

# BALCH CREEK WATERSHED PROTECTION PLAN

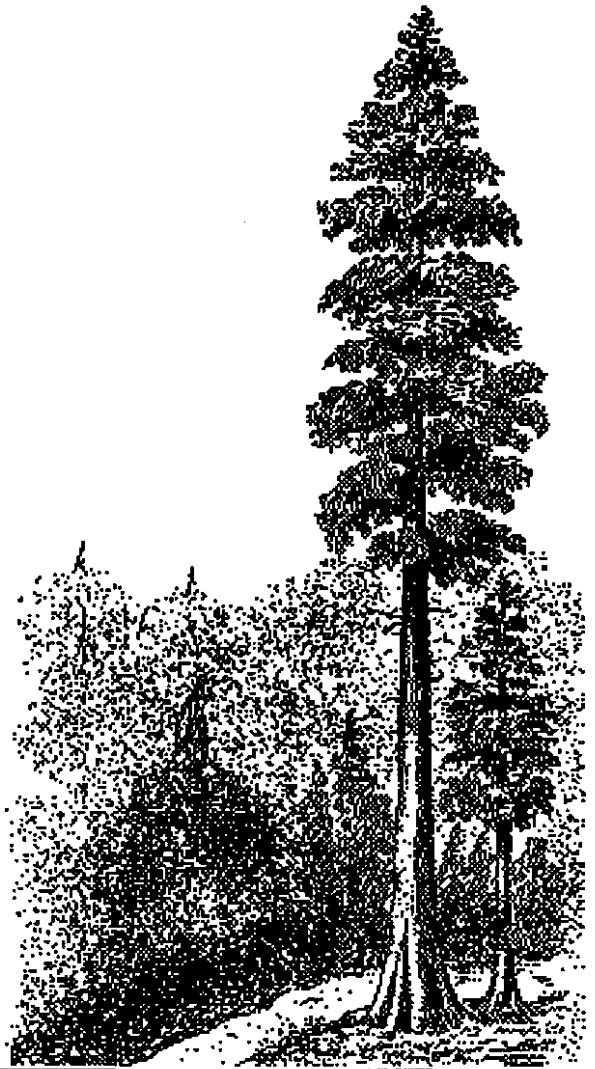
---

**Inventory, Analysis, and Regulations for  
Fish and Wildlife Habitats, Natural Areas,  
Open Space, Water Bodies, and Wetlands**

---



**Bureau of Planning  
City of Portland  
Adopted by Ord. No. 163770  
Effective, February 8, 1991**



---

**Portland City Council**

E. Bud Clark, Mayor  
Earl Blumenauer, Commissioner  
Dick Bogle, Commissioner  
Michael Lindberg, Commissioner

**Portland Planning Commission**

Martha Peck Andrews, President  
Richard Cooley, Vice President  
Stan Amy  
Estill Deitz  
Barbara M. Karmel  
Margaret Kirkpatrick  
Richard Michaelson  
Chet Orloff  
Vivian Parker

**Balch Creek Task Force**

Molly O'Reilly, First Officer, Forest Park Neighborhood Association Chair  
Colin Macdonald, Second Officer, Royal Highlands Resident  
Jim Thayer, Third Officer, Friends of Forest Park Chair  
Jim Bartels, Balch Creek Watershed Resident  
Richard Caplan, Nob Hill Business Resident  
Larry Espey, Oregon Parks Foundation Chair  
Joanne Garnett, Multnomah County Planner  
Charles Hales, Homebuilders Association of Metropolitan Portland  
Jay Massey, Oregon Department of Fish and Wildlife District Biologist  
Scott Meyer, Portland Audubon Society Board Member  
Chris Wrench, Northwest District Association

**Balch Creek Watershed Protection Plan**  
**Inventory, Analysis, and Regulations for**  
**Fish and Wildlife Habitats, Natural Areas,**  
**Open Space, Water Bodies, and Wetlands**

---

**Bureau of Planning**

Earl Blumenauer, Commissioner-In-Charge

Robert E. Stacey, Jr., Acting Planning Director

Robert E. Clay, Chief of Long Range Planning and Urban Design

**Project Planner**

Al Burns, City Planner

**Project Assistance**

Tim Brooks, City Planner

Duncan Brown, Senior Planner

Jim Claypool, City Planner

Jeanne Harrison, City Planner

Dick Bellinger, Graphic Illustrator

Linda Torgeson, Graphic Illustrator

Geoff Sauncy, Graphic Illustrator

Peter Hurley, Planning Assistant

**February 8, 1991**

**TABLE OF CONTENTS**

**INTRODUCTION** .....1

    Purpose.....4

    Organization of the Plan .....4

    Portland’s West Hills .....5

    Balch Creek Watershed .....12

    Statewide Planning Goal 5.....14

    Relation to Other Policies .....16

        Statewide Planning Goals .....16

        Portland Comprehensive Plan .....17

        Northwest Hills Study.....18

        Balch Creek Task Force.....18

    Relation to other Studies .....19

        Mineral and Aggregate Sites.....19

        Scenic Resources .....19

        Sewer Facilities.....20

**INVENTORY**.....21

    Process .....23

        Site Selection.....23

        Inventory Method .....23

        Site Inventory Summaries .....23

            Site 73.....25

            Site 74.....29

            Site 75.....33

            Site 76.....35

            Site 77.....39

            Site 78.....41

            Site 79.....43

            Site 80.....45

            Site 81.....47

            Site 82.....49

            Site 83.....53

            Site 84.....57

            Site 85.....61

            Site A .....63

            Site B.....64

TABLE OF CONTENTS (CONTINUED)

ANALYSIS .....65

    Method.....66

    Compatible Uses.....66

    Conflicting Uses .....66

        Environmental Consequences of Allowing Conflicting  
        Uses.....66

            Agriculture.....67

            Forestry.....68

            Landscaping.....69

            Housing.....70

            Businesses.....70

            Developed Open Space .....70

            Recreation.....71

            Public Facilities and Utilities.....71

            Traffic.....71

            Education and Research .....72

            County Zoning and Partition Practices .....72

        Economic Consequences of Allowing Conflicting Uses.....72

        Social Consequences of Allowing Conflicting Uses.....73

        Energy Consequences of Allowing Conflicting Uses .....73

        Economic Consequences of Limiting or Prohibiting  
        Conflicting Uses .....74

        Social Consequences of Limiting or Prohibiting  
        Conflicting Uses .....74

        Environmental Consequences of Limiting or Prohibiting  
        Conflicting Uses.....74

        Energy Consequences of Limiting or Prohibiting  
        Conflicting Uses .....74

        Site Analysis Summaries.....75

            Site 73.....77

            Site 74.....79

            Site 75.....81

            Site 76.....83

            Site 77.....85

            Site 78.....87

            Site 79.....89

            Site 80.....91

            Site 81.....93

            Site 82.....95

            Site 83.....99

            Site 84.....101

            Site 85.....103

**TABLE OF CONTENTS (CONTINUED)**

**REGULATIONS** .....105

    General Summary .....107

    Management Objectives.....107

        Cutthroat Trout.....107

        Wildlife Corridor.....107

        Floods .....107

        Streams and Forests.....107

    Protection Plan Implementing Measures.....107

        Amended Comprehensive Plan Policy 8.11.....108

        Amended Comprehensive Plan Policy 2.5.....109

        Future Urban Overlay Zone.....110

        Amended Comprehensive Plan and Zoning Designations.....112

        New Use Restrictions, Development Standards, and  
        Approval Criteria.....114

