serve as a reference for any applications for grants the city may make with other organizations.

5. **DEQ**. DEQ is the state agency responsible for administering certain federal EPA programs for Oregon such as the Clean Air Act and Clean Water Act, and manages other related environmental programs. (See provisions described below under federal programs).

Federal

1. **Clean Water Act and Endangered Species Act.** These acts provide standards for maximum pollutant loads to certain water bodies. Currently, TMDL's (total maximum daily load) standards have not been established for the Middle Rogue in the Grants Pass area; however, TMDL's are being developed, and are expected to be completed in 2006. It is anticipated that TMDL's may be established for bacteria and temperature.

2. **Clean Air Act.** In accordance with the Clean Air Act, EPA designates areas that exceed thresholds for certain air pollutants. These areas are designated as "non-attainment" or "maintenance" areas. Areas are designated for pollutants such as carbon monoxide, ozone, and PM-10 (particulate matter of 10 microns and smaller). EPA designates "isolated rural" areas as well as other more urban areas. Oregon DEQ is responsible for administering these programs. Non-attainment and maintenance designations are listed in OAR 340-204-0010. The following exhibit identifies the number of isolated rural areas with air quality issues:

Exhibit II-1: Number of Isolated Rural Nonattainment or Maintenance Areas Relative to Total Nonattainment or Maintenance Areas in 2001

Pollutant	Isolated Rural Areas	Total areas	Percent Isolated Rural
Carbon Monoxide	3	121	2
Ozone	31	420	7
PM-10	37	106	35

Source: FHWA, 2003

- Grants Pass is one of only three of the Isolated Rural Areas nationwide with Non-attainment or Maintenance Status for Carbon Monoxide. Grants Pass previously had 'Non-attainment' status, but has an approved plan for Carbon Monoxide and now has 'Maintenance' status for Carbon Monoxide, where the boundary corresponds to the CBD.
- Grants Pass is one of 37 of the Isolated Rural Areas nationwide with Non-attainment or Maintenance Status for PM-10.Grants Pass previously had 'Non-attainment' status, but has an approved plan for PM-10, and now has 'Maintenance' status for PM-10, where the boundary corresponds to the Urban Growth Boundary.
- The maintenance plans were adopted by the State Environmental Quality Commission and the US EPA. Therefore, the non-attainment status was removed, and the maintenance status is official. The City must continue to comply with the plan to retain the maintenance status. The plan provides background on point- and non-point sources of these pollutants.
- Grants Pass has never had a non-attainment or maintenance designation for ozone.

- Currently, there is no limit established for PM-2.5 (2.5 microns and smaller). Therefore, Grants Pass has no designation yet, but we are considered an at-risk area, and may exceed standards once they are established. It is anticipated that EPA will establish standards and designations in 2008. Therefore, there have been some efforts for prevention planning for PM-2.5.
- Oregon DEQ is evaluating toxics assessments statewide, but this is occurring at the state level and isn't driven by the federal Clean Air Act or EPA.

3. **Bureau of Land Management (BLM).** This agency, under the Department of Interior, manages a wide variety of resources and uses, including energy and minerals; timber; forage; wild horse and burro populations; fish and wildlife habitat; wilderness areas; archaeological, paleontological, and historical sites; and other natural heritage values. The Medford District of the BLM borders portions of the Urban Growth Boundary of Grants Pass. This district oversees approximately 862,000 acres of scattered public lands between the Cascade and Siskiyou mountain ranges and from the Oregon/California border to Canyon Creek and southern Douglas County.

   The relevant activities to the City are forest management and hazardous fuels reduction along resident interfaces along federal lands. Communities in Oregon and Washington including Grants Pass may apply for National Fire Plan Community Assistance Grants to receive funding and technical assistance to reduce hazardous fuels within their communities. This federal multi-agency community assistance program is designed to reduce threats from wildfire and enhance local economies.

Other Agencies and Utilities

1. **Josephine County.** The City of Grants Pass administers the City land use regulations outside City limits within the Urban Growth Boundary. This is accomplished through a 1998 Intergovernmental Agreement between the City and County. The agreement also specifies when the City or County is responsible for streets within the UGB. As part of this planning effort, the provisions of the Municipal Code should be reviewed to determine if they can be applied outside City limits on roadways that are under City jurisdiction.

   Urban Wildland Interface. The County is involved in the Urban Wildland Interface area mapping, but will not be involved in administering the program once the boundaries for the interface areas have been designated.

   Forestry Department. The County has a forestry department, but their responsibilities are managing the County-owned forest lands.

   Youth Tree Plant. The Josephine County Forestry Department along with other participants and contributors, such as Roe Motors GM and the Bureau of Land Management established an annual event called the Youth Tree Plant held in February. This event hosts over a thousand local youth from area schools, local scouts, Young Marines, and adult volunteers on Josephine County forest land to

provide an educational hands-on planting of tree seedlings. The event resulted in over 5,000 trees planted in 2006 and a total of 50,000 trees planted over the 17 years the program has existed. The children are broken out into smaller groups and given an orientation on the contributions of trees and how to plant the trees for successful establishment. The trees are purchased through the county's standard budget for tree planting.

2. **Pacific Power & Light (PP&L).** PP&L has an interest in avoiding conflicts between trees and overhead powerlines and has programs related to accomplishing this objective. They provide a tree planting guide to help with selection of trees that avoid these conflicts. They also have a program for replanting trees when they are removed from locations under powerlines. Their franchise agreement requires them to comply with all city ordinances.

Non-Profits and Other Programs and Resources

1. **National Arbor Day Foundation. Tree City, USA Program.** Tree City, USA is an honorary program maintained by the National Arbor Day Foundation based in Nebraska City, Nebraska. Eligibility requirements for cities include the adoption of a tree ordinance, appointment of a tree task force committee, the appropriation of $2.00 per citizen allocated to community forestry issues, and the annual celebration of Arbor Day. Any cities that go above and beyond these requirements are eligible to receive the Tree City USA Growth Award.

2. **Oregon Community Trees**. Urban forestry leaders from around the state formed the Oregon Urban and Community Forest Council (now referred to as Oregon Community Trees) in 1991. The 501(c) non-profit organization was established to promote urban and community forestry in Oregon.

   The mission of Oregon Community Trees is to promote healthy urban and community forests through leadership, education, awareness, and advocacy.

   With the support of the Oregon Department of Forestry (ODF), Oregon Community Trees (OCT) provides a forum for members to share ideas, develop new programs, and offer or seek advice and assistance to improve the care of community trees.

   Oregon Community Trees produces a newsletter, Oregon CommuniTree News hold quarterly and annual meetings, provides leadership in urban forestry planning, and conducts a wide range of community forestry related projects. Oregon Community Trees is a statewide resource for Oregon Arbor Week events; and annually sponsors the Governor's Grove tree planting with the incumbent governor. It also serves as an advisory body to the ODF's Urban and Community Forestry Assistance Program. Membership is open to all individuals, businesses and organizations.

3. **Middle Rogue Watershed Council**. Grants Pass is contained within the boundaries of the Middle Rogue Watershed Council. Though the mission of this council is

broader than the application of the Urban Forestry Plan, two of its biggest programs are directly applicable, the Riparian Tree Planting Program, in which more than 50 landowners have participated, and the Watershed Council's Outreach/Education program, which, through community events, workshops and educational talks, has reached an estimated 30,000 people in Josephine County.

Watershed councils were created by Oregon state statute, ORS 541.350, and provide the following guidelines: councils are to be voluntary, local groups, and the council represents a balance of interested and affected persons within the watershed. Within Oregon there are 89 watershed councils. Watershed Councils are made up of people from the local communities. They represent local knowledge and have ties to the existing community in all its complexity. Watershed councils work across jurisdictional boundaries and across agency mandates to look at the watershed as a whole. The council can be a forum to bring local, state and federal land management agencies and plans together with local property owners and private land managers. The council forum provides local people a voice in natural resource management that can substantially influence watershed management decisions.

The mission of watershed councils is to facilitate information sharing with surrounding fourth and fifth-field scale watersheds and collaborate with watershed council partners: such as Oregon Watershed Enhancement Board, Oregon Association Conservation Districts, Oregon Plan Liaisons, River Network, Oregon State University Extension and other organizations in the state to fund and implement various watershed restoration projects and programs such as planting trees, removing noxious weeds, and cleaning up debris from roads and creeks.

Attachments

Exhibit A. Cover memo summarizing City of Grants Pass Ordinances with ordinances attached.

EXHIBIT A to TM3

City of
Grants Pass

MEMO

To: Urban Forestry Advisory Committee
Scott Lindberg
From: Tom Schauer, Code Analyst
Re: City Ordinances
Date: July 21, 2006

At the last meeting, I said I would provide hard copies of the City ordinances governing trees. Those items are attached. I have also enclosed the index sheet for your binders.

Below is a summary of the attached items. Some of the provisions below are part of a larger document, so I have identified the relevant provisions below so you don't need to read through provisions that aren't directly applicable. However, the full context is provided should you care to read through the related provisions. These items will be incorporated into the final draft of Technical Memo #3: Existing Plans, Policies, Regulations, and Programs. Please retain these items in your binder and they can be attached when the final version of that document is completed.

City of Grants Pass Development Code

This Code regulates all aspects of land division and development. Through intergovernmental agreement with the County, this applies to all land development within the Urban Growth Boundary.

Attached are the submittal requirements and criteria for several different types of applications. The Code also contains standards, which are organized by topic rather than type of application. I have only included the provisions that relate to tree retention, planting, irrigation, and maintenance.

Currently, there is some repetition of almost identical provisions in Articles 13, 17, 18, and 19 pertaining to tree preservation. Tree preservation primarily focuses on "significant-sized trees". These are defined as greater than 12" diameter measured 4.5 feet from the base or a Madrone greater than 24" diameter measured 4.5 feet from the base. The provisions provide for no penalty for removal of a certain percentage of significant-sized trees, and then provide for a fee of $350 for each significant-sized tree removal beyond that percentage, up to a maximum of $2,000 per lot.

Some of the code provisions deal more generally with preservation of natural features, including stands of trees. However, the language is more subjective and includes language such as, "To the extent possible, identified significant resources, such as…stands of pine, fir, and oak trees…have been preserved and designed into the project."

I have some thoughts about potential improvements to some of the ordinances, even just from the standpoint of clarifying and organizing material, but will save that for subsequent discussion. At

this stage, I just wanted to get you copies of the ordinances so you are familiar with what is currently adopted.

1. **Section 13.100. Slope Hazard District.** This section of the code includes additional submittal requirements and criteria for land divisions in slope hazard areas. (Class A slopes are defined as 15% to 25% and Class B slopes are defined as greater than 25%). See:
    a. **13.120. (For Partitions, Subdivision, and Planned Unit Developments)**
        i. 13.123(4) (Criteria for removal of significant-sized trees)
        ii. 13.142(3) (Standards for retention of significant-sized trees)
        iii. 13.132(8) and (9) (Grading plan is to show significant-sized trees to be retained and removed)
    b. **13.150(2).** Landscape deposit of $500 required at time of final plat for owner to plant trees
    c. **13.160. (For Existing Lots)**
        i. **13.160(4)** (Standards for retention of significant-sized trees)

2. **Article 17. Lots and Creation of Lots (Land Divisions).**
    a. **17.300 (Partitions)**
        i. **17.311(10). Submittal Requirements.** Tentative plan is to show significant-sized trees and other natural features.
        ii. **17.312(5).** (Criteria/Standards for removal of significant-sized trees)
    b. **17.400 (Subdivisions)**
        i. **17.411(11). Submittal Requirements.** Tentative plan is to show significant-sized trees and other natural features.
        ii. **17.413(5).** (Criteria/Standards for removal of significant-sized trees)
        iii. **17.422.** All improvements including trees to be installed prior to signing final plat, or secured for (up to 7 months from recording plat and prior to occupancy of homes).

3. **Article 18. Planned Unit Developments**
    a. **18.043(7).** (Criteria/Standards for removal of significant-sized trees)
    b. **18.051. Submittal Requirements-Tentative Plan.**
        i. **(1)** Tentative plan is to show significant-sized trees and other natural features.
        ii. **(8) Landscape plan**
    c. **18.080. Submittal Requirements-Final Plan**
        i. **(1)** Detailed landscaping plans.

4. **Article 19. Site Plan Review.**
    a. 19.042. Minor site plan criteria.
        i. (4) Must comply with provisions of Code including landscaping.
    b. 19.043. Conditions which may be attached to minor site plan approval.
        i. (4) provisions to preserve significant vegetation.
    c. 19.052. Major site plan criteria.
        i. (3) Must comply with provisions of Code including landscaping.

ii. (7) To the extent possible, identified significant resources, such as…stands of pine, fir and oak trees…have been preserved and designed into the project.

d. 19.053. Conditions which may be attached to major site plan approval.
   i. (2)…vegetative screen, buffer
   ii. (13) specific landscape plans
e. 19.060(2)&(4). Can secure for landscaping, except erosion control vegetation; provision relating to inclement weather.
f. 19.072. Submittal Requirements
   i. Minor site plan: (1)(h) landscape plan
   ii. Minor site plan: (1)(i) irrigation plan
   iii. Major site plan: (2)(t) landscape plan and irrigation plan
   iv. Major site plan: (2)(w) natural features and significant vegetation

5. **Article 23. Landscape and Buffering Standards.** This section provides the requirements for development of lots. It includes requirements for the minimum number of trees and shrubs in front yards of residential, commercial, and industrial zones, based on square footage (depth of yard x frontage); landscape buffers between zones, and parking lot landscaping. It also specifies submittal requirements for landscape and irrigation plans, design, construction, and maintenance standards; completion and occupancy; and street tree standards.

6. **Article 24. Environmental Standards.**
   a. **Section 24.343. Preservation of Riparian Vegetation.** Requires preservation of riparian vegetation.
   b. (I also included Wetland Standards for Reference, See 24.345 & 24.500)

7. **Article 30. Definitions.** Includes the definition of "significant size tree".

City of Grants Pass Municipal Code

1. **Chapter 6.36. Encroachment Ordinance**
   a. **6.36.040. Blanket Permit.** Allows blanket permits, such as for public utilities.
   b. **6.36.160. Planting in Right-of-Way.** Can plant lawn or ground cover in right-of-way without a permit.
   c. **6.136.170. Sight Distance.** Plantings and fences can't obstruct vision.

2. **Chapter 6.42. Street Trees.** This is the ordinance the Urban Tree Advisory Committee has been working on. I have attached a copy of the current code, not the revisions the committee has been working on.
   a. It requires application for an encroachment permit to "Plant, set out, prune, root prune, remove, cut above ground, kill, or otherwise disturb any tree on public or semi-public property"
   b. It provides standards for the planting, removal, or replacement of street trees.
   c. It specifies prohibited street trees (overlap with Development Code).
   d. It specifies responsibility for trees.
   e. It provides for protection of street trees.

Franchise Agreements

The City has franchise agreements with utilities such as PP&L. I will obtain copies of the agreements to see if they have any specific provisions that address blanket encroachment permits or provisions governing how trees are to be pruned.

Article 13: Special Purpose Districts

[1]13.010 Purpose

The special purpose districts are intended to accommodate development within areas with specific natural, historical, or locational features. The standards herein are intended to mitigate natural hazards, to protect natural or historical features, and/or to mitigate land use conflicts. The special district standards apply in addition to the standards of the underlying zoning district.

[2]13.020 General Provisions

The Special Purpose Districts shall encompass land areas that:

(1) have slopes exceeding 15%.

(2) are located within the boundaries of the 100 year flood plain.

(3) are located in proximity to hospitals and that are appropriate for medical uses.

(4) are recognized as historically significant.

[3]13.025 Special Purpose District Overlay Map. There shall be an overlay map to the Zoning Map that depicts boundaries of the special districts shown herein. These maps are incorporated into this Section by reference. The special purpose district maps may be amended as provided in Article 4 of this Code. The maps are general in nature. The applicant for a development shall verify the grades on lands or portions of lands that are the subject of any specific application.

13.100 Slope Hazard District

[4]13.110 Purpose. The purpose of the Slope Hazard District is to designate and provide standards to protect sloped areas that help define the character of the Community. This character includes hillsides and trees. The area within the District may be hazardous for development due to slope instability, erosion potential and public safety concerns of steep slopes.

Article 13.100 provides performance standards for development on steep slopes. The standards allow

development to proceed while maintaining the long term attractiveness and safety of the community.

13.111 Definition. A slope hazard area contains slopes of at least 15% and is depicted on the Special Purpose District Map. Slope hazards shall be divided in two classes of slope steepness as follows:

(1) Class A, 15% to 25%.
(2) Class B, greater than 25%

13.120 Procedures for Development of Partitions, Subdivisions and Planned Unit Developments

13.121 Procedure

The criteria for development within the Steep Slope Hazard District shall be met in order to receive approval for development. The application submitted for approval shall include the information listed in Section 13.122 and address the criteria listed in section 13.123.

13.122 Complete Submittal.

The applicant shall meet the submittal requirements of the request (see Section 17.311 for Partition submittal; see Section 17.411 for Subdivision submittal; see Section 18.050 for Planned Unit Development Preliminary Plan submittal).

13.123 Criteria for Approval

In addition to the criteria listed in Section 17.312, Section 17.413, or Section 18.043, the Review Body shall base its decision on the following criteria:

(1) The natural slope shall be maintained in as natural a state as possible.

(2) Developments on Class B slopes are required to show other development alternatives which the developer considered, and to show the proposal represents the least possible impact to public safety, slope stability and erosion.

(3) The natural drainage system and other natural land forms shall be left undisturbed where ever practical.

(4) The removal of significant sized trees shall not exceed the standard of Section 13.142(3).

(5) The Steep Slope Development Reports and Grading and Erosion Control Plans shall meet the criteria stated in section 13.140.

13.130 Submittal Requirements for Plans and Reports

The following reports and plans shall be submitted and approved prior to the issuance of a Development Permit. Reports for Class A Slopes shall be submitted and signed by an engineer licensed to practice by the State of Oregon. Reports for Class B slopes shall be submitted and signed by a licensed Geo-Technical Engineer.

13.131 Steep Slope Development Report, a written and illustrated report containing all of the following information:

(1) Soils Analysis. The analysis shall include data regarding the nature, distribution and properties of existing soils, conclusions and recommendations for grading and erosion control procedures, design criteria for corrective measures, and opinions and recommendations covering the capacity of the sites to be developed in a manner imposing the minimum variance from the natural condition. Data and recommendations from the Soil Survey of Josephine County, Oregon may be included in the analysis.

(2) Geology Analysis. The analysis shall include a description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations on how to best develop the sites being reviewed. Data and recommendations from the Soil Survey of Josephine County, Oregon may be included in the analysis.

(3) Hydrology Analysis. The analysis shall include a description of the hydrology of the site and surrounding area, including movement of soil moisture, groundwater (subsurface), surface flow and the drainage network of the site before and after construction and recommendations and opinions on how to properly handle existing and new surface/underground water if the development proceeds.

13.132 Grading Plan. A plan which shall include all of the following:

(1) existing and proposed contours of property.

(2) details of site and area drainage for proposed lots including elevations of proposed house pads, adjacent lots and streets.

(3) direction of surface drainage flow and the approximate grade of drainageways.

(4) limiting dimensions, elevations, or finish contours to be achieved by the grading, including per cent grades for all cut and fill slopes, proposed drainageways and related construction.

(5) detailed plans and locations of all surface and sub-surface drainage devices, walls, dams, sediment basins, detention reservoirs and protective devices to be constructed with, or as a part of, the proposed work together with a map showing the drainage area, the drainage network, including outfall lines and drainageways which may be affected by the proposed development and the estimated runoff of the area served by the drains for a 25 year frequency storm.

(6) construction schedule which includes:

(a) total area and location of soil surface which is to be disturbed during each stage

(b) size and type of machinery and vehicles to be used at the site as identified and reviewed by an engineer licensed to practice by the State of Oregon on Class A slopes and by a Geo-Technical Engineer for Class B slopes for the effects of overburden, compaction and soil disturbance, dust control and erosion control and the location of all temporary gravel or crushed rock access points.

(c) construction schedule for all steps and phases of construction of public facilities, slope excavation and fill, lot grading, erosion control measures, and revegetation of the site.

(7) name and address of the engineer licensed to practice by the State of Oregon on Class A slopes and by a Geo-Technical Engineer for Class B slopes referred to as the Responsible Engineer and who shall be responsible to oversee implementation of those elements of construction recommendations by the soils, geology and hydrology analyses, Grading Plan and Erosion Control Plan. (Note: if the Responsible Engineer either leaves or is terminated, the City shall be notified and the

preliminary recommendations from the Engineer shall be provided to the City).

(8) identification of the significant size trees which are to remain during and after construction and of fencing to protect the significant size trees.

(9) identification of significant size trees to be removed during the construction of the subdivision for roads, utilities or any other reason.

13.133 Erosion Control Plan. The Erosion Control Plan describes where natural vegetation will be removed and how it shall be replaced. This plan shall use the recommendations of the soils/geology/hydrology analyses to determine the measures to be taken to stabilize slopes, minimize soil erosion, and revegetate areas where natural vegetation will be removed during construction and shall describe the maintenance measures after construction. A revegetation plan shall be part of the Erosion Control Plan.

The Plan shall consider each of the following options:

(1) use of filter fabrics and swales;

(2) retaining water with retention and detention areas.

(3) establishing and maintaining interim water detention and siltation ponds during the construction period.

(4) leaving natural vegetation in place during and after construction.

13.140 Criteria for Approval of Plans and Reports

To protect hillsides, significant size trees and the safety of the community and to prevent or mitigate possible hazards to life, property or the natural environment, the following standards shall apply to the Steep Slope Development Reports and Grading and Erosion Control Plans.

13.141 Steep Slope Development Reports. The Steep Slope Development Reports shall be approved by the City Engineer.

13.142 Grading Plan. The Grading Plan shall minimize excavation and disturbance and shall demonstrate all of the following:

(1) All excavation and grading of the site for buildings and driveways, is done in accordance with Appendix Chapter 33 of the 1994 Uniform Building Code, or the appropriate chapter of any subsequently adopted replacement code, and minimizes disturbance of the natural condition of the site. Where there is a discrepancy among standards, the more restrictive shall always apply.

(2) All the finished cut and fill slopes are designed and contoured to replicate conditions prior to grading. The areas of excavation, fill and scarification shall be shown on the Grading Plan and limited to the area of the roadways. No cuts may include retaining walls greater than 15 feet in height from the finish grade or create any slopes which are greater than 50%. No filling may result in a retaining wall within the required setback greater than 6 feet in height from the finish grade or create any slopes which are greater than 50%.

(3) a) All significant sized trees shall be retained and protected during construction.

b) In lieu of 100% retention of significant sized trees, at the time of application the applicant may opt at the applicant's sole discretion, for the following procedure: Sixty percent of the significant size trees are retained, and are protected during construction. The protection shall include the use of fencing to protect the trees out to the drip lines with no removal or addition of soil within the drip line areas. If the actual or proposed percentage of significant size trees to be retained and protected is less than 60 percent, a Revegetation Fee shall be paid to the City at the time of tentative plat approval. The Revegetation Fee shall be $350 per significant size tree to a maximum aggregate of $2,000 per lot. The City shall place the Revegetation Fee into a special fund to be used for the purchase and improvement of public open spaces. In expending monies from the Revegetation Fund, among other factors, the City shall consider the needs and availability of open spaces in or near the applicant's project.

(4) All construction work is planned to minimize the amount of time the soil is exposed and unprotected. All access points shall be protected with gravel or crushed rock.

(5) All construction work disturbing the soil or affecting the natural drainage and runoff shall be scheduled to begin not earlier than April 15 and shall terminate not later than October 15. The Director may extend starting and completion dates by no more than 30 days based on the weather conditions prevailing at the time of the extension.

13.143 Erosion Control Plan. The Erosion Control Plan shall minimize erosion with preventive measures maintained throughout the development of the site. It shall meet all of the following standards:

(1) Revegetation and the use of other temporary erosion control measures shall protect the site, surrounding properties, streams and storm drain system from erosion through the winter months. Revegetation and all other temporary erosion control measures shall be fully in place and established by October 15 (See 13.124) and shall be maintained after storms and at other regular intervals according to the approved plan. The City Engineer may mandate, based on adverse weather conditions, any reseeding installed after September 15 be installed in the form of a mat.

(2) Native plants shall be used when possible.

(3) Revegetation of plants, trees, shrubs and grasses shall be installed in accordance with the approved Erosion Control Plan.

(4) Security for the implementation of the Erosion Control plan shall be provided prior to the issuance of any grading permit.

13.150 Criteria for Approval of the Final Plat.

In addition to the criteria in 17.312 for a Partition, 17.422 for a Subdivision or 18.063 for a Planned Unit Development, the submittal for the Final Plan shall include:

(1) A letter submitted by the Responsible Engineer stating the Engineer supervised the grading and construction for the entire parcel and individual lots and the grading and construction was completed according to approved Plans.

(2) As part of the applicable landscaping standards, a "Landscaping Deposit" of $500 shall be paid at the time of the Final Plat for a subdivision or Final Plan for a Planned Unit Development, for each of the lots created

which include any portion of steep slope. This money shall be available to the property owner for future installation of trees.

A minimum of 3 trees which total not less than $500 (including installation) per lot shall be installed by the property owner during the fall or spring following the Final Inspection of the home. Said trees shall be a minimum of one and one half inch caliper. Trees planted within 15 feet of a roadway shall be selected from the City's approved list of street trees.

The property owner shall be reimbursed for the purchase and installation of said trees up to the amount of $500 by providing the City with receipts for said expenditures. If the property owner plants the 3 trees within one year of the Final Inspection of the home and the reimbursement is less than $500, the remaining monies are also subject to reimbursement for tree planting by the owner for up to 18 months after the Final Inspection. Any monies remaining after that time shall be placed in a City fund for the purchase of trees to be planted throughout the community at the discretion of the City.

If the property owner fails to install the required trees within 12 months of a Final Inspection, the City is authorized to install the trees on the property. In such case, the City shall use the "Landscaping Deposit" for its actual expense and any remaining monies shall be placed in a City fund for the purchase of trees to be planted throughout the community at the discretion of the City.

13.160 Procedures for Approval of Grading or Construction on an Existing Lot

(1) With an Approved Steep Slope Development Report. If an approved Steep Slope Development Report, Grading Plan and Erosion Control Plan are on file for the existing lot, development of the lot may only proceed in accordance with those documents. If the Building Official determines the Grading Plan is modified substantially at the time of home construction, a Type 1 procedure is required to change the grading plans.

(2) Without an Approved Steep Slope Development Report, except as noted in subsection 13.160(2). If the Steep Slope Development Report, Grading Plan and Erosion Control Plan have not been approved, the applicant shall file a Grading Plan and Erosion Control Plan prepared by an engineer licensed to practice by the State of Oregon

for Class A Slopes and a Geo-technical Engineer for Class B slopes as described in 13.132 and 13.133 and meet the criteria listed in 13.142 and 13.143.

After an examination of the site and the proposed development of the lot, the City Building Official may waive the requirement for a Grading Plan and Erosion Control Plan for lots which contain slopes of less than 25% after making a written finding that the filing of said plans would not materially assist in the protection of the hillside, the community's safety, or the community's drainage system.

(3) Front Yard Setback. The front yard setback for the new home can be reduced to 10 feet. The entrance for the garage/carport shall remain at the required setback. The setback in the back yard shall be increased by at least any reduction in the setback for the front yard.

(4) a) All significant sized trees shall be retained and protected during construction.

b) In lieu of 100% retention of significant sized trees, at the time of application the applicant may opt at the applicant's sole discretion, for the following procedure: A minimum of 80% of the previously indicated retained significant size trees shall continue to be retained and protected during the construction of the home including construction of driveways, sidewalks and garages. If the actual or proposed percentage of significant size trees retained and protected is less than 80 percent, a Revegetation Fee shall be paid to the City at the time of tentative plat approval. The Revegetation Fee shall be $350 per significant size tree to a maximum aggregate of $2,000 per lot. The City shall place the Revegetation Fee into a special fund to be used for the purchase and improvement of public open spaces. In expending monies from the Revegetation Fund, among other factors, the City shall consider the needs and availability of open spaces in or near the applicant's project.

13.170 Appeals

Appeals to the interpretations of this Article shall be undertaken as provided in Section 10.030 of this Code.

17.300 Partitions

17.301 Effect. A partition acts to divide land into two or three parcels. All previous property lines within the plat area are vacated by the partition plat.

17.310 Tentative Partition Plan

[2]17.311 Submittal Requirements. The applicant shall submit eight (8) copies of a tentative plan and any supporting materials to the Director. The following shall be included:

(1) Plan: No smaller than 8 1/2 inches x 11 inches and legible with north arrow, scale (an engineering scale appropriate to the area involved and sufficient to show detail of the plan and related data, such as 1 inch : 30 feet, 1 inch : 50 feet, 1 inch : 100 feet, or less), and date of preparation.

(2) Location: Location by street address and assessor's map and tax lot number.

(3) Names: Name, address and telephone number of each of the following: property owner(s), partitioner, and preparer of the plan.

(4) Parcel Dimensions: Existing and proposed parcel lines and their dimensions, and parcel size in square feet or acres.

(5) Parcel numbers or letters: Parcel numbers or letters for each parcel.

(6) Streets and Sidewalks, Existing: Names, rights-of-way locations and widths, curb locations, sidewalk locations, vehicular access points, public or private status, and any recorded reservations or restrictions.

(7) Streets and Sidewalks, Proposed: Names, rights-of-way locations and widths, curb locations, pavement widths, sidewalk locations, street lights, vehicular access points, public or private status, any recorded reservations or restrictions, approximate radii of curves, grades, and typical cross-sections showing all utility improvements proposed within the street right-of-way and adjacent easements at such scale to clearly show the details thereof.

(8) Easements: The location, dimensions and purpose of all recorded and proposed public and private easements.

(9) Utilities: Location and size of all existing and proposed storm drains and other drainageways; sewer mains, laterals, septic tank leach fields, or other facilities; water mains, laterals, fire hydrants, wells or other facilities; irrigation facilities or other pertinent utilities.

(10) Natural Features: Location and extent of streams, river, their high banks, wetlands, any required setbacks, and existing significant size trees, significant size trees to remain during and after construction and the fencing required to protect the significant size trees, significant size trees to be removed during the construction of the partition.

(11) Flood Areas: Location of floodplain and floodway.

(12) Slope: Degree and approximate direction of slope and drainage, and an indication of areas within the Slope Hazard District. If the property is located within the Slope Hazard District, include a Tentative Grading Plan indicating cuts, fills and retaining walls.

(13) Districts: The designated zoning district, special purpose district, and any zoning district boundary, special purpose district boundary, political subdivision boundary, or the Urban Growth Boundary that are adjacent to or that divide the property.

(14) Existing Uses: Location and outline of existing buildings and structures with distances in feet to new parcel lines created by the proposed partition, and an indication if they are to be removed prior to final platting.

(15) Future Development Plan: A future development plan shall be submitted for the property being partitioned in accordance with Section 17.540.

(16) Future Street Plan: A future street plan shall be submitted in accordance with Section 17.550.

(17) Signatures: A signature by the property owner or stamp of a registered land surveyor that guarantees that all information shown on the plan is accurate and correct, and the applicant accepts responsibility for same.

[3]17.312 Criteria for Tentative Partition Plan Approval. The review body shall approve, approve with conditions or deny the request based upon the following criteria:

(1) The plan conforms to the lot dimension standards of Article 12, the base lot standards of Section 17.510, and the requirements of any applicable overlay district.

(2) When required, the proposed future development plan allows the properties to be efficiently further developed, in accordance with requirements for typical permitted uses in the applicable zone and comprehensive plan district, and in conjunction with other development in the neighborhood.

(3) When one is required or proposed, the street layout conforms to the applicable requirements of the adopted street plans, meets the requirements of Article 27 and other applicable laws, and best balances needs for economy, safety, efficiency, and environmental compatibility.

(4) The proposed utility plan conforms to the applicable requirements of adopted utility plans, the requirements of Article 28 and other applicable laws, and best balances needs for economy, safety, efficiency, and environmental compatibility.

(5) The tentative plan allows for the preservation of significant size natural or historic features of the property.

(a) All significant sized trees shall be retained and protected during construction.

(b) In lieu of 100% retention of significant sized trees, at the time of application the applicant may opt at the applicant's sole discretion, for the following procedure: Sixty percent of the significant size trees are retained and protected during construction. The protection shall include the use of fencing to protect the tree out to the drip line with no removal or addition of soil within the drip line area. If the proposed percentage of significant size trees to be retained and protected is less than 60 percent, a Revegetation Fee shall by paid to the City at the time of partition approval. The Revegetation Fee shall be $350 per significant size tree to a maximum aggregate of $2,000 per lot. The City shall place the Revegetation Fee into a

special fund to be used for the purchase and improvement of public open spaces. In expending monies from the Revegetation Fund, among other factors, the City shall consider the needs and availability of open spaces in or near the applicant's project.

(c) No cuts shall result in retaining walls greater than 15 feet high from the finish grade or slopes greater than 50%.

(d) No fills shall result in a retaining wall greater than 6 feet in height from the finish grade nor a slope of greater than 50%.

(6) The plan complies with applicable portions of the Comprehensive Plan, this Code, and state and federal laws.

(7) Except as noted herein, if located within the Slope Hazard District, the plan shall meet the criteria listed in 13.123.

After an examination of the site and the proposed development of the lot, the City Building Official may waive the requirement for a Grading Plan and Erosion Control Plan for partitions which cannot be further partitioned and which contain slopes of less than 25% after making a written finding that the filing of said plans would not materially assist in the protection of the hillside, the community's safety or the community's drainage system.

[13]17.313 Expiration and Extension of Tentative Plan.