        Natural Resource Management Plans .....120

        Site Regulation Summaries .....121

            Site 73.....123

            Site 74.....125

            Site 75.....127

            Site 76.....129

            Site 77.....131

            Site 78.....133

            Site 79.....135

            Site 80.....137

            Site 81.....139

            Site 82.....141

            Site 83.....145

            Site 84.....147

            Site 85.....149

**INDEX**.....151

**APPENDICIES**.....153

**LIST OF TABLES**

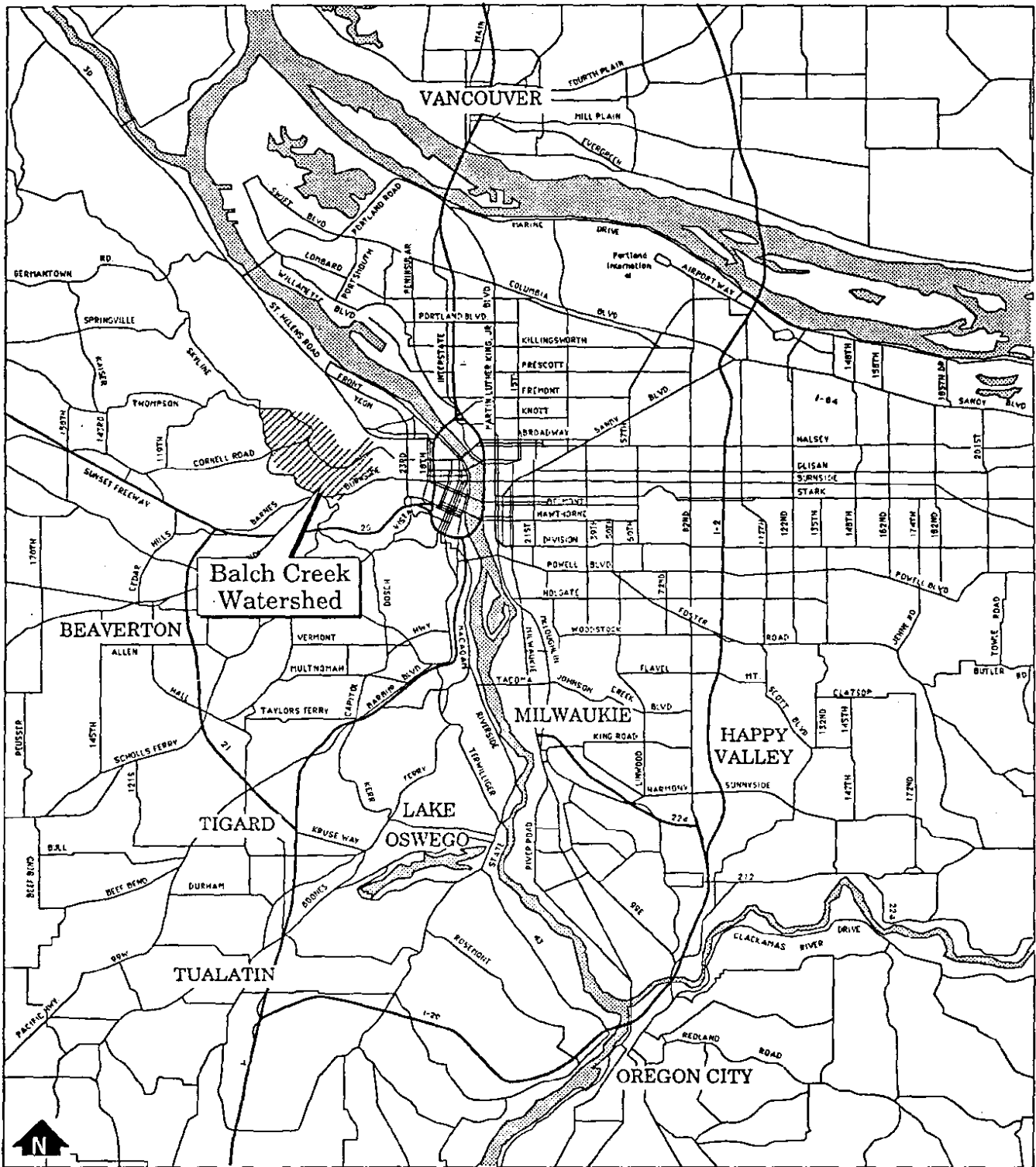
Reestablishment of a Disturbed Forest with a Conifer Seed Source.....8  
Reestablishment of a Disturbed Forest without a Conifer Seed Source .....9

**LIST OF MAPS**

Vicinity Map of Balch Creek Watershed .....3  
 Map of Watershed Land Use.....10  
 Map of Sites.....11  
 Existing Zoning Map of Site 73 .....24  
 Existing Zoning Map of Site 74 .....28  
 Existing Zoning Map of Site 75 .....32  
 Existing Zoning Map of Site 76 .....34  
 Existing Zoning Map of Site 77 .....38  
 Existing Zoning Map of Site 78 .....40  
 Existing Zoning Map of Site 79 .....42  
 Existing Zoning Map of Site 80 .....44  
 Existing Zoning Map of Site 81 .....46  
 Existing Zoning Map of Site 82 .....48  
 Existing Zoning Map of Site 83 .....52  
 Existing Zoning Map of Site 84 .....56  
 Existing Zoning Map of Site 85 .....60  
 Topographic Map of Site 73 .....76  
 Topographic Map of Site 74 .....78  
 Topographic Map of Site 75 .....80  
 Topographic Map of Site 76 .....82  
 Topographic Map of Site 77 .....84  
 Topographic Map of Site 78 .....86  
 Topographic Map of Site 79 .....88  
 Topographic Map of Site 80 .....90  
 Topographic Map of Site 81 .....92  
 Topographic Map of Site 82 .....94  
 Topographic Map of Site 83 .....98  
 Topographic Map of Site 84 .....100  
 Topographic Map of Site 85 .....102  
 Recommended Zoning Map of Site 73.....122  
 Recommended Zoning Map of Site 74.....124  
 Recommended Zoning Map of Site 75.....126  
 Recommended Zoning Map of Site 76.....128  
 Recommended Zoning Map of Site 77.....130  
 Recommended Zoning Map of Site 78.....132  
 Recommended Zoning Map of Site 79.....134  
 Recommended Zoning Map of Site 80.....136  
 Recommended Zoning Map of Site 81.....138  
 Recommended Zoning Map of Site 82.....140  
 Recommended Zoning Map of Site 83.....144  
 Recommended Zoning Map of Site 84.....146  
 Recommended Zoning Map of Site 85.....148



## INTRODUCTION



## Vicinity Map

Scale: 1 Inch = 2.6 Miles

# BALCH CREEK WATERSHED PROTECTION PLAN

Inventory, Analysis and Regulations for  
Fish and Wildlife Habitats, Natural Areas,  
Open Space, Water Bodies and Wetlands

## **Balch Creek Watershed**

### **Purpose**

This plan protects the natural resources of the Balch Creek Watershed. Balch Creek flows down the northeast side of the City of Portland's West Hills. This plan is the second in a series of Planning Bureau documents.

The first was a five-part plan for the Columbia River Corridor. The Bureau of Planning is preparing similar plans for the following study areas: the remainder of the Northwest Hills (excluding the portion in the Tualatin River Watershed); the Southwest Hills (excluding the portion in the Tualatin River Watershed); the Tualatin River Watershed (in two parts, one for the Skyline Boulevard area and the other for Fanno Creek and its tributaries); Central and East Portland Buttes and Uplands; and the Johnson Creek Watershed.

The purpose of the Balch Creek Watershed Protection Plan is to identify, evaluate, and protect fish and wildlife habitats, ecologically and scientifically significant natural areas, open spaces, water bodies, wetlands, and the functions and values of the watershed as a whole. The plan is written to comply with Statewide Planning Goal 5. This Goal established the following three-stepped process: (1) Inventory - identify, describe, and evaluate the location, quality, and quantity of each natural resource within the City; (2) Analysis - evaluate the economic, social, environmental, and energy consequences of allowing, limiting, and prohibiting uses which conflict with each identified resource; and (3) Decision - choose to protect or not protect each identified resource. Partial protection is accomplished by limiting conflicting uses. Full protection is accomplished by prohibiting conflicting uses. This plan contains documentation that the levels of protection afforded by the regulations are sufficient.

### **Organization of the Plan**

This Balch Creek Watershed Protection Plan is organized in five parts. The first part is a general introduction to the study area and study process. This part also describes other Bureau of Planning studies and relates the Balch Creek Watershed Protection Plan to other work. The second part is a detailed examination of each resource site within the study area. The third part is an analysis of conflicts between resource use and resource protection. The fourth part is several regulations designed to protect or conserve the most significant resources. The final part is a series of appendices. These appendices contain both general background information and more detailed information for each resource site.

## Portland's West Hills

Portland's West Hills are the southern part of the Tualatin Mountains. Geological evidence suggests that these mountains were formed by a variety of forces acting over millions of years. The oldest known rock in the West Hills is known as the Scappoose formation, a thick bed of sandstone and shale believed to be deposited in an ancient ocean twenty-two million years ago.<sup>1</sup> These sedimentary rocks were subsequently covered by a thick layer of lava during a period of regional vulcanism. This lava is an igneous rock called Columbia River Basalt. Geologists think this basalt is sixteen million years old. Columbia River Basalt comprises most of the bulk of the West Hills.<sup>2</sup> The period of regional vulcanism was followed by a long period of weathering in which basalt was reduced to clay. The red crust now found on exposed basalt was deposited during a period when the West Hills enjoyed a tropical climate.<sup>3</sup> Tectonic forces reshaped and reoriented the originally flat basalt into the Tualatin Mountains at the same time the Coast and the Cascade Ranges were forming. This period of squeezing and folding was followed by a second period of deposition of waterborne sediment. The resulting rock is known as the Troutdale Formation. This rock contains quartz, and is found on the lower slopes of the West Hills.<sup>4</sup> A second period of more local vulcanism is quite recent in geological history. These smaller volcanos produced a type of igneous rock called Boring lava. Most of the taller isolated hills in Portland are Boring volcanoes. Boring lava is also a type of basalt and can be distinguished from Columbia River Basalt by its gray color. Boring lava can be found along the ridge tops and west slopes of the West Hills.<sup>5</sup> The most recent geological formation is a layer of wind blown silt deposited during the last ice age. This formation is a yellow-brown clay called Portland Hills Silt. This silt covers the upper portion of the West Hills. The deepest known deposit of this clay is a layer fifty-five feet thick found at the crest of the West Hills in Forest Park.<sup>6</sup>

Most soils in the West Hills drain poorly.<sup>7</sup> A typical soil profile on an undisturbed, convex, thirty-degree slope in the West Hills includes the following: (1) a dark brown or dark grayish-brown silt loam top soil about a foot thick, (2) a yellowish-brown silt soil about two feet thick, (3) and a dark

- 
1. Marcy Cottrell Houle, *One City's Wilderness*, Portland's Forest Park, (Portland, Oregon: Oregon Historical Society Press), 1987, p. 2.
  2. *ibidem* p. 3.
  3. *idem*
  4. *ibidem* p. 4.
  5. *idem*
  6. *idem*
  7. Peggy A. Olds, "Site Investigation: Forest Park Neighborhood Association, Erosion Problems Impacting Balch Creek, Report of the Multnomah County Soil Conservationist, Soil Conservation Service, United States Department of Agriculture" (Portland, Oregon: March 29, 1989), p. 2

## Balch Creek Watershed

brown, mottled, silt subsoil about five feet thick.<sup>8</sup> The subsoil usually includes a fragipan, which is a layer less permeable to water than the upper layers. Fragipans limit the rooting depth of many plants. A seasonal water table is perched on top of fragipans every winter. This typical soil profile amounts to a high erosion and slumping hazard due to the seasonal water table, slow permeability, low strength, and the tendency of the upper layers to slide over the fragipan whenever they become saturated.<sup>9</sup> Slumping is common in the West Hills, especially when bare soil is exposed to rainfall or when soil is cut or filled.<sup>10</sup> Several major land slides have occurred in the West Hills.<sup>11</sup> The instability of the soil is a major reason why much of the West Hills has not been developed and is now included in parkland, wildlife sanctuaries, open space, and farm and forest zones.<sup>12</sup> Extreme care must be taken when disturbing these soils, and vegetation must be reestablished quickly on disturbed areas to prevent erosion, sliding, and slumping.<sup>13</sup>

The climax vegetation of the West Hills is western hemlock forest. Forest researchers refer to areas which develop this type of forest as the *Tsuga heterophylla* Zone.<sup>14</sup> The zone name is taken from the scientific name for western hemlock even though Douglas fir, *Pseudotsuga menziesii*, and western red cedar, *Thuja plicata*, are the dominant tree species in many forest stands. Most of the forests in this zone have been logged or burned, and these factors also contribute to the relative scarcity of western hemlock within its own zone.<sup>15</sup>

The *Tsuga heterophylla* Zone occurs only in areas with wet, mild, maritime climates in western British Columbia, Washington, and Oregon.<sup>16</sup> These forests obtained their present form after post-glacial warming six thousand years ago. These forests are unique because their coniferous species are the largest and longest lived members of genera of world-wide distribution. They are unusual in that conifers dominate hardwoods. The accumulated bio-mass of these forests is also greater than any other type of temperate forest.<sup>17</sup> Forest researchers place *Tsuga heterophylla* forest into categories by examining their understory. The understory reflects amount of moisture received by the forest. The forests of the West Hills are of the *Tsuga heterophylla* / *Polystichum munitum* association, the second wettest forest category of the

---

8. ibidem

9. ibidem

10. ibidem

11. Houle, p. 4.

12. idem, p. 5.

13. Olds p. 4.

14. Jerry F. Franklin and Tawny Blinn, *Natural Vegetation of Oregon and Washington* (Corvallis: Oregon State University Press for the United States Forest Service, 1987), p.70.

15. idem p. 71.

16. ibidem

17. Houle, p. 18.

zone. The term for this association is taken from the scientific name of our common sword fern, but other understory species are also found in the West Hills.<sup>18</sup>

Most of the forests in the West Hills have been logged, either selectively or by clear cutting. Clear cutting was often followed by controlled burning of slash to prevent wild fires.<sup>19</sup> West Hills forests have also been disturbed by natural fires and land slides. The type of forest that grows back after a disturbance depends on the nature and severity of the original disturbance, available seed sources, and climatic conditions.<sup>20</sup> The greater the disturbance, the more red alder will generally appear in the regenerating forest.<sup>21</sup> The stages through which a forest regenerates are called a successional pattern. The tables on the following two pages describe two typical successional patterns in the West Hills. Both successional patterns assume a complete disturbance and identical elevations, degrees of slope, slope aspects, soils, temperatures, and rainfalls. Table 1 assumes the presence of a conifer seed source, Table 2 assumes that a conifer seed source is not present.