(1) Expiration. Within eighteen months following the effective date of the written decision approving a tentative plan, the applicant shall fulfill all conditions necessary for a development permit, obtain a development permit, fulfill all conditions of tentative plan approval necessary to file the final plat, and submit the final plat and all required documents.

(2) Extension. The Director may, upon written request by the applicant, grant up to two extensions of the expiration date of six months each. Upon granting such an extension, the Director shall make written findings that the facts upon which the approval was based have not changed to an extent sufficient to warrant refiling of

the tentative plan and that no other development approval would be affected.

17.320 Final Partition Plat

17.321 Plat Requirements. After tentative plan approval, the applicant shall submit a final plat to the Director. The plat shall be prepared by a registered professional land surveyor and shall contain the following:

(1) The plat shall be 18 inches x 24 inches. No part of the drawing shall be nearer to the edge of the sheet than one inch. The plat shall reserve a space one inch by three inches in the most upper right corner for County recording information.

(2) All requirements of ORS 209.250 and ORS 92 and any other applicable state or federal regulations.

(3) Any dedications or changes required as part of tentative plan approval. Dedications shall be done in accordance with applicable local or state laws.

(4) Any plat notes, restrictions, notices, and special conditions that was required to be placed on the final plat as part of tentative plan approval. The review body shall not require that the plat show graphically any information or requirement that is or may be subject to administrative change or variance.

(5) As a separate document, a land division guarantee from a title company.

17.322 Signatures on a Final Partition Plat.

(1) The surveyor who prepared the plat, the property owner(s), and all other parties required to sign under ORS Chapter 92 shall sign the plat.

(2) The City or County Surveyor shall sign to verify compliance with applicable survey laws of the State of Oregon.

(3) The City Administrative Services Department shall sign to verify that all financial obligations on the property have been met.

(4) The Director may sign the final plat and release it for recording if the final plat is in conformity with the

approved tentative plan, and when all conditions of tentative plan approval have been met.

(5) All signatures shall be in black permanent India type ink.

[4]17.323 Filing an Approved Final Partition Plat. The applicant shall file the approved original partition plat as per ORS 92.120. After recording, the applicant shall also file one print with the Director.

17.324 Expiration of Final Partition Plat. The approved final plat shall become null and void if not filed and recorded with the County Recorder within 30 days from the date the Director signs the plat.

17.400 Subdivisions

17.401 Effect. A subdivision acts to divide land into four or more lots. All previous property lines within the plat area are vacated by the subdivision plat.

17.402 Exclusion of Property. All property within the original authorized lot or lots being proposed for platting shall be included on the plat, except that an area may be excluded from a final subdivision plat provided all of the following conditions are met:

(1) The area to be excluded is equal to or greater than to 2.5 acres.

(2) Only one such area is created per subdivision.

(3) The approved future development plan allows for the property to be further partitioned or subdivided.

(4) The remaining area is not developed until it is further partitioned or subdivided in accordance with the provisions of this Code, or all facilities are provided to that area as if it were a lot in the subdivision.

17.410 Tentative Subdivision Plans

[5]17.411 Submittal Requirements. The applicant shall submit fifteen (15) copies of a tentative plan and any supporting materials to the Director. The following shall be included:

(1) Plan: No smaller than 8 1/2 inches x 11 inches and legible with north arrow, scale (an engineering scale appropriate to the area involved and sufficient to show detail of the plan and related data, such as 1 inch : 30 feet, 1 inch : 50 feet, 1 inch : 100 feet, or less), and date of preparation.

(2) Location: Location by street address and assessor's map and tax lot number.

(3) Vicinity map: A vicinity sketch shall be shown on the plan at a small scale (i.e., 1 inch : 400 feet) showing all existing and adjacent subdivisions, streets, property lines of acreage properties, names of the recorded owners of properties adjoining the land to be divided and between it and the nearest existing or proposed public street, adjacent railroad rights-of-way, and adjacent political subdivisions.

(4) Names: Name, address and telephone number of each of the following: property owner(s), subdivider, and preparer of the plan.

(5) Lot Dimensions: Existing and proposed lot lines and their dimensions, and lot size in square feet or acres.

(6) Lot numbers or letters: Lot numbers or letters for each lot.

(7) Streets and Sidewalks, Existing: Names, rights-of-way locations and widths, curb locations, sidewalk locations, vehicular access points, public or private status, and any recorded reservations or restrictions.

(8) Streets and Sidewalks, Proposed: Names, rights-of-way locations and widths, curb locations, pavement widths, sidewalk locations, street lights, vehicular access points, public or private status, any recorded reservations or restrictions, approximate radii of curves, grades, and typical cross-sections showing all utility improvements proposed within the street right-of-way and adjacent easements at such scale to clearly show the details thereof.

(9) Easements: The location, dimensions and purpose of all recorded and proposed public and private easements.

(10) Utilities: Location and size of all existing and proposed storm drains and other drainageways; sewer mains, laterals, septic tank leach fields, or other facilities; water mains, laterals, fire hydrants, wells or other facilities; irrigation facilities or other pertinent utilities.

(11) Natural Features: Location and extent of streams, rivers, their high banks, wetlands, any required setbacks, and significant size trees, significant size trees to remain during and after construction and the fencing required to protect the significant size trees, significant size trees to be removed during the construction of the subdivision.

(12) Flood Areas: Location of floodplain and floodway.

(13) Slope: Topographic contour lines having the following minimum intervals:

Overall Site Slope	Contour Interval
0 to 5 percent	2 feet
5 to 15 percent	5 feet
15 percent or more	10 feet

Slope hazard areas shall be indicated as follows:

Slopes 15% to 35%	light shading
Slopes exceeding 35%	heavy shading

A Tentative Grading Plan indicating cuts, fills, and retaining walls.

(14) Districts: The designated zoning district, special purpose district, and any zoning district boundary, special purpose district boundary, political subdivision boundary, or the Urban Growth Boundary that are adjacent to or that divide the property.

(15) Existing Uses: Location and outline of existing buildings and structures with distances in feet to new subdivision lines created by the proposed subdivision, and an indication if they are to be removed prior to final platting.

(16) Future Development Plan: A future development plan shall be submitted for the property being subdivided in accordance with Section 17.540.

(17) Future Street Plan: A future street plan shall be submitted in accordance with Section 17.550.

(18) Signatures: A signature by the property owner or stamp of a registered land surveyor that guarantees that all information shown on the plan is accurate and correct, and the applicant accepts responsibility for same.

(19) Title: The proposed name and the title "Tentative Plan".

(20) Dedication: locations of all areas to be dedicated or reserved for public use, with the purpose, condition, or limitations of such reservations clearly indicated.

(21) Deed Restrictions: Previously recorded and proposed deed restrictions.

(22) Phasing: If the subdivision will be platted in phases, indicate the lots to be included in each phase, all street, utility, and other improvements to be constructed in conjunction with each phase, and proposed timing for each phase.

(23) Solar Lot Design Standard: Documentation shall be provided indicating compliance with Section 22.630 of this Code.

(24) Watermaster compliance: If groundwater is proposed as a source of water for the subdivision, and the subdivision is located in a designated area of groundwater availability concern, the applicant shall submit a certificate of compliance with applicable ground water testing ordinances.

[11](25) The City Engineer may require a traffic analysis, as per Section 27.131(3), for any new development to determine the development's potential impact on the existing transportation system. At a minimum, the impact of development on transportation facility performance shall be mitigated to the standards set forth in Section 27.121(2).

17.412 Referral for Review. The Director shall distribute copies of the tentative plan to such agencies as would have an interest in reviewing the plan, which may include:

(1) Applicable School District.

(2) Applicable Citizen Participation Committee.

(3) Grants Pass Irrigation District.

(4) Affected Governmental Agencies and Other Special Districts.

(5) Affected Public and Private Utilities.

(6) Applicable Site Plan Review Committee.

(7) Department of Environmental Quality.

(8) Josephine County Public Works Department.

(9) Oregon State Highway Division.

(10) Oregon Department of Fish and Wildlife.

(11) Others, as determined by Director.

[6]17.413 Criteria for Tentative Subdivision Plan Approval. The review body shall approve, approve with conditions or deny the request, based upon the following criteria:

(1) The plan conforms to the lot dimension standards of Article 12, the base lot standards of Section 17.510, and the requirements of any applicable overlay district.

(2) When required, the proposed future development plan allows the properties to be further developed, partitioned, or subdivided as efficiently as possible under existing circumstances, in accordance with requirements for typical permitted uses in the applicable zone and comprehensive plan district, and in conjunction with other development in the neighborhood.

(3) When one is required or proposed, the street layout conforms to the applicable requirements of the adopted street plans, meets the requirements of Article 27 and other applicable laws, and best balances needs for economy, safety, efficiency, and environmental compatibility.

(4) The proposed utility plan conforms to the applicable requirements of adopted utility plans, the requirements of Article 28 and other applicable laws, and best balances needs for economy, safety, efficiency, and environmental compatibility.

(5) The tentative plan allows for the preservation of significant size natural or historic features of the property, and allows access to solar energy to the extent possible under existing circumstances.

(a) All significant sized trees shall be retained and protected during construction.

(b) In lieu of 100% retention of significant sized trees, at the time of application the applicant may opt at the applicant's sole discretion, for the following procedure: Sixty percent of the significant size trees are retained, and are protected during construction. The protection shall include the use of fencing to protect the tree out to the drip line with no removal or addition of soil within the drip line area. If the actual or proposed percentage of significant size trees to be retained or protected is less than 60 percent, a

Revegetation Fee shall by paid to the City at the time of tentative plat approval. The Revegetation Fee shall be $350 per significant size tree to a maximum aggregate of $2,000 per lot. The City shall place the Revegetation Fee into a special fund to be used for the purchase and improvement of public open spaces. In expending monies from the Revegetation Fund, among other factors, the City shall consider the needs and availability of open spaces in or near the applicant's project.

(c) No cuts shall result in retaining walls greater than 15 feet high from the finish grade or slopes greater than 50%.

(d) No fills shall result in a retaining wall greater than 6 feet in height from the finish grade nor a slope of greater than 50%.

(6) The plan complies with applicable portions of the Comprehensive Plan, this Code, and state and federal Laws.

(7) If located within the Slope Hazard District, the plan shall meet the criteria listed in 13.123.

17.414 Revised Tentative Subdivision Plan. Prior to receiving a development permit for the tentative plan, the applicant shall submit a revised tentative plan demonstrating compliance with the conditions of tentative plan approval. The review body may waive this requirement if no significant modifications are required.

[13]17.415 Expiration and Extension of Tentative Subdivision Plan.

(1) Expiration. Except as provided in Section 17.416 for a phased development, within 18 months following the effective date of the written decision approving a tentative plan, the applicant shall fulfill all conditions necessary for a development permit, obtain a development permit, fulfill all conditions of tentative plan approval necessary to file the final plat, and submit the final plat application, including the plat and all required documents. For a phased development, the applicant shall obtain a development permit, complete construction, and file the final plat for each phase in accordance with the approved phasing schedule.

(2) Extension. The Director may, upon written request by the applicant, grant up to two extensions of the expiration

date of six months each. Upon granting such an extension, the Director shall make written findings that the facts upon which the approval was based have not changed to an extent sufficient to warrant refiling of the tentative plan and that no other development approval would be affected.

17.416 Phased Development. When an applicant desires to record and develop a subdivision plat in phases, then the approving body may authorize a time for the submittal of the final plat and development of various phases. The time period may exceed eighteen months but in no case shall the total time period for all phases exceed five years without resubmission of the tentative plan for review and approval. Each phase so platted and developed shall conform to the applicable requirements of this Code. Phases platted after eighteen months are subject to modifications in accordance with any changes in the Comprehensive Plan or implementing regulations.

17.420 Final Subdivision Plat

[13]17.421 Non-conforming Plats. When a final subdivision plat is received, the Director shall determine whether or not the final plat substantially conforms with the approved tentative plan. If the final plat substantially conforms to the approved tentative plan, it shall be reviewed through the procedure specified in Schedule 2-1. If the final plat does not substantially conform to the approved tentative plan, then the final plat shall be reviewed using the same review procedure that the tentative plan required.

[7]17.422 Criteria for Final Plat Approval.

The approved tentative plan shall be considered to have met the requirements outlined in the approval for the tentative plan if it meets all of the following:

(1) A letter has been submitted by the Responsible Engineer stating he/she supervised the grading and construction for the entire parcel and individual lots and the grading and construction was completed according to approved plans.

(2) All water, sewer and storm facilities have been installed, tested and tentatively approved per the approved plans. The final testing and acceptance of the water, sewer and storm facilities may be secured per Article 29.

(3) All street facilities have either been installed, tested and accepted per the approved plans, or security has been posted per Article 29.

(4) Not withstanding Article 29 regarding Security, construction of all remaining improvements not including sidewalks and tree planting if required, shall be completed within seven months of the recording of the final plat. Occupancy of homes shall not be permitted until all public improvements have been installed, tested, and accepted by the City, and final inspection of the home has occurred.

[8]17.423 Plat Requirements. After completing the requirement for tentative subdivision plan approval, the applicant shall submit a final plat and fourteen (14) prints to the Director. The plat shall be prepared by a registered professional land surveyor and shall contain the following:

(1) The plat shall be 18 inches x 24 inches. No part of the drawing shall be nearer to the edge of the sheet than one inch.

(2) All requirements of ORS 209.250 and ORS 92 and any other applicable state or federal regulations.

(3) Any dedications or changes required as part of tentative plan approval. Dedications shall be done in accordance with applicable local or state laws.

(4) When a future development plan is required, a note stating that development of the property is subject to the conditions of such plan.

(5) Any plat notes, restrictions, notices, and special conditions that was required to be placed on the final plat as part of tentative plan approval. The review body shall not require that the plat show graphically any information or requirement that is or may be subject to administrative change or variance.

(6) Statement or certifications verifying the source of water and sewage disposal in accordance with ORS 92.090.

(7) A letter from the Responsible Engineer stating the Engineer had supervised the grading and construction for the entire parcel and individual lots and the grading and construction was completed according to approved plans.

(8) If located within the Slope Hazard District, the tree fee as listed in 13.160.

(9) As a separate document, a land division guarantee from a title company.

[9]17.424 Signatures on a Final Subdivision Plat.

(1) The surveyor who prepared the plat, the property owner(s), and all other parties required to sign under ORS Chapter 92 shall sign the plat.

(2) The City or County Surveyor shall sign to verify compliance with applicable survey laws of the State of Oregon.

(3) The City Administrative Services Department shall sign to verify that all financial obligations on the property have been met.

(4) The Director of any special district shown on the final plat or any other official required by law shall sign the plat or provide certifications as required by law.

(5) The Director may sign the final plat if the final plat is in conformity with the approved tentative plan, and when all conditions of tentative plan approval have been met.

(6) The County Assessor shall sign certifying that all taxes on the property have been paid or bonded for in accordance with state law.

(7) Following (5) above, the Chairperson or the Board of County Commissioners shall sign.

(8) All signatures shall be in black permanent India type ink.

[10]17.425 Filing an Approved Final Subdivision Plat. The applicant shall file the approved original subdivision plat as per ORS 92.120. After recording, the applicant shall also file one print with the Director.

[13]17.426 Expiration of Final Subdivision Plat. The approved final plat shall become null and void if not filed and recorded with the County Recorder within 30 days from the date the Director signs the plat.

[1]Article 18: Planned Unit Development (PUD)

18.010 Purpose and Effect

18.011 Concept. The Planned Unit Development is a process of design and review, and the results of this process are variable. The results may include different building types, land divisions and development types. The Base Development Standards of the Zoning Districts, Article 12, and the Base Lot Standards of Land Divisions, Article 17, represent the historic method of insuring a safe, livable and economic community. The Planned Unit Development process is intended to permit development using alternate standards to occur, and yet maintain the safety, livability and economy of the community.

18.012 Purpose. The purpose of the Planned Unit Development process is as follows:

(1) To provide an alternate development process and alternate development standards to the Base Development and Lot Standards set forth in Articles 12 and 17 of this Code, and embodied in much of the established areas of the City.

(2) To encourage land use and development based upon the unique physical opportunities and constraints of each particular site, so that the outdoor living environment becomes an integral rather than an incidental feature of the design, and the overall appearance and livability of the community is enhanced.

(3) To encourage diversity in building types, site arrangement and ownership of real property.

(4) To encourage the greatest economic use of the land, and to lower unit development costs, in exchange for better use of open space, more recreational facilities, and greater resource conservation than possible using the Base Standards of this Code.

(5) To provide a development product which is equal to or superior to that possible under the Base Standards of this Code.

(6) To recognize the need to protect and buffer dissimilar development in the established districts, and to set a good precedent for future development in developing districts.

18.013 Effect. The Planned Unit Development, as finally approved, shall have the effect of varying the Base Development Standards of all Zoning Districts as contained in Article 12 of this Code, and the Base Lot Standards of Partitions and Subdivisions, Section 17.510 of this Code, without need of other variance procedure, but only insofar as indicated in the approved Planned Unit Development Plan and attached conditions. All other provisions of this Code shall apply.

18.020 General Provisions

18.021 Applicability. The provisions of this Section apply to all land within the City Limits or proposed for annexation to the City. For all Planned Unit Developments, no land, interests in land, unit ownership or tax segregation shall be created for sale prior to final approval of the Planned Unit Development. For those Planned Unit Developments including the subdivision or partition of lands, no land, interests in land, unit ownership or tax segregation shall be created for sale prior to final approval of both the Planned Unit Development and the Subdivision or Partition.

18.022 Permitted Uses and Building Types

(1) Residential PUD. Uses are permitted consistent with the applicable Zoning District. In addition, open space, playgrounds, recreation facilities, and recreation and community centers are also permitted, but only when serving PUD residents, their families and nonpaying guests, unless otherwise permitted in the applicable Zoning District. Building types are permitted as provided in Section 12.131 of this Code.

(2) Commercial or Industrial PUD. Uses are permitted consistent with the applicable Zoning District.

(3) Mixed Use Residential/Commercial PUD. Uses are permitted consistent with the applicable Zoning District.

18.023 Subdivision Concurrent With PUD

(1) Requirement. For PUD requests involving partitioning or subdividing of land, interests in land, unit ownership, or involving tax lot segregation, a Preliminary Map or Plan and a Final Map or Plat shall be prepared as provided in Article 17 of this Code.

(2) Combined Map or Plat. Where practical, the Partition Maps or Subdivision Plats required by the Sections cited in Section 18.023 (1) above may be combined with the PUD Plan required by this Article, provided that all of the submittal requirements for each Section are satisfied.

(3) Procedure Type. A concurrent subdivision or partition and Planned Unit Development application shall be processed as a Planned Unit Development, except that the procedure type shall be the highest type required by either Article 17, Lots and Creation of Lots, or Article 18, Planned Unit Development.

(4) Criteria. For a concurrent application, the approval, approval with conditions or denial of the PUD Plan shall be based upon the criteria for a Planned Unit Development while the approval, approval with conditions, or denial of the Partition Map or Subdivision Plat itself shall be based upon the criteria for a partition or subdivision, excepting only Section 17.510, Base Lot Standards.

18.030 Procedures

18.031 Pre-application Conference Required . Prior to submitting a Preliminary Plan for review, the applicant shall request a pre-application conference with the Director as provided in Section 3.033 of this Code.

18.032 Applicant Ownership. Application for PUD's may be filed by a person(s) having an equitable interest in the property. The application shall be filed in the name(s) of the recorded owner(s). The applicant shall evidence a full ownership interest in the land, legal title or the execution of a binding sales agreement, prior to final approval of the application.

[6]18.033 Review Procedure Schedule. The procedures are structured to ensure adequate public review for Planned Unit Developments requiring through extensions of streets, requiring changes to the Official Street Map, and located adjacent to a Zoning District of a less dense or less intensive land use, and to expedite all other Planned Unit Development review. PUD applications shall be processed according to Schedule

18.034 Appeals. The final action of the Hearings Officer or Planning Commission on either the Preliminary of Final Plan may be appealed as provided in Section 10.040 or 10.050 of this Code.

18.040 Preliminary Plan Review and Action

18.041 Complete Submittal. Prior to review of the requests, a complete application must be accepted by the Director as provided in Section 3.050 of this Code.

18.042 Referral for Review. As provided in Section 3.071 of this Code, the Director shall distribute copies of the Preliminary Plan to:

(1) Applicable School District.

(2) Applicable Citizen Participation Committee.

(3) Grants Pass Irrigation District.

(4) Affected Governmental Agencies and Other Special Districts.

(5) Affected Public and Private Utilities.

(6) Applicable Site Plan Review Committee.

(7) Others, as determined by the Director. Any comments received will be included in the staff report as part of the official record and distributed to the reviewing body.

[2]18.043 Criteria for Approval. The review body shall approve, approve with conditions or deny the request, based upon the following criteria:

(1) Development of any remaining contiguous property under the same ownership can be accomplished as provided in this Code.

(2) Adjoining land under separate ownership can either be developed or be provided access that will allow its development in accordance with the Comprehensive Plan and this Code.

(3) The proposed street plan affords the most economic, safe, efficient and least environmentally damaging circulation of traffic possible under existing circumstances.

(4) The Preliminary Plan complies with applicable portions of the Comprehensive Plan, this Code, and State and Federal laws.

(5) The project results in an equal or superior product than would have resulted from following the Base Development Standards of the applicable Zoning District, as provided in Article 12 of this Code, or the Base Lot Standards of Land Divisions, as provided in Article 17 of this Code.

(6) The proposal results in a balanced exchange: for the developer, flexible development standards, maximum land utilization and alternate ownership options; for the Community, greater preservation of natural features and natural resources, greater proportions of useable open space and recreation facilities; for both, a greater opportunity for housing at all income levels.

(7) Potential impacts to adjoining properties have been adequately mitigated through site design and attached development conditions. These conditions include the following protections:

(a) All significant sized trees shall be retained and protected during construction.

(b) In lieu of 100% retention of significant sized trees, at the time of application the applicant may opt at the applicant's sole discretion, for the following procedure: Sixty percent of the significant size trees are retained, and are protected during construction. The protection shall include the use of fencing to protect the tree out to the drip line with no removal or addition of soil within the drip line area. If the actual or proposed percentage of significant size trees to be retained or protected is less than 60 percent, a Revegetation Fee shall by paid to the City at the time of tentative plat approval. The Revegetation Fee shall be $350 per significant size tree to a maximum aggregate of $2,000 per lot. The City shall place the Revegetation Fee into a special fund to be used for the purchase and improvement of public open spaces within the development. In expending monies from the Revegetation Fund, among other factors, the City shall consider the needs and availability of open spaces in or near the applicant's project.

(c) No cuts shall result in retaining walls greater than 15 feet high from the finish grade or slopes that are greater than 50%.

(d) No fills shall result in a retaining wall greater than 6 feet in height from the finish grade or slopes that are greater than 50%.

(8) All utilities, access ways, open space and recreation areas not dedicated to the public are owned and maintained by a Homeowners' Association or other acceptable private legal entity with the responsibility for and capability of adequate maintenance and care of such facilities, to the satisfaction of the City Attorney and City Engineer.

(9) The applicant has demonstrated the ability to finance the project through final completion.

(10) If located within the Slope Hazard District, the plan shall meet the criteria listed in 13.123.

18.044 Conditions. Conditions of approval may be attached to the Preliminary Plan by the review body as required to comply with the provisions of this Code or State and Federal laws. Additional conditions may be imposed, but only those conditions necessary to mitigate the impacts resulting from varying Base Development Standards and the Base Lot Standards of this Code. All conditions of approval shall be satisfied prior to Final Plan approval.

18.045 Appeals. The final action of the Director or the Planning Commission may be appealed as provided in Sections 10.030 or 10.040.

18.046 Expiration of Preliminary Plan. Within 18 months following the effective date of approval of a Preliminary Plan, the Final Plan shall be submitted to the Director and shall incorporate any modification or condition required by the approval of the Preliminary Plan. The Director may, upon written request by the applicant, grant an extension of the expiration date of up to six months. Upon granting such an extension, the Director shall make written findings that the facts upon which the approval was based have not changed to an extent sufficient to warrant re-filing of the Preliminary Plan and that no other development approval would be affected.

18.047 Staged Development. When an applicant desires to develop Planned Unit Developments in stages, then the review body may authorize a time for the submittal of the Final Plan and development of various stages. The time period may exceed one year, but in no case shall the total time period for all stages exceed five years without resubmission of the Final Plan for review and

approval. Each stage so developed shall conform to the applicable requirements of this Code. Stages developed after one year are subject to modifications in accordance with any changes in the Comprehensive Plan or this Code. For staged development of a PUD involving partitioning or subdivision of land, see Article 17.

18.050 Submittal Requirements - Preliminary Plan

[3]18.051 Preliminary Plan. The Preliminary Plan shall contain the following information:

(1) Contour Map and Natural Features Map.

(a) Existing contour and natural features map at 2, 5, or 10 foot intervals, as appropriate, drainage, irrigation, 100 year flood plain (showing floodway channel and floodway fringe, as applicable) and other water courses; prominent landforms including slope description at the following intervals:

0% - 15%
35% - 60%
60% +

(b) Existing vegetation, showing specific locations of riparian habitats, forest cover, and significant size trees.

(c) Significant size trees to be protected and remain during and after construction

(d) Fencing to protect the significant size trees out to the drip line. In lieu of fencing, survey tape may be used to cordon off areas that cannot be graded or filled during development.

(e) Significant size trees to be removed during the construction of the partition.

(2) Buildings and Structures. Location and floor area, size of all existing and proposed structures, and other features including maximum heights, types of dwelling units, and non-residential structures; renderings and elevations of typical structures.

(3) Public Areas. The location and approximate size of all areas to be dedicated for public ownership and use, including streets, parks and schools.

(4) Open Space: Public, Private and Common. The location and size of all areas for use as outdoor open space. The map shall delineate limits of individually owned lots (private), patio-garden areas for individual unit use (private easement) and all remaining areas to be commonly owned and maintained (public and common).

(5) Circulation - Access. The location, widths and material of all areas proposed for vehicle, pedestrian, and bicycle circulation. Statement as to private or public street ownership, and areas proposed for on-street parking, if any.

(6) Off-Street Parking. Location and number of required parking spaces.

(7) Utilities. Existing and proposed utility systems, including sanitary sewer, storm drains and storm water detention areas, water, fire hydrants, electricity, gas, telephone lines, and cable T.V. Any required public or private easements to be shown on Final Plan.

(8) Landscape Plan. A general landscape plan indicating location and amounts of areas to be landscaped, and general landscape material to be used. A specific landscape plan shall be submitted for review and approval prior to issuance of a building permit.

(9) Surrounding Land Use. Indicate the relationship between the proposed PUD and the existing and proposed adjacent land uses; provide information showing existing zoning and land and uses within a 250 foot radius from the PUD's perimeter.

(10) PUD Perimeter Buffering. Show proposed treatment of the PUD perimeter, including screens, fences, setbacks, windows and walls.

(11) Grading Plan. A tentative grading plan indicating cuts, fills, retaining walls and resulting slope steepness.

(12) Phasing. If phased development is proposed, the Plan shall show the limits of each phase. Phasing shown on the Plan shall be consistent with the development schedule.

(13) Statement of Proposed Financing. A general statement showing commitment of lenders or applicant's ability to finance the project through to completion.

[4](14) Solar Standards. Documentation shall be provided indicating that the planned unit development either complies with Solar Setback requirements of Section 22.620 of this Code and the Solar Lot Design Standards of Section 22.630 of this Code, or that applicant proposes to vary these standards through the Planned Unit Development process.

[5](15) The City Engineer may require a traffic analysis, as per Section 27.121(3), for any new development to determine the development's potential impact on the existing transportation system. At a minimum, the impact of development on transportation facility performance shall be mitigated to the standards set forth in Section 27.121(2).

18.052 General Requirements. In addition to the Preliminary Plan, the submittal shall contain the following:

(1) Project Intent. A statement describing the objectives to be achieved through the PUD process that cannot be achieved through the conventional land development process. The statement shall include a description of the character of the proposed project and some of the rationale in choosing the development concept.

(2) Development Schedule. A statement indicating the approximate construction dates for beginning and ending the project, including any proposed phases of stages of development.

(3) Ownership Status. A statement of intention to the future selling or leasing of all or portions of the PUD, such as land areas, dwelling units, etc.

(4) Land Use Data. A quantitative description of the following:

(a) Total Acres Site (Acres)

(b) Area Dedicated to Public Right of Way (Acres)

(c) Useable Acres Site (Acres - item [a] minus item [b])

(d) Density Factor Used (du/Acre)

(e) Maximum Allowable Dwelling Units (du - item [c] times item [d])

(f) Actual Dwelling Units (du)

(g) Area Recreation/Open Space (Acres and % Useable Site)

(h) Area Impervious Surface (Acres and % Useable Site)

18.060 Final Plan Review and Action

18.061 Complete Submittal. Prior to review of the Final Plan, a complete application must be accepted by the Director, as provided in Section 3.050 of this Code.

18.062 Determining Review Procedure. Within 18 months of Preliminary Plan approval, or not later than the extension date authorized by the Director, a Final Plan shall be submitted to the Director for review. Within 25 days of submission, the Director shall determine whether the Final Plan conforms to the approved Preliminary Plan and conditions, and conforms with the applicable requirements of this Code. If the Director determines that the Plan fails to conform, then the applicant shall be advised and afforded an opportunity to make corrections. When the Final Plan is found to conform, the Plan shall be processed for approval under the Type I procedure. If the Final Plan, even if revised, fails to conform, the Plan shall be processed using the same procedure type as the preliminary plan.

18.063 Criteria for Approval. The Director or Planning Commission shall approve or deny the request based upon the following criteria:

(1) Conformance with the approved Preliminary Plan.

(2) Compliance with conditions of approval.

(3) Adoption of proposed Future Street Plan by the governing body, or conformance with the Official Street Map or previously adopted Street Plan.

18.064 Appeals. The final action of the Director or the Planning Commission may be appealed as provided in Sections 10.030 or 10.040 of this Code.

18.065 Agreement to Meet Conditions. As part of the approving action, the developer must demonstrate to the satisfaction of the review body that all required offsite and onsite improvements and conditions of approval have

been satisfied or guaranteed in accordance with the provisions of Article 28, Utility Standards

18.066 Filing an Approved Final Plat as Part of a PUD. If a subdivision of land is included as a part of the PUD, and after obtaining all required approvals and signatures as provided in Section 17.225, the applicant shall:

(1) File the Map or Plat with the County Clerk within 30 days. Failure to file within 30 days will render the Final Plat null and void, and will require resubmission of the Preliminary Plat to the Planning Commission.

(2) Immediately after Final Plat approval, file a report with the Real Estate Division, Department of Commerce, State of Oregon, pursuant to ORS Chapter 92.

(3) File copy of survey with the County Surveyor and City Engineer.

18.067 Filing Approved Final Plan. Within 30 days of final approval of the Final Plan, if units of ownership not involving the subdivision or partitioning of land are to be offered for sale, the applicant shall file a report with the Real Estate Division, Department of Commerce, State of Oregon, pursuant to ORS 92. Failure to file within 30 days shall render the Final Plan null and void, and will require resubmission of the Preliminary Plan to the review body.

18.070 PUD Development

18.071 Development in Conformity to Approved Final Plan.

(1) The applicant shall enter into a Development Agreement which binds him, his successors and assigns to the approved Final Plan and development conditions. Deed restrictions shall be recorded by the applicant which will serve to notice future owners and/or developers to the development requirements of the approved Final Plan.

(2) The approved Final Plan and authorized staged development schedule shall control the issuance of development and building permits. Minor changes to an approved Final Plan may be authorized by the Director if such changes are consistent with the purpose, general character and attached conditions of the Final Plan. All other changes shall be processed in the same manner as the original

application and shall be subject to the same procedural requirements.

18.072 Failure to Comply. Failure to comply with preliminary or final plans, conditions of approval, or staged development schedule, shall constitute a violation of this Code as prescribed in Section 1.060.

18.073 Revocation of Development Permit. In the event of failure to comply with approved plans, conditions of approval, or staged development schedule, the Director shall initiate, and the Planning Commission may revoke a PUD Development Permit as provided in Section 1.062.

18.080 Submittal Requirements - Final Plan

18.081 Submittal Requirements. The Final Plan shall be sufficiently detailed to indicate fully the ultimate appearance of the development, and shall include all information of the Preliminary Plan, plus the following:

(1) Detailed building, elevation, and landscaping plans.

(2) The size and location of signs.

(3) Locations and dimensions of all easements.

(4) Plans and profiles for street improvements.

(5) Grading and erosion control plans.

(6) Copies of legal documents required for dedication or reservation of public facilities, and for the creation of a homeowners' association.

(7) When the sale of individual units or parcels of land within a PUD is proposed, the Final Plans shall include adherence to the provision for land divisions, Article 17.

18.090 PUD Development Standards

18.091 Density Determination.

(1) Potential Units. Unlike conventional development, which must use public streets for access, a Planned Unit Development may use private streets, and thereby not have to deduct these private rights of way from the total site area prior to determining maximum dwelling units. Increases in actual density of 10% to 20% are often

accomplished. The degree to which the applicant benefits from this potential increase in actual density shall depend on the effectiveness of the PUD design in meeting the purpose and approval criteria for the PUD as provided in Sections 18.012 and 18.043.

(2) Density Range. The applicant, therefore, has a range to work with in terms of maximum dwelling unit yield. At the low end of the range, applicant deducts actual area utilized for streets (public or private) and then determines potential units.

Example: 6 acres (total site area) minus 1.2 acres (streets) equals 4.8 acres (usable site area used to calculate number of units). Multiply 4.8 x 5.5 (density factor for Low Density Comp Plan) = 26.4 units = 26 units. If actual street area is unknown, deduct a normal standard of 20%.

At the high end of the range, applicant deducts only the area dedicated for public right of way.

Example: 6 acres (total site area) minus .5 acres (public streets) x 5.5 (density factor for Low Density Comp Plan) equals 30.25 units = 30 units.