Mature examples of old conifer forests are rarely found in cities, but in Portland, mature stands can be viewed in the upper portion of Macleay Park and near Germantown and Newton Roads.<sup>22</sup> Hardwood stands are forests which are "stuck" in an early stage of the conifer successional pattern. Large stands of alder and maple are not a natural forest type in the *Tsuga heterophylla* Zone. Mature hardwood stands are the result poor forest management practices and are common in the West Hills. Forests also suffer from intrusion by urban landscape and exotic plants. English ivy, blackberries, English holly, and western clematis vines are prevalent in some West Hills forests and can retard normal successional patterns. Red alder is also found in association with cottonwood along water courses. Red alder and cottonwood stream side forest are called a galleries. A gallery is a special forest type occurring within the *Tsuga heterophylla* Zone. Gallery forests are the natural habitat of alder and are not the result of logging. The other special forest type once found in the West Hills is stands of large western red cedar with no fir and little hemlock. This is an old growth climax forest type which occurs only on wet lower slopes and stream terraces within the *Tsuga heterophylla* Zone. The stands of large cedar have been logged, but large cedar stumps can still be found in Forest Park, and young cedar is growing on wet sites in the West Hills.

---

18. Franklin and Blinn, p. 77.

19. idem p. 83.

20. idem p. 85.

21. Houle, p. 21.

22. idem p. 22.

Balch Creek Watershed

Table 1. - Reestablishment of a disturbed forest with a conifer seed source

| YEARS SINCE DISTURBANCE       | SUCCESSIONAL STAGE  | FOREST TYPE  | TREE SPECIES PRESENT  |
|-------------------------------|---|--|---|
| 0 to 5 years                  | Herbs with immature shrubs  | None   | None  |
| 3 to 30 years                 | Mature shrubs, with immature hardwoods and conifers                   | None   | Red alder, big-leaf maple, Scouler's willow, bitter cherry, and Douglas fir   |
| 10 to 35 years                | Mature hardwoods with small immature conifers                         | Hardwoods topping conifers                                 | Red alder, big-leaf maple, Scouler's willow, bitter cherry, Douglas fir, grand fir, western red cedar, and western hemlock              |
| 30 to 100 years               | Mature hardwoods with immature small and middle-sized conifers        | Conifers topping hardwoods                                 | Red alder, big-leaf maple, Scouler's willow, bitter cherry, Douglas fir, grand fir, western red cedar, western hemlock, and western yew |
| 80 to 250 years               | Small, middle-sized, and large immature conifers                      | Larger immature conifers topping smaller immature conifers | Douglas fir, grand fir, western red cedar, western hemlock, and western yew   |
| 200 to 800 years              | Mature conifers with small, middle-sized, and large immature conifers | Sub-climax Douglas fir "Old Growth"                        | Douglas fir, grand fir, western red cedar, western hemlock, and western yew   |
| 600 years to next disturbance | Mature conifers with small, middle-sized, and large immature conifers | Climax western hemlock "Old Growth"                        | Grand fir, western red cedar, western hemlock, and western yew  |

Wildlife in the West Hills is of exceptional quantity and quality. Much of the West Hills is parks, open space, wildlife sanctuaries, farms, and forests. The undeveloped parcels are often adjacent to or near other undeveloped parcels. Many undeveloped lands are also close enough to undeveloped lands in the Coast Range for many animals to travel safely from the Coast

Range to the West Hills. All of these factors contribute to the perpetuation of native animal species. The West Hills are a unique urban environment. Parks in other major North American cities are generally smaller, and undeveloped park land has usually disappeared parcel-by-parcel in a scattered jigsaw puzzle fashion. Some citizens also demand that natural park land be made more "park like" through the removal of downed logs, snags, and understory shrubs. Wildlife resulting from the loss of large areas of natural vegetation can include undesirable species more adapted to urban life. These species include the Norway rat, the house mouse, the house sparrow, and the pigeon.<sup>23</sup>

Portland has preserved native northwest wildlife by saving significant amounts of several native habitats. Within a ten minute drive from downtown Portland, the West Hills offer an opportunity to view a rare population of native trout, eight species of salamanders, one newt species, one toad species, four species of frogs, two species of lizards, five species of snakes, one skink species, two turtle species, 112 bird species and 62 mammalian species.<sup>24</sup> While a few of these species require ponds, wetlands, or exposed rocks for habitat, most are forest or forest stream animals. Different forest species require forest habitat of a certain successional stage. The variety of forest habitats in the West Hills contributes greatly to the diversity of animal species. Balch Creek Watershed forests facilitate the passage of deer and elk to other habitat areas. Older forests are also used seasonally by migratory neotropical bird species.

**Table 2. -** Reestablishment of a disturbed forest without a conifer seed source

| TIME SINCE DISTURBANCE       | SUCCESSIONAL STAGE                     | FOREST TYPE     | TREE SPECIES PRESENT         |
|------------------------------|--|-----------------|------------------------------|
| 0 to 5 years                 | Herbs with immature shrubs             | None            | None                         |
| 3 to 30 years                | Mature shrubs, with immature hardwoods | None            | Red alder and big-leaf maple |
| 10 to 50 years               | Mature and immature hardwoods          | Mixed hardwoods | Red alder and big-leaf maple |
| 35 years to next disturbance | Mature hardwoods                       | Mixed hardwoods | Red alder and big-leaf maple |

23. idem p. 36.