The review body may require density at the low end of the range, or at any intermediate point up to the high end of the range, depending on how well the applicant meets the criteria and purpose of the PUD. Therefore, the applicant has an incentive to pull together the best possible design to achieve his maximum potential units.

18.092 Residential Development Standards Apply. The development standards for residential dwelling units as provided by Article 22 of this Code shall apply to all residential development utilizing the PUD approach.

18.093 Indoor Recreation Area

(1) In all Planned Unit Developments having 50 living units or more, indoor recreation area shall be established using the following minimum guidelines:

(a) Ten square feet of indoor recreation area for each living unit in the development.

(b) Play equipment, athletic facilities, and/or gameroom facilities and equipment in amounts commensurate with the size of the building or room, to be maintained by the property owner or owners' association.

(c) At least one restroom for all indoor recreation buildings or rooms under 600 square feet and two restrooms for all indoor recreation buildings or rooms 600 square feet or greater.

(d) All indoor recreation rooms and buildings shall be fully lighted, heated and shall meet all uniform building codes and should be designed primarily for the use of the residents of the PUD, their families and nonpaying guests.

(e) The off-street parking requirements for recreation rooms and buildings shall be one space per each 150 square feet of floor area. This requirement shall be in addition to any parking required for residents.

(2) Alternative to Indoor Recreation Area. The requirement for indoor recreation area may be waived by the review body where increased opportunity for outdoor recreation is provided in addition to the requirements of Section 18.093(1). Such opportunities may include court sports, playgrounds, golf, swimming, or other exceptional treatment of open spaces.

18.094 Maintenance of Facilities by Homeowners' Association

(1) Whenever private outdoor living area is provided for the use of all residents of the PUD, whether by common ownership or by easement or other legal device, the review body shall require that an association of owners be created under the laws of the State of Oregon. Owners of subject property shall automatically be members, and shall be subject to assessments levied to maintain the private outdoor living area held in common for the purposes intended, and in a manner meeting the requirements of the City Municipal Code.

(2) Prior to and as a requirement of approval of the Final Plan, the City Attorney and the City Engineer shall review and approve the Owners' Association bylaws, articles of incorporation and restrictive covenants and conditions.

18.095 Ownership

(1) The property included in a PUD must be in one ownership, joint ownership, or under control of the applicant.

(2) Unless otherwise provided as a condition of PUD approval, the applicant may divide and transfer title of phases of units within a PUD provided that either state law regarding condominiums is adhered to, or state and local provisions regarding subdivisions and are adhered to. In both situations, the Preliminary Plan shall include a proposal for the division, as applicable. Any complete phases of a PUD that are partitioned or subdivided and sold must be complete entities in themselves in terms of meeting all open space, recreation, landscaping, parking, public facilities and services, and any other special requirements for PUD's.

18.096 Professional Design

(1) The applicant shall certify in writing that each of the following categories of design professionals shall be utilized in the planning process for development:

(a) Licensed architect or certified architectural designer.

(b) Landscape architect or certified nurseryman, or landscape designer as approved by the Director.

(c) Registered engineer or land surveyor.

(2) The applicant or his designated representative shall be responsible for conferring with the Director with respect to the concept and details of the Plan.

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1. Revised 3-6-9
2. Revised 5-31-97

3. Revised 5-31-97

4. Revised 1-3-96

5. Revised 9-4-02

6. Revised 4-20-05, Ordinance 5285

Article 19: Site Plan Review

19.010 Purpose

The purpose of this article is to establish a review process insuring that new development complies with the provisions of this Code and is therefore compatible with existing and future development. The review process will include procedures, submittal requirements, criteria, and decision authority.

19.020 Applicability

The provisions of this article apply to all new construction, expansion of commercial, industrial, and multiple family residential uses (if not part of a previously approved site plan), change of use, and other development requests covered by this Code. For development requests involving partitions, subdivisions, and Planned Unit Developments, refer to Articles 17 and 18 of this Code.

19.021 Concept

(1) The site plan review process provides the basic means of implementing the policies of Comprehensive Plan and the standards of this Code. For routine, smaller projects requiring Administrative Review, a minor site plan review process is established. The function of the minor site plan review is to insure conformity with the Base Development Standards of this Code. For larger, more complex projects requiring discretionary review, a major site plan review is established. The function of the major site plan review is to insure conformity with the Base Development Standards, Special Development Standards, and other development standards that may be required as part of a Special Purpose District classification, Area Plan, or other Code provisions.

(2) In addition to determining compliance with development standards of this Code, another major function of site plan review is to identify potential land use conflicts resulting from the proposed development, and mitigating those conflicts through specific conditions of development.

[12]19.022 Site Plan Review Committee. The Site Plan Review Committee is hereby established to review major site plan applications. The Site Plan Committee shall consist of the following, or their designee:

(a) Director, of Community Development, Chair

(b) City Engineer

(c) City Building Official

(d) Senior Planner

(e) Director, Public Safety

(f) Director, Field Operations

(g) Director, Utilities

19.030 Procedures

Prior to the issuance of a development permit, the applicant shall secure site plan approval in accordance with this Article, following the procedure type specified in Article 12, Schedule 12-2 or 12-3 as applicable.

19.031 Pre-application Conference. Prior to submitting an application for review, the applicant shall request a pre-application conference with the Director as provided in Section 3.041 of this Code.

[1]19.032 Minor and Major Site Plans.

(1) Minor Site Plans are:

(a) Residential: Request for development permit for one or two family dwellings on lot of record.

(b) For Commercial and Industrial, involving only Change of Use, and minor expansions less than 25% of existing square footage of building.

(2) Major Site Plans are all other Land Use requests.

19.033 Appeals. The Final Action of the review body may be appealed as provided in Article 10 of this Code.

[12]19.034 Expiration. The land use decision shall expire in accordance with the provisions of Section 3.075 of this

Code. The development permit shall expire in accordance with the provisions of Section 3.092 of this Code.

19.040 Minor Site Plan Review

19.041 Complete Submittal. Prior to review of the request, a complete application shall be prepared, submitted to the Director in accordance with the minimum submittal requirements contained in Section 19.072 of this Code.

19.042 Criteria for Approval. The Director shall approve, approve with conditions, or deny the request based upon the following criteria:

(1) Complies with applicable Base Development Standards of the Zoning District or standards as previously approved under the provisions of an optional development plan or other approved permit.

(2) Complies with adopted public utility and access plans, policies, and standards.

(3) Adequate basic urban services are available or can be made available by the applicant as part of a proposed development, or are scheduled by the City Capital Improvement Plan.

(4) Complies with all other applicable provisions of this Code, including off-street parking, landscaping, signage, and Special Purpose District requirements.

(5) Potential land use conflicts have been mitigated through specific conditions of development as required by this Code.

[10](6) Internal circulation is accommodated in commercial, institutional and office park uses with walkways and bikeways as provided in Article 27.

[11](7) If the property contains existing nonconforming use or development to remain, the application and the Review Body's decision shall also be consistent with the provisions of Article 15, including any additional standards, relief from the Code, or conditions imposed.

[2]19.043 Conditions Which May be Attached to Site Plan. Where it has been determined that potential land use conflicts will result from the proposed development, specific conditions of development may be required as follows:

(1) Require screening and/or buffering to minimize intrusion of privacy from parking and driveway areas.

(2) Require specific window placement to minimize intrusion of privacy impact from new two story construction to existing adjacent single story residential.

(3) Modify parking design to insure safe maneuvering of vehicles and pedestrians.

(4) To preserve significant landform, waterways, vegetation, and property rights, require additional setbacks, and allow variances to base standards.

(5) Extension of public utilities, street improvements, and sidewalks may be required in accordance with Article 27 of this Code.

[10](6) Where not already required by provisions of this code, require that uses, buildings, and/or building entrances be located close to each other, to public rights-of-way, to pedestrian ways, and/or to bikeways as needed to allow for pedestrian and bicycle circulation.

[10](7) Where not already required by provisions of this code, require construction and maintenance of private pedestrian ways between uses or buildings on a site, between a use or building and a public right-of-way, pedestrian way, or bikeway, or between a use or building and a current or potential use or building on an abutting parcel.

19.045 Filing of Approved Minor Site Plan Map. As a result of site plan review, a Final map shall be prepared, including all required modifications and conditions, and must be filed with the Director prior to issuance of a development permit, or the development permit land use decision shall expire as provided in Article 3.

19.047 Development Agreement. If conditions of approval are attached to the approved Map, the applicant shall enter into a Development Agreement as provided in Section 19.057 of this Code. If no conditions are attached, the approved Final Map shall constitute the legal binding conditions of site development.

19.050 Major Site Plan Review

19.051 Complete Submittal. Prior to review of the proposed request, a complete application shall be prepared and submitted to the Director in accordance with the submittal requirements contained in Section 19.072 of this Code.

[3]19.052 Criteria for Approval. The Review Body shall approve, conditionally approve, or deny the request based upon the following criteria:

(1) Complies with applicable development standards: Base Standards of Zoning District, Special Development Standards, Residential Development Standards, or standards as previously approved under the provisions of an optional development plan or other approved permit.

(2) Complies with applicable elements of the Comprehensive Plan, including: Traffic Plan, Water Plan, Sewer Plan, Storm Drainage Plan, Bicycle Plan, and Park Plan.

(3) Complies with all other applicable provisions of this Code, including off-street parking, landscaping, buffering and screening, signage, environmental standards, and Special Purpose District standards.

(4) Potential land use conflicts have been mitigated through specific conditions of development.

(5) Adequate basic urban services are available, or can be made available by the applicant as part of a proposed development, or are scheduled by the City Capital Improvement Plan.

(6) Provision of public facilities and services to the site will not cause service delivery shortages to existing development.

(7) To the extent possible, identified significant resources, such as intermittent and perennial creeks, stands of pine, fir and oak trees, wildlife habitats, historic sites, and prominent land features have been preserved and designed into the project. Alternatives shall be considered and the proposal shall represent the most effective design to preserve these resources.

(8) The characteristics of existing adjacent development have been determined and considered in the development of the site plan. At a minimum, special design consideration shall be given to:

(a) Areas of land use conflicts, such as more restrictive use adjacent or across street from proposal. Mitigate by orienting business operations away from use, additional setbacks, screening/buffering, landscaping, direct traffic away from use.

(b) Setbacks. Where existing buildings are setback deeper than required by Code, new setbacks to be compatible.

(c) Building Size and Design. Existing surrounding architecture and building size to be considered to insure compatible scale and balance to the area.

(d) Signs. New signs shall not block primary view to existing signs, and shall be sized consistent with Code or existing signs, whichever is less.

(e) Lighting. Exterior lighting shall not impact adjacent development or traveling motorist.

(9) Traffic conflicts and hazards are minimized on-site and off-site, as provided in Article 27.

(10) If phased development, each phase contains adequate provisions of services, facilities, access, off-street parking, and landscaping.

(11) There are adequate provisions for maintenance of open space and other common areas.

[10](12) Internal circulation is accommodated for commercial, institutional and office park uses with walkways and bikeways as provided in Article 27.

[11](13) If the property contains existing nonconforming use or development to remain, the application and the Review Body's decision shall also be consistent with the provisions of Article 15, including any additional standards, relief from the Code, or conditions imposed.

[4]19.053 Conditions Which May Be Attached to Site Plan Approval. To the extent necessary to satisfy the criteria for site plan review, and to mitigate potential impacts to existing surrounding development, the site plan committee may impose any of the following as conditions of development; however, any conditions applied under this provision shall not unreasonably reduce housing densities, unreasonably increase costs, or otherwise be used to exclude needed housing types.

(1) Require dedication of public right-of-way or easements for:

(a) Streets

(b) Sidewalks

[5](c) Pedestrian Connector Routes or other appropriate pedestrian ways.

(d) Utility easements

[6](e) Bikeways

(2) To mitigate land use conflict require:

(a) Site obscuring fence, or

(b) Additional setback, or

(c) Vegetative screen/buffer, or

(d) Orient traffic flow away from use, or

(e) Relocate structure openings (doors, windows), or

(f) Require noise attenuating barrier, or sound baffle or other device, or

(g) Limit hours of operation, or

(h) Any combination of the above.

(3) When public facilities and services are near capacity, require phased development to match availability of services.

(4) Require extension of facilities (water, sewer, storm drains, fire hydrant) consistent with adopted public facility plans and Article 28 of this Code.

(5) Require construction of street frontage improvements, including sub-base, base, paving transition, curb, gutter, and sidewalks consistent with Article 27 of this Code.

(6) When extension or construction of facilities and services is not feasible, require security guarantee consistent with City policy.

(7) As a means to satisfy future obligation for public improvements, require participation in a future improvement district, without remonstrance.

(8) Require vision clearance area to be free of structures, signs, or other material having potential to obstruct vision.

(9) Underground all on-site utilities.

[10](10) Insure traffic congestion and hazards are avoided through limiting the number and strategically locating driveways, and requiring traffic control and other access management measures such as median barriers, access to the road network via a lower street classification, or reciprocal or cross access easements between adjoining properties.

(11) For residential uses require a common drive to serve two or more lots which access onto a collector or arterial street.

(12) To insure open space requirements comply with the standards of Article 22, require clustering of units, two story construction, or elimination of units, as needed.

(13) Require submittal of specific landscape plans, prepared in accordance with Article 23.

[10](14) Where not already required by provisions of this code, require that uses, buildings, and/or building entrances be located close to each other, to public rights-of-way, to pedestrian ways, and/or to bikeways as needed to allow for pedestrian and bicycle circulation.

[10](15) Where not already required by provisions of this code, require construction and maintenance of private

pedestrian ways between uses or buildings on a site, between a use or building and a public right-of-way, pedestrian way, or bikeway, or between a use or building and a current or potential use or building on an abutting parcel.

[10](16) Require improvements necessary to mitigate any off-site, frontage, and off-site impacts identified in a submitted traffic impact analysis report.

[10](17) Require off-site road improvements in rough proportion to the impact created by a development, including those transportation system management techniques outlined in the Master Transportation Plan. Where such improvements are required, they shall include facilities accommodating convenient pedestrian and bicycle travel, including bikeways along arterials and major collectors.

[10](18) Require transportation demand management-related facilities such as carpool/vanpool spaces.

19.054 Filing an Approved Major Site Plan Map. As a result of site plan review, a Final Map shall be prepared, including all modifications and conditions, and filed with the Department of Community Development prior to the issuance of a development permit, or the land use decision shall expire as provided in Article 3.

19.055 Development Agreement. To finalize the site plan process, a development agreement shall be effected between the applicant and the City of Grants Pass. The agreement contains the terms, conditions and approved Final Map. The purpose of the agreement is to insure that the terms and conditions of Site Plan Approval are understood and that they are binding upon the applicant to implement and fulfill prior to use and occupancy. Upon satisfactory completion of site development, the City will provide public facilities and services.

19.056 Modification to Approved Plans. The applicant may petition for modification of a previously approved site plan. The petition shall include reasons for modifying the plan standards of this Code. If, at time of building permit request, the approved site plan has been modified, issuance of a building permit will be postponed until the revised map has been processed in accordance with the provisions of this section.

(1) Major Modification. When modification to an approved plan is determined to be a Major Modification, the plan

shall be resubmitted, with fee, to the Site Plan Committee for review and decision. A major modification constitutes one or more of the following:

(a) Increase in number of dwelling units.

(b) Increase in gross floor area exceeding 10% of previously approved building size, or to the extent requiring an additional parking space, whichever is less.

(c) Decrease in amount of open space or landscaping exceeding 10% of previously approved area, provided decrease doesn't drop below minimum standards as required by this Code.

(d) Relocation of vehicle access points and parking areas where the change will potentially affect the safety of off-site and on-site traffic circulation.

(e) Reduction or elimination of any project amenities such as recreational facilities, significant natural resources (streams, creeks, landform), fencing and other screening material.

(f) Modification to facilities and utilities which do not conform to adopted facility plans.

(g) Modification of any other component of the plan which does not conform to standards of this Code.

(2) Minor Modification. A minor modification to an approved plan or conditionally approved plan may be made by the Director provided the Director determines that the modification does not constitute a major modification.

19.060 Security and Assurances.

All required improvements shall be constructed and completed prior to use and occupancy of the site. Where weather conditions preclude certain improvements from occurring at time of construction, use and occupancy may occur provided security is given in accordance with City policy. Security may be posted for the following types of improvements:

(1) Areas required to have asphaltic concrete, such as parking lots, drives, streets. Postponement allowed due to winter time closure of paving plants.

(2) Landscaping, except that erosion control vegetation shall be installed.

(3) As approved by the City Engineer, certain public facilities if not needed to implement the development nor practical to be installed at time of construction.

(4) Improvements which are deferred due to inclement weather conditions, shall be installed and completed during the next construction season, as soon as weather and site conditions permit.

19.070 Submittal Requirements.

Applications for site plan review shall be prepared in accordance with the following requirements.

19.071 Application. The Department of Community Development shall make available applications for site plan review. The applicant shall complete the application and submit it with the site plan map.

19.072 Site Plan Map.

(1) Minor Site Plan Map.

(a) Scale, north arrow, date of preparation.

(b) Location: Street address, and assessor's map page number and tax lot number.

(c) Dimension of parcel (feet) and size of parcel (acres).

[8](d) Location and size of existing utilities and required utilities on and adjoining the site, including all storm drains and other drainageways; sanitary sewer mains, laterals, septic tank and leach fields, or other facilities; water mains, laterals, wells, or other facilities, power, gas, telephone, cable T.V., and other pertinent utilities.

(e) Proposed and existing buildings: location, dimension, size setbacks to property lines, distance between buildings, height.

(f) Percent lot coverage of structures.

(g) Vehicular access point, off-street parking area.

[9](h) A landscape plan prepared in accordance to Section 23.042 shall be required at time of application submittal unless no additional landscaping is required.

Exception: Applicant may opt for the Concept Plan option described in Section 23.043 of the Development Code if approval is granted by the Director of the Community Development Department prior to submittal of the site plan application.

[9](i) An irrigation plan as described in Section 23.042 shall be required if additional landscaping is required, or if an irrigation system was required as a condition of a previous land use approval.

(2) Major Site Plan Map.

(a) Eight copies of the map to be drawn on a sheet not less than 8 1/2" x 14".

(b) Scale: An engineering scale appropriate to the area involved and sufficient to show detail of the plan and related data, such as 1 inch : 10 feet, 1 inch : 20 feet, 1 inch : 50 feet, or less.

(c) North arrow, date map prepared, preparer's name.

(d) Proposed name of project.

(e) Location: Street address, assessor's map, township, range, section, and tax lot number, size, (acres or square feet), and dimension (feet) of parcel.

(f) Location, size, height and dimensions of existing and proposed building and structures, including distances between buildings.

(g) Percentage of lot covered by structures, driveways, sidewalks, patios and other impervious material.

(h) If residential, number of dwelling units and density, and percent open space both recreational and pervious.

(i) Points of vehicular entry and exit, driveway width dimension and general circulation pattern (arrows).

(j) Location and layout of off-street parking and loading requirements, including number of spaces, dimension both typical and compact, aisle width, type of surface material, and number of handicap spaces, bumper rails, striping and directional signage. See Article 27.

(k) Location of existing and proposed streets (public and private) including right-of-way and paving dimensions, ownership and maintenance status, other uses of the street (i.e., parking, bike or pedestrian route). See Article 27.

(l) Locations, dimensions and reasons for all easements on and abutting the property. See Article 28.

(m) Drainage, storm water detention and erosion control plan. See Article 28.

[8](n) Location and size of existing utilities and required utilities on and adjoining the site, including all storm drains and other drainageways; sanitary sewer mains, laterals, septic tank and leach fields, or other facilities; water mains, laterals, wells, or other facilities, power, gas, telephone, cable T.V., and other pertinent utilities.

(o) Location and construction material of existing and proposed fences and walls.

(p) Location, size, height and building material of all proposed signs. See Article 26.

(q) As applicable, general grading plan to indicate land-form relationships before and after site grading and preparation. Contour map to be provided at 2 foot contours for slopes exceeding 15% (light shading) and 35% (heavy shading). Identify and graphically depict cut and fill areas.

(r) Indicate adjoining zoning and land uses, including approximate distances to adjacent structures.

(s) Exterior lighting plan, including type, height, direction and area covered by illumination.

[9](t) Submit a Landscape Plan and Irrigation Plan prepared in conformance with Article 23.

Exception: Applicant may opt for the Concept Plan option described in Section 23.043 of the Development Code if approval is granted by the Director of the Community Development Department prior to submittal of the site plan application.

(u) Flood Areas: location of 100 year Floodway and 100-year Floodway Fringe, and all other areas subject to seasonal ponding. See Article 13.

(v) Pedestrian Ways: location, width and construction material of all proposed sidewalks and pedestrian accessways.

(w) Natural Features: location of perennial and seasonal streams, creeks, drainageways, significant vegetation (trees over 8 inches in diameter when measured 3 feet above the ground).

(x) Areas of trash and garbage disposal.

(y) Area and dimensions of all property to be conveyed, dedicated or reserved for common open spaces, recreational areas, and other similar public and semi-public uses.

(z) If phased development, show boundary limits of each proposed phase.

[13](3) Elevation Drawings.

(a) Eight copies of the exterior elevations of all sides of all buildings proposed for the site. Prototypical or "typical" elevations will not be accepted. Elevations shall identify the material, color, texture, shape of materials, and other design features of the building, including all mechanical devices.

(b) Scale: A standard architectural or engineering scale sufficient to show detail of the elevations, not less than 1 inch : 10 feet.

(c) One reduced copy of the elevation drawings to fit on one or more sheets not smaller than 8-1/2 inches x 11 inches.

(d) For developments over 30,000 square feet, samples of all materials, colors, and textures to be used on the building elevations.

(e) Elevations and proposed locations of all signs to be attached to the building. (NOTE: Sign permit applications will be submitted and processed separately in accordance with the sign code).

(4) Supplemental Information.

(a) Proposed deed restrictions and maintenance responsibility.

(b) Land Use Tabulation. Total area, percent dedicated for public use, percent landscaped, and percent impervious surface (streets, structures, walks, and other areas not allowing direct soil percolation of water).

(c) Proposed use of site.

(d) Total floor area (if applicable, subtotal by stories).

(e) If staged development, demonstration that each state is self-contained relative to utilities, parking, open space, landscaping, and recreation amenities.

[10](f) The City Engineer may require a traffic analysis, as per Section 27.121(3), for any new development to determine the development's potential impact on the existing transportation system. At a minimum, the impact of development on transportation facility performance shall be mitigated to the standards set forth in Section 27.121(2).

[13](g) Other supporting information or documentation required by the Director, as needed to demonstrate the development complies with the provisions of this Code.

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[1] Revised 3-6-96
[2] Revised 5-24-93

[3] Revised 1-3-96
[4] Revised 5-24-93
[5] Added 5-25-93 by Ordinance 4768
[6] Added 5-25-93 by Ordinance 4768
[7] Revised 3-6-96
[8] Revised 5-31-01 by Ordinance 5063
[9] Revised 5-31-01 by Ordinance 5061
[10] Revised 9-4-02
[11] Revised 12-17-03 by Ordinance 5205
[12] Revised 4-20-05 by Ordinance 5285
[13] Revised 1-18-06 by Ordinance 5333

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Article 23: Landscape and Buffering Standards

23.010 Purpose and Concept

(1) Trees, shrubs and living ground-cover provide shade and shelter, aiding in energy conservation and moderating local climate in developed areas. Plant materials eliminate pollutants from the air we breathe, and maintain physical health and mental equilibrium by fulfilling an instinctive need for contact with the natural environment. Major gateways to the City and key travel routes through the City and urbanizing area give a lasting impression to the visitor for good or ill, an impression critical to our tourist economy. The knowledgeable use of plant materials by experienced professionals can achieve these extraordinary benefits at very little cost.

(2) In these terms, landscaping is a significant factor in maintaining the livability and economic viability of the community. The purpose of this Article is to provide standards for Landscaping and Buffering within the Grants Pass Urban Growth Boundary Area.

23.020 Landscaping Required

Landscaping shall be required in all the following areas:

(1) In all required front and exterior side yards, as provided in Section 23.030, Types A, B & C.

(2) As provided in the Major Thoroughfare and Gateway Plan, and special area plans such as the Downtown Plan, including landscaping, street trees, sidewalk treatment and street furniture. Where a conflict exists between such area plans and the base standards of Section 23.030, the area plans shall prevail.

(3) At vehicle parking, loading, access and maneuvering areas, as provided in Section 23.035, Type E.

(4) At buffering between zones, as provided in Section 23.034, Type D.

(5) At required interior open space and recreation areas, as provided in Section 22.102.

(6) In addition, screening or design consideration shall be given for refuse areas, service corridors and light and glare, as provided in Section 23.036, Type F.

[1]23.030 Landscape and Buffering Development Standards

All required landscaped yards and buffer strips shall meet the standards of the appropriate Landscape and Buffer Type and the general provisions of this Section.

23.031 Type A: Residential Front and Exterior Yards

[6](1) The following landscape standards shall apply to residential uses in residential zones:

(2) Required front and exterior yards shall be landscaped, and building setbacks shall be maintained, according to the Type A Concept Sketch and Schedule 23-1. Minimum landscape requirements per 1000 square feet of a required front or exterior yard, or any portion thereof, shall be the following:

[6](a) One tree at least six feet in height, and one inch in caliper measured three feet from the base. Select from street tree list, Section 23.076, and plant within 10' of right-of-way limit as per Type A Concept Sketch.

(b) Four one gallon shrubs or accent plants.

[6](c) Remaining area treated with attractive living ground-cover, as defined in Article 30. Coverage with shrubs or living ground-cover shall be at least 50% upon installation and 90% after 3 years.

(d) If a sidewalk is required, no plant materials shall be installed between the curb and the sidewalk except in accordance with an approved landscape plan.

(3) No vehicle parking shall be permitted within a required landscaped yard, except the following:

(a) For single family and duplex dwellings, two vehicle spaces per dwelling unit, provided that a ten foot width of continuous landscaped area is maintained between the street right-of-way and the vehicle parking area.

(b) For all uses in R-3 and R-4 zones, up to a five foot depth of continuous parking intrusion, but only when all the following conditions are met:

1) Landscaping equal in area to the parking intrusion is provided elsewhere between the front building line and the street right-of-way.

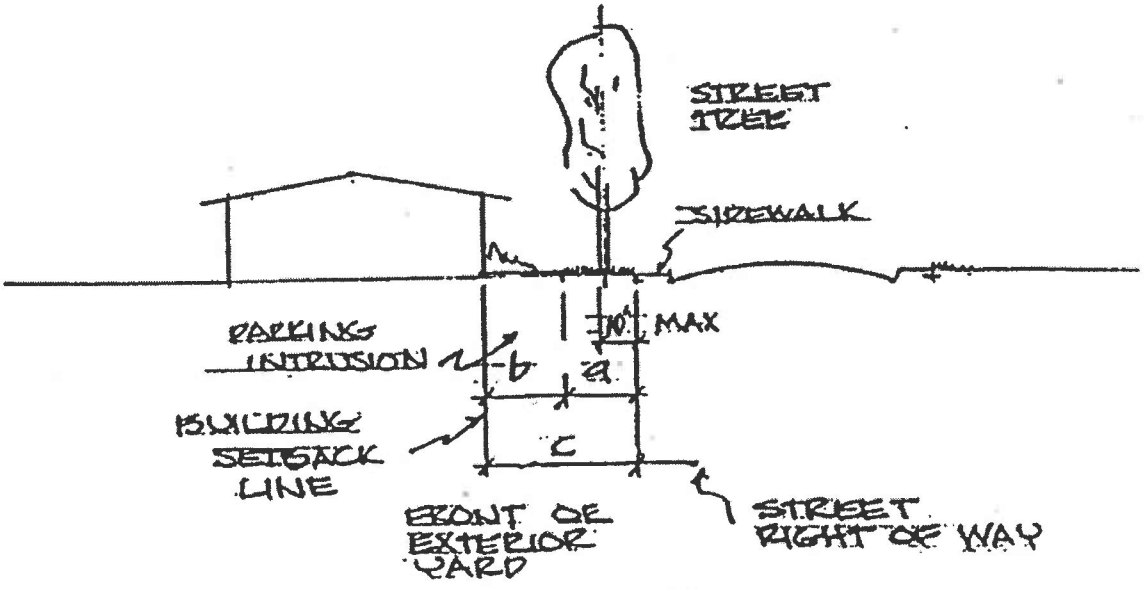
2) Parking is screened as provided in Section 23.035, Type E.

3) The required front or exterior yard is not also serving as a required buffer strip, as provided in Section 23.034, Type D.

(4) Approved plant materials installed in the area between the curb and the sidewalk may be used in meeting the landscaping requirements for front and exterior yards.

Residential Yard, Setback and Parking Intrusion - Schedule 23-1				
Type A Concept Sketch Distance				
Zone	(a) Parking Setback	(b) Parking Intrusion	(c) Required Yard Front/Exterior	
UR	10'	up to 2 vehicles/d.u.	20'	10'
R-1	10'	up to 2 vehicles/d.u.	20'	10'
R-2	10'	up to 2 vehicles/d.u.	20'	10'
R-3	10'	up to 5 ft.	20'	10'
R-4	10'	up to 5 ft.	10'	10'

* = see 23.031(2)(a)
d.u. = dwelling unit.
ft. = linear feet.



Type A: Concept Sketch
See Schedule 23-1 for (a), (b) and (c) distances

23.032 Type B: Commercial and Indoor Industrial Front and Exterior Yards

[6](1) The following landscape standards shall apply to commercial and indoor industrial uses in residential, commercial, and indoor industrial zones; and to residential uses in commercial and indoor industrial zones.

(2) Required front and exterior yards shall be landscaped, and building setbacks shall be maintained, according to the Type B Concept Sketch and Schedule 23-2. Minimum landscape requirements per 1000 square feet of a required front or exterior yard, or any portion thereof, shall be the following:

[6](a) Three trees at least eight feet in height, and one and one-half inches in caliper measured three feet from the base. Select from street tree list, Section 23.076, and plant within 10 feet of the right-of-way as per Type B Concept Sketch. Trees may be offset to permit signs in the Landscape Yard, but only as provided in Section 26.050, Landscape Yard Signs. Trees shall be kept trimmed of branches up to 14' from base five years following planting.

(b) Five five-gallon and ten one-gallon shrubs or accent plants.

(c) Remaining area treated with attractive living ground-cover, as defined in Article 30. Coverage with shrubs and living ground-cover shall be at least 50% upon installation and 80% after 3 years.

(3) No vehicle parking shall be permitted within a required landscaped yard, except up to a five foot depth of continuous parking intrusion, but only when all the following conditions are met:

(a) Landscaping equal in area to the parking intrusion is provided elsewhere between the front building line and the street right-of-way.

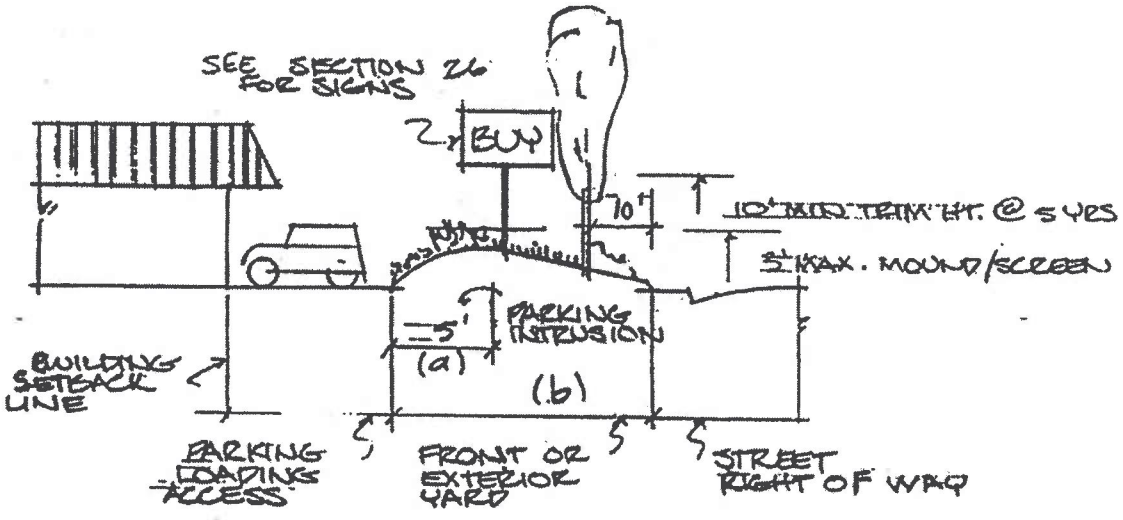
(b) Parking is screened as provided in Section 23.035, Type E.

(c) The required front or exterior yard is not a required buffer strip, as provided in Section 23.034, Type D.

4) Signs may be permitted in required landscaped yards, subject to the provisions of Section 26.050, Landscape Yard signs.

(5) Approved plant materials installed in the area between the curb and the sidewalk may be used in meeting the landscaping requirements for front and exterior yards.

Commercial/Indoor Industrial Yard, Setback and Parking Intrusion - Schedule 23-2			
Type B Concept Sketch Distance			
Zone	(a) Parking Intrusion	(b) Required Yard and Building Setback Front / Exterior	
NC	5'	20'	10'
GC	5'	10'	10'
CBD	5'	None*	None*
BP	5'	10'	10'
IP	5'	20'	10'
* Sidewalk treatment and street trees required per Downtown Plan. See Section 23.020 (2).			



Type B Concept Sketch

23.033 Type C: Outdoor Industrial Front and Exterior Yards

[6](1) The following landscape standards shall apply to outdoor industrial uses in outdoor industrial zones; and to residential, commercial, and indoor industrial uses in outdoor industrial zones:

(2) Required front and exterior yards shall be landscaped, and building setbacks shall be maintained, according to the Type C Concept Sketch and Schedule 23-3. Minimum landscape requirements per 1000 square feet of a required yard, or any portion thereof, shall be the following:

[6](a) Three trees at least ten feet in height and two inches in caliper measured three feet from the base. Select from street tree list, Section 23.076, and plant within 10 feet of the right-of-way as per Type C Concept Sketch. Trees may be offset to permit signs in the Landscape Yard, but only as provided in Section 26.050, Landscape Yard Signs. Trees shall be kept trimmed of branches up to 14' from base five years following planting.