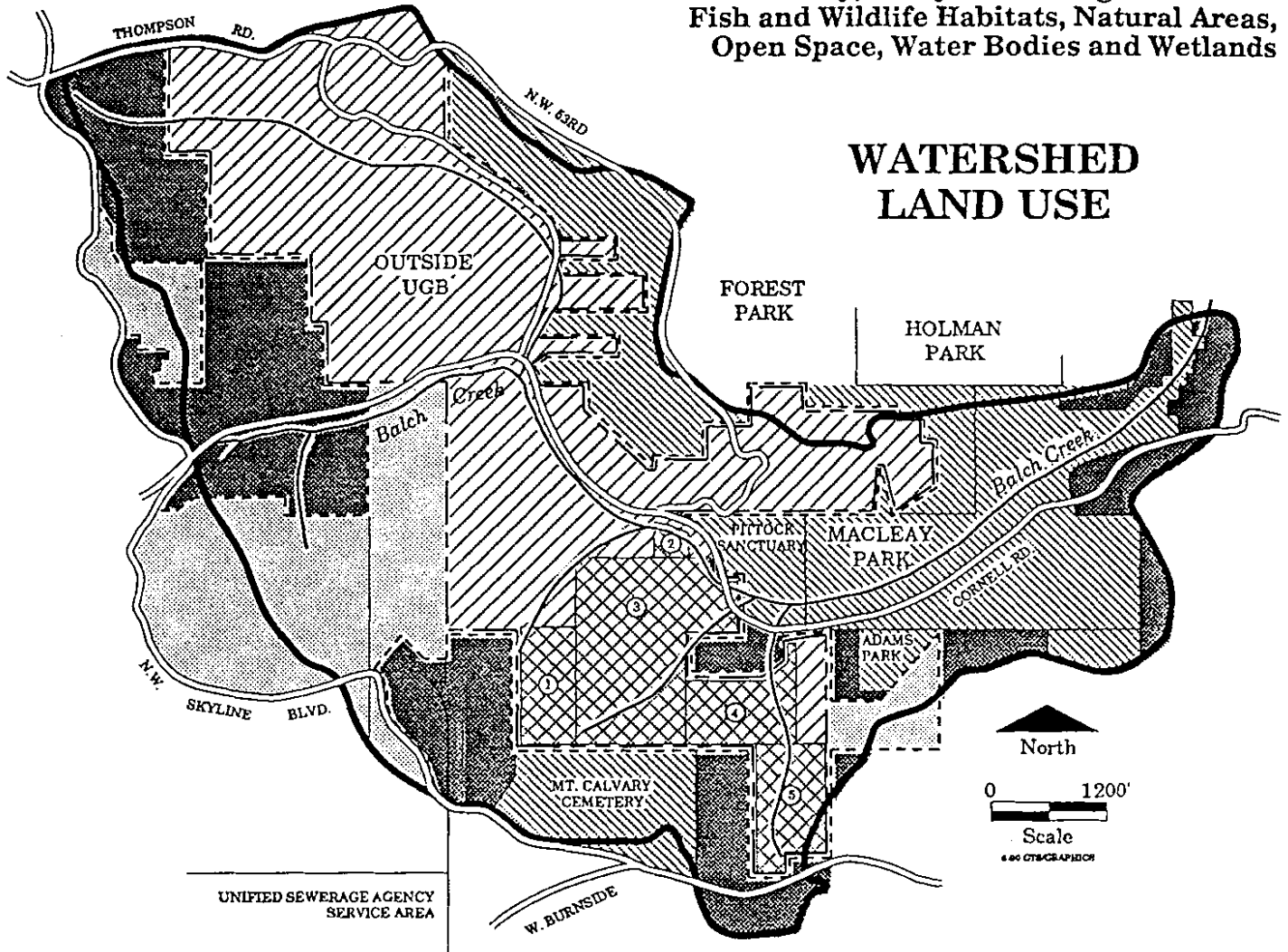
24. Information from Houle, the Nature Conservancy, and Portland Bureau of Planning field surveys.




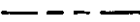
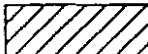





# BALCH CREEK WATERSHED PROTECTION PLAN

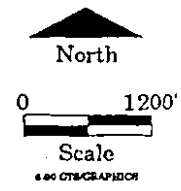
Inventory, Analysis and Regulations for  
Fish and Wildlife Habitats, Natural Areas,  
Open Space, Water Bodies and Wetlands

## WATERSHED LAND USE



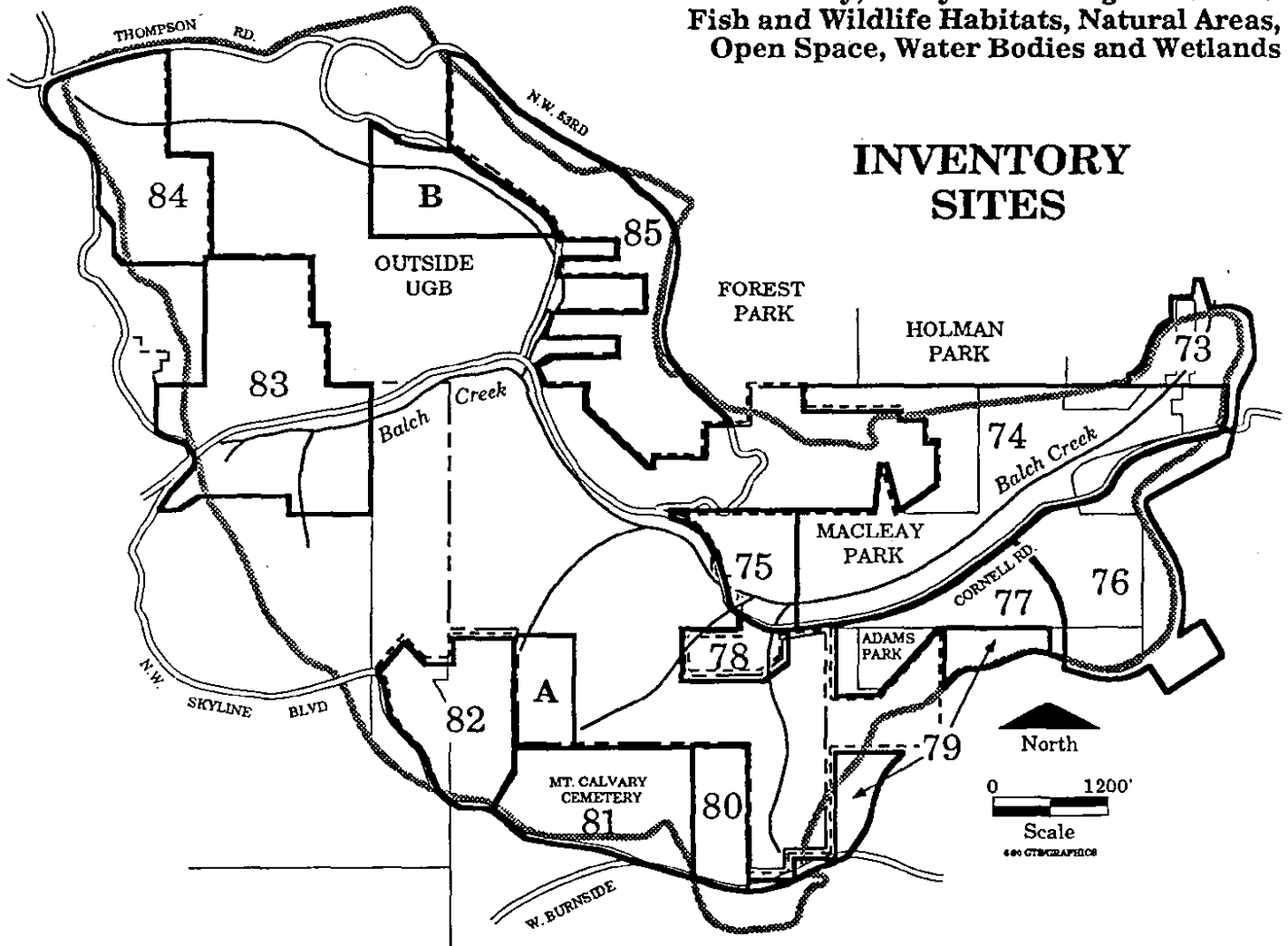
### Legend:

- |   |                             |  |
|---|-----------------------------|--|
|  | Watershed Boundary          | <b>Areas Outside UGB</b>   |
|  | Urban Growth Boundary (UGB) |  Rural Private Lands  |
|  | City Boundary               |  Rural Wildlife Areas |
| <b>Areas Inside UGB</b>   |                             |  |
|  | Urban Open Space            | ① Oregon Parks Foundation  |
|  | Urban Private Lands         | ② Heinrich Sanctuary   |
|  | Urbanizable Private Lands   | ③ Collins Bird Sanctuary   |
|   |                             | ④ Audubon Bird Sanctuary   |
|   |                             | ⑤ Hoffman Donation   |




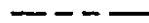

# BALCH CREEK WATERSHED PROTECTION PLAN

Inventory, Analysis and Regulations for  
Fish and Wildlife Habitats, Natural Areas,  
Open Space, Water Bodies and Wetlands



## INVENTORY SITES

### Legend:

-  Watershed Boundary
-  Urban Growth Boundary (UGB)
-  City Boundary

## Balch Creek Watershed

### Balch Creek Watershed

The Balch Creek Watershed has a rich history. Members of the indigenous northwest tribes travelled along Balch Creek and over the West Hills to reach the Tualatin Valley.<sup>25</sup> In the 1840's settlers of European origin began widening and using Native American trails to transport agricultural products from the Tualatin Valley to communities in the lower Willamette Valley. One of these early routes was called Balch Creek Road or Balch Road, but is now called Cornell Road. Homesteading and logging followed quickly after the development of roads. One of these early settlers was Danforth Balch, who filed a 640 acre donation land claim in 1850.<sup>26</sup> The creek flowing through the homestead now bears the family name of Danforth, his wife, Mary Jane, and their nine children. Danforth holds the distinction of being the first man legally hung in Portland, Oregon. He shot and killed his son-in-law, Mortimer Stump. Balch's crime was motivated by his resentment over the elopement of Anna, his fifteen-year-old daughter. Mary Jane remarried a few years after Danforth's execution, and her new husband conspired to deprive his step-children of their property. The scheme was successful, but the Oregon Supreme Court restored the property rights of four of the Balch children in a 1883 ruling. Anna Stump was not one of the four.<sup>27</sup> By the 1890's most of the Balch Creek Watershed was in private holdings, but the City had acquired the dams, intakes, and pipes constructed by a private water company to divert Balch Creek water to a wooden reservoir at S.W. Alder and 15th Streets.<sup>28</sup>

A major change in land use occurred in 1897 when Donald Macleay donated 105 acres of forest lands surrounding Balch Creek to the City of Portland as a park.<sup>29</sup> Macleay's land had experienced only selective cutting for firewood, steamboat fuel, and round logs for cabins. A 1939 gift of George F. and Mary Holman supplemented Macleay's donation by 52 acres. Other Balch Creek Watershed parkland was formed from tax-forfeited land in 1948.<sup>30</sup> Some of this tax forfeited land had experienced extensive clear cutting. Today the Balch Creek Watershed remains largely undeveloped with 34 percent of its land in parks (292 acres), sanctuaries (109 acres), and open space (67 acres). There are 96 single family homes scattered throughout the watershed, and another 17 single family homes in a small subdivision. The housing density of the watershed is 0.083 units per acre, or one unit for every twelve acres.

- 
25. Murray Smith and Associates for the Portland Bureau of Environmental Services, *Draft Royal Highlands Interceptor Sewer Facilities Plan* (Portland, Oregon: 1988), p. 2-1.
  26. "Settler Slays Son-in-law! After Murder, Escape, Balch is First Man to Swing in Stumptown", *The Neighbor* (Portland, Oregon: John Henderson, January, 1990), p. 4.
  27. idem p.5.
  28. Murray Smith and Associates, p. 2-2.
  29. Houle, p. 60.
  30. idem p. 13.

The part of the Balch Creek Watershed examined by this protection plan has a total area of 1,367 acres. The protection plan does not consider lands downstream from the entrance of Balch Creek to the city sewer in lower Macleay Park. The lowest elevation in the watershed is slightly above mean sea level; the highest is about 1,200 feet. Most of the soils in Balch Creek Watershed are silty loams and clays which can reach depths of sixty inches. The United States Department of Agriculture, Soil Conservation Service classifies these soils in the Cascade or Goble series.<sup>31</sup> These soils are typical of the West Hills in their low permeability and low stability. Construction site grading has caused these soils to slide into Macleay Park<sup>32</sup> and an Audubon Society refuge.<sup>33</sup> Cascade and Goble soils are also responsible for the failure of many residential properties to qualify for subsurface sewage disposal systems.<sup>34</sup> At the bottom of the watershed, next to the Balch Creek stream bed, there is a gravelly loam soil which is classified in the Wauld series.<sup>35</sup>

The Balch Creek Watershed receives a normal annual precipitation of 45 inches. Half of this occurs during November, December, and January, with less than two percent of the annual precipitation in snowfall.<sup>36</sup> Balch Creek is a full year stream, with a small full-year tributary flowing from upper Macleay Park, crossing under Cornell Road between the tunnels, and joining the main stem in lower Macleay Park. A much larger full-year tributary flows along Thompson Road and joins the main stem at the Intersection of Thompson and Cornell Roads. There is also a wetland at this intersection. Balch Creek has several other tributaries, but these only flow during part of the year. The Portland Audubon Society has also created two small ponds and a small wetland in the watershed.

Balch Creek summer flows are low, but sufficient to support a population of 2,000 to 4,000 cutthroat trout. These trout have been isolated since the replacement of lower Balch Creek by a sewer in 1921. Balch Creek cutthroat cannot migrate to any other water body and other fish cannot enter Balch Creek through the sewer. The Oregon Fish and Wildlife Commission does not allow fishing in Balch Creek because cutthroat trout are the only fish species present, and the existence of these trout is threatened by land development. The Oregon

- 
31. Murray Smith and Associates, p. 2-3. Soils information confirmed by a telephone call to staff of Bureau of Buildings, City of Portland.
  32. Portland City Ordinance 102906 authorized action against persons believed responsible for at least two such slides.
  33. H.G. Schlicker & Associates, Inc, *The Mt. Calvary Mausoleum Landslide* (Portland, Oregon, Project 87-303, 1987), p. 8.
  34. Murray Smith and Associates, p. 2-3.
  35. *ibidem*
  36. *ibidem*

## Balch Creek Watershed

Board of Forestry has designated Balch Creek a Class One stream, but only regulates forest practices outside the metropolitan urban growth boundary.<sup>37</sup>

The Balch Creek Watershed has an unusual jurisdictional pattern. Lands within the City are on the east, north, and west sides of the watershed. Lands beyond the City and urban growth boundary are in the center of the watershed and on the south side of the watershed. The complexity of regulatory and service authorities presents special challenges to the management of watershed resources as a whole.

## Statewide Planning Goal 5 and Administrative Rule

Statewide Planning Goal 5 requires all city and county governments to, “conserve open space and protect natural and scenic resources.” (The complete text of the goal is in Appendix A.) The Oregon Land Conservation and Development Commission adopted this Goal in 1974, and provided further guidance for carrying it out in 1981. Between 1974 and 1981 the City enacted a variety of land use regulations to meet Statewide Planning Goal 5. The State agreed that these regulations were sufficient, and approved the Portland Comprehensive Plan on May 1, 1981.

The State did not draft an administrative rule providing detailed guidance as to how Statewide Planning Goal 5 should be carried out until after the Portland Plan had been submitted for approval. Land Conservation and Development Commission records show that the Goal 5 Administrative Rule was adopted during the meeting in which the Portland Plan received state approval. The rule was not, however, applied to the Portland Plan because the rule was not effective until it was filed with the Secretary of State’s office on May 8, 1981.<sup>38</sup> (The complete text of the rule is in Appendix B.) The new rule established substantive and procedural requirements for the protection of resources that the City of Portland had not followed in formulating its Comprehensive Plan. Inventory methods and protective measures were the most obvious examples. The Oregon Legislative Assembly also enacted legislation in 1981 authorizing periodic review of all previously approved land use plans.<sup>39</sup> The combined effect of the 1981 legislation and Goal 5 Administrative Rule was a requirement that the City bring its plan into compliance with the new rule before its first periodic review. The Portland City Council adopted ordinances in 1982 and 1988 correcting most deficiencies

---

37. Opinion of Melinda L. Bruce, Assistant Attorney General (Salem: Oregon Department of Justice File Number 629-420-G0025-87, 1988), p. 5. The Lane County Circuit Court has, however, issued one Stipulated Temporary Restraining Order in *City of Eugene v. State Forester* (Case 16-90-03217) which implies that the Board of Forestry and local governments have concurrent authority to regulate forest practices within urban growth boundaries.