(b) Fifteen five-gallon shrubs or accent plants.

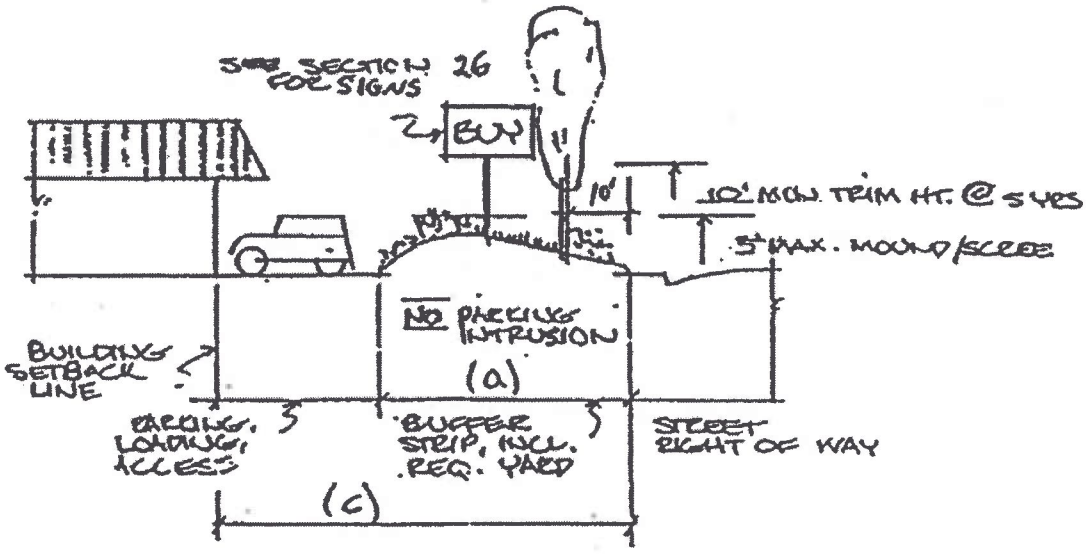
(c) Remaining area treated with attractive living ground-cover, as defined in Article 30. Coverage with shrubs and living ground-cover shall be at least 50% upon installation and 80% after 3 years.

(3) No vehicle parking or maneuvering shall be permitted within a required landscaped yard.

(4) Signs may be permitted in required landscaped yards, subject to the provisions of Section 26.050.

(5) Approved plant materials installed in the area between the curb and the sidewalk may be used in meeting the landscaping requirements for front and exterior yards.

Outdoor Industrial Yard, Setback and Parking Intrusion Schedule 23-3		
Type C Concept Sketch Distance		
Zone	(a) Parking Intrusion	(b) Required Yard and Building Setback Front/Exterior
I	-	10' 10'



Type C Concept Sketch

23.034 Type D: Buffering Between Zones. Buffering shall be required between zones. The property owner of each proposed development is responsible for the installation and maintenance of required buffers. The Director may waive the buffering requirements of this Section where such has been provided on the adjoining property in conformance with this Code.

(1) Required buffer strips shall be landscaped, and building setbacks shall be maintained, according to the appropriate Type D Concept Sketch and Schedule 23-4. Buffer strips facing a street shall include any required front or exterior yard, and shall not be required in addition to such yard.

(2) Buffer strips facing a street shall require minimum planting as follows:

(a) For Commercial/Indoor Industrial Zones facing a Residential Zone, Type B planting, Section 23.032 (1).

(b) For Outdoor Industrial Zones facing either Commercial or Indoor Industrial Zones, Type C planting, Section 23.033 (1).

(3) Buffer strips facing a property line shall require minimum planting of at least one row of trees, not less than eight feet high and one and one-half inches in caliper for deciduous trees and five feet high for evergreen trees at the time of planting, and spaced not more than 15 feet apart. Appropriate species may be counted as parking lot trees on an interior buffer, but only for those parking spaces abutting the buffer strip. The area beneath the trees shall be planted with a living ground-cover or shrubs giving 50% coverage at planting and 100% coverage within 3 years.

(4) No parking, loading or vehicle maneuvering area shall be permitted within a required buffer strip, excepting only a bike path.

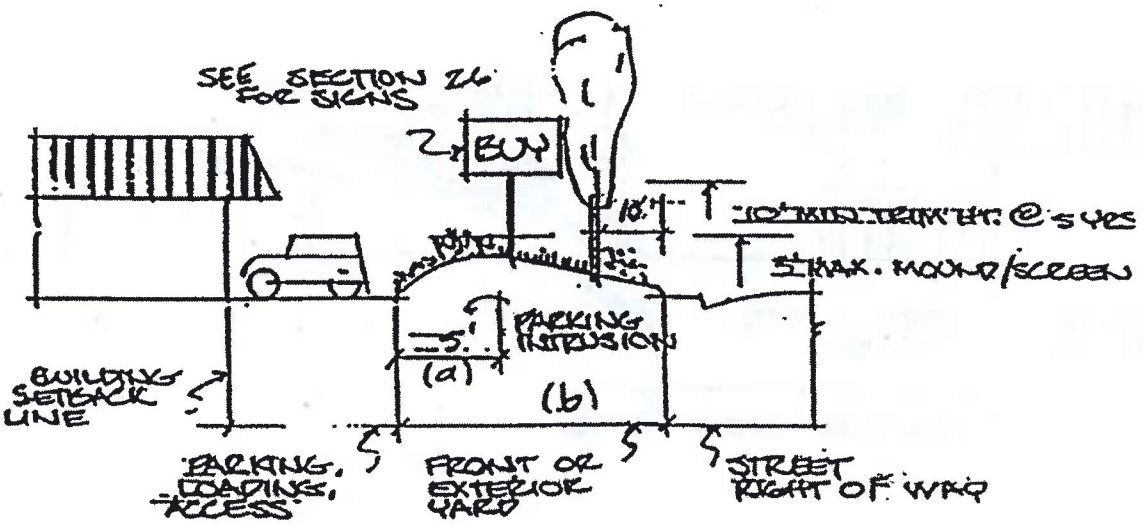
[6](5) Type D-4 interior buffers may be approved only upon the written agreement of all abutting parties, and the filing of a reciprocal maintenance and use easement by the appropriate party. Installation of plant materials and irrigation shall be at the expense of the party initially developing and as found in Section 23.050, responsibility for ongoing maintenance shall be specified in the easement document as required in Schedule 23-4. Minimum plantings shall meet the requirements of Type A, Section 23.031, when facing a residential zone, and shall meet the requirements of Type B, Section 23.032, when facing a commercial zone.

(6) Sound obscuring walls shall be of attractive masonry construction, or a combination of masonry and earth mound. Masonry materials shall be limited to brick, slump block or split block, all with integral color other than gray.

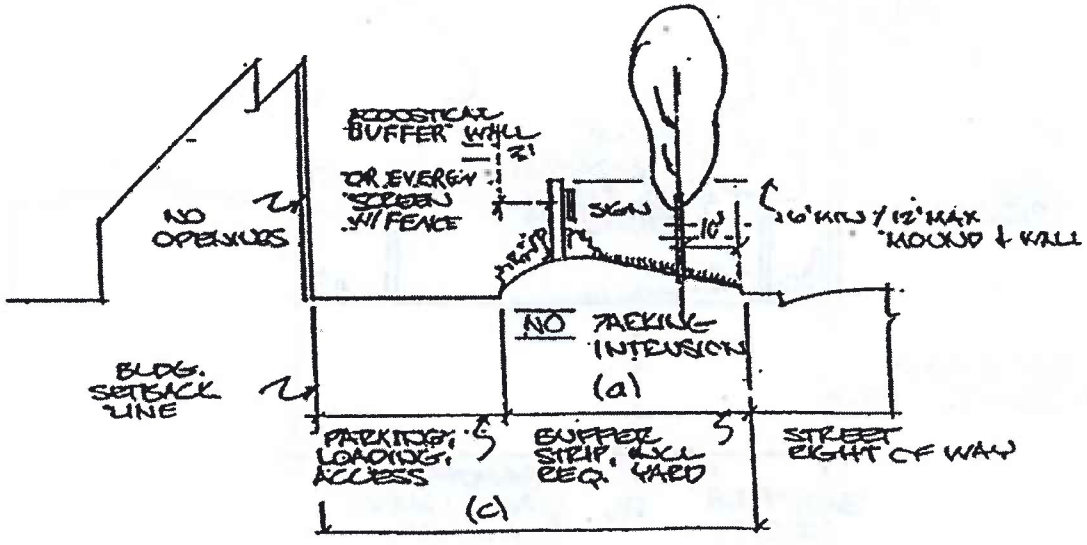
[7]Zone Buffer Building Setback and Buffer Strip - Schedule 23-4					
Buffering Between Zones	**Buffer Type**	**Building Setback Line***	**Buffer Strip**	**Facing Wall Building Openings**	**Fence or Wall Height**
Commercial or Indoor Industrial to Residential at Street	D-1	at R1-R3: 30' at R-4: 20'	20' 10'	Yes Yes	None None
Outdoor Industrial to Residential at Street, or to Indoor Industrial at Street, or to Commercial at Street	 D-2 D-2 D-2	 30' 30' 30'	 20' 10' 10'	 No** No** No**	 Fence or Wall 6' As required to meet sound standards Section 24.170. As required to meet sound Standards Section 24.170.
Commercial or Indoor Industrial or Outdoor Industrial to Residential at Property Line	D-3 D-3 D-3	20' 20' 30'	3' 3' 3'	Yes No No	Fence 6' Fence 6' Wall 8'
Outdoor Industrial to Commercial or to Indoor Industrial at Property Line	D-3	30'	3'	No	As required to meet sound standards Section 24.170
Manufactured Housing Park	D-3	10'	5'	Yes	Fence 6'
Commercial or Indoor Industrial or Outdoor Industrial to Residential Property Line Option	D-4 D-4 D-4	5' 5' 10'	Easement Easement Easement	No No No	Wall 6' Wall 6' Wall 8'

Fence = Sight obscuring fence
Wall = Sound obscuring wall, of attractive materials as provided in Section 23.034 (6)
* Building Setback Line measured from street right-of-way.
** Windows and person-doors for customer entrances are permitted into office areas, lobbies, and similar areas that do not contain noise or odor producing equipment, materials, or machinery, provided sound standards of Section 24.170 are met. Overhead doors and other openings are prohibited.

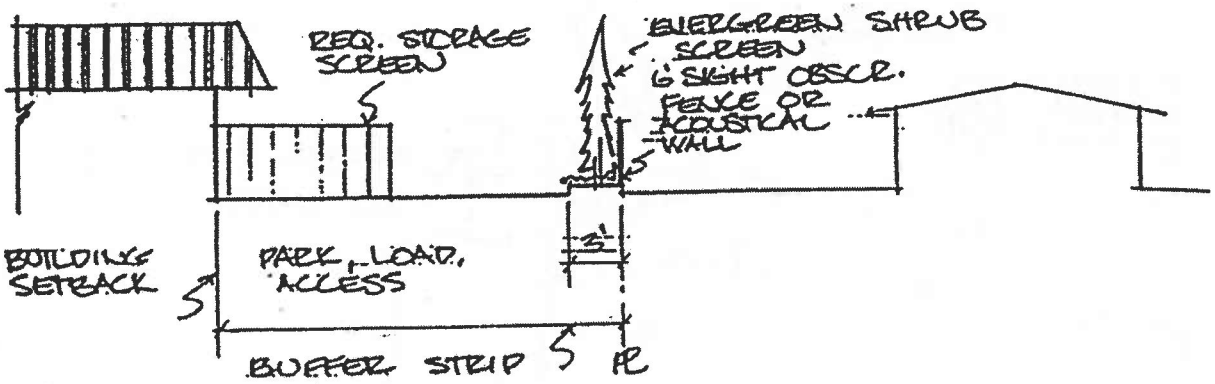
Type D-1 Concept Sketch
Commercial Buffering at Street



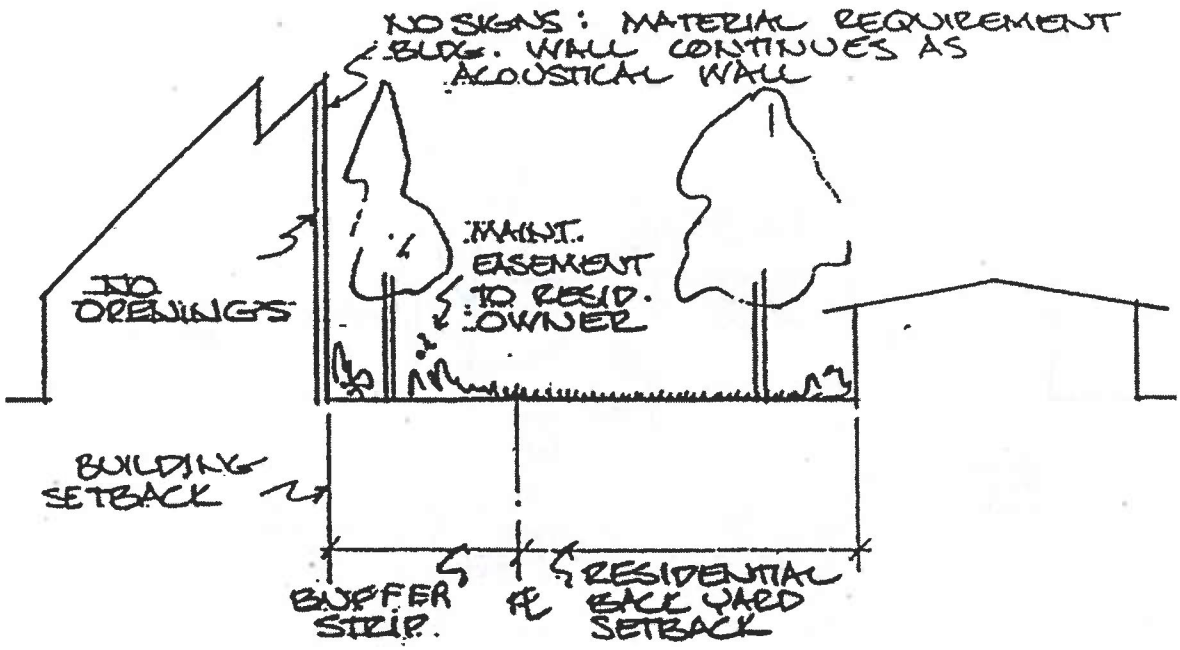
Type D-2 Concept Sketch
Industrial Buffering at Street



Type D-3 Concept Sketch
Commercial/Industrial Buffering at Property Line



Type D-4 Concept Sketch
Commercial/Industrial Buffering Option at Property Line



23.035 Type E: Parking Lot Landscaping and Screening
All parking lots, which for purposes of this Section shall include areas of vehicle maneuvering, parking and loading, shall be landscaped and screened according to the appropriate concept sketch and criteria, as follows:

(1) Screening at Required Yards. Parking abutting a required landscaped front or exterior yard shall incorporate a sight obscuring hedge screen into the required landscaped yard. The screen shall grow to be 18 inches higher than the finish grade of the parking area. The screen height may be achieved by a combination of earth mounding and plant materials. Elevated parking lots shall screen both the parking and the retaining wall. See Type E-1 Concept Sketch.

(2) Screening Abutting Property Lines. Parking abutting a property line shall be screened by a 3' landscaped strip according to Schedule 23-5. Where a zone buffer is required, the screening shall be incorporated into the required buffer strip, and shall not be an additional requirement.

(3) Landscape Standards. Parking lot landscaping shall be provided at the ratio of 1 tree and 16 square feet landscaping per ten parking spaces, in order to create a canopy effect. Trees and landscaping shall be installed as follows and as shown in the Type E-2 Concept Sketch.

[8](a) Landscaping shall be designed so there are no more than 5 parking spaces between any parking space and a tree. *See Figure 23-1.*

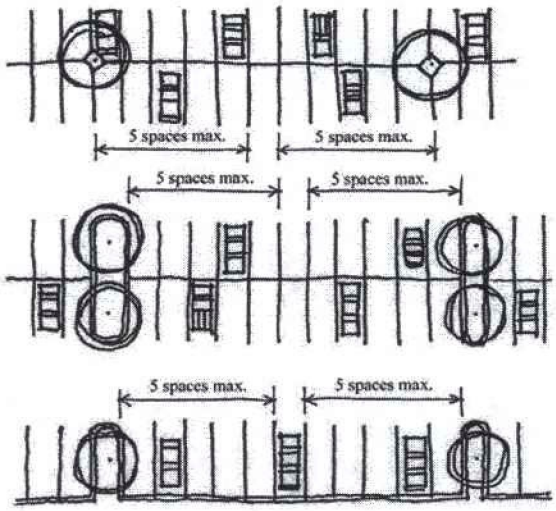
(b) The tree species shall be an appropriate large canopied shade tree, and shall be selected from the street tree list to avoid root damage to pavement and utilities, and damage from droppings to parked cars and sidewalks.

(c) The tree shall be planted in a landscaped area such that the tree bole is at least 2 feet from any curb or paved area.

(d) The landscaped area shall be planted with shrubs and/or living ground-cover to assure 100% coverage within 2 years.

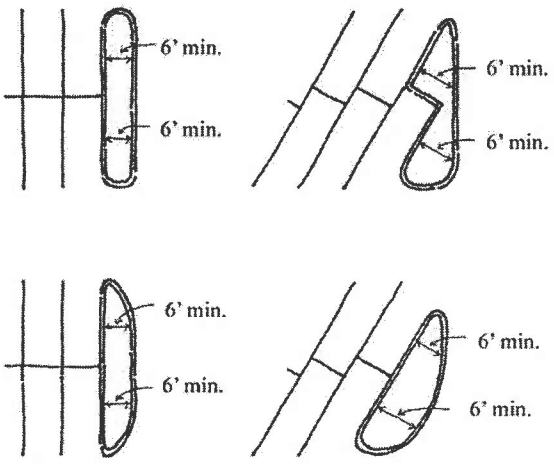
(e) Landscaped areas shall be evenly distributed throughout the parking area and parking perimeter at the required ratio.

Figure 23-1. Parking Lot Tree Distribution



[8](f) Landscaped end islands shall be provided at the end of parking rows. End islands shall be a minimum of 6 feet wide to the inside of curb at a point adjacent to the midpoint of the adjoining parking space. When there are unique site constraints, the Director may authorize minor modifications to this requirement, provided equivalent landscaping is provided. *See Figure 23-2.*

Figure 23-2. Landscaped End Islands



(g) That portion of a required landscaped yard, buffer strip or screening strip abutting parking stalls may be counted towards required parking lot landscaping but only for those stalls abutting landscaping so long as the tree species, living plant material coverage and distribution criteria are also met. Front or Exterior yard landscaping may not be substituted for the interior landscaping required for interior parking stalls.

[8](4) Landscaping Adjacent to Building. Development subject to the commercial design standards of Article 20 shall comply with the provisions of this Subsection. *See Figure 23-3.*

(a) Where a building face does not abut a landscaped yard or public sidewalk, landscape beds or planters at least 5 feet deep shall be incorporated adjacent to the building. If a concrete sidewalk with a minimum depth of 10 feet is present adjacent to the building, the landscape beds or planters may be located within the sidewalk area.

(b) The landscape beds or planters required in Subsection (a):

(i) shall be present along at least 30 percent of the building face when a sidewalk is present, or

(ii) along the full building face when a sidewalk is not present, except at points where pedestrian or vehicular access is present, such as a door or a loading dock.

(iii) are not required along the building face of a service corridor, service drive, or service courtyard that meets the requirements of Article 20.

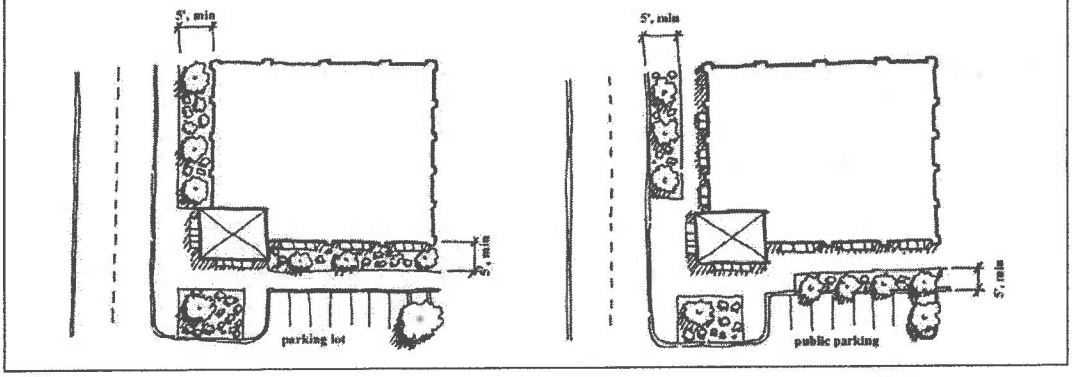
(c) Landscape planters between parking spaces or at the end of a parking row do not count as part of the landscape bed or planter required by this Section.

(d) Minimum landscape requirements per 1000 square feet of required planter, or any portion thereof, shall be the following:

(i) Ten five-gallon and twenty one-gallon shrubs or accent plants.

(ii) Remaining area treated with attractive living ground-cover, as defined in Article 30. Coverage with shrubs and living ground-cover shall be at least 50% upon installation and 100% after 2 years.

Figure 23-3. Landscaping Adjacent to Building



(e) Additional Landscaping and Sidewalks for Retail Development 30,000 Square Feet or Larger. In addition to the above requirements, any building 30,000 square feet or larger subject to this section shall provide all of the following along the façade. *See Figure 23-4.*

(i) A minimum 16-foot wide, 6-inch high raised concrete sidewalk along any building façade which faces a customer parking or circulation area.

(ii) Street trees selected from the street tree list shall be provided every 25 feet. The street trees shall be within minimum 5 foot by 5 foot tree grates or planters, and shall be located adjacent to the curb. The Director may authorize minor variations to the rhythm, spacing and distribution of trees to enhance the relationship to the building face, provided the required number of trees is not reduced and the trees generally remain equally distributed along the building face, with trees no closer than 20 feet on center. *See Figure 23-5.*

(iii) Street trees shall be protected from contiguous perpendicular parking spaces by use of wheel stops or 2-1/2 feet of additional sidewalk width between the tree and parking space as provided in Article 25.

Figure 23-4. Additional Sidewalks and Landscaping for Retail Development 30,000 Square Feet or Larger



Furnishing Zone	**Pedestrian Zone**	**Frontage Zone**
Street Trees, Light Poles Trash Cans, Benches Bicycle Racks, Flower Pots Benches	Clear Pedestrian Path	Planters, Outdoor Seating, Windows/Doors, Canopy/Awning, Façade Treatments

Figure 23-5. Alternate Spacing of Trees Along Building Face for Retail Development 30,000 Square Feet or Larger



The top illustration shows the standard placement of trees at 25-foot intervals. The bottom sketch shows how the tree spacing could be revised to relate to building entrances.

(5)[2] Residential Screening. Where a parking area or driveway would be located adjacent to a window on a residential building, the review body may require a hedge, mound, or other screen between the parking area or driveway and the window as per Type E-3 Concept Sketch.

(6) Wheel Guards. Parking lot landscaping shall be protected from damage by a secured wheel guard to prevent vehicles extending into landscaped areas.

(7) Hedge Screening. The hedge screen required in this Section shall be installed as follows:

(a) Evergreen shrubs of a species, initial size and on-center planting such that 50% of the desired screening is achieved in 2 years, 100% before 4 years, and the desired height is not exceeded.

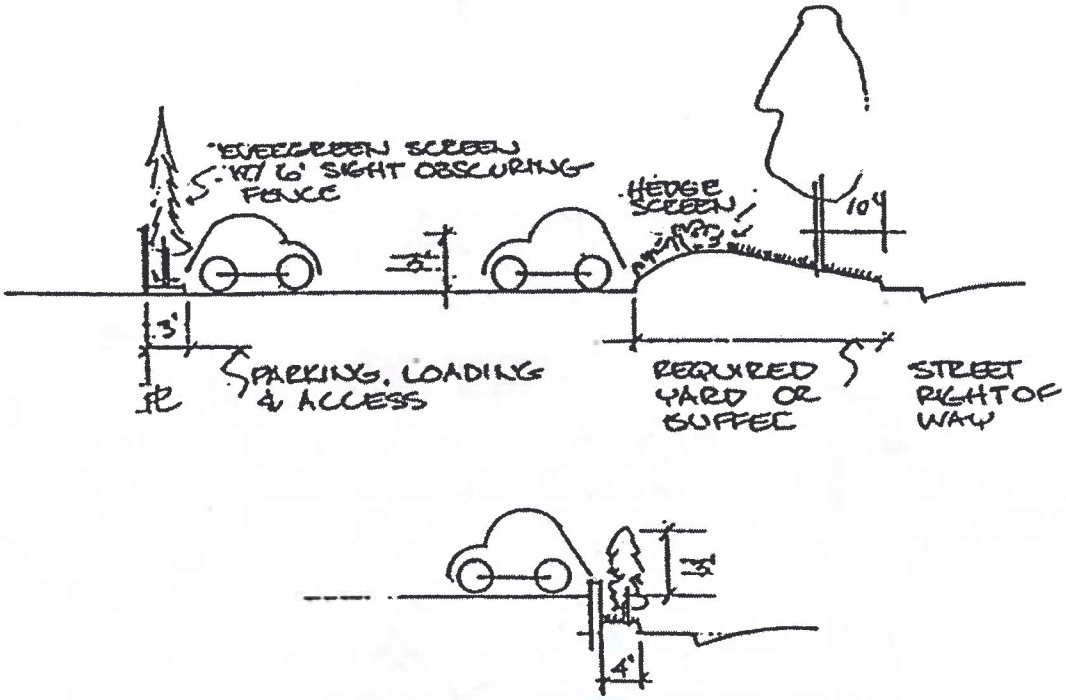
(b) Living ground-cover in the screen strip such that 100% coverage is achieved within 2 years.

(8) Hardship Variance of Parking/Landscape Standards.

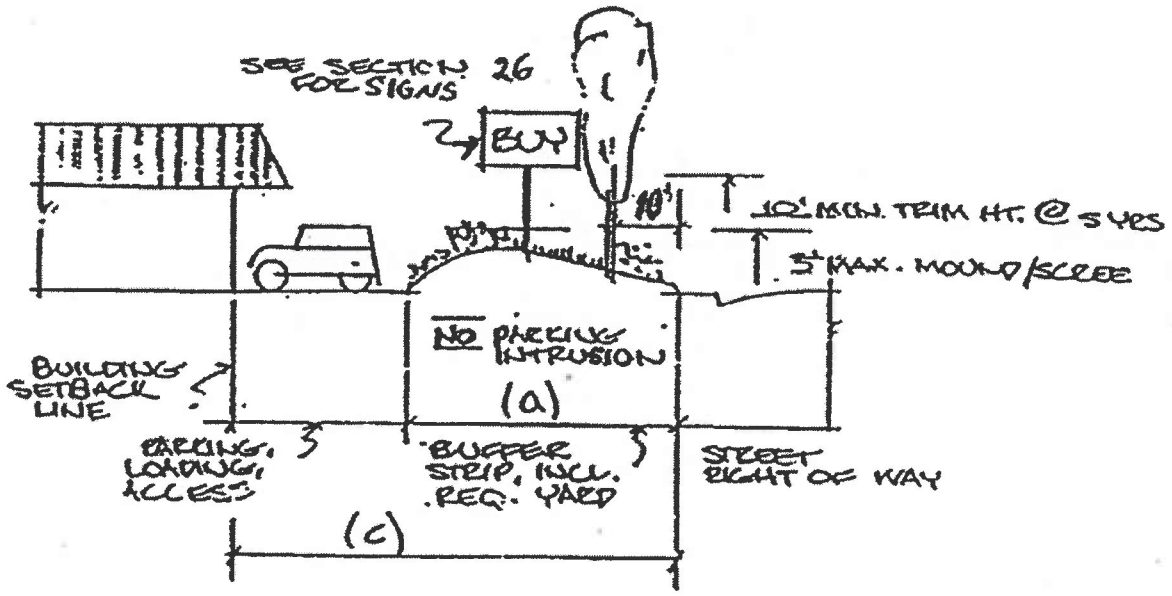
(a) For pre-existing lots with pre-existing development requiring a Development Permit, and unable to meet both the parking and the landscape provisions of this Code due to pre-existing lot and building configurations, the Director may authorize departure from the parking and landscape standards as follows: Required parking spaces reduced by up to 25%, required landscaped area reduced by up to 10%.

(b) No standards relating to size of plant materials, amount of living plant material coverage, or irrigation shall be reduced or waived. Any further reduction of parking or landscape standards shall require the Major Variance procedure as provided in Article 6.

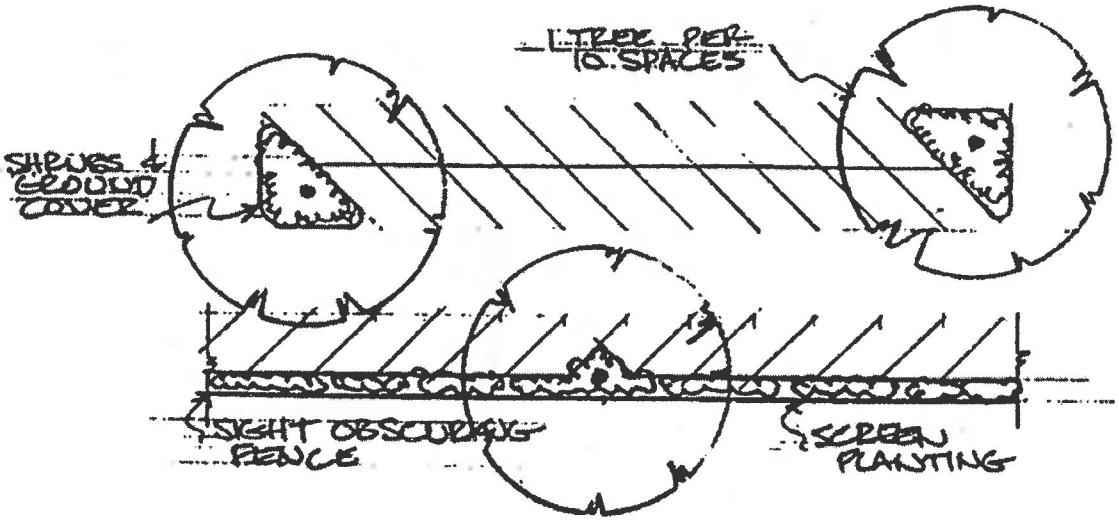
Parking Lot Screening Abutting Property Line Schedule 23-5		
Use of Proposed Parking	Use of Adjacent Property	Required Screening*
Commercial or Industrial	Residential	6' sight obscuring fence 8'-12' height hedge screen
	Commercial	18" height hedge screen
* The minimum width of required hedge screening is 3 ft. The screen area shall be 100% covered with living groundcover within 2 years.		

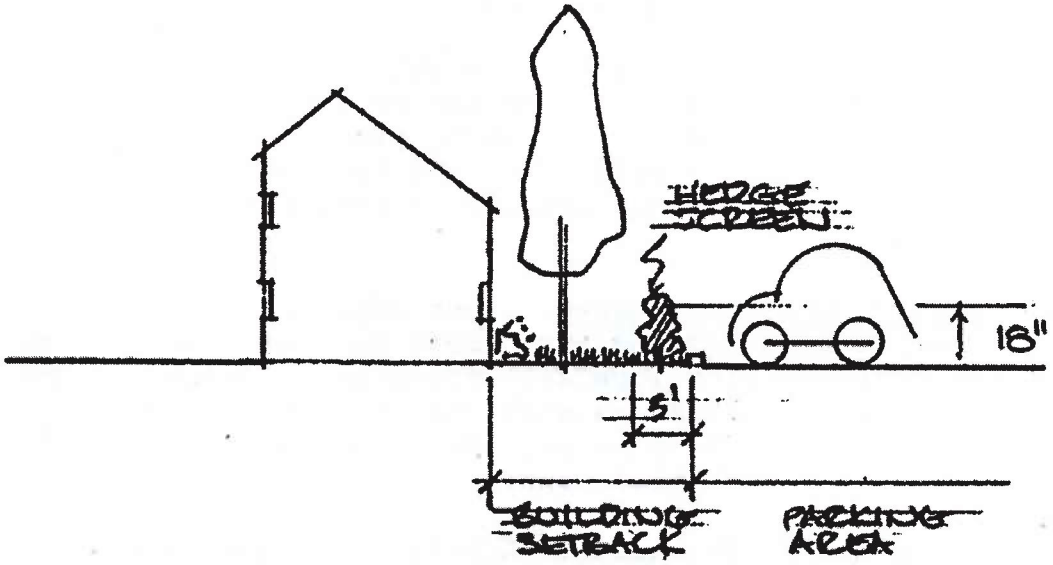


Type E-1 Concept Sketch
Parking Lot Screening



Type E-2 Concept Sketch
Parking Lot Screening





Type E-3 Concept Sketch
Parking Lot Landscaping

23.036 Type F: Other Screening. Other screening and buffering shall be provided as follows:

(1) Refuse Container Screen. Except for single family detached dwellings, any refuse container or disposal area shall be screened from view by placement of a solid wood fence or masonry wall from five to eight feet in height. All refuse materials shall be contained within the refuse area.

(2) Service Corridor Screen. When adjacent to residential uses, commercial and industrial service corridors shall be screened with Type E-1 screening. Siting and design of such service areas shall be such as to reduce the adverse effects of noise, odor and visual clutter upon adjacent residential uses.

(3) Light and Glare Screen. Artificial lighting shall be so arranged and constructed as to not produce direct glare on adjacent residential properties or streets.

[8](4) Mechanical Equipment. Development subject to the commercial design standards of Article 20 shall comply with the provisions of this Subsection.

Mechanical equipment shall be located and screened in one or more of the following ways. *See Figure 23-6.*

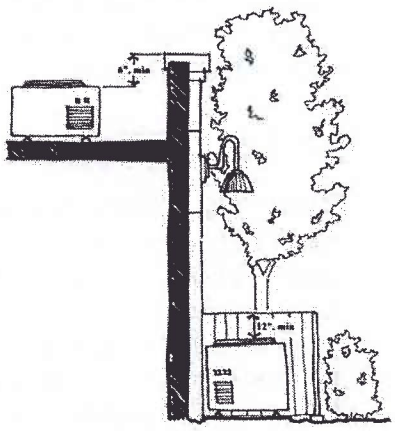
(a) It shall be oriented toward a service drive, service alley, service corridor, or service courtyard meeting the requirements of Section 20.320 *(See Figures 20-11 & 20-13)*, or screened from public view in the same manner as outdoor service areas as required in Subsection (5) of this Section. *See Figure 23-7.*

(b) It shall be located interior to the building, with all venting and exterior elements oriented toward a service drive, service alley, service corridor, or service courtyard meeting the requirements of Section 20.320 *(See Figure 20-11 & 20-13)*, or screened from public view in the same manner as outdoor service areas as required in Subsection (5) of this Section. *See Figure 23-7.*

(c) It shall be located on the roof and screened from public ground level view with a parapet at least 6 inches taller than the equipment, or

(d) It shall be located on the roof and screened from public ground level view with a rooftop equipment screen set back from the exterior wall, at least 6 inches taller than the equipment, with materials, colors, and detailing similar to the primary building materials and design.

Figure 23-6. Screening of Mechanical Equipment



[8] (5) Screening of Outdoor Service Areas. Development subject to the commercial design standards of Article 20 shall comply with the provisions of this Subsection.

(a) When the review body determines an outdoor service area cannot be oriented away from a public right-of-way or customer parking or circulation area per Section 20.320, the service area shall be screened with the following:

(i) A solid, opaque wood fence or masonry wall, or material with similar appearance, with a minimum height of 6 feet. The fence or wall shall be taller if necessary to screen the service functions from the right-of-way or customer parking and circulation area. It shall be at least 12 inches higher than the equipment it screens.

The fence or wall shall have materials, colors, and articulation similar to the primary building materials and design.

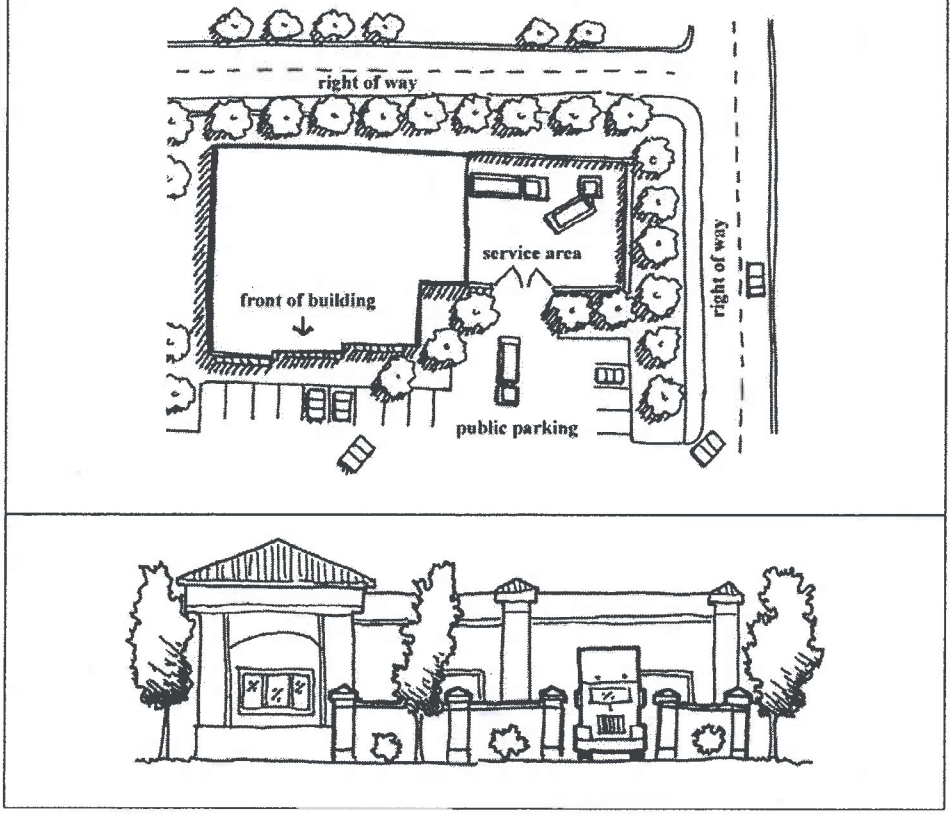
The fence or wall shall have a taller post or column a minimum of every 25 feet and where there is a change in height of the top of the fence or wall.

The fence or wall shall have a "cap" or "cornice" treatment with a finished surface that projects beyond the edge of the fence or wall surface, and the posts or columns shall have a "cap" or "capstone" treatment, such as a decorative top post feature or a finished surface that projects beyond the edge of the post or column.

See Figure 23-7.

(ii) A 10-foot deep landscape planter adjacent to the fence or wall, containing the plant materials that would be required for a Type B landscaped yard. If the fence or wall abuts a Type B landscaped yard, the requirements of this Subsection shall not be in addition to those requirements.

Figure 23-7. Screening of Outdoor Service Areas



[4]23.037 Fencing

(1) Fences in residential zones shall not exceed three feet in height in exterior yards and six feet in height in interior yards. However, a fence up to four and a one-half feet high may be placed a minimum of five feet from the front or exterior side/rear property line provided a continuous hedge is placed between the fence and the property line. The hedge shall, at a minimum, consist of one-gallon or larger hedge plants with a minimum space of four feet, and shall achieve a minimum height of three feet in two years.

(2) In commercial and industrial zones, any fence over three feet high shall be locate behind any required landscaped front or exterior/rear side yard. Any fence in an interior side or rear yard shall not exceed eight feet in height.

(3) Fences required as part of a zone buffer, Section 23.034, may exceed the maximum height for structures in that zone.

(4) A fence meeting required building setbacks may not exceed the maximum height for structures in that zone.

(5) Where permitted, a fence over six feet high requires a building permit as required by the applicable Building Code.

(6) No fencing shall conflict with the requirements of the clear vision area for streets and driveways.

(7) Every fence shall be maintained in a condition of reasonable repair and not be allowed to become or remain in a condition of disrepair including noticeable leaning, or missing sections, broken supports, non-uniform height, and growing or noxious vegetation.

(8) Link fencing less than seven feet in height shall be constructed in such a manner that no barbed ends shall be at the top.

(9) Barbed wire fences are prohibited at less than six feet above grade.

(10) Electric fences are prohibited.

(11) A fence height may be measured from the grade of either side of the fence, at the applicant's option, unless the fence is a retaining wall. A retaining wall for an area filled with soil, rocks or any other material used to raise the property is considered a fence. Its height shall be measured from the lower of the two finish grades.

[6]23.040 Submittal Requirements

In accordance with the major site plan submittal requirements of Section 19.072, at the time of application for major site plan review the applicant shall submit:

(1) A landscape plan including items specified in Section 23.041 and an irrigation plan with the items specified in Section 23.042; or

(2) A Concept Plan including the items specified in Section 23.043, if the applicant has obtained prior approval from the Director of the Community Development Department to follow the optional concept plan process.

23.041 Landscape Plan. The required Landscape Plan shall include the following:

(1) Identification and location of all existing trees over 8 inches in diameter as measured 3 feet from ground level, with notations indicating whether they are to be removed or utilized in the development. Clusters of trees may be noted in approximate locations.

(2) Existing and finished grades, with sections showing cut and fill for areas to be excavated below soils containing organic matter.

(3) Indication of general drainage flow with arrows, and location of all surface drains and subsurface drainways.

(4) Location of all required yards, screening and buffering areas, easements, and public rights-of-way, building foundations or pads, parking areas, walkways and other impervious surfaces, and all accessways and private streets.

(5) A schedule showing the percentage of impervious surface, landscaped area, and recreation open space, as a percentage of usable site area.

(6) Plant materials, including identity and spacing, using both symbol and schedule if necessary.

(7) Typical sections at building mass, planters in paved areas, landscape strips 10' in width or less, and landscaped berms, showing excavation, topsoil fill, finished grade, plant materials and irrigation.

(8) Other items needed to meet requirements of this Code, of landscape conditions resulting from Development Permit review.

[6]23.042 Irrigation Plan: The required irrigation plan shall include the following:

(1) Location of connection to the public water main and location of stub-outs to separate landscape areas.

(2) Identification of the type of irrigation system to be used, the location of irrigation facilities, and coverage to be achieved by the irrigation system.

(3) An accompanying letter from the designer of the landscape plan stating that the design of the proposed irrigation system can provide irrigation sufficient for the health and survival of the tree and plant species specified in the landscape plan.

[6]23.043 Concept Plan Option:

The applicant may utilize the Concept Plan option, if approval from the Director of the Community Development Department is obtained prior to application submittal.

(1) Concept Plan shall be submitted at time of application and the landscape and irrigation plans shall be submitted prior to issuance of the building permit as specified below.

(2) The Concept Plan shall include the following information:

(a) Location of all proposed landscape areas and square footage calculation of each area.

(b) Minimum number and size of the trees, 5-gallon, and 1-gallon shrubs to be planted in each landscape area.

(c) Location and size of existing trees that are to be removed and the trees that are to remain.

(d) Location of the irrigation service from the public water main, and location of the stub-outs to each landscape area.

(3) The landscape plan prepared in accordance with Section 23.041, and the irrigation plan prepared in accordance with Section 23.042 shall be submitted and approved prior to issuance of a building permit.

[6]23.044 Coordination With Other Required Plans. The required landscape plan, irrigation plan, and concept plan may be combined with other plans required by this Code, such as the drainage plan, erosion control plan, and site plan, so long as all information required may be presented in a clear and understandable fashion.

[6]23.050 General Landscape Design, Construction, and Maintenance Standards

All landscape and irrigation materials shall be designed, constructed, and maintained according to the standards of this Article and the following provisions:

[6]23.051 Design

(1) Except single family residences and duplexes, all development shall provide an automatic underground irrigation system.

(2) The landscape plan shall specify landscape materials which will achieve required levels of coverage as specified in this Article.

[6]23.052 Construction

(1) All landscaping materials and irrigation shall be installed according to approved plans.

(2) Preservation of Existing Plant Materials:

(a) The applicant shall provide methods for the protection of existing plant material to remain during the construction process. The plants to be saved shall be shown on the Landscape Plan or the Concept Plan and the method of protection shall be noted on the landscape plans. Example: Areas not to be disturbed can be temporarily fenced, as in snow fencing which can be placed around individual trees.

(b) Existing trees shall not have construction occur within the drip line, where possible. Trees to be saved shall be kept free from truck abrasion or soil compaction during construction, nor shall cut and fill occur within the drip line. The landscape plan shall provide for the location and variety of replacement trees in case of the subsequent death of existing trees.

(3) Soil Treatment in Landscaped Areas:

(a) Areas for required landscaping shall not be used as a waste dump or fill during the construction process. All waste material shall be removed from such areas prior to the application of topsoil.

(b) Soils devoid of organic materials shall not be utilized as topsoil for required landscape areas. Where such areas have been excavated to soil levels containing no organic material, the landscape plan shall provide for further non-organic soils removal and replacement with topsoil.

(c) The landscape plan shall provide specifications for topsoil, including depth, organic matter requirements, limits to sand, clay and gravel and other requirements designed to ensure the health and vitality of required landscaping.

[6]23.053 Maintenance

(1) All plant materials identified in the approved landscape plan shall be reasonably maintained. If any tree, shrub or living ground-cover dies or is relocated, it shall be the responsibility of the property owner to replace the landscaping, such that the landscaping continues to comply with the approved landscape plan.

(2) If plant materials have not achieved the required coverage over time as required by this code, then the property owner shall plant additional materials to achieve the required coverage.

(3) The property owner shall maintain the irrigation system in working condition to provide the irrigation necessary for the health and survival of the landscape materials.

23.060 Completion and Occupancy

23.061 Inspection Required

(1) Inspection shall be made prior to planting to verify proper rough grade, installation of irrigation, soil preparation and topsoil application.

(2) Plant materials shall be inspected prior to planting to insure that placement, quantity, size and variety conform to the approved landscape plan and the requirements of this Article. All plant specimens shall have the nursery tags identifying variety and species. All tags shall remain on plant specimens until final inspection.

(3) Final inspection shall be made following planting. Plantings contrary to the approved landscape plan shall not be approved.

[6](4) Inspection of the irrigation system shall be conducted prior to issuance of a Certificate of Occupancy. Water shall be turned on to demonstrate functionality of the system.

23.062 Completion Required.

(1) Approval of landscape installation is required prior to occupancy. However, for all development requiring a Landscape Plan, temporary occupancy permits may be issued prior to the complete installation and approval of all required landscaping if security equal to 110% of the cost of plant materials and labor as determined by the Director is filed with the City, assuring such installation within nine months of issuance of the temporary occupancy permit. An extension of three months may be granted by the Director when circumstances beyond the control of the developer prevents earlier completion.

[6](2) Prior to issuance of a Certificate of Occupancy, the applicant shall submit a letter from the contractor who installed the irrigation system, which states that the

irrigation system was installed according to approved plans and is functioning as designed.

23.063 Completion Guarantee

(1) Required security may consist of a faithful performance bond payable to the City, cash, certified check, time certificate, or deposit, or builders/developers lending agency certification to the City that funds are being held until completion.

(2) If the installation of the landscaping is not completed within the required period, the security may be used by the City to either complete the installation, or the security may be held by the City and other enforcement powers employed to prevent final occupancy until such time as the improvements are completed. Upon completion of the installation, any portion of the remaining security deposited with the City shall be returned.

(3) The final landscape and irrigation inspection shall be made prior to any security being returned. Any portions of the plan not installed, or improperly installed, shall cause the inspection to be postponed until the project is completed or cause the security to be used by the City.

23.070 Street Tree Standards

23.071 Street Trees. All development fronting on public or private streets approved following the adoption date of this Code shall be required to plant street trees in accordance with the following standards. Street trees to be planted shall be chosen from the recommended list of street trees found in Section 23.076 below. Approval for the planting of alternate species may be given by the Director.

[5]23.072 Location for Street Trees. Street trees shall be located outside of street right-of-way except in cases where there is a designated planting strip in the right-of-way, and as specified in requirements and restrictions in Section 23.030 and Section 27.313.

23.073 Spacing, Placement and Pruning of Street Trees . All tree spacing may be made subject to special site conditions which may for reasons such as safety critically impact the decision. Any such proposed special condition shall be subject to the Director's

review with written explanation to the Director as to why the special conditions are requested.

(1) Small or narrow stature trees (under 25 feet, less than 16 feet wide) may be spaced at any interval 20 feet apart or greater. Medium sized trees (25 to 40 feet tall, 16 to 35 feet wide) may be spaced at any interval 30 feet apart or greater. Large trees (over 40 feet, more than 35 feet wide) may be spaced at any interval 40 feet or greater.

(2) Trees shall not be planted closer than 25 feet from the curb line of intersections of streets or alleys, nor closer than 5 feet from private driveways (measured at the back edge of the sidewalk), fire hydrants, or utility poles.

(3) The Director may allow trees closer to specified intersections where intersections are signalized. No new utility pole location shall be established closer than 5 feet to any existing street tree. Tree pits shall be planned so as not to include premise services (water and gas meters, etc.) in the tree well. Premise services shall not be installed in existing tree well areas in the future.

(4) Street trees shall not be planted closer than 20 feet to light standards. Except for public safety, no new light standard location shall be positioned closer than 10 feet to any existing street tree, and preferably such locations will be at least 20 feet distant.

(5) Trees shall not be planted closer than 2-1/2 feet from the face of the curb except at intersections where it shall be 5 feet from the curb, in a curb return area.

(6) Where there are overhead power lines, tree species are to be chosen that will not interfere with those lines.

(7) Trees shall be planted within 2 feet of any permanent hard surface paving or walkway. Space between the tree and such hard surface may be covered by nonpermanent hard surfaces such as grates, bricks on sand, paver blocks, cobblestones, etc. This means that sidewalk cuts in concrete for tree planting shall be at least 4 X 4 feet to help allow for air and water into the root area.

(8) Trees, as they grow, shall be pruned to provide at least 8 feet of clearance above sidewalks and 12 feet above street roadway surfaces.

(9) Existing trees may be used as street trees if no cutting or filling takes place within the drip line of the tree. Sidewalks of variable width and elevation may be utilized to save existing street trees, subject to approval by the Director.

[6]23.074 Replacement of Street Trees. Existing street trees removed by development projects shall be replaced by the developer with those from the approved street tree list. The replacement trees shall be of size and species similar to the trees that are being removed, unless alternatives are approved by the Director. All replacement trees shall be a minimum of 1-3/4 inch caliper.

23.075 Exemptions. Exemptions from the street tree requirements may be granted by the Director on a case by case basis. Exemptions may be granted for example, if the location of a proposed line would cause potential problems with existing utility lines, etc.

[6]23.076 Approved Street Trees. The following tree species are recommended for use as street trees:

Small Trees - small or narrow stature trees (under 25 feet, less than 20 feet wide) may be spread at any interval 20 feet apart or greater. Sidewalk cuts to be a minimum of 4 x 4.

1. Acer Ginnala Flame - Flame maple
2. Cornus Florida - Flowering Dogwood
3. Pyrus Calleryana - Aristocrat - Aristocrat Pear
4. Pyrus calleryana Glens Form - chanticleer flowering pear
5. Prunus sargentii "columnaris" - sargent columnar cherry
6. Cercis Canadensis - Eastern Redbud

Medium Trees- medium size tree (25-40 feet tall, 16-35 feet wide) may be spread at any interval 30 feet apart or greater. Sidewalk cuts to be a minimum of 5 x 5.

1. Acer platanoides "crimson king" - crimson king maple
2. Prunus serrulata "kwanzan" - kwanzan cherry
3. Cercis canadensis - eastern redbud
4. Acer Rubrum "October Glory" - October Glory maple
5. Pyrus calleryana "redspire" - Redspire pear
6. Nyssa Sylvatica - Black Tupelo
7. Prunus subhirtella "autumnalis Rosea" - autumn flowering cherry

Large Trees - large trees (over 40 feet, more than 35 feet wide) may be spaced at any interval 40 feet or greater. Sidewalk cuts minimum 6 x 6.

1. Acer Rubrum "Armstrong" - Armstrong Maple
2. Acer Rubrum "Franksred" - Red Sunset Maple
3. Fraxinus Oxycarpa "Raywood" - Raywood Ash
4. Tilia cordata "Greenspire" - Greenspire Linden
5. Acer Saccharum "Green Mountain" - Sugar Maple
6. Fraxinus Americana "Junginger" - Autumn Purple Ash
7. Quercus palustris - pin oak
8. Liriodendron tulipifera - tulip tree
9. Fraxinus Pennsylvanica "Marshall" - Marshall Ash

Trees to be planted Under Power Lines - Small Trees - small or narrow trees (under 25 feet, less than 20 feet wide) may be spread at any interval 20 feet apart or greater. Sidewalk cuts to be a minimum 4 x 4.

1. Cercis Canadensis - Eastern Redbud
2. Acer Ginnala - Flame Maple
3. Cornus Kousa - Kousa Dogwood
4. Prunus Cerasifera "Thundercloud" - Thundercloud Plum

23.077 Prohibited Street Trees. The following tree species are prohibited from use as street trees as their roots cause injury to sewers, pavements, and sidewalks:

1. Salix spp - willows
2. Populus spp - cottonwoods/poplars

23.078 Street Trees Not Recommended. The following tree species are not recommended for use as street trees, for the reasons listed after each species. These trees may be planted if the problems are satisfactorily met and accepted by the owner, and so noted on the site plan. Some are desirable trees in the right situation.

1. Acer macrophyllum - big leaf maple; roots cause injury to sewers and pavement.
2. Acer Negundo - box elder; subject to wind damage.
3. Ailanthus - tree-of-haven; short lived, invasive roots.
4. Albizzia julibrissi - silk tree; litter, aggressive roots.
5. Alnus rubra -red alder; short lived, brittle, favorite of tent caterpillars.
6. Betula spp - birches; aphids, low branching, invasive roots, injury to sewers, pavements.
7. Catalpa - invasive roots, short lived, messy sidewalk problems.
8. Crataegus spp - hawthorns; insects and disease prone, aphids.
9. Platanus spp - sycamore, london plane; vigorous roots, damage to sidewalks, sewers, serious anthracnose disease.
10. Robinia pseudoalacia - a black locust; brittle, hazard, agressive roots, thorny.
11. Sorbus ausuparia - mountain ash; large crop messy fruits may be sidewalk hazard.
12. Ulmus spp - elms; elm leaf bettle, dutch elm disease, roots break walks, cause sewer problems.
13. Liquidambar Styraciflua - Invasive root system, damage to curbs, gutters, and utilities.

Fruit trees - litter
Nut trees - litter
Conifers - needles, low branching

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[1] Revised 10-22-93
[2] Revised 1-3-96
[3] Revised 10-20-94
[4] Revised 5-30-97
[5] Revised 10-22-93
[6] Revised 10-22-93
[7] Revised 4-20-05 by Ordinance 5286
[8] Revised 1-18-06 by Ordinance 5333

24.300 Water Quality Standards

24.310 Purpose. The purpose of the water quality standards are to protect the quality of the water resources of the area in order to assure maximum reasonable protection of public health, safety and welfare, and to protect the riparian environment for the enjoyment of the community.

24.320 Concept. This section is applicable to all new construction and land development. It is intended to regulate any activity that involves the discharge of waste, water, and the development or alteration of resources related to the natural flow of water.

24.330 Water Quality Regulations

The provisions of Chapter 340, Oregon Administrative Rules, Water Quality Control shall apply for control of water pollution sources.

[12]24.340 Water Quality Standards

24.341 Stream Corridor Setback. No structure other than accesses, loadings, docks, bridges pumping or water treatment facilities shall be located closer than 20 feet from the edge of the stream-bank.

24.342 Rogue River Buffer Area. Development shall be located outside the 100 year floodway pursuant to the provisions of Article 13.

24.343 Preservation of Riparian Vegetation. The stream corridor setback shall be used to preserve riparian vegetation within the banks of streams or the floodway of the Rogue River. Trimming of the vegetation in order to contain such vegetation within the banks or to alleviate a hazard is allowed. Noxious vegetation may be removed if replaced within 90 days by various combinations of plant materials and/or rip rap that stabilizes the stream bank and preserves the aquatic habitat.

24.344 Stream Channelization, Diking or Filling. Stream channelization is prohibited. Stream-bed alteration, stream-bank stabilization, removal of material from a stream-bank or bed, or the filling of a stream may require a permit from the Division of State Lands pursuant to ORS Chapter 196 and OAR Chapter 141 Division 85. Should such a permit be required, a development

permit shall not be issued by the Director until a duly executed permit is received from the Division of State Lands.

24.345 Wetlands. For purposes of this Code, "Wetlands" shall be designated for protection only within the bed and banks of the Rogue River and its tributaries. Wetlands within the Rogue River floodway shall be left in their natural state. Wetlands within the Rogue River floodplain shall be protected as much as possible. Alteration of wetlands of tributary streams shall be subject to the conditions of a permit from the State Division of Lands. (See Section 24.344 above.) Development runoff shall not be carried through these riparian wetlands

[13]24.346 Wetlands Notice.

(1) State notice requirements apply to all areas identified as wetlands on the Statewide Wetlands Inventory for the Grants Pass Urban Area. Initially this inventory shall consist of the National Wetlands Inventory produced by the United States Department of Interior, U.S. Fish and Wildlife Service, 1974, or superseding inventory for the Grants Pass Urban Area. Once the Oregon Division of State Lands provides the City with a copy of the Statewide Wetlands Inventory for the Grants Pass Urban Area in accordance with ORS Chapter 215, that inventory shall supersede the National Wetlands Inventory.

(2) The Directory shall provide notice to the Oregon Division of State Lands, the applicant and the owner of record, within five working days of the acceptance of any complete application for the following activities that are wholly or partially within areas identified as wetlands of the State-wide Wetlands Inventory:
   (a) Subdivision tentative plats.
   (b) Building permits for new structures.
   (c) Other development permits and approvals that allow physical alteration of the land involving excavation and grading, including permits for removal or fill, or both, or development in the flood-plains and flood-ways.
   (d) Variances that involve physical alterations to the land or construction of new structures.
   (e) Planned Unit Developments.

(3) The provisions of subsection (2) above do not apply if a permit from the Oregon Division of State Lands has been issued for the proposed activity.

(4) If the Oregon Division of State Lands fails to respond to any notice provided under subsection (2) above within 30 days of notice, the City approval may be issued with written notice to the applicant and the owner of record that the proposed action may require state or federal permits.

(5) For comprehensive plan map or zoning map amendments for specific properties, the City may issue local approvals for parcels identified as or including wetlands on the State-wide Wetlands Inventory upon providing to the applicant and the owner of record of the affected parcel a written notice of the possible presence of wetlands and the potential need for state and federal permits and providing the Oregon Division of State Lands with a copy of the notification.

[14]24.347 Storm Water Detention and Retention. See Sections 25.033(4) and 28.091.

24.350 Residential

24.351 Public Water Systems. Residential developments that provide for the provision of piped water for human consumption to three or more service connections and/or ten or more citizens, shall comply with the provisions of Chapter 333, Oregon Administrative Rules, Public Water Systems.

24.360 Commercial, Industrial and Municipal

24.361 National Pollution Discharge Elimination System Permit. No commercial, industrial or municipal development shall discharge any wastes into he waters of the streams and Rogue River without first obtaining a permit pursuant to Chapter 340, Division 45, Oregon Administrative Rules.

24.362 Waste Water Pollutants. No commercial or industrial development shall contribute any pollutant into the waste water that will interfere with the operation or performance of the municipal waste water treatment works pursuant to Municipal Ordinance No. 4469, Regulating Discharge of Pollutants, or its most recent update or replacement.

24.363 Municipal Water Systems. The municipal water system shall conform to the provisions of Chapter 333, Oregon Administrative Rules, Public Water Systems.

24.364 Paved Surfaces. All developments shall maintain their impervious surfaces in a litter and chemical free condition. New developments shall demonstrate that provisions are made to maintain the impervious surfaces in such clean conditions. Where new development is proposed abutting existing dirt roads and alleys will be paved with an impervious surface.

24.400 Land Quality Standard

24.410 Purpose. The purposes of land quality regulations are to assure that the health and safety of the citizenry is protected and that the land environment remains aesthetically pleasing for the community.

24.430 Solid Waste Management Standards

The provisions of Chapter 340, Oregon Administrative Rules, Solid Waste Management, shall be applicable for the control of solid waste disposal.

24.440 Commercial and Industrial

[15]24.441 Storage of Material and Equipment. All materials and equipment shall be stored and all grounds shall be maintained in a manner that will not attract or aid in the propagation of insects or rodents otherwise create a health hazard. The open storage of materials and equipment is permitted providing the storage area is contained within a sight obscuring fence or vegetative planting as provided in Section 23.036, Type F Screening.

The outside storage of chemicals and/or disposal of residues or products on site shall be permitted only after provisions are made for impermeable containment. Method of containment shall be approved by the City Engineer and the City Public Works Department as part of Site Plan Review process.

[16]24.500 Wetlands

24.510 Purpose. The purpose and intent of this section is to protect, conserve, and enhance locally significant wetlands. These wetlands are an important natural resource for flood and erosion control, water-storage and purification, wildlife habitat, open space, and recreation.

24.520 Wetlands Inventory. Wetlands are designated using methodologies approved by state and federal governments. The approximate boundaries of wetlands within the Grants Pass urban area depicted in the Grants Pass Urban Area Wetland Inventory, which is incorporated herein by reference.

24.521 Inventory Amendments. Where further scientific study or changes in state and/or federal regulations indicate wetland locations or boundaries other than those shown on the official inventory, and where such changes are accepted by the appropriate state and/or federal agencies, the Director shall cause such changes to be reflected on the Grants Pass Urban Area Wetland Inventory.

24.530 Wetland Conservation Classes. Inventoried wetlands are categorized by the Grants Pass Wetland Resource Plan in four classes.

(1) Not Locally Significant Wetlands: This category includes wetlands that meet state and federal regulatory definitions, but that, based on information that is available on location, quality and quantity, are not important enough to warrant inclusion on the inventory of locally significant wetlands.

(2) Development Class Wetlands: This class includes wetlands that are ecologically and scientifically significant, but, based on the analysis of ESEE consequences and other goals, conflicting uses should be allowed fully.

(3) Conservation Class Wetlands: This class includes those wetlands that are ecologically and scientifically significant, and that, based on the analysis of the Economic, Social, Environmental, and Energy (ESEE) consequences, both the wetland and conflicting uses are important relative to each other. Conflicting uses are allowed, but in a limited way so as to protect the resource site to the desired extent.

(4) Protection Class Wetlands: This class includes those wetlands that are ecologically and scientifically significant, and that are of such importance, based on the analysis of the Economic, Social, Environmental, and Energy (ESEE) consequences, that they should be protected from conflicted uses.

24.540 Development Class Wetlands and Not Locally Significant Wetlands

Development or alteration of development class wetlands, or wetlands that are not locally significant, is not restricted by this Section. State and federal permits must be acquired prior to the activity as required.

24.550 Conservation Class Wetlands

24.551 Allowed activities. The following activities are allowed in conservation class wetlands without a development permit provided they do not reduce the extent of the wetland or the degree to which a wetland performs any functions, nor does it involve any activity listed in Section 24.552:

(1) Educational and scientific research.

(2) Outdoor recreational activities such as fishing, bird watching, hiking, boating, and swimming.

(3) Mowing of grasses and forbs to alleviate a fire hazard, or removal of a hazardous tree. Removal of any tree greater than eight inches diameter or mowing of an area greater than one acre requires prior approval from the Director.

(4) Construction and maintenance of recreational trails.

(5) Continuation of agricultural practices in effect at the date of adoption of this ordinance.

(6) Maintenance of an existing public or private lawfully located facility, including roads, trails, dams, fences, and utility services.

(7) Removal or fill that does not exceed 50 cubic yards of material and that does not alter more than 1,500 square feet of ground and/or vegetation. Removal of any tree greater than eight inches diameter requires prior approval from the Director.

24.552 Conditionally permitted activities. The following activities are allowed in conservation class wetlands provided a development permit is first obtained in accordance with Section 24.553 below:

(1) Removal and or placement of more than 50 cubic yards of material, including soil, sand, gravel, minerals, aggregate, or organic material, or alteration of more than 1,500 square feet of ground.

(2) Construction of any structure.

(3) Removal of any existing vegetation or any activity which will cause any loss of vegetation in a wetland, except as listed in Section 24.551(3) and (7) above.

(4) Disturbance of existing surface drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics by any means, including grading and alteration of existing topography.

(5) Alteration of the water level or water table by any means, including draining, ditching, trenching, impounding, or pumping.

(6) Disturbance of water quality by any means including storm water run-off.

(7) Construction of street or utility improvements as shown on applicable master plans.

24.553 Criteria. The activities listed in Section 24.552 above may only be permitted provided the review body finds that the following criteria are met:

(1) The disturbance to the wetland is the minimum necessary to allow the permitted use. In no case shall the area disturbed exceed one acre cumulative on any wetland.

(2) The activity maintains to the extent practical the essential functions of the wetland.

(3) The wetland to remain is protected to the extent possible. Measures may include fencing of the area during construction, providing a buffer around the area to remain or other measures deemed necessary to protect the wetland.

[17]24.554 Procedure Type. Any activity listed in Section 24.552 shall be processed using the procedures in Schedule 2-1. Where the activity is in conjunction with an application requiring a higher procedure type, such as a subdivision or site plan, the application shall be processed concurrently using the higher procedure type.

24.555 State permits required. Prior to engaging in any of the activities listed above, the applicant shall obtain any necessary permits from the applicable state and/or federal agencies.

24.560 Protection Class Wetlands

24.561 Allowed activities. The following activities are allowed in protection class wetlands without a development permit provided they do not reduce the extent of the wetland or the degree to which a wetland performs any functions, nor does it involve any activity listed in Section 24.563.

(1) Educational and scientific research.

(2) Outdoor recreational activities such as fishing, bird watching, hiking, boating, and swimming.

(3) Mowing of grasses and forbs to alleviate a fire hazard, or removal of a hazardous tree. Removal of any tree greater than eight inches diameter or mowing of an area greater than 0.25 acres requires prior approval from the Director.

(4) Construction and maintenance of recreational trails.

(5) Continuation of agricultural practices in effect at the date of adoption of this ordinance.

(6) Maintenance of an existing public or private lawfully located facility, including roads, trails, dams, fences, and utility services.

(7) Removal or fill that does not exceed 50 cubic yards of material and that is necessary to maintain the functions of the wetland, such as removal of silt.

24.563 Prohibited activities. The following activities are prohibited within protection class wetlands:

(1) Those activities listed in Section 24.552 above.

(2) Removal or fill of material, except under 24.561(7).

24.570 Wetland Buffers. Wetland buffers are the impact area that must be protected in order to protect or conserve a wetland. Wetland buffers are designated in the Grants Pass Wetland Resource Plan, which is incorporated herein by reference. Where a buffer is designated, it extends 25

feet beyond the boundary of the wetland, unless a different distance is specified in the plan.