38. The last sentence of this rule also provided a specific exemption for Portland.

39. Now codified as Oregon Revised Statutes, Chapter 197, Section 640.

relating to Statewide Planning Goal 5 requirements, but the Goal 5 Administrative Rule was not applied to specific sites in Portland's West Hills. West Hills natural resources must, therefore, be identified, and in certain cases protected, before the State will allow the City to complete periodic review. The following paragraphs outline the content of this protection plan and describe process required by the 1981 administrative rule to identify, evaluate, and protect natural resources.

Natural resources are identified in the inventory section of this protection plan. The inventory describes the location of each site in the Balch Creek Watershed, determines the quantity of the resources present on each site, and provides information needed to rank the quality of each site. The location of resource sites is shown on maps. Resource quantity was determined by visiting each site and noting the type and abundance of resources. The quality of a site was determined by comparing its resource values with all other sites of the same resource category. Resource values were identified through field surveys and literature searches, and by reviewing the materials and testimony presented to the Balch Creek Task Force. Comparisons are made first with all Balch Creek Watershed sites, then with other resource sites in the City of Portland. No Balch Creek Watershed sites are considered of such low importance that they are excluded from the inventory, and enough information was collected for each site to perform analyses required by state law.

The next section of this protection plan is an evaluation. The evaluation describes and analyzes the economic, social, energy, and environmental consequences of two possible events. One event is the destruction of known resources by uses allowed by existing zoning. The other event is the protection of known resources by prohibiting uses allowed by existing zoning. This protection plan borrows language from the Goal 5 Administrative Rule by calling allowed uses which may harm known resources, "conflicting uses".<sup>40</sup> The purpose of the analyses is to weigh potential harm to resources against expected benefits of continuing conflicting uses.

Regulations designed to limit or prohibit conflicting uses comprise the final section of this protection plan. After conflicting uses are identified and analyses are completed, the Goal 5 Administrative Rule provides for three types of zoning decisions. Conflicting uses can be prohibited in resource sites and in buffer areas surrounding resource sites. The Goal 5 Administrative Rule requires this protection when an analysis demonstrates both of the following: that existing zoning is not adequate to protect a resource, and that a resource is more important than benefits expected from continuing the conflicting uses. New zoning can also be enacted to limit, but not prohibit, conflicting uses. The rule requires this decision when an analysis demonstrates that existing zoning is not adequate to protect a resource, but

---

40. Oregon Administrative Rules, Chapter 660, Division 16.

## **Balch Creek Watershed**

does not demonstrate either of the following: that a resource is more important than a benefit expected from conflicting uses, or that a benefit is more important than a resource. Decisions can also be made to leave in place existing zoning that is not adequate to protect a known resource. The rule requires this decision when an analysis demonstrates that an expected benefit of allowing a conflicting use is more important than a harmed resource.

This protection plan also examines conflicting uses for cumulative effects on the entire Balch Creek Watershed. Many regulations are designed to preserve watershed functions as a whole rather than protect specific resources at specific sites. Examples of protected functions include hydrology and erosion control. The adequacy of site specific and general regulations was determined by comparing the restrictions and prohibitions to be established against the requirements of state and federal law. Statewide Planning Goal 5, for example, does not allow every example of a resource type within a local jurisdiction to remain unprotected. Nor does it allow resources of regional, state, or national importance to remain unprotected if benefits from conflicting uses have only local importance. Individual resources of the same type must also be examined for their contribution to a resource category as a whole. In situations where a resource of moderate importance is near a similar resource of high importance, state law allows, and in some cases requires, the protection of both resources. Similar situations arise when clustered resources of only moderate importance comprise a functional unit of high importance. The continuation of uses with widespread benefits may also be required if they harm resources of only local importance. All of these factors must be considered in a program to achieve the purpose of Statewide Planning Goal 5.

### **Relation to Other Policies**

#### **Other Statewide Planning Goals**

There are nineteen Statewide Planning Goals. Statewide Planning Goal 5 and fourteen other Statewide Planning Goals apply to the Balch Creek Watershed. Some of these goals establish a decision making process. Procedural Goals include Goal 1, Citizen Involvement, and Goal 2, Land Use Planning. These state mandated procedures were applied during the preparation, review, and presentation of the various drafts of this protection plan.

Other Statewide Planning Goals address specific topics. Examples include Goal 9, Economy of the State, Goal 10, Housing, and Goal 14, Urbanization. The uses addressed by these goals were identified as conflicting with natural resource protection and required analysis under the Goal 5 Administrative Rule. This protection plan incorporates the requirements of these goals with the analyses of economic, social, environmental, and energy consequences.

The Willamette River Greenway Goal, Statewide Goal 15, applies only to a small portion of the Balch Creek Watershed. In this portion the natural stream bed has been replaced by a buried sewer line. Goal 15 was therefore not considered by this protection plan.

Statewide Goals 16, 17, 18, and 19 apply only to coastal and ocean resources and do not apply to the Balch Creek Watershed.

### **Portland Comprehensive Plan Goal 8 - Environment**

The purpose of Portland's Environment Goal is to, **"Maintain and improve the quality of Portland's air, water and land resources and protect neighborhoods and business centers from detrimental noise pollution."** The policies and objectives of this goal generally meet or exceed the requirements of the Statewide Planning Goals 5. The City Council, city administrators, and city hearings officers make all decisions affecting the use of land in conformance with the policies of Portland's Comprehensive Plan. Since state approval of the Portland Plan in 1981, conformance with this plan also means conformance with the Statewide Planning Goals.

Ordinances adopted through 1988 added new Goal 8 policies committing the City to regulate development in groundwater areas, drainage ways, natural areas, scenic areas, wetlands, riparian areas, water bodies, uplands, wildlife habitats, aggregate sites, and in areas affected by noise and radio frequency emissions. These ordinances also established new Goal 8 objectives. These objectives commit the City to controlling hazardous substances; conserving aquifers, drainage ways, wetlands, water bodies, riparian areas, and fish and wildlife habitat; prioritizing properties for public acquisition, coordinating City regulations with the regulations of state, federal, and other affected local governments; avoiding harm to natural resources; mitigating unavoidable harm to natural resources; maintaining vegetative cover; improving water quality; and preventing soil erosion and stormwater flooding.

The policies and objectives of Comprehensive Plan Goal 8 meet the requirements of Statewide Planning Goal 5 and are thus incorporated in the section of this protection plan which analyzes economic, social, environmental, and energy consequences.

### **Other Portland Comprehensive Plan Goals**

There are ten Portland Comprehensive Plan goals in addition to the City environment goal. As with the Statewide Planning Goals, required procedures were addressed in the preparation, review, and presentation of this protection plan. Other applicable goals are addressed in the analyses of economic, social, environmental, and energy consequences.