24.571 Permitted uses in buffers. Wetland buffer areas shall receive the same protection as the wetland itself. Allowed, conditionally permitted, and prohibited uses within the adjacent wetland are equally treated within the buffer.

24.572 Buffer Modifications. The review body may permit modifications to buffers. The width of a buffer may be reduced to no less than 10 feet provided an equal area of buffer is provided elsewhere adjacent to the wetland. An application to modify a buffer shall be processed using a Type I procedure, unless a concurrent application requires a higher procedure type.

24.580 Wetlands Notice.

(1) State notice requirements apply to development within all wetlands within Grants Pass urban area wetland inventory.

(2) The Director shall provide notice to the Oregon Division of State Lands, the applicant and the owner of record, within five working days of the acceptance of any complete application for the following activities that are wholly or partially within areas identified as wetlands on the Grants Pass Urban Area Wetland Inventory:

(a) Subdivision tentative plats.
(b) Building permits for new structures.
(c) Other development permits and approvals that allow physical alteration of the land involving excavation and grading, including permits for removal or fill, or both, or development in the flood-plains and flood-ways.
(d) Variances that involve physical alterations to the land or construction of new structures.
(e) Planned Unit Developments.

(3) The provisions of subsection (2) above do not apply if a permit from the Oregon Division of State Lands has been issued for the proposed activity.

(4) If the Oregon Division of State Lands fails to respond to any notice provided under subsection (2) above within 30 days of notice, the City approval may be issued with written notice to the applicant and the owner of record that the proposed action may require state or federal

permits. Any City approval shall comply with the provisions of this Article.

(5) For comprehensive plan map or zoning map amendments for specific properties, the City may issue local approvals for parcels identified as or including wetlands on the Grants Pass Urban Area Wetlands Inventory upon providing to the applicant and the owner of record of the affected parcel a written notice of the possible presence of wetlands and the potential need for state and federal permits and providing the Oregon Division of State Lands with a copy of the notification.

24.590 Variance Procedures. Any variance to the provisions of the Section shall be processed in accordance with Article 6: Variance Procedures and Criteria.

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[1] Revised 8-7-91
[2] Revised 8-7-91
[3] Revised 5-16-95
[4] Revised 8-7-91
[5] Source: HUD, Circular 1390
[6] Revised 8-7-91
[7] Source: HUD-953-CPD
[8] Revised 5-16-91
[9] Revised 8-7-91
[10] Revised 8-7-91
[11] Revised 8-7-91
[12] Revised 8-1-84
[13] Revised 1-8-92
[14] Revised 1-8-92
[15] Revised 1-8-92
[16] Added 1-7-98 by Ordinance 4919
[17] Revised 4-20-05 by Ordinance 5285

south, then the shade point height is one-foot less than what otherwise would be the shade point height. (See Concept Sketch 30-Shade Point and Shade Point Height.)

[95]Significant size tree: A tree which is greater than 12" diameter measured 4.5 feet from the base or a Madrone which is greater than 24" diameter measured 4.5 feet from the base.

Site: That parcel of real property in common ownership, notwithstanding that the particular application may be for development of a portion of the site only. Conveyance of less than fee title to different persons, such as by ground lease, shall not operate to prevent the requiring of site design review of the entire parcel.

Site Plan: A plan, prepared to scale, showing accurately and with complete dimensions, all the uses proposed for a parcel of land and other information as required by specific sections of this Code.

[96]Solar Access Permit: A document that describes the maximum permitted height of non-exempt vegetation on properties to which the permit applies to protect solar access on the property of the permit applicant, to the extent authorized by the City. A Solar Access permit shall include, but is not limited to, the legal description of the properties benefited and restricted by the Permit and copy of the sun chart, solar access permit height limitations, and information listed in The Solar Access Permit Height Limitations (Solar Envelope) of the solar energy system.

[97]Solar Access Permit Height Limitations: A series of contour lines rising in four-foot increments at an angle to the south not less than 27 degrees from the horizon (the altitude of the sun on January 21 at noon) and extending at an angle not greater than 55 degrees (the azimuth of the sun on March 21 and September 21 at 9 AM and 3 PM, respectively) east and west of true south, parallel to and beginning at the bottom edge of a solar energy system for which a Solar Access Permit is requested.

[98]Solar Building Line: A line designated on a lot south of which residential structures are precluded. The purpose of this line is to allow construction of a higher shade point on the lot to the south than would otherwise be allowed (See Concept Sketch 30-Solar Building Line).

This Chapter has been adopted by Ordinance 4444 §1, 1982

Chapter 6.36

ENCROACHMENT ORDINANCE

Sections:

6.36.010 General Definitions.
6.36.020 Permit Required.
6.36.030 Application in Writing.
6.36.040 Blanket Permits.
6.36.050 Issuance Fee Exemption.
6.36.060 Plans and Specifications.
6.36.070 Safety Devices, Lights, Barricades.
6.36.080 Denial of Permits.
6.36.090 Cancellation of Permits.
6.36.100 Restoration of Right-Of-Way.
6.36.110 Permittee Awareness and Liability.
6.36.120 Permittee to Pay for All Costs.
6.36.130 Special Provisions for Construction and Encroachment Permits.
6.36.140 Deposit Required.
6.36.150 Insurance.
6.36.160 Planting in Right-Of-Way.
6.36.170 Sight Distance.
6.36.180 Violations. (Ord. 4832 §3, 1995)
6.36.200 Appeal.

6.36.010 General Definitions.

A. "Encroachment" means the work of construction, placing, or installation of any improvement, plant, or other matter within, over, or under the right-of-way.

B. "Right-Of-Way" means any land or interest therein which by deed, conveyance, agreement, dedication, usage, or other process of law has been reserved for or dedicated to the City for use of the general public.

C. "Permittee" means any person who proposes to encroach upon a right-of-way and has been issued a permit.

D. "Director" means Director of the Community Development Department or his designated representative.

E. "Fee" means the issuance and encroachment fees established by City Council that are required prior to issuance of a permit.

6.36.020 Permit Required.

Every person except as otherwise provided in this ordinance shall obtain a permit from the Community Development Department before he:

A. Makes or causes to be made any excavating or encroachment in any road, street, or City right-of-way.

B. Places, constructs, or repairs any curb, gutter, sidewalk, driveway, pavement, base course, retaining wall, storm drain, culvert, pipe, conduit, cable, or other work of similar nature in, over, along, across, or through any street.

C. Places or leaves any impediment to travel upon any street, including trash or debris.

D. Erects or maintains any post, pole, fence, guardrail, wall, loading platform, or any other structure on, over, under, or within a right of way.

E. Plants or removes any tree, shrub, or growing thing within a right-of-way.

F. Places tables and chairs within the right of way in the Central Business District. The permit issued shall be in the form of a sidewalk café permit as set forth in Title 6, Chapter 6.47 of the Municipal Code. (Ord 5410 §1, 2007).

6.36.030 Application in Writing.

Application for a permit shall be made in writing to the City on the forms provided by the Community Development Department. By accepting this permit, the permittee agrees to be bound by all the terms and conditions set forth in the permit and in this ordinance.

6.36.040 Blanket Permits.

Blanket permit authorizations may be issued to any municipal utility district or public utility, subject to the compliance with all applicable provisions of this ordinance. The issuance of a Blanket permit authorization does not relieve the permittee from making such reports of activity as may be required and for paying for repairs and other costs incurred by the City due to the permittee's activity.

Blanket permit authorizations shall be limited to utility service installations including bore pits not exceeding three feet in width and length, installed at a right angle to the centerline of the road, or an excavation not exceeding thirty square feet in area outside the existing street surface, curbs, gutters and sidewalks, or repairs to poles, work on overhead lines or work in existing manholes, and emergency repairs. Two-way traffic shall be maintained at all times. (Ord. 5085 §1, 2001)

6.36.050 Issuance Fee Exemption.

The following shall be exempt from paying the issuance fee: The United States, this State, this County, all departments of this City, any school district, public utilities holding franchise with the City, and any special district organized under state laws. The Director may grant a permit without issuance fee if the work to be done has been requested by the City in connection with proposed public works.

6.36.060 Plans and Specifications.

All work shall be performed in accordance with the latest edition of the standard specifications for public works construction, including revisions or in accordance with the plans and specifications referred to in the permit, in addition to any special requirements and/or specifications which are made a part of the permit. In case of conflict between two specifications the higher specifications shall apply. No changes may be made in the location, dimensions, character, or duration of the encroachment, or use as granted by the permit except on authorization by the Director or his representative.

6.36.070 Safety Devices, Lights, Barricades.

In the conduct of the encroachment work, supplies and excavated material shall be properly placed and the permittee shall provide and maintain such safety devices, including but not limited to lights, barricades, signs, and flagmen as are necessary to protect the public and as ordered by the Director or his agents.

If the Director finds that suitable safeguards are not being provided, or that the permittee is creating a nuisance, he may provide, maintain, and relocate such safety devices or take such action as is deemed necessary, charging the permittee in accordance with the schedule of charges as adopted by the City.

6.36.080 Denial of Permits.

The Director may refuse to issue a permit under the following conditions:

A. When he finds that it is not in the best interest of the general public to do

so.

B. When he finds that it will be detrimental to the public health, safety, or welfare.

6.36.090 Cancellation of Permits.

The Director may cancel a permit for any of the following reasons:

A. When permitted work is not started within the time specified and/or is started, but not diligently prosecuted to completion.

B. By failure on the part of the permittee to provide for the public's safety.

C. By failure on the part of the permittee to comply with all of the requirements of the permit.

D. By creating a nuisance.

E. For cause.

6.36.100 Restoration of Right-Of-Way.

Upon completion of the encroachment work authorized, the permittee shall restore the right-of-way including all structures thereof by replacing, or rebuilding it in accordance with the specifications or any special requirements, but not less than to its original condition before the encroachment work was commenced. Where excavation occurs within areas already paved, a temporary paving shall be installed the same day the excavation is made. When replacing permanent pavement the thickness shall be one inch greater than that of the surrounding pavement or surface. The base course removed shall be replaced to a minimum of 12-inch thickness. When the street surface has been treated with a seal and/or slurry, the surface shall be replaced with 3-inch minimum of asphalt concrete.

6.36.110 Permittee Awareness and Liability.

The permittee shall investigate and be aware of all existing facilities and shall not interfere with any existing public or private facility without the consent of its owner. If it becomes necessary to relocate an existing facility, this shall be done by its owner or to the satisfaction of its owner. The cost of moving publicly and privately owned facilities shall be borne by the permittee. The permittee shall support and protect all wires, cables, pipes, conduits, poles and other apparatus both aerial and underground, by a method satisfactory to the owner.

6.36.120 Permittee to Pay for All Costs.

The permittee is liable for and shall pay for all engineering costs related to the permit, including but not restricted to the following:

A. The permit issuance fee;

B. Engineering, which includes design, inspection, survey, and tests;

C. Cost of any inspection, transportation, or for tests made;

D. The cost of repairing or restoring the streets and all appurtenant facilities to the same or equal condition that they were in before cut or damaged as a result of the permittee's activities;

E. The cost of furnishing and/or maintaining any lights, barricades, or warning devices;

F. The cost of removing or remedying any hazardous condition;

G. Any other cost to the City caused by the permittee's activity.

6.36.130 Special Provisions for Construction and Encroachment Permits.

The following applies to permits for the laying, construction, reconstruction, or repairing of curbs, sidewalks, gutters, driveways, street surfaces, and pipes. Driveways, approaches, sidewalks, curbs, and gutters shall be constructed of 217# cement (52 sack) 2500# concrete.

A. Driveways shall not be constructed in such a manner that will prevent a vehicle from being parked entirely off the public right-of-way after entering such driveway. The design of driveways shall be in accordance with City standards, as approved by the City Council. The minimum intervening distances between the side slopes or returns of adjacent driveways serving the same lot shall be twenty-two feet. Adjacent driveways serving two adjoining lots shall have at least one foot between the side slopes. Residential driveway approach, including the side slopes, shall not be located closer than 20 feet to the intersecting street right-of-way line. Commercial or service driveways shall not be more than 35 feet in width. In the case of a corner lot service drives, including the side slopes, shall not be closer than 20 feet to the intersecting street right-of-way line. Driveway approaches shall be a minimum of six inches thick. When a driveway is relocated, the abandoned existing driveway approach shall be removed and replaced with a standard curb section at the permittee's expense.

B. Sidewalks. Residential sidewalks shall be 5 feet wide, scored at 5 feet intervals and shall be 4 inches thick with a cross-slope of one-fourth inch to the foot. The cross-slope extended shall meet the top of the curb. Sidewalks shall be located adjacent to the back of curb, unless otherwise approved by the Director. Commercial sidewalks shall be four inches thick and as approved by the Community Development Department.

C. Plans. If in the opinion of the Community Development Department Director the work proposed to be done requires the making of plans or the setting of stakes, or both, he may require the application be accompanied by the necessary plans, which plans shall be prepared by a competent engineer.

D. Equipment. No tract laying equipment of any kind shall be permitted on any paved area unless equipped with street pads. Any damage to curbs, sidewalks, driveways, etc., shall be the responsibility of the permittee and shall be repaired to the satisfaction of the Director.

E. Open Trench. No open trench shall be opened in excess of one day's work.

F. Drainage. The permittee shall provide for proper drainage when encroachment work interferes with established drainage.

G. Services. Laterals, services, and other small diameter pipes shall be jacked, bored, or driven beneath a paved surface unless other methods are approved by the Director.

H. Minimum Cover. The minimum cover over any pipe or conduit installed under any public street shall be 30 inches measured vertically from the existing or proposed flow line of the nearest gutter.

I. Backfilling and Compacting. Backfilling and compacting of an excavation shall be in accordance with standards established by the Community Development Department and shall commence within 48 hours after working trench is completed.

J. Cleanup. Immediately after completion of the work the permittee shall clean up and remove all materials, earth, and debris of any kind.

K. Cutting Pavement. All concrete and pavement removed within the right-of-way shall be saw cut or otherwise removed so as to provide a uniform, smooth joint.

6.36.140 Deposit Required.

All applicants for such public improvements exceeding in valuation the sum of $1,000,000 shall file with the City a certified check, cash, or bond in the amount of 50% of the estimated cost of improvement, or a sum to be fixed by the Community Development Department Director as sufficient to reimburse the City for restoring the right-of-way to its original condition, or for correcting any condition arising out of any failure of the permittee to comply with any or all conditions of the permit. Where the size and nature of the project warrant, the Director may require an additional deposit of $500 to indemnify and reimburse the City for work done by or for the City in correcting traffic hazards, unsafe conditions, or unacceptable nuisances.

6.36.150 Insurance.

The applicant shall deposit with the City Finance Director a certificate of comprehensive public liability insurance covering the work to be done. Said policy shall be in the limits of not less than $300,000 for any one occurrence, $100,000 for any one person, and $50,000 property damage. This policy shall protect and save harmless the City, its officers, and employees against any and all claims, demands, or judgments. The policy shall further provide that the applicant and his insurance company shall defend and pay all costs of defending the City, its officers and employees, and any suit or action or other proceeding which may be filed against them, or any of the, as a result of the applicant's work and activities.

6.36.160 Planting in Right-Of-Way.

It is permissible to plant and maintain a lawn or similar ground cover not prohibited by law within the right-of-way of a public right-of-way without a permit. However, the lawn or similar ground cover shall not extend into the traveled way of the public highway nor into the drainage ditches, gutters, or other improved facilities.

6.36.170 Sight Distance.

No hedge, shrub, or other planting and no fence or other structure shall be planted, erected, or maintained in a right-of-way without a permit, upon any sidewalk or shoulder, or in such a manner which impedes, obstructs, denies, or impairs the sight distance for safe pedestrian or vehicular traffic.

6.36.180 Violations.

Every person, firm corporation, or other entity who performs any work regulated by this Ordinance, either without first obtaining a permit or having a permit, fails

or refuses to comply with any applicable provisions of this Ordinance or with any condition of the permit, shall be deemed in violation of this Ordinance. Any person who starts or performs any work regulated by this Ordinance without first obtaining a permit shall be charged double the established fees.
(Ord. 4832 §3, 1995)

6.36.200 Appeal.

Any person aggrieved by the refusal or revocation of a permit may appeal to the City Council within 30 days after the date of such action. The appeal shall be in the form of a written notice filed with the City Manager and signed by the applicant.

Ord. 997, 999 and 1433 have been repealed.
Chapter 6.42 has been amended by Ord. 4633 §1, 1988.

Chapter 6.42

STREET TREES

Sections:

6.42.100 Purpose and Objectives.
6.42.200 Definitions.
6.42.300 Authority of the Manager.
6.42.400 Permit Required.
6.42.500 Standards.
6.42.600 Certain Trees Prohibited.
6.42.700 Responsibility for Trees.
6.42.800 Protection of Trees on Public and Semi-Public Lands from Wanton, Malicious, and Negligent Harm.
6.42.850 Stumps.
6.42.900 Arborist Insurance.
6.42.925 Violation.
6.42.950 Enforcement.
6.42.975 Repeal.
6.42.990 Severance.

6.42.100 Purpose and Objectives.

Trees, as defined, regulated and protected herein, are declared to be a natural community resource, and it is the intent of the Grants Pass Council to protect and regulate them as a means to achieve the following objectives:

1. To purify the air by reducing dust and other air contaminants.
2. To provide shade and wind protection.
3. To reduce street noise and glare.
4. To screen unsightly objects and scenes.
5. To keep the City streets free from dead, unhealthy, or hazardous trees.
6. To beautify and provide a pleasing, restful, healthy environment.

These objectives are in the interest of the health, safety and welfare of citizens and visitors to the City.

The Grants Pass Council also finds that (a) the better use of this resource will improve the appearance of the City and enhance tourism, a major component of

the economy of the City, and (b) the enhancement of this resource is consistent with, and materially aids, the accomplishment of the purposes of the City's Comprehensive Plan (including 3.1, 3.2, 3.40, 3.50, 5.24, 5.25, 7.1, and 7.4).

6.42.200 Definitions.

A. Tree. A woody perennial plant, usually with one main trunk, attaining a height of at least six (6) feet at maturity, and a shrub when planted in, or projecting upon, a City right-of-way.

B. City. Means the City of Grants Pass, Oregon.

C. Person. Includes any individual, firm, association, or corporation of any kind, whether acting directly or through an agent.

D. Owner. The possessor of title to the land on which particular trees stand (or the owner's agent); in the case of a tree on semi-public land the owner is considered to be the owner of the fee title to the land.

E. Manager. The City Manager of the City of Grants Pass or any City employee appointed by the Manager to act for the Manager.

F. Public Land. Any land belonging to the City of Grants Pass.

G. Semi-Public Land. Land on which the City of Grants Pass has (a) a right-of-way or other easement such that the City has the legal right to control or regulate the planting, care, and disposal of trees on such land or (b) the right, pursuant to intergovernmental agreement, contract, lease, or law, to exercise control over the land, that is broad enough to encompass the planting, care and disposal of trees on such land.

H. Topping. The severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown to such a degree so as to substantially remove the normal canopy.

6.42.300 Authority of the Manager.

A. Regulation. The Manager shall have the authority to enforce this ordinance, including the planting, maintenance and removal of trees on public and semi-public property to preserve or enhance safety or aesthetics.

B. Supervision. The Manager shall have the authority and it shall be his duty to supervise or inspect all work done under an Encroachment Permit issued in accordance with the terms of this ordinance.

C. Conditions of Permit. The Manager shall have the authority to affix reasonable conditions to the granting of a permit in accordance with this ordinance.

6.42.400 Permit Required.

No person shall plant, set out, prune, root prune, remove, cut above ground, kill, or otherwise disturb any tree on public or semi-public property without first filing an application for, and procuring, an Encroachment Permit from the City Manager. The person receiving the permit shall abide by the standards adopted pursuant to Section 500 below.

A. Planting. The application required herein shall state (1) the number of trees to be planted or set out, (2) the location, size, species or variety of each tree and (3) such other information to allow a fair determination of whether a permit should be issued.

B. Removal and Replacement.

1. The application required herein shall list the reason(s) for requesting tree removal. The property owner shall bear the cost of removal and replacement of all trees removed and the costs of any public property damaged during removal or replacement. The tree(s) need not be replanted if such tree(s) is inconsistent with the easement.

2. Whenever it is necessary to remove a tree or trees from semi-public land in connection with the paving or widening of a street, the City shall replant such trees or replace them. This requirement will be satisfied if any equivalent number of trees are planted according to standards adopted pursuant to Section 500.

3. Trees may be removed or relocated in the following cases:

   a. Trees which pose a safety hazard to pedestrian or vehicular traffic or unmanageably threaten or cause a disruption to public utilities service;

   b. Trees which pose a safety hazard to building;

   c. Trees which prevent physical ingress and egress to a building, lot or parcel of property;

   d. Trees which prevent the development of a lot or parcel, or the physical use thereof;

e. Diseased trees which are a hazard to people, buildings, or other improvements on a lot or parcel, or to other trees;

f. Trees so weakened by age, storm, fire, ice, or other injury so as to cause danger to persons or property;

g. Dead trees;

h. Trees which are replaced by other trees within four months pursuant to a plan mutually approved by the property owner and the City;

i. Trees of the species listed in Section 600, if the property owner and the City agree to the removal.

6.42.500 Standards.

The Manager shall develop reasonable standards for the planting, maintenance and removal of trees to carry out the purposes of this ordinance. These standards will apply to trees within Grants Pass city limits on public or semi-public land. These standards may be amended as the need arises, by the Manager. The standards shall include, but not be limited to, the following:

A. Acceptable tree species and varieties with information on the appropriate placement of each.

B. Height clearances over streets, sidewalks, or other sections of the right-of-way.

C. Sight clearances for traffic signs and signals, street lights, intersections and other traffic related fixtures.

D. Utility clearances including, but not limited to, sewers, storm drains, curbs, sidewalks, driveway aprons, streets, power or telephone lines, fire hydrants and water meters.

E. Circumstances requiring, and procedures for planting, care or removal of trees.

6.42.600 Certain Trees Prohibited.

No person shall plant in any semi-public area the following trees; poplar, willow, cottonwood, fruit trees, nut trees, or ailanthus (tree of heaven).

6.42.700 Responsibility for Trees.

A. Owner Tree Care. Trees on semi-public lands, or those on private lands affecting the use of public or semi-public lands, are the responsibility of the owner of the land where the tree is rooted. With regard to such trees:

1. When such tree(s) become hazardous to person or property, it is the owner's responsibility to remove the hazard at the owner's expense;

2. Tree maintenance required for the protection and proper operation of public utilities, safe public use of rights-of-way, etc., shall be done in accordance with the standards adopted pursuant to Section 500. The consent of the owner need not be obtained; however, a reasonable attempt shall be made to notify the owner before work is begun.

3. Private Trees. No person shall have on his land a tree that constitutes a hazard to person or property.

4. Semi-Public Tree Care. The City shall have the right to plant, prune, maintain and remove trees in accordance with standards developed pursuant to Section 300, within the right-of-way of all streets, alleys, squares and public ground, as may be necessary to ensure public safety or to preserve or enhance the symmetry and beauty of such semi-public grounds.

6.42.800 Protection of Trees on Public and Semi-Public Lands from Wanton, Malicious, and Negligent Harm.

In relation to any tree or shrub on public or semi-public land, the following acts shall also be illegal:

A. To break, injure, mutilate, burn, kill, remove, or destroy any tree or shrub without authority to do so as set forth in this ordinance:

B. To permit any toxic chemical, either solid or liquid, to pass, drain or be emptied on or about any such tree;

C. To knowingly permit any wire designed to carry electrical current to be attached to any tree, except as consistent with standards developed pursuant to Section 300;

D. To excavate any tunnel, ditch, or trench, or to lay any driveway, sidewalk or pavement through or across the root zone of any such tree, except as consistent with standards developed pursuant to Section 500;

E. To attach any wire, rope, cable, poster, sign, nail, or other fastener to such tree or shrub, except as consistent with standards developed pursuant to Section 500;

F. To place, deposit or store any stone, brick, sand, earth, or other material as to impede the passage of water, air and fertilizer to the roots of any such tree or shrub, except as consistent with standards developed pursuant to Section 500;

G. To move any building or other large object along any street in such a manner as to damage any such tree;

H. To build any structure, pavement, utility or other construction in violation of any provision of this ordinance;

I. To prevent, delay, or interfere with the Manager or any of his agents, engaging in or about the planting, maintenance, or removal of any tree or as authorized in this ordinance;

J. To top any tree on public or semi-public land, except in respect to trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions, where other pruning practices are impractical, as determined by the Manager in accordance with the standards developed pursuant to Section 500.

6.42.850 Stumps.

Stumps of trees or shrubs on public or semi-public land are hereby declared to be a public nuisance and must be removed in accordance with the standards adopted pursuant to Section 500.

6.42.900 Arborist Insurance.

It shall be unlawful for any person to engage in the business, occupation or profession of pruning, treating or removing trees in public or semi-public areas within the City limits of Grants Pass without first obtaining liability insurance in the minimum amount of $300,000.

6.42.925 Violation.

Violating of Sections 400 through 990 constitutes an offense. Each day the violation is caused or allowed to exist constitutes a separate offense.

6.42.950 Enforcement.

A. The Manager or his duly authorized representative shall be charged with the enforcement of this ordinance.

B. A violation of any provision of this ordinance is declared to be a nuisance and may be treated as such by the City and by any court of competent jurisdiction.

C. Any person violating any provision of this ordinance shall, upon conviction, be fined a sum not exceeding $500 or be imprisoned in the County Jail for a period not exceeding six months, or be punished by both fine and imprisonment.

D. As an alternative to 3. above, any person alleged by the Manager to have violated this ordinance may be notified of the right to a hearing before the Grants Pass Council or its designated hearings officer. There shall be at least two weeks notice before the hearing. This two week period includes any other waiting or notice period which shall be considered a part of this two week notice. If the hearing is adverse to the property owner, the Manager may, after one week from the Council's decision, abate the nuisance, by whatever means are reasonably necessary and charge the cost thereof to the person causing the violation.

In addition, the City may also seek judicial assistance through injunctive relief.

If a violation constitutes an immediate and serious threat to the public health, safety, or welfare, the Manager may abate the nuisance immediately, without notice or prior hearing.

6.42.975 Repeal.

Ordinance numbers 1433, 997, and 999 are hereby repealed.

6.42.990 Severance.

If any part of this ordinance is declared invalid by court of competent jurisdiction, such decision shall be deemed to apply to that part only and shall not affect the validity of the ordinance as a whole or any part thereof other than the part declared invalid.

6 Technical Memo #4
Review of Attitudes, Perceptions, Concerns, Threats, Opportunities and Constraints

City of Grants Pass
Urban Forestry Plan
for the City of Grants Pass and Urbanizing Area

Technical Memorandum #4:
Review of Existing Attitudes, Perceptions, Strengths, Weaknesses, Opportunities, Threats, Constraints, and Concerns

To: Urban Forestry Advisory Committee
From: Scott Lindberg, Assistant Planner
Tom Schauer, Code Analyst
Date: August 21, 2006
CC: Jim Huber
Carla Angeli Paladino
David Frasher

Introduction

This is the fourth of eleven Technical Memoranda that will comprise the Urban Forestry Plan for the City of Grants Pass and the Urbanizing Area. It identifies existing attitudes, perceptions, concerns, threats, opportunities, and constraints that will contribute to or constrain the development of alternatives and implementation of the Urban Forestry Plan.

Purpose

This memo contains two components:

1. **Part 1. Attitudes and Perceptions.** It provides an inventory that summarizes existing information about attitudes and perceptions associated with trees and the urban forest. The existing information is not complete, but is largely anecdotal.

2. **Part 2. Strengths, Weaknesses, Opportunities, Threats, Constraints, and Concerns.** It provides an opportunity to identify issues that became apparent after reviewing Technical Memos 1, 2, 3, and 5. Awareness of these issues may be the result of learning from an individual document or better understanding the cause and effect relationships that illuminate why certain issues exist.

   This document provides for problem identification and ideas about how to start addressing these problems and taking advantage of opportunities. This document provides the opportunity to cross-analyze and synthesize the information in the other documents, which were primarily inventory or compilation documents. This document asks questions about the existing conditions. It should help provide a better understanding of positive or negative trends occurring by design or accident, and to get some baseline information as to how our objectives and management practices compare with other communities, particularly those considered to employ best practices. This document provides an opportunity to articulate what should change, what should be reinforced, and to develop ideas about what areas should be explored for effecting change.

This document predominantly articulates the issues. Once the issues are identified, that lays the groundwork for developing policy to state how to go about resolving the issues. That will provide direction to focus on specific ways to achieve that policy through implementation.

By identifying the attitudes, perceptions, concerns, threats, opportunities, and constraints, this memo identifies the legal, financial, physical, practical, and value-based parameters that will help guide development of, and revisions to, policy and alternatives for implementing the urban forestry plan. Some of these items are fixed parameters, and alternatives must work within those constraints. Other items are flexible and can be changed to accomplish desired objectives. Some items may be fully under local control, while others may require action by other agencies or state or federal government.

In addition, this memo identifies how the urban forestry plan may be desirable or necessary to accomplish objectives of related plans. For example, trees are effective at accomplishing stormwater management objectives. The Urban Forestry Plan and the Stormwater Management Plan that will soon be adopted should complement one another. As another example, once DEQ has adopted final water quality standards for the Rogue River, it may be necessary to increase tree canopy along the tributaries of the Rogue River to meet temperature TMDL (Total Maximum Daily Load) standards for the Rogue River. In fact, shade provided by trees may be one of the few practical alternatives available to satisfy a legal mandate related to water quality.

Executive Summary

The work on the other Technical Memos has resulted in substantial staff education and awareness of issues. Many of these issues may already have been apparent to committee members. Some issues were previously apparent, but others have become obvious after reviewing the related documents. The work on those documents has led the ability to raise a substantial number of issues for consideration in this document. The inventory work and discussions that have occurred so far have already helped identify issues for inclusion in this document. This provides an excellent opportunity to articulate the wide variety of issues and begin to think about policy and implementing measures to address the issues. Technical Memo #5 has identified substantial guidance on desired planning approaches and practices, and it has also identified some key "next steps" that may be needed as part of this plan or as recommendations for next steps or future work to be accomplished upon completion of this plan. The individual issues summarized below are too extensive and diverse to make broad generalizations in this executive summary.

This draft is just a starting point to begin issue identification, and it is expected that the committee will add to this draft substantially for the final memo.

Part 1. Review of Existing Attitudes and Perceptions.

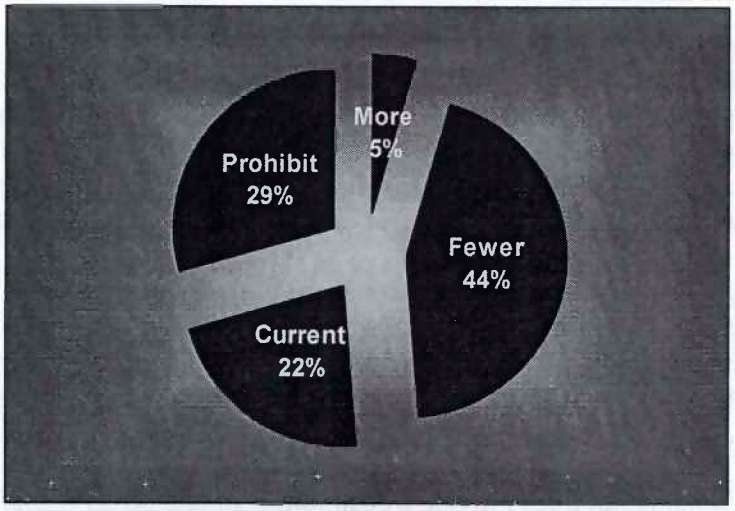
There was no comprehensive survey conducted specific to this plan. This summary includes survey information specific to hillside trees, but other issues summarized are primarily based on anecdotal information. While Technical Memo 1 tells us that trees increase property values and indicate merchants should be able to recognize benefits through sales and pricing of

merchandise, anecdotal information tells a mixed story. In reinforces positive perceptions of trees, but also raises some questions about negative perceptions and attitudes when benefits of trees are balanced with other owner interests, such as maintenance, business visibility, or personal preferences.

Survey

Each year the City conducts a survey of City residents. Each year, some of the same questions are asked, but a few questions target specific issues. In the 2001 survey, the survey included targeted questions about hillside development. The survey asked four questions about hillside development. One asked whether hillside development made Grants Pass a better place to live. Another asked about allowing removal of dirt from hillsides, another asked about allowing trees from hillsides, and another asked about allowing homes built on hillsides. Respondents were most strongly opposed to removal of trees from hillsides. Only 4% said more trees should be allowed to be removed, while 43% said fewer trees should be removed, and 29% would prohibit tree removal entirely.

"It is being proposed that the rules for building roads and homes on hillsides be changed. I would like your opinion on three proposals related to hillsides…Second, trees are removed from hillsides. Would you allow more trees to be removed, allow fewer trees to be removed, keep the rules the way they are currently, or prohibit the removal of trees from hillsides?"



Source: 2001 City of Grants Pass Community Survey

Anecdotal Information

1. Some merchants express concerns that trees obscure visibility of the business and visibility of signs, even going so far as to remove mature trees they are concerned block signs.
2. Some residents have been disinterested in having trees under powerlines replaced when the previous trees were removed. Therefore, owners may not be committed to caring for

these trees. The trees may not be maintained when young and this may result in a high mortality rate for those trees.

3. Anecdotal information suggests some residential owners dislike the cost and effort that goes into maintenance of trees, and while they may like trees, they don't want to take care of them. Some people don't want to invest time or effort into pruning and cleaning up leaves. Some people are at stages in their life where they are unable to handle the maintenance themselves and do not want to spend money for someone to do the maintenance work.

Part 2. Identification of Strengths, Weaknesses, Opportunities, Threats, Constraints, and Concerns. The issues are organized below by the Technical Memo where the issues were identified. Some items may not be a clean fit under any one document, and that shouldn't be a concern. The most important aspect of this document is the identification of issues, and if specific causes or known, these are also noted. For example, an item observed in the field inventory may be an issues associated with the Development Code. It could be included in either section, but the intent is for the issue to be included where it was observed.

TM1. Benefits and Functions of Urban Trees and the Urban Forest

1. Root zone conditions beneficial to rainfall infiltration, such as retention of leaf litter and organic materials, are not often used in suburban landscape conditions, where a more manicured look is often desired.
2. There are numerous locations where revegetation efforts can focus on public properties, including public right-of-way and school properties.

TM2. Inventory of Existing Conditions

Field "Thumbnail" Inventory

1. Some trees appear to be smaller than the minimum caliper size required by the Development Code. This indicates need for enforcement, where the final inspection should not be approved when trees are less than the required size. Ongoing maintenance may also be lacking in some areas, and additional enforcement may be required.

2. After looking for a good example of a commercial parking lot with large, shade trees, it became apparent that almost no commercial parking lots have shade trees or large trees. Retail uses were especially lacking. Generally, but not always, banks, offices, health care providers, churches, and City parking lots tended to have more large trees than retail sales properties.

3. While smaller ornamental trees provide a desirable aesthetic effect from the ground for commercial properties and residential subdivisions, aerial photography dramatically shows the lack of canopy cover on commercial properties and some residential areas.

4. Overhead utilities pose a significant constraint to the planting of large desirable trees. The overhead utilities are often located directly over planter strip areas. While new developments are required to underground utilities, this requirement has been applied to ***new*** utilities. Therefore, existing overhead utilities continue to exist along street frontages of new developments as well as existing developments.

5. In many areas where overhead utilities exist, large trees planted in front yards rather than in planter strips are able to achieve many of the desired benefits, while avoiding the overhead obstacle.

6. There are areas where larger trees have been planted in narrow planter strips or tree wells and appear to be thriving, in some cases without creating problems related to sidewalks and utilities. These conditions should be researched to determine why trees appear to be thriving in these conditions, when we are told to avoid these situations. In some cases, the trees may only appear to be healthy, but could have unseen health problems. In other cases, the trees may have pre-dated the road and sidewalk installations and the detrimental effects of these items may not be seen.

7. There is increasing development in hillside areas, which can be visible throughout the community from across the valley.

8. Landscaping, irrigation, and maintenance of planter strips are the responsibility of adjoining property owners. On street projects with planter strips installed along the frontage of properties that are vacant or previously developed, usually by the City through an LID or AFD or by a developer through an AFD, there hasn't always been provision for maintenance and irrigation of the planter strips. The city has experimented with different models for this situation. In some cases, landscaping has been installed with irrigation with the City agreeing to an initial maintenance period before the obligation is turned over to owners. When the Grants Pass Parkway was installed, the City had agreements to maintain and irrigate the landscaping for the first several years, and then that would become the responsibility of the property owners. The system was set up with master meters that made it difficult to disaggregate the responsibility to different owners. Landscaping has been installed without irrigation in some cases, with the owner responsible for maintaining and watering. In other cases, the planter strip has been provided, but only bark mulch is provided adjacent to the vacant or previously developed properties. Examples are Grandview Avenue, West Harbeck Road, and Union Avenue. Since these areas are to be maintained by property owners, maintenance is addressed on an enforcement only basis. There may be other alternatives that allow for initial planting and survival of trees that might be less successful for other landscaping. For example, when irrigation is not present, irrigation by the city for the initial two years should allow trees to become established. Use of irrigation bags around new trees may help ensure tree health through good watering practices.

9. There appears to be a need to better address tree health issues where trees have been retained, but their surroundings altered in a manner that they adapted to site conditions that changes and created a problem, vs. those where a tree planted in the same setting has developed in that setting and has thrived. This is important to ensure that mature trees which are retained survive the site alterations and possible shock that occur during construction and once development has been completed.

Examples are:

a. Trees that developed in stands that are retained, but the surrounding trees have been removed, and trees that were within a forested area now at the edge of the forested areas. Root and branch development interior to and together with other trees may leave the retained trees susceptible to wind and sun damage.
b. Trees that are retained may have drainage altered or inappropriate irrigation so that the area they adapted in has become too dry or too wet.
c. Trees may have soil disturbed during construction where soil has been place over the roots, suffocating the tree.
d. During construction, heavy equipment may have been used within the drip line compacting soils and/or damaging roots, leading to mortality.

10. The controversial issue of managing parks that have large trees and a history of community events may be best left to parks management Plans and recommendations from the Urban Tree Advisory Committee, rather than through this plan. These issues also provide lessons that should applied to new parks development. This plan need not address specific management issues for individual parks. This plan may include recommendations for accomplishing forestry objectives for parks on a more general way.

11. The issue of sun damage to new trees needs to be addressed.

12. It is possible that some native species are susceptible to stress or death when residential planting and irrigation occur. These may pose some difficulties in working to retain or plant some native trees that are adapted to the local climate but not the changes that may occur on individual lots.

13. In some instances, trees may appear healthy but may be susceptible to structural failure, such as loss of limbs or falling trees. It will be important to determine ways to identify these issues.

Tree-by-Tree Inventory

1. At this stage, a detailed tree by tree inventory has not been conducted. See Technical Memo 5 for discussion about this type of inventory. Limited information is available about street tree health, age, and species diversity for street trees. Some inventory work has been done in parks.
2. Without this type of tree inventory, we don't have an overall idea of the mix of street trees, and may be unaware of issues that need to be addressed.

Canopy Inventory

1. At this stage, a canopy inventory has not been conducted. See Technical Memo 5 for discussion about this type of inventory. Limited information is available about the existing canopy cover in Grants Pass and the Urbanizing area.
2. Aerial photography provides a rough indicator of the amount of canopy cover present overall and in specific areas.
3. Aerial photos and the field inventory show a dramatic lack of large shade trees within commercial parking lots.

TM3. Review of Existing Plans, Policies, Regulations, and Programs

1. The Development Code contains requirements for minimum numbers of trees to be planted in front yards and parking lots and specifies the minimum caliper size of trees at time of planting. It identifies small, medium, and large trees as choices, and specifies the recommended spacing of these trees, but there is no requirement that any trees be a large species.

2. Staff may need additional training or have documentation from a professional at the time of final inspection for development to ensure the adequate health of landscape materials. If there are more specific requirements regarding tree species, staff may need additional training.

3. Depending on zoning, the Development Code provides that initial stock must be a minimum of 1", 1-1/2", or 2". The inventory identified an issue with sun damage to smaller stock trees that damages the tree at an early age and this continues to be a problem over the life of the tree. If this issue can be mitigated by requiring an initial larger caliper size, this could be addressed through the code. Other solutions to that problem should also be investigated. Situations where that problem has not occurred should be identified to determine how this problem can be prevented.

4. There is an opportunity to use the City newsletter for a regular educational or information article about the benefits of urban forestry and to keep the community informed of the status of the plan.

5. The street tree list in the Development Code is overly restrictive and poses an obstacle to species diversity. Greater diversity of species should be permitted (and probably encouraged or required).

6. The Development Code requires that front yard trees and parking lot trees be selected from the street tree list. This appears to be overly restrictive. Some trees that are prohibited or discouraged as street trees may be suitable for planting in other locations. Some trees are prohibited as street trees due to proximity and conflicts with sidewalks, utilities, etc. These conflicts don't necessarily exist for trees planted in front yards, etc. The street tree list almost entirely prohibits conifers and evergreens that may be desirable either as street trees or as trees in other locations.

7. The Development Code does not identify "shade trees" as a distinct category, and providing shade may be the objective of some code provisions such as parking lot trees. A separate category or sub-listing of shade trees may be desirable. A tree list could also be useful in identifying species that are especially well-suited for providing other benefits.

8. The tree retention provisions of the Development Code provide a "per tree" fee for removal of significant-sized trees ($350 per tree). However, there is a cap that provides a maximum fee for removal of significant-sized trees ($2,000). Therefore, if six

significant-sized trees are removed, there is no fee for removal of additional significant-sized trees. This doesn't appear to be a substantial disincentive to tree removal. ***(NOTE: There is currently a draft amendment which includes these provisions, which will clarify some provisions related to subdivisions. It will also provide clarity about requirements for trees removed at the time of subdivision vs. trees removed when individual lots are developed).***

9. There is some overlap between the street tree provisions in the Municipal Code and Development Code, and these should be better coordinated.
    a. Prohibited trees are listed in both ordinances.
    b. It is unclear whether trees being planted in planter strips in new developments that receive land use approval require the tree permits required by the Municipal Code.

10. Species diversity is desirable, and the Development Code has no mechanism of ensuring species diversity. (See TM2. There is a lack of species diversity in new developments, with the same one or two species being the predominant selection). Better coordination between the Development Code and Municipal Code, or changes to the Development Code could improve tree selection in a manner that ensures species diversity.

11. There is currently no mechanism to track new species of trees planted in development to begin an inventory of tree species and age.

12. The Development Code needs to be clearer about requirements for irrigation of planter strips for single-family homes. Also, there is no specific requirement for automatic irrigation to be installed in front yards for new single-family homes. This is a policy question to explore.

13. The Development Code allows for a planting area of 16 square feet in parking lots, which would only provide a 4'x4' planting area for trees. This may be too small. The Development Code allows for some compact parking spaces, which provides the opportunity to require larger planting areas for trees without reducing the number of parking spaces. An 8'x8' planting area would provide for a planting area about the width one parking space with compact spaces on each side of the planter.

14. The Development Code was amended within the past year and specifies maximum spacing between trees in parking lots. It also now explicitly requires landscaped end islands at the end of parking rows, with a dimensional requirement that should be large enough for some tree species.

15. The Development Code requires living ground cover in front yards and planting areas. These needs to be evaluated to determine if any refinements are needed for the root zones of trees to ensure tree health. There may be some situations where certain groundcovers shouldn't be planted, or where mulch might be acceptable.

16. The Development Code includes regulations pertaining to riparian zones and retention of riparian vegetation, but doesn't contain provisions for planting trees in riparian zones. This is something to explore. However, there may be owner concerns about river views. On the other hand, this may be a way to improve water quality and riparian habitat without further restricting development close to the river. Another approach to balancing these issues may be to allow a higher percentage of the riverfront frontage width to be developed as you get further back from the river, rather than having a more substantial setback that entirely restricts development. This would also allow more area for tree plantings.

17. The widths of planter strips required adjacent to new streets is of limited width to keep right-of-way widths from becoming wider. The Development Code recommends that smaller trees are to be planted in smaller planter areas. The same is true for street trees in tree wells in areas such as downtown. There may some larger trees that work well in these areas, or it may be necessary to determine whether the code should require wider planter strips.

18. The Municipal Code addresses removal of street trees, but the Development Code has no specific restriction dealing with removal of front yard or parking lot trees, as long as minimums are maintained and a tree is replaced. Currently, a mature large species tree could be removed and replaced with a younger tree that could be also be a smaller species tree. Commercial owners have removed more mature trees and planted smaller trees due to visibility of signs. This is an area that needs to be addressed in the Development Code, so mature trees or large trees that are approved through site plan review are not removed unless they pose a health/safety issue. Sign locations need to be considered in relation to landscaping at time of original site plan approval.

19. Neither the Development Code nor Municipal Code has any provisions governing the removal of trees (except street trees) before a land use application is filed. This poses a loophole, whereby owners are removing trees prior to filing an application and avoiding the tree retention provisions that apply when a land use application is submitted.

20. There may be opportunities to better coordinate the Development Code and Municipal Code.

21. Outdoor retail areas are not considered parking lots, and are not subject to the parking lot tree standards. This can result in substantial paved area with no trees present. The most glaring example is retail car sales lots.

22. There is a need for better awareness of the requirements for permits to substantially prune or even remove street trees in the public right-of-way. Awareness of public/private ownership and maintenance requirements for these trees may not be clear to property owners.

23. While there was initially some thought that state regulations governing forestry and urban-wildland interface might restrict some options available to the city, there appear to be no substantial conflicts.

24. There is a tree deposit and replanting requirement that applies in steep slope areas that doesn't apply in other areas. (Tree retention provisions apply in all areas for new subdivisions).

25. There may be better opportunities for "land use compatibility statements" between ODF and City to ensure requirements of both agencies are being satisfied.

26. The Oregon Department of Forestry has an Urban and Community Forestry Program. The budget has been cut considerably. To the extent possible, it would be desirable to educate the legislature on the substantial benefits of the urban forest and encourage greater funding of this program. There is a grant program and technical assistance is available. However, the grant program could use additional resources. In addition, the technical assistance program could be expanded to provide more direct "how-to" or model plans and ordinances for communities undertaking this type of urban forestry work. Much of the focus is currently on public trees such as street trees and park trees. The Forest Service has developed documents for watershed-based urban forestry, and closer integration with this work would be desirable, including inclusion of reference materials and other links on the website.

27. Large trees will be a critical element in the new stormwater master plan for the stormwater management benefits they provide.

28. There are opportunities to address stormwater, water quality, and air quality issues that Grants Pass faces. Maintaining canopy cover as the City grows may be necessary to keep up with those needs.

29. The City is in the process of evaluating the Urban Growth Boundary. This provides an opportunity to establish new standards before additional lands are brought into the UGB.

30. The plan provides an opportunity for the City to define and articulate public tree planting objectives.

31. From a tree retention perspective, in some cases, it may be more desirable in the long-term to preserve a stand or grove of several smaller trees than to preserve a single larger tree. This should be further investigated.

32. It may be desirable to have a process than is more simplified than the PUD process to allow more flexible lot arrangement to simplify preservation of trees and natural resources.

TM4 Part 1. Perceptions and Attitudes

1. The community survey (although from 2001) identified substantial community support for preservation of trees on hillsides.
2. Good hillside development practices may minimize community concerns about growth if the community feels the growth is being well managed.
3. There is a need to better understand why some people and businesses have not planted trees and do not want to plant trees. Some possibilities are:
    a. inadequate recognition of benefits of urban trees
    b. people don't like dealing with leaf litter and maintenance
    c. liability concerns
    d. cultural differences and personal preferences (also true for conditions that may support tree and watershed health, such as retention of organic matter)
    e. different values related to some benefits (some people may want to attract some types of wildlife, while others may not)
    f. poor quality forest edges can lead to concerns about illegal dumping, etc.
4. People don't always want to replace problem trees that have been removed from under powerlines. This also needs to be better understood.

TM5. Plans from Other Communities, Best Practices, and Statistical Information

1. The Forest Service manual appears to provide an excellent model and guidelines for development of an urban forestry plan. It is a three part document that helps identify objectives and measurable targets for canopy cover as well as issues to be addressed in implementing programs, with recommendations for best practices.

2. Ashland's tree planting guide provides an excellent model that might be useful in revising or replacing the street tree list in the Development Code.

3. There are opportunities for Grants Pass to start new programs that may have been discussed, but not yet initiated. There are examples from other communities, including Heritage Tree programs, etc.

4. Trees in back yards on private lots may not provide the same public aesthetic benefits as streets trees and they might not provide canopy over impervious areas, but they provide excellent opportunities for planting large canopy trees and contributing other benefits. These would likely be addressed through voluntary programs, as regulation of trees in back yards can pose regulatory concerns and make enforcement difficult. A heritage tree program may be one regulatory approach for very important trees.

5. Some communities specify that trees in the public right-of-way are publicly owned and maintained. They have control over the planting and maintenance of these trees. There is cost and liability associated with this approach. A tree-by-tree inventory is frequently a useful management tool for these communities to establish a maintenance cycle and to assess health, age diversity, and species diversity and plan for planting and replanting based on this information.

The City of Grants Pass provides that these trees are privately owned trees in public or semi-public areas. Property owners are required to maintain the trees and have liability for these trees. Permits are required for planting, removal, and some pruning of these trees. The City has some control over tree species and removal(?), but is unable to establish a routine maintenance cycle, as this is the responsibility of the homeowners, and is handled on a code compliance basis.

6. **Negative Aspects of Some Trees.** Some species of trees produce VOCs (volatile organic compounds) and may contribute to the formation of smog or by themselves be toxic (See p 67 BVOCs in *Western Washington and Oregon Community Tree Guide: Benefits, Costs, and Strategic Planting*). Certain species may need to be evaluated to determine if the positive effects outweigh the negative effects.

Other

1. It may be desirable to contact local nurseries to ensure they are aware of any new requirements and can have available stock of sufficient size and species.

7 Technical Memo #5 Plans from Other Communities, Best Practices and Technical Resources

City of Grants Pass
Urban Forestry Plan
for the City of Grants Pass and Urbanizing Area

Technical Memorandum #5:
Review of Examples From Other Communities, Best Practices, and Technical Resources

To: Urban Forestry Advisory Committee
From: Scott Lindberg, Assistant Planner
Tom Schauer, Code Analyst
Date: August 29, 2006 with September 2006 revisions
CC: Jim Huber
Carla Angeli Paladino
David Frasher

Introduction

This is fifth in a series of eleven Technical Memoranda that will comprise the Urban Forestry Plan for the City of Grants Pass and the Urbanizing Area. It summarizes available literature with recommended best practices and approaches for urban forestry planning. It also provides samples of plans and programs of other communities and organizations as examples of best practices put into action that can serve as models and provide guidance for the Grants Pass Urban Forestry Plan.

Purpose

Staff has reviewed a variety of documents, research, and plans. The best examples of the various types of plans and programs are described in this memo. This document is intended to provide the advisory bodies and decision-makers with information about best practices which can serve as a model for the Grants Pass urban forestry plan. Many of the documents represent various components of a plan and its implementing elements, so some attributes of each plan can be used together in one cohesive action plan. Other plans present different approaches to urban forestry planning, and there may be more than one desirable approach, and it will be necessary to decide which will be the best approach or approaches for Grants Pass. This memo presents information to help advisors and decision-makers with those decisions.

The memo provides an opportunity for members of the Urban Forestry Advisory Committee to provide further input regarding plans and programs that they are familiar with, which they recommend should be included as models. This document is intended to help identify pros and cons of the different approaches, and where possible, identify what the communities and organizations have learned from experience with the various models, both successes and failures, which would be useful to Grants Pass in developing a plan.

Executive Summary

Defining Urban Forestry Plans

A review of the literature revealed two prominent meanings of the term "urban forestry plan" or "urban forestry management plan."

1. In the first case, the term refers to what would be considered a public street tree operations and maintenance plan. This usually involves an assessment of street tree health and development of a regular maintenance cycle for street trees. Some of these plans also include other public trees, mainly trees in public parks.

   In some cases, this type of plan also includes identification of street tree age and species, and the plan will assess needs to plant trees to provide for species and age diversity of the public trees.

2. In the second case, an urban forestry plan is something substantially more comprehensive. This type of plan considers opportunities throughout the planning area, for both public and private properties, to use a variety of methods to achieve a variety of benefits that can be realized through tree retention, reforestation, and establishment of trees that comprise the urban forest.

Statistical Information

Much of the statistical information that was originally intended to be included in this plan was already provided to some degree in the Technical Memo #1, which identified benefits and functions of the urban forest. However, the Center for Urban Forest Research document summarized in this memo quantifies those benefits for individual trees based on size and species. Additional statistical information about specific functions performed by the urban forest in Grants Pass will require an inventory and analysis.

Urban Forestry Plans, Manuals, and Programs Summarized in this Memo

The documents summarized in this memo include different plans, programs and ordinances that fit into different aspects of an overall urban forestry plan.

Some of the documents described below are not plans, but are rather manuals or guidelines prepared to help communities develop urban forestry plans or achieve urban forestry goals. Others represent different types of plans or planning documents. A comprehensive plan may identify general goals and policies related to urban forestry, while an action plan describes specific steps to be taken to implement the policy. Other plans may be used as management tools by public agencies for management of publicly-owned trees. Some of the documents, such as tree guides, may be regulatory and may also help owners understand the different characteristics, needs, and issues associated with different species in order to help them with choices and decisions. This memo also includes some ordinances from various communities; although the research for this memo did not include a comprehensive review of ordinances. Other documents included or referenced are examples of voluntary, incentive, or educational programs, either from communities or nonprofit organizations.

A review of literature indicates that many cities, metropolitan areas, and regions are following some variation of the planning practices presented by ***American Forests*** and described in the Urban Watershed Forestry Manual published by the US Forest Service. This approach recommends communities set targets for percentage of tree canopy to be achieved within a specified timeframe. One benefit of this approach is that it provides a quantifiable measure that can be monitored over time. The Urban Watershed Forestry Manual is a comprehensive three-part document that describes a step-by-step approach for this type of planning.

The Urban Watershed Forestry Manual is included in this review, providing the most detailed guide. This memo includes examples of this planning approach, such as the plan for Roanoke, Virginia. There are also examples of street tree master plans, such as the plan for Olympia, Washington, which sets targets for planting in areas available for street trees, but it does not address planting on private properties. Documents from Pacific Power and the City of Ashland are good examples of tree selection guides because they are informative and provide a wide array of alternatives for homeowners and customers. Finally, successful nonprofit programs are summarized, such as the very successful Tree City USA Program of the National Arbor Day Foundation, in which Grants Pass participates.

Technical Memo #3 summarizes grant programs that are available, so those are not repeated in this memo.

There may also be some types of programs of interest to Grants Pass that are not specifically described in detail in this document. One example is a Heritage Tree program. This idea is mentioned in Technical Memo #4. Any other types of programs that have not been identified can also be mentioned in that document. It may be necessary to find good models for those programs if they have not been included in this memo.

Summary of Plans, Manual, and Programs

Below is a summary of plans from selected cities from across the country that represents a good cross-section of plan types. These run the gamut from simple municipal tree planting guides, such as those in place in Lincoln, Nebraska to more comprehensive tree canopy cover plans like Roanoke, Virginia. Ashland, Oregon utilizes a street tree guide with sketches and planting requirements for easy reference. Olympia, Washington utilizes trees and the cover they create as a place-maker. Salem, Oregon uses trees to meet environmental requirements of the federal government and purify stormwater runoff. The United States Department of Agriculture has guidelines for utilizing trees for watershed management that is a very useful starting point for an urban forestry plan. Roanoke and Salem were reviewed, in part, because of their success with American Forests' CITYgreen software. Ashland, Eugene, and Olympia were reviewed because of their perceived "green" attitudes and because they could be seen as good comparison cities in the Pacific Northwest. Lincoln was looked at because it includes implementing elements that utilize a security deposit that requires the establishment of street trees before security is released. The USDA Forest Service manual was examined because of

the guidance it provides on developing a plan and its focus on water quality in urban watersheds.

Below is a matrix of the reviewed forestry plans and ordinances compared with the preliminary issues identified at meeting one and articulated in the Work Plan. Each plan reviewed had its overriding goals and issues; for example, one may focus more on street trees and another may focus on stormwater runoff. That is to say, then, that each plan studied reflected the goals of its respective city. This matrix identifies the preliminary issues identified in Technical Memorandum 1 (on the left side) and compares it to the goals of the plans and policies of each community studied (on the top). It is to be used as a reference to identify which city has plans or policies that relate closely to one of the preliminary issue identified. For example, if one wanted to study a plan that dealt primarily with stormwater management, one would look at Roanoke. If one wanted to review an ordinance that focused on microclimates, Salem's plan would be a good example.

Principle Functions and Benefits Achieved by Various Plans

Preliminary Issue	Eugene, Oregon	Olympia, Washington	Ashland, Oregon	Lincoln, Nebraska	Roanoke, Virginia	Salem, Oregon	Pacific Power & Light	American Forests	US Dept of Ag
Aesthetics	X	X	X	X	X		X		
Stormwater Management					X	X			X
Erosion Prevention and Control					X	X			X
Air Quality					X				
Water Quality					X				
Energy Conservation							X		
Water Conservation									X
Noise Suppression									
Microclimate Benefits						X			
Psychological and Mental Health									
Economic Benefits		X							
Economic Development					X				
Pedestrian Benefits		X							
Traffic Calming		X							
Habitat									
Unique Character	X								

There is no one best practice in these plans; rather each plan reflects the basic objectives that each community seeks to achieve. For the purposes of the *City of Grants Pass Urban Forestry Plan*, each plan or ordinance reviewed represents possible models to address certain issues. Each of the plans reviewed addresses one or more issues likely to be important to Grants Pass. That said, it is possible to find guidance for creating a plan by following the recommendations in documents such as the Forest Service document or the National Arbor Day Foundation document. Other details, such as species lists, best planting practices, and maintenance programs, can be gleaned from the other plans that have been reviewed once overall policy direction has been decided.

Principle Scope and Type of Various Plans

Type of Plan	Eugene, Oregon	Olympia, Washington	Ashland, Oregon	Lincoln, Nebraska	Roanoke, Virginia	Salem, Oregon
Street Tree		X	X	X		
Management	X			X		X
Comprehensive					X	

The above matrix is to illustrate the focus for each reviewed plan. For the purposes of this document, each plan can roughly be categorized based on the plan's attributes. Street tree plans deal, primarily, with city ordinances and how they relate to trees in public rights of way or other public spaces. Management plans are tools to ensure that trees are not adversely impacted by development. They also often have aspects that mandate some sort of maintenance schedule to ensure the health and safety of city trees. Comprehensive plans are those that recognize the inherent value of trees and seek to promote a culture that values trees for their own intrinsic value.

Eugene, Oregon

In December, 1992, the City of Eugene adopted their *Urban Forest Management Plan* to guide the city of Eugene in its actions and decisions affecting trees within the city limits.

> *"The Urban Forest Management Plan provides direction to develop regulations and incentives to manage tree-related issues in a proactive manner. The plan addresses trees on both public and private property. It also discusses planting, maintenance, and removal of trees along streets and other public properties, such as parks and riparian areas and the addition of trees on private property; and the preservation and maintenance of heritage trees on all properties."*

The plan is primarily a management plan; that is, its main goal is to guide the city in the way its policies affect trees. The plan contains three elements: tree selection, heritage trees, and education, and each element is analyzed by goals, findings, policies, and proposed actions. Once goals have been set, policies and proposed actions are used to

guide city government to adopt ordinances, programs, and incentives to achieve those goals. **This plan is particularly strong covering trees on private property.**

Olympia, Washington

The City of Olympia set out to create a ten-year *Master Street Tree Plan* to guide the city's actions in the years between 2001 and 2011. This, which is a type of management plan, sets targets for increasing the number of street trees in available planting locations. It doesn't address trees on private property. It also sets to quantify trees in a fashion similar to how one may quantify traffic counts or stormwater runoff: by creating a Level of Service (LOS) threshold that the city must meet and maintain. The goals included in the plan are:

- Creation of healthier and safer streets by the removal of hazardous trees
- Beautification of Olympia
- Integrate natural beauty with the built environment
- Increase property values
- Increase civic pride

To achieve these ends, the Plan inventories the existing conditions of the City's street trees, broken down by sub-areas and arterials; street tree design consideration, thorough landscape design, streetscape design, and planting locations; and street tree management programs. **This plan's strength is in streetscape design standards and in quantifying the value of the city's street trees.**

Ashland, Oregon

Ashland, like Grants Pass, has a list of recommended street trees that may be planted in city Rights of Way. Unlike the current list used in Grants Pass, which doesn't specify a wide variety of species, Ashland has a very inclusive list of trees. The City of Ashland has both a heritage tree program, a yearly award for "Tree of the Year," and an intensive list of street trees. Their very detailed *Recommended Street Tree Guide* , which has an over-reaching goal to attain arboreal diversity, encourages the planters of trees to consider the constraints of the site to help guide the selection of the proper tree as well as any aesthetic considerations the planter may have. Lists of recommended street trees are rather exhaustive, and are sorted by size of parkrow that is provided in the street section. Finally, each recommended street tree has an information page that shows its height in relation to a telephone pole, a sketch of its shape, its leaf type, and drought tolerance. Many of the listed trees have an example specimen location somewhere in the city of Ashland. **The strength of Ashland's guide is that it is clear, informative, and easy to understand.**

Lincoln, Nebraska

The city of Lincoln, Nebraska is the original home of Arbor Day founder J. Sterling Morton. As he moved west, he was disappointed to see the lack of trees on the Nebraska prairie and felt that the state of Nebraska could benefit from large-scale tree plantings. Leading by example, Morton planted orchards and shade trees on his farm in Nebraska City. Following Morton's lead, Arbor Day was first celebrated in 1872, when more than a million trees were planted in Nebraska.

Codified in Lincoln's Municipal Code is the mandate that the Director of Parks and Recreation prepare and maintain a *Master Street Tree Plan* showing how trees are to be planted on city properties and along rights of way. To that end, the city has adopted "Design Standards for Street Trees," which is a management plan, that lists species requirements as well as spacing, planting standards, and arborous health indicators for newly planted trees and tree stock. One requirement for consideration of street tree design standards is the approval of a detailed street tree plan for each subdivision, with lists of each tree and its location. Part of approval of the plan is payment of a street tree surety bond that is releasable only after one years' time as to ensure that all specimens of tree have survived. Should the trees not survive the first season, they must be replanted at developer's expense. Grants Pass regulations, on the other hand, require a deposit be paid that is released once required landscaping is installed; however, in residential areas, no provisions are in place to ensure that required plantings survive. In special cases where the street improvements are deferred, a cash deposit is required for future installation of trees once the street is improved. **The strength of Lincoln's ordinance is that it requires a master street tree plan for each new subdivision and requires that plantings survive.**

Roanoke, Virginia

1. The plan for Roanoke, Virginia is an example of the type of planning described in the Urban Watershed Forestry Manual published by the US Forest Service. It includes an action plan that addresses tree canopy goal, tree planting on public land, public tree management, and trees on private land. The plan includes recommendations and implementing elements designed to achieve the objectives of the action plan. There are six key recommendations of the plan:

    a. Long-Term Goal of 40% Tree Canopy
    b. Reverse net loss of public (City-owned) trees
    c. Greening of non-residential corridors and gateways
    d. Street tree-planting program in residential neighborhoods
    e. Encourage planting of trees by citizens in their yards
    f. Improve tree management

The City of Roanoke started with a tree canopy analysis using American Forests' CITYGreen software, and found that there was an average of 32% canopy cover, which is

below the 40% recommendation of American Forests. To rectify this situation, the city integrated into its *Vision 2001-2020* comprehensive plan policies designed to create more tree canopy cover. In fact, tree canopy cover received its own section in the comprehensive plan with *Urban Forestry Plan: An element of the vision plan* that contains major recommendations and ways to implement the plan. Furthermore, as a way to lend credibility to the public planning process, the city maintains and updates a implementation report to show timelines for proposed policy adoption as well as any other implementation tools that the city has used to achieve their goals. **Roanoke's strength is that their plan is all-inclusive and contained within the comprehensive plan for the city.**

Salem, Oregon

Salem also took advantage of American Forests' CITYGreen software to help develop a plan to use trees and riparian vegetation to protect the Willamette watershed under the federal Endangered Species Act and the Clean Water Act. City code also protects heritage and significant trees from removal, restrict the amount of trees removed on any lots greater than 20,000 square feet, requires tree conservation plans for any development proposal, requires a minimum of trees per lot based on square feet, and makes provisions for the establishment of a tree canopy preservation fund.

The Willamette Greenway ordinance recognizes the role trees play in the water quality of the Willamette watershed. To this end, the ordinance requires extra setback from the river as well as planting of native plants. The ordinance also recognizes the role trees play in the overall water quality of the watershed. To achieve the goal of better water quality, all parking lots in the watershed must have a 50% tree canopy cover within 15 years after the lot has been established. This is required so that rainwater is intercepted and filtered and to provide relief from the heat island effect that warms stormwater before it reaches the Willamette. **Salem is particularly strong in recognizing that trees affect both city heat island effects and water quality in a watershed.**

Pacific Power & Light

Utility companies have a vested interest in both the placement and species of trees planted not only in public rights-of-way, but also on private property. Overhead and underground power, cable, telephone, gas, and fiber optics can all be complicated by tree growth if branches are not trimmed, or if roots are invasive. To help facilitate preventative protective measurements, PP & L spends millions of dollars annually to prune and remove trees that interfere with power transmission. They also maintain a list of preferred tree species that are appropriate to plant near power lines. **PP&L, while a private organization, realizes that some trees have their place while others have more appropriate locations.**

Other Utilities

Franchise agreements with the City allow for the cable company to trim trees on city property that interfere with cable television transmission. Any work must be done with city approval and is subject to applicable tree ordinances. The franchise agreement with the telephone company does not include provisions similar to these provided in the cable franchise agreement.

American Forests

Founded in 1875 to protest the waste and abuse of America's forests, American Forests is the oldest non-profit conservation organization in the country. American Forests is a non-profit organization that envisions having healthy forest ecosystems for every community in the country. To achieve that goal, American Forests has set benchmarks for tree canopy covers that each community should strive to achieve. Based on geographic area of the country, American Forests set a reasonable goal that cities ought to be able to achieve. In the Pacific Northwest, for example, cities could theoretically have an 80% overall tree canopy cover; it seems reasonable, then, to assume that a 40% cover should be attainable without much change in policy of land-use. It should be recognized that each community is different, and that, in turn, causes each community to evaluate and select alternatives that best fit their character. **American Forests, as the oldest conservation organization in the country, can be vital for support, information, and consulting, for the writing of an Urban Forestry Plan.**

Center for Urban Forest Research

The Pacific Southwest Research Station of the USDA Forest Service published *Western Washington and Oregon Community Tree Guide: Benefits, Costs, and Strategic Planting* in 2002. This publication explores the true costs and benefits of an urban tree canopy and determines that there is indeed a monetary benefit to having canopy cover. To achieve a better synergy between people and trees, this publication outlines best tree maintenance as well as planting practices. There is also a tree selection list for species that grow well in the western Oregon and Washington region; however it is important to note that Grants Pass is not in this region, so these species may not flourish as well in the Rogue Valley as they would, say, in the Willamette Valley. **This instructional manual, while not precisely designed for the Rogue Valley, contain enough conceptual practices that it can be applied to an Urban Forestry Plan for Grants Pass.**

National Arbor Day Foundation

In *Urban and Community Forestry: A Practical Guide to Sustainability*, the National Arbor Day Foundation (NADF) reviews critical steps needed to prepare a viable urban

forestry plan. The most important aspect, according to this publication, is ensuring that any plan adopted is a collaborative effort between elected officials, city support staff, volunteer organizations, and community stakeholders. Secondly, NADF presents the case that there are best practices that must be followed to create a plan with attainable goals. These include an inventory of existing conditions, a vision of desired outcome, then creating a plan to attain these outcomes. **This manual could be instrumental in formulating a framework for an Urban Forestry Plan for Grants Pass when used in conjunction with the USDA publication reviewed above.**

United States Department of Agriculture (USDA) Forest Service

This agency manages 193 million acres of public lands in national forests and grasslands and is the largest forestry research organization in the world and the national and international leader in forest conservation. The Forest Service is focused on minimizing threats of growing fire danger due to hazardous fuel buildups; the spread of invasive species; loss of open space; and unmanaged recreation, particularly the unmanaged use of off-highway vehicles.

The USDA prepared a three-part manual, entitled Urban Watershed Forestry Manual, with recommended best practices to use trees as protection and enhancement of urban watersheds. The first part outlines methods for increasing forest cover in urban watersheds, how to measure cover, and how to quantify its benefits. The second part illustrates how to incorporate tree cover into developing sites through conservation of existing trees and the planting of new specimens. The third part is an urban tree planting guide that provides technical assistance for planting trees in urban areas. The manuals rely on data collected in cities of the Mid-Atlantic and Northeastern United States; however the implications can just as easily apply to cities of the Pacific Northwest. **The USDA manual, like the City of Salem plan, recognizes the integral role trees play in the providing multiple functions and benefits, with emphasis on quality of water in a watershed. The manual provides a useful step-by-step guide for communities.**

American Rivers

In July 2001, American Rivers forged a partnership with the National Oceanic and Atmospheric Administration's Community-based Restoration Program that will provide financial and technical assistance for dam removal and fish passage projects in the Northeast, Mid-Atlantic and California. Since the Spring of 2005, they have also made funding available to the Northwest with an emphasis on projects in the interior of Oregon, Washington, and Idaho. (Northeast- ME, VT, NH, MA, RI, CT, & NY; Mid-Atlantic- PA, NJ, DE, MD, DC, VA; Northwest- OR, WA, & ID)

Over the first three years of the partnership, about $1.4 million has been provided for community-driven dam removals and fish passage projects that restore habitat of anadromous (migratory) fish such as alewife, American shad, coho salmon, and

steelhead, all of which spend their adult lives in salt water before returning up rivers to spawn.

Entering the fourth year of the partnership, the National Oceanic and Atmospheric Administration (NOAA) awarded American Rivers with more than $330,000 to distribute for river restoration projects in the Northeast, Mid-Atlantic, Northwest and California. NOAA, an agency of the Commerce Department, and American Rivers will jointly evaluate proposals and disperse this money as grants to implement fish passage, selective dam removal, and other associated habitat restoration projects that benefit anadromous and marine resources. The average grant will fall within the range of $5,000 to $25,000.

These grants are designed to provide support for local communities that are utilizing dam removal or fish passage to restore and protect the ecological integrity of their rivers and improve freshwater habitats important to migratory (anadromous) fish.

There may be opportunities to explore eligibility of forestry-related habitat restoration.

The U.S. Forest Service's Urban Forestry Watershed Manual, referenced within this memorandum, is available on the City's website, www.grantspassoregon.gov. From the home page, click "Your Government" > "Community Development" > "Planning Division." The "Urban Forestry Plan" is on the left side of the "Planning Division" page. The links to each of the three parts of the manual can be found on the right side of the "Urban Forestry Plan" page, under "Technical Memorandum 5: Best Practices and Plans from Other Communities."

The following are direct URL links to the Urban Forestry Watershed Manual:

Part 1: Methods for Increasing Forest Cover in a Watershed
http://www.grantspassoregon.gov/Modules/ShowDocument.aspx?documentid=3668

Part 2: Conserving and Planting Trees at Development Sites
http://www.grantspassoregon.gov/Modules/ShowDocument.aspx?documentid=3667

Part 3: Urban Tree Planting Guide
http://www.grantspassoregon.gov/Modules/ShowDocument.aspx?documentid=3666

8 Goals, Policies and Objectives Preliminary Discussion Memo

MEMO

To: Urban Forestry Plan Advisory Committee
Jeff Nelson
Scott Lindberg
From: Tom Schauer
Re: Attachments for December 18 Meeting
Date: December 15, 2006

Attached are three items for Monday's meeting. I will go over them at the meeting, but I wanted to distribute them for those who are interested in reading them an advance of the meeting. I will bring hard copies to the meeting.

1. **An Urban Forestry Plan "Actions Tree".** In summary form, this shows the types of things the City can do to implement an urban forestry plan, and provides some brief examples. All of the detailed ideas fit under these categories.

2. **An "Alternatives Matrix"** that shows the different players involved in implementing those different ideas. In some cases, only the City is involved in successfully achieving a goal. In others, it takes coordination between numerous players to successfully accomplish a goal.

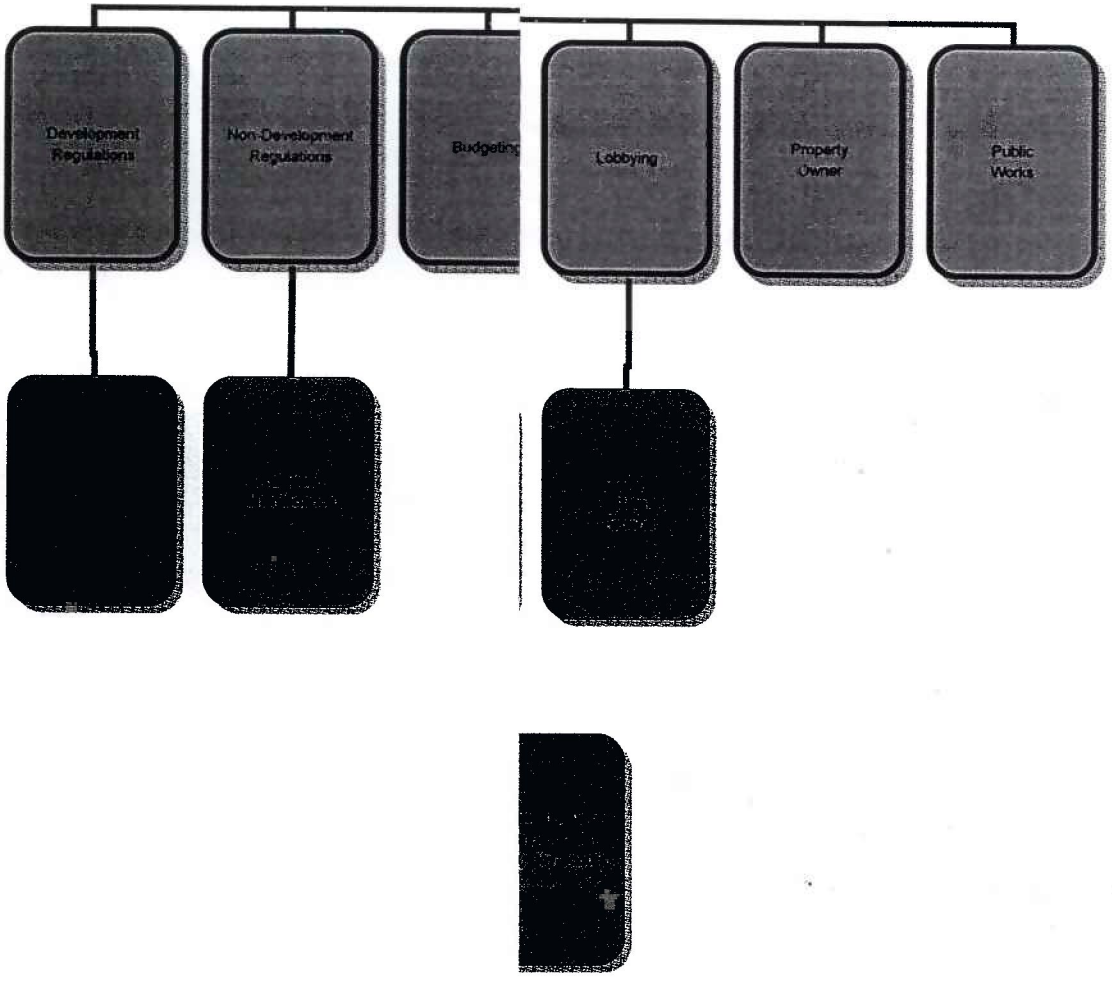
3. **A list of goals, policies, and objectives.** The goals and policies provide a general overview of what all of the individual details are intended to accomplish. The goal identifies what the urban forestry plan will continue to strive toward. The policies identify general direction on how to head in that direction. The objectives focus on tangible steps that can be completed to move toward the ultimate goal. The objectives are organized into categories that match the "Actions Tree", so the work can be broken into specific tasks and assigned.

   There are also a few miscellaneous issues identified at the end of the document.

The list of goals, policies, and objectives identifies proposed actions to address the issues that were previous identified. The list of goals, policies, and objectives is derived from two sources:

1. the issues that were previously identified and compiled in Technical Memo 4 based on the work completed on the other documents (including issues the committee identified through the field photo inventory).
2. the issues that were generated during the brainstorming sessions from the previous meetings. Scott summarized the comments and compiled them, and I will bring that summary to the meeting.

At the meeting, I want to be sure this captures the general direction of the committee, resolve any questions that may be outstanding that the committee raised, and begin to prioritize tasks and begin to assign work on the various tasks. In assigning work on tasks, I want to clarify what role the committee members want to perform. Should members take on responsibility for completing certain tasks, or should staff perform the work and present information to the committee for direction?


Development Regulations
Non-Development Regulations
Budgeting
Lobbying
Property Owner
Public Works

Urban Forestry Actions Matrix

Players:	What Can the City Do?											
	Development Regulations	Non-Development Regulations	Budgeting	Operations	Enforcement and Penalties	Education	Planting Programs	Advocacy	Partnerships	Lobbying	City as Property Owner	Public Works
City	X	X	X	X	X	X	X	X	X	X	X	X
Property Owners (Public and Private)	X	X			X	X	X	X	X			
Developers	X				X	X		X	X			
Plan Preparers	X	X				X						
Contractors/Subcontractors	X	X			X	X						
Other Agencies	X	X				X	X	X	X			
Utilities	X	X				X	X	X	X			
Landscape Professionals	X	X				X		X	X			
Nurseries/Tree Suppliers	X	X				X		X	X			
Nonprofits, Volunteers and Volunteer Groups						X	X	X	X	X		
State and Federal Legislatures			X			X				X		

Direct Tree Actions:

Planting	Direct	Direct	Direct	Direct	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Direct
Number												
Initial Size												
Species												
Location												
Proper Conditions (Soil, Area, Right Species for Conditions)												

Protection/Retention	Direct	Direct	Indirect	Direct	Direct*	Indirect	NA	Indirect	Direct	NA	Direct	Direct
Number												
Size												
Location												
Proper Protection During Construction												
Proper Conditions At Completion of Construction												
Proper Long-Term Conditions												

Ongoing Health and Maintenance	Direct	Direct	Indirect	Direct	Direct*	Indirect	NA	Indirect	Direct	NA	Direct	Direct
Alteration of Conditions Affecting Root System (Ground Conditions/Ground Cover, etc.)												
Shock/Trauma												
Disease and Pest Management												
Pruning												
Irrigation												

* May be ineffective if enforcement can't proactively prevent damage, and penalties only occur after problem has occurred. May provide deterrent effect.

Urban Forestry Plan Goals, Policies, and Objectives
December 15, 2006

GOAL:

Restore, establish and maintain a healthy urban forest with age and species diversity that keeps pace with urban growth, recognizing the numerous functions and benefits a healthy urban forest provides.

POLICIES:

1. Achieve a healthy urban forest through a multi-faceted approach, including regulation and enforcement, interagency coordination, incentives, education, training, planting programs, partnerships, and celebration of trees and their benefits.

2. Establish a forestry plan that addresses tree planting, protection and retention of existing trees, and ongoing health and maintenance of trees.

3. Establish age and species diversity of trees to ensure a healthy urban forest over the long term which is resistant to disease and insects, and which includes continual planting and replacement of trees to account for tree loss that occurs over time as a result of natural conditions, urban development, and mortality.

4. Recognizing that street trees comprise only part of the urban forest, plan for a healthy urban forest that addresses street trees and other trees.

5. Recognizing that many of the benefits and functions of trees are substantially greater with mature larger tree species, the plan should include provisions to ensure planting of large tree species.

6. Determine realistic tree canopy coverage targets and establish programs to achieve measurable targets within specific timeframes.

7. Take advantage of the "green infrastructure" provided by the urban forest, recognizing trees provide a cost-effective investment toward stormwater management, pollution control, energy conservation, "heat island" mitigation, and other related benefits.

8. Work within the framework of a "tree ethic" for the city that helps guide decision-making.

OBJECTIVES

I. City's Development Standards and Regulations (and Non-Development Regulations).

1. **Tree Guide and Street Tree, Front Yard Tree, Parking Lot Tree List.**
   - Eliminate multiple permitted/prohibited tree lists. Provide a comprehensive tree list that serves the needs of the Development Code (permitted and prohibited trees) and is also educational and informational.

- Ensure the list identifies "the right trees for the right sites".
- Greatly expand list of permitted trees that are suitable to encourage species diversity and remove barriers to species diversity.
- Evaluate whether certain trees should be identified as "prohibited" street trees or front yard trees, or whether they should be allowed but not count as part of the "required" street trees, front yard trees or parking lot trees.
- Separate the list of permitted "street trees" from "front yard trees" to allow for a greater variety of front yard trees that might now be suitable for street trees.
- Consider defining categories of trees to aid selection, such as "parking lot trees", "street trees", "front yard trees", "shade trees".
- Include requirements that at least some trees be large species canopy or shade trees and include requirements to ensure long-term age and species diversity.
- Include some requirements to achieve long-term age diversity and species diversity.
- Encourage more evergreens and native trees in suitable planting locations where they don't create conflicts with infrastructure.
- In addition to identifying various characteristics of trees and suitability for different sites, the street tree guide should also identify "green infrastructure" qualities for different species, such as the greater effectiveness of larger species for shading, pollution removal, and stormwater management.
- Where overhead utilities exist, provide for planting of smaller trees under utilities and planting larger trees where there aren't overhead utilities.
- Investigate whether it might be preferable to plant certain larger trees in planter strips that are smaller than optimal, but still achieving more desirable results than planting smaller trees in smaller planter strips, provided they don't create problems with infrastructure. A less than desirable result with a larger, longer living tree may still be preferable to a smaller, shorter living tree planted in its optimal location.
- Identify larger tree species that work well in narrower planter strips and tree wells. Determine whether wider planter strips and/or larger tree wells should be required.
- Consider whether some trees are appropriate based on their production of chemicals that may contribute to formation fo smog or be toxic (reference p. 67 of Western Washington and Oregon Community Tree Guide). Balance this with other potential benefits.

2. **Evaluate Planter Strip Standards.**
   - Determine whether standards are sufficient for tree planting, balanced with recognition that additional right-of-way would be required for wider planter strips.
   - Review standards that provide flexibility for front-yard tree planting requirements to ensure planting trees of trees in planter strips.

3. **Parking Lot Trees.** Increase the requirements for parking lot trees, including size of species, planting area, and spacing in order to establish greater shading of paved surfaces.

Eliminate exemptions for paved "outdoor storage" and "outdoor retail" areas for commercial properties, most notably retail car sales lots.

4. **Permitting.** Eliminate confusion and conflicts between Municipal Code and Development Code. For example, if a land use approval includes planting of new trees in planter strips within the right-of-way, do the permitting requirements of the Municipal Code also apply? Are Planning and Field Operations both required to approve the tree plantings?

5. **Tree Retention and Removal.**
   a. **Hillside Development.** Consistent with the community survey that identified a desire to protect hillside trees, review adequacy of existing hillside tree retention provisions and community-wide tree retention provisions. Review site plan review requirements and land division requirements, as site plan review may not contain the same requirements as land divisions. Clarify provisions for parent parcels vs. new lots and rights-of-way. Evaluate whether similar provisions should be added for non-hillside properties, including provisions governing tree deposits and replanting.

   b. **Fees for Removal of Significant-Sized Trees.**
      - Evaluate current code provisions pertaining to fees for removal of significant sized trees. Identify whether fees should be tiered and based on relative value or size of trees. Evaluate whether maximum fee of $2,000 should be retained or eliminated.

      - Ensure fees are evaluated to avoid unintended consequences. For example, if fees for tree removal are too severe, they may become a disincentive for people to voluntarily plant trees if they are concerned they may have a severe fee in the future if they want to remove it for something such as a home expansion.

   c. **Eliminate Loopholes.** Review "development regulations" and "non-development regulations" and eliminate loopholes that allow for tree removal in advance of filing a land use application without the same tree-retention requirements that apply to development sites.

   d. **Stands vs. Individual Trees.**
      - Evaluate whether in some cases the Code should focus on preserving stands of trees rather than individual trees, recognizing there could be greater benefits in the long-term.
      - Explore alternatives to ensure survival of trees that were retained in the interior of tree stands when surrounding trees have been removed, where the remaining trees may be susceptible to wind and sun damage due to inadequate root development and lower canopy vegetation.

e. **Required Trees.** Revise Development Code to prohibit removal of trees planted in conjunction with site plan approval and replacement with smaller or younger trees, predominantly for commercial development. Requirements for planting of long-lived or large canopy shade trees are ineffective if the trees die or are routinely removed and replaced. (See "Education" provisions to work with developers to plant trees where they won't obstruct signs when mature).

f. **Cluster Development/Natural Resource Preservation.** Consider a development alternative somewhere between a conventional subdivision and a Planned Unit Development, which is more simplified than the PUD process and allows more flexible lot size and arrangement to simplify preservation of trees and natural resources.

6. **Groundcover Conditions.**
   - Evaluate groundcover impacts on root zones of trees and evaluate existing groundcover requirements to identify if any of the code provisions require plantings that might adversely affect tree health.
   - Evaluate whether there are alternatives that encourage retention of leaf litter and organic material around the root zone of trees to encourage conditions conducive to rainfall infiltration.
   - Ensure these alternatives are consistent with aesthetic objectives which require groundcover.

7. **Initial Planting Conditions and Tree Survival.**
   - In addition to ensuring the tree guide provides for trees that are suited to harsh planting locations, evaluate whether the code needs to be amended to ensure appropriate methods of establishing new trees to prevent shock and/or damage that will impact the health of the tree forever. Evaluate whether the inspections should be entirely based on staff review, or whether the installer should provide some certification or guarantee that soil conditions, tree protection, etc. was provided to ensure the survival and health of the trees. Examples include sun damage to the cambium layer of new trees and alkaline soil conditions resulting from leaching of concrete and asphalt. Identify examples of locations where this has/hasn't been a problem to help determine variables.
   - Evaluate whether requirements for size of initial stock should to a more optimal size that best ensures the survival and health of trees.
   - Update Development Code to clarify irrigation requirements. Require automatic irrigation for planter strips. Evaluate and clarify requirements for automatic irrigation for front yard and/or other landscaping.
   - **Financial Security.** Decide whether financial security should be provided from new development to guarantee survival or replacement of new tree stock for a specified time.

8. **Riparian Trees.** Consider establishing standards for new development to establish minimum tree plantings within riparian zones to improve water quality, riparian habitat, and water temperature.

9. **Street Tree Plan.** Consider development of a specific street tree planting plan in any core commercial areas that currently lack street trees/grates within the sidewalk area.

10. **Property Owner Responsibility for Landscaping Along Existing Frontage Installed Through LID or Other Public or Developer Installed Project.** Together with evaluation of City responsibility for landscaping and irrigation requirements associated with street projects, explore alternatives for responsibilities of adjacent property owners where properties are vacant or already developed.

11. **Heritage Tree Program.** Evaluate whether the City should establish a Heritage Tree Program. Heritage Tree Programs provide protection to significant trees of historic interest. Evaluate how this would interface with and/or affect the Significant Tree recognition program. Heritage Tree Programs are typically regulatory to ensure protection and preservation while also providing recognition, whereas the Significant Tree recognition program is voluntary and provides recognition.

II. City Budgeting

1. Evaluate staffing levels and qualifications and contracting options to determine if there is a need for a certified arborist to provide a role in management of the urban forest, especially related to street trees and parks streets.

2. Evaluate whether funding levels are adequate or should be increased for educational materials, educational programs, and planting programs to achieve objectives and targets.

3. Identify a funding source to underground existing overhead utilities.

4. Consider whether the upcoming storm drainage utility should include a financial incentive for properties that have trees of a minimum caliper, with a tiered benefit for trees of larger caliper.

III. City Operations

-Inventory and Monitoring

1. Conduct a tree canopy analysis of the overall urban forest to assess the current state of the urban forest and help establish tree planting targets and monitor progress toward goals over time.

2. Conduct a street tree inventory to identify age, species, size and health of trees to assess the overall health of this part of the urban forestry and enable management decisions to be made for street trees as a whole rather than on a lot-by-lot basis. Incorporate the inventory into GIS system. Identify sites available for street tree planting to identify potential increase in street trees, as well as constraints, such as overhead utilities. Consider including some information about front yard trees in this inventory to identify areas devoid of trees vs. areas where street trees are small or lacking but where large front yard trees are present and provide canopy.

3. Consider creating a database of new street trees and front yard trees planted in new developments to facilitate a current and updated inventory of street trees.

-Coordination of Plans

1. Ensure the Urban Forestry Plan is coordinated with the Stormwater Master Plan Update. Large trees are an important part of that plan due to the riparian and stormwater quality and management benefits they provide.
2. Establish tree planting provisions that can be put in place before any UGB expansion, so the provisions will apply when urban zoning is provided.

-Financial Incentives

1. In conjunction with the stormwater utility and financing provisions, consider financial incentives for properties that have trees of a specified minimum caliper. Provide progressive incentives for larger trees, proportional to the benefit they provide.

-City Staff Training and Coordination

1. During inspections, staff needs to verify trees are meeting the minimum initial caliper requirements.

2. Provide staff training regarding tree-protection measures and ensure adequate cross-training and clear assignment of responsibility for Community Development staff to ensure appropriate tree protection measures for existing trees are in place at the time of initial inspections and remain in place during subsequent inspections.

3. Provide additional staff training for inspections for adequacy of initial tree health and planting conditions. Coordinate this effort with decisions as to whether landscape professional is required to sign off the final installation, provide financial security, and/or add more specialized technical staff.

4. Evaluate whether there is sufficient staff expertise regarding site modifications that can affect tree health. Provide training or evaluate need to staff specialization in this area.

-Street Tree Management

1. **Street Trees.** Identify whether the City should take a more proactive role in the management of street trees. Identify whether the City should inventory these trees, evaluate the age and species diversity, health, disease, insect problems, and presence of trees relative to available planting spaces, and establish a proactive management plan. Evaluate whether the City should have in-house staff capacity such as a certified arborist or contract for such a program. If in-house staff, evaluate where in the organization that staff best fits. Evaluate whether the City should begin to directly manage the trees, including planting, pruning, and maintenance, or notify owners of required actions and have them perform the work.

   Some communities specify that trees in the public right-of-way are publicly owned and maintained. They have control over the planting and maintenance of

these trees. There is cost and liability associated with this approach. A tree-by-tree inventory is frequently a useful management tool for these communities to establish a maintenance cycle and to assess health, age diversity, and species diversity and plan for planting and replanting based on this information.

The City of Grants Pass provides that these trees are privately owned trees in public or semi-public areas. Property owners are required to maintain the trees and have liability for these trees. Permits are required for planting, removal, and some pruning of these trees. The City has some control over tree species and removal(?), but is unable to establish a routine maintenance cycle, as this is the responsibility of the homeowners, and is handled on a code compliance basis.

-Park Tree Management

This plan won't focus on specific park tree management decisions, but may include recommendations for future parks to avoid potential conflicts.

-Progress Monitoring

1. Through tree and canopy inventories, evaluation of statistics, and community surveys, monitor progress over time from a technical and perception standpoint.

IV. Code Compliance, Enforcement, and Penalties

1. For trees to be retained, evaluate appropriate penalties for damage to trees or site alterations that will kill trees (altered drainage, inappropriate irrigation, root damage, heavy equipment damage, soil compaction, and imported fill soil placed over roots that suffocates roots).

2. Evaluate current code provisions pertaining penalties for removal of trees in violation development approval or other law. Identify whether penalties should be tiered and based on relative size and value of trees

3. Ensure penalties are evaluated to avoid unintended consequences. For example, if penalties for tree removal are too severe, they may become a disincentive for people to voluntarily plant trees if they are concerned they may have a severe penalty in the future if they want to remove it for something such as a home expansion.

4. Determine code enforcement resources and priorities for review of trees approved through site plan review continue to ensure they continue to thrive and ensure owners replace trees that die or are damaged.

V. Education

1. **Tree Walk.** Continue to provide programs such as Tree Walks. Evaluate programs for needs, such a printed materials, self-guided walks with a guide, etc. Determine if there are any resource needs to enhance the program. Consider expanding to a series such as a downtown tree walk, tree walks in different parks, etc.

2. Work with local nurseries to ensure they are aware of requirements and any new changes. Ensure they are aware of tree planting requirements and can have time to have available stock of sufficient size and species.

3. **Tree List.** Ensure the street tree list provides an educational and informative component, in addition to a regulatory role.

4. **Work with property owners to avoid tree conflicts.** Education may help with a range of issues. Work with commercial developers to plant trees where they won't obstruct signs when mature.

5. Increase property owner awareness of ownership issues and permitting requirements for pruning or removal of trees in the public right-of-way.

6. **City Newsletter.** Write a series of short articles to be included in the monthly newsletter. Include information about the benefits of urban forestry.

7. **Brochures.** Develop a series of information brochures addressing key technical issues and explaining benefits of the urban forest. Identify existing sources that may already have such brochures, such as the Arbor Day Foundation and University of Washington Urban Horticulture Program.

8. **Case Studies, Current Events, and Examples.** Use case studies and current events as examples of what is happening in other communities, what is being done proactively and reactively, and the problems they are experiencing and the solutions they are using.

9. Investigate reasons why some people and businesses have not planted trees or don't want to plant trees. If people haven't planted trees but aren't opposed, seek opportunities to plant trees or make it easy for them to have trees planted. If people don't want to plant trees, identify opportunities to overcome objections, whether education about benefits would help overcome objections, and whether incentives might overcome objections.

10. Work with developers to help them recognize that good tree perseveration and hillside development practices may reduce opposition to development. Some of the opposition to new development may not be related to growth as much as it may be related to certain development practices.

11. Identify why property owners don't want to have trees replaced when trees are removed from under powerlines.

12. Provide training to staff, contractors, and landscape installers, and members of the development community on technical issues related to tree health, such as initial tree planting issues, proper protection of trees to be retained, etc.

VI. Planting Programs

1. Identify direction on the replacement tree planting program: When trees under powerlines are removed, should smaller trees be replanted under powerlines as street trees, or should larger trees be planted in the front yard, but without replacing smaller trees under the powerlines too. (Gives up on the street trees in these locations).

2. **Tree Planting Program.** Continue to use the tree planting program to plant larger canopy trees. Set targets for planting consistent with the targets of this plan and provide funding accordingly. Establish "tree ambassadors" to help promote the program.

3. **Memorial Tree Program.** Continue the Memorial Tree Program. Determine if there are any resource needs to enhance the program. Identify whether the program is operating optimally or whether any aspects should be formalized.

VII. Advocacy

1. Continue to advocate a healthy urban forest through current and expanded programs such as participation in Tree City USA
2. Find other opportunities to be an advocate, such as proclamations, etc. and when informal opportunities arise.
3. **Significant Tree Recognition Program.** Continue the program to recognize significant trees. Determine if there are any resource needs to enhance the program. Identify whether the program is operating optimally or whether any aspects should be formalized.

VIII. Partnerships

1. Establish partnerships with public landowners, private landowners, individuals, volunteers, nonprofit groups, and service clubs to help achieve objectives for planting, education, and advocacy.

-Public Land Owners

1. Work with the School Districts, RCC, and the County to identify potential planting sites on their properties and coordinate voluntary planting and management plans.
2. Work with ODOT to identify locations within the public right-of-way where additional plantings can occur.

-Private Landowners

1. Work with interested property owners, including homeowners, churches, and commercial property owners to identify potential planting sites on their properties and coordinate voluntary planting and management plans.
2. Work with private property owners along streams to identify options for plantings to improve streamside habitat and provide shading to reduce water temperatures.

-Other Organizations

1. Coordinate planting efforts and other programs with existing programs that might already exist that could be coordinated or expanded. Existing programs to explore are any programs of the Mid Rogue Watershed Council, Rotary, and the County Forestland planting program that involves youth and the Boy Scouts.

-Other Agencies

1. Evaluate whether the City and Oregon Department of Forestry should implement a "land use compatibility" process to ensure requirements of both agencies are being satisfied.
2. Inform the Oregon Department of Forestry of materials we have found and types of the types of materials that would be helpful to us and other communities, including technical information, more direct "how-to" resources and model plans and ordinances for communities undertaking similar planning efforts.

3. Much of the ODF outreach appears to focus on street trees and park trees. Encourage the program to include additional outreach with materials such as the Forest Service documents for watershed-based urban forestry, including links to such documents and similar materials from their website.

4. Coordinate with ODOT to establish agreements regarding planting of trees for state highway projects to help address aesthetic, stormwater, water quality, and air quality impacts of transportation facilities.

-Interagency and Multi-Organization Coordination

1. **School Programs.** Coordinate city programs, tree planting programs, and educational efforts to involve students and provide "hands-on" experience.

2. **Utilities.** Review and, if necessary, formalize permitting and franchise provisions governing pruning and removal of trees in the right-of-way and easements. Clarify where "blanket" permitting is authorized for certain activities and where special permits are required from the city for other activities. Identify whether current pruning practices are acceptable and whether they are formalized in any permit or blanket agreement. Evaluate needs to be addressed as part of next franchise renewal. Identify whether power, phone, and cable all have authority to prune or remove street trees. Identify authority is provided to subcontract services to Trees Inc. or other subcontractors and whether they are obtaining required permits.

IX. Lobbying

1. Contact state and federal representatives to seek greater funding of Forest Service and Oregon Department of Forestry Urban & Community Forestry Programs to provide grants, staffing, and technical resources to assist communities in the development of Urban Forestry programs.
2. Evaluate whether other cities or the League of Oregon Cities have similar priorities and could lobby collectively for additional funding, especially in areas of growing importance related to "green infrastructure".

X. City as Property Owner

1. Evaluate City-owned properties to identify whether there are underutilized sites that could be more intensively planted.

2. As part of this plan, don't address management of existing park use/tree protection issues, but develop recommendations for future park design and management that avoid similar conflicts.

XI. Public Works

1. Utilize trees to reduce costs associated with other infrastructure and facilities, such as stormwater management, energy conservation, water quality, and air quality.

2. Find the most effective ways to incorporate trees along streets when adjoining properties are vacant or already developed without irrigation in place.

3. **Property Owner Responsibility for Landscaping Along Existing Frontage Installed Through LID or Other Public or Developer Installed Project.** Together with evaluation of City responsibility for landscaping and irrigation requirements associated with street projects, explore alternatives for responsibilities of adjacent property owners where properties are vacant or already developed.

4. Evaluate ways to recapture investment from adjoining vacant or already developed properties when trees and irrigation are installed as part of a street project. Consider something similar to an Advance Finance District that would address capital expenditure and some mechanism for operational expenses such as a monthly fee for maintenance and irrigation. Coordinate with "street tree management" issues. This would become a non-issue if the City takes over responsibility for street trees.

Non-Issues

1. There don't appear to be conflicts with state regulations governing forestry or urban-wildland interface issues where state requirements would pre-empt local decisions or alternatives that would be addressed in the forestry plan.

MISCELLANEOUS ITEMS

Unsure What to do with the Following:

1. Require that trees are certified to be disease free. This appears to be more of a USDA or Oregon Department of Agriculture issue to be addressed statewide. Is there an existing certification program already? It doesn't appear this could be implemented locally without a statewide program in place.

Overall Guidance

1. The Forest Service's Urban Forestry Planning for Watersheds provides excellent guidance for consideration. Many of the ideas in this document could be of use in carrying out the above items.

Existing Nonconforming Commercial Properties that Lack Trees

1. Explore alternatives to stimulate tree planting in nonconforming commercial properties and parking lots that are currently lacking trees. This may be a difficult area to address, but it is an area which could make a big difference.

Technical Expertise Needs for this Plan

1. Obtain technical expertise to help address the following issues.
    a. Tree planting guide
    b. General tree health and planting conditions
    c. What are some alternatives to retain native trees such as oaks, madrones, and manzanitas that may be well adapted to the climate and soils but may be susceptible to stress or death when residential planting and irrigation occur?
    d. What is the most effective way to identify potential structural failure of trees that may occur such as loss of limbs or falling trees for trees that may appear healthy?

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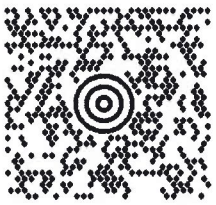

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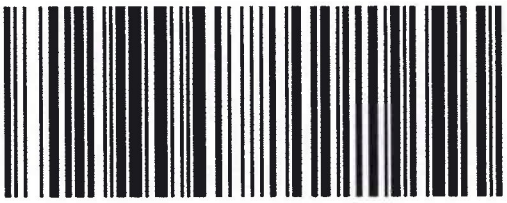

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