## Balch Creek Watershed

### Northwest Hills Study Policies

The City of Portland initiated a study of the Northwest Hills in 1984. This study was prompted by both a general demand for housing sites in the West Hills and by the City's approval of a planned unit development northwest of the intersection of Cornell Road and Skyline Boulevard. This development will add 2,100 residential units to the West Hills. The Study stated the following problem: "...questions have been asked about the ability of the Northwest Hills to absorb dense levels of development. Questions were raised about the City's and other service provider's abilities to provide the public facilities and services that are necessary to support the new development. Specifically, questions have been raised concerning the impact of new development on existing neighborhoods and the natural environment, its impact on an already congested transportation system, adequacy of fire protection to the area, and lack of sewer service. An increasing amount of commuter traffic on N. W. Cornell Road and W. Burnside Street originating in Washington County has also been identified as a major concern."<sup>41</sup>

The Northwest Hills Study concluded that future development in the Balch Creek Watershed should be limited because of the fragile environment, significant natural and recreational values, and the absence of urban services, particularly sewers. The study's fourth land use policy states the City's intent to **"Restrict development of the environmentally sensitive Balch Creek drainage."**<sup>42</sup> The sixth policy states, **"In areas suitable for urban development, but where landslide hazards are predominant or natural conditions are unique and sensitive, restrict potential development densities to below what would otherwise be warranted."**<sup>43</sup> These policies are addressed in the analyses of economic, social, environmental, and energy consequences.

### Balch Creek Task Force Recommendations

The Balch Creek Task Force is a panel of eleven citizens appointed by the City of Portland's Commissioner of Public Works. The Task Force was chartered to provide two recommendations to the Commissioner.<sup>44</sup> The first was for cost effective facilities to correct existing water quality violations in the Balch Creek Watershed. This recommendation was made on March 1, 1990. The Task Force advised the Commissioner to prepare a facilities plan to replace the failing Royal Highlands sewage treatment plant with a station which

- 
41. Portland Bureau of Planning, *Northwest Hills Study: Final Policy, Code and Map Actions*, Adopted by the City Council November 27, 1985 by Ordinance 158017 (Portland, Oregon: 1985), p. 3.
  42. *ibidem*, p. 49.
  43. *ibidem*, p. 51.
  44. The charter is Appendix H of this Report.

would pump effluent to an existing gravity sewer.<sup>45</sup> The construction of a new gravity sewer through the watershed was considered but was not recommended. The Task Force reasoned that most future residential development could be accommodated either by the new pumping station or, for lots of two acres or larger, by well maintained, on site, septic systems.<sup>46</sup>

The Task Force was also chartered to recommend an appropriate level of urban development for the Balch Creek Watershed based on the facilities proposed by their first recommendation. This protection plan shifts, reduces, and increases future urban development in accord with the pumping station recommendation.

## Relation to other Studies

### Mineral and Aggregate Sites

The City has completed its inventory, analysis, and recommendations for mineral and aggregate sites.<sup>47</sup> This inventory identified one potential aggregate site in the Balch Creek Watershed.<sup>48</sup> This site was not considered important and was deleted from the inventory.<sup>49</sup> All decisions concerning the use of mineral and aggregate resources in the Balch Creek Watershed have been made, so this protection plan does not address this use in the analyses of economic, social, environmental, and energy consequences.

### Scenic Resources

The City Planning Commission has recommended a Scenic Resources Protection Plan to the City Council.<sup>50</sup> This plan designates Balch Creek, and the portions of N.W. Cornell Road, N.W. 53rd Drive, N.W. Skyline Boulevard, and N.W. Thompson Road within the Balch Creek Watershed as scenic corridors.<sup>51</sup> A companion volume to the Scenic Resources Protection Plan contains the required Statewide Planning Goal 5 analysis for these recommendations.<sup>52</sup> The Scenic Resources Protection Plan also recommends the adoption of new zoning code provisions. These new code provisions describe the relationship of scenic

---

45. City of Portland, Oregon, *The Balch Creek Task Force Report on Cost Effective Facilities for Royal Highlands: A Preliminary Report to Commissioner Earl Blumenauer and the Portland Planning Commission* (Portland, Oregon: 1990), p. 1.

46. *ibidem*

47. Portland Bureau of Planning, *Mineral and Aggregate Resource Inventory* (Portland, Oregon: 1988), 27 pages.

48. *ibidem*, p. 11.

49. Portland Bureau of Planning, *Addendum to Mineral and Aggregate Resource Inventory* (Portland, Oregon: 1989), p. 1.

50. Portland Bureau of Planning, *Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan* (Portland, Oregon: 1990) nine parts, multiple volumes.

51. *ibidem*, part vi, page 69.

52. *ibidem*, part ix, volume vi-Scenic Corridors, 97 pages.

## Balch Creek Watershed

and environmental protection measures as follows: **“When an environmental zone has been applied at the location of a designated scenic resource, the environmental review must include consideration of the scenic qualities of the resource as identified in the ESEE [economic, social, environmental, and energy consequences] Analysis for Scenic Resources. The development standards of [the scenic protection chapter] . . . . must be applied as part of that [environmental] review.”**<sup>53</sup> The inventory, analysis, and regulations of the Scenic Resources Protection Plan are incorporated with the Balch Creek Watershed Protection Plan by reference and are not repeated in the analysis section of the Balch Creek Watershed Protection Plan. Scenic value was only one factor weighed in the Bureau of Planning’s decisions to recommend environmental protection for sites within the Balch Creek Watershed. Regulations in the form of scenic corridor development standards have already been recommended by the Scenic Resources Protection Plan for the portions of N.W. Cornell Road, N.W. 53rd Drive, N.W. Skyline Boulevard, and N.W. Thompson Road within the Balch Creek Watershed. These scenic standards are not repeated in the regulations section of the Balch Creek Watershed Protection Plan, but will be applied during environmental reviews. Separate scenic regulations for Balch Creek are not provided, because the level of protection provided by the regulations of the Balch Creek Watershed Protection Plan applicable to Balch Creek itself greatly exceed the level of protection provided scenic corridors by the Scenic Resources Protection Plan.

## Sewer Facilities

The city of Portland’s Bureau of Environmental Services has prepared an interceptor sewer plan carrying out the first recommendation of the Balch Creek Task Force. This plan states, **“Pumping [of untreated effluent from the the Royal Highland subdivision] to [an existing] City of Portland [gravity sewer] via West Burnside . . . . [Street] (With Inverted Siphon), is selected as the preferred alternative and is recommended for presentation [to the United States Environmental Protection Agency] . . . . as the alternative eligible for Federal assistance.”**<sup>54</sup> This protection plan assumes that this recommendation will be carried out. This assumption is one factor considered in the urban services and public facilities portions of the analyses of economic, social, environmental, and energy consequences.

---

53. *ibidem*, part vi, proposed code 33.480.050 pages 41 and 42. Language in brackets is not part of the original.

54. Murray, Smith and Associates, Inc.; Oman/Jerrick Associates; and CENTRAC for the Portland Bureau of Environmental Services, *Royal Highlands: Interceptor Sewer Facilities Plan* (Portland, Oregon: 1990), p. 9-1. Language in brackets not part of the original.

**INVENTORY**

## Process

This protection plan examines fifteen sites. Thirteen of these sites are within the City of Portland. These sites are numbered from 73 to 85. Two Multnomah County sites were examined as well. These sites were assigned the letters "A" and "B".

### Site Selection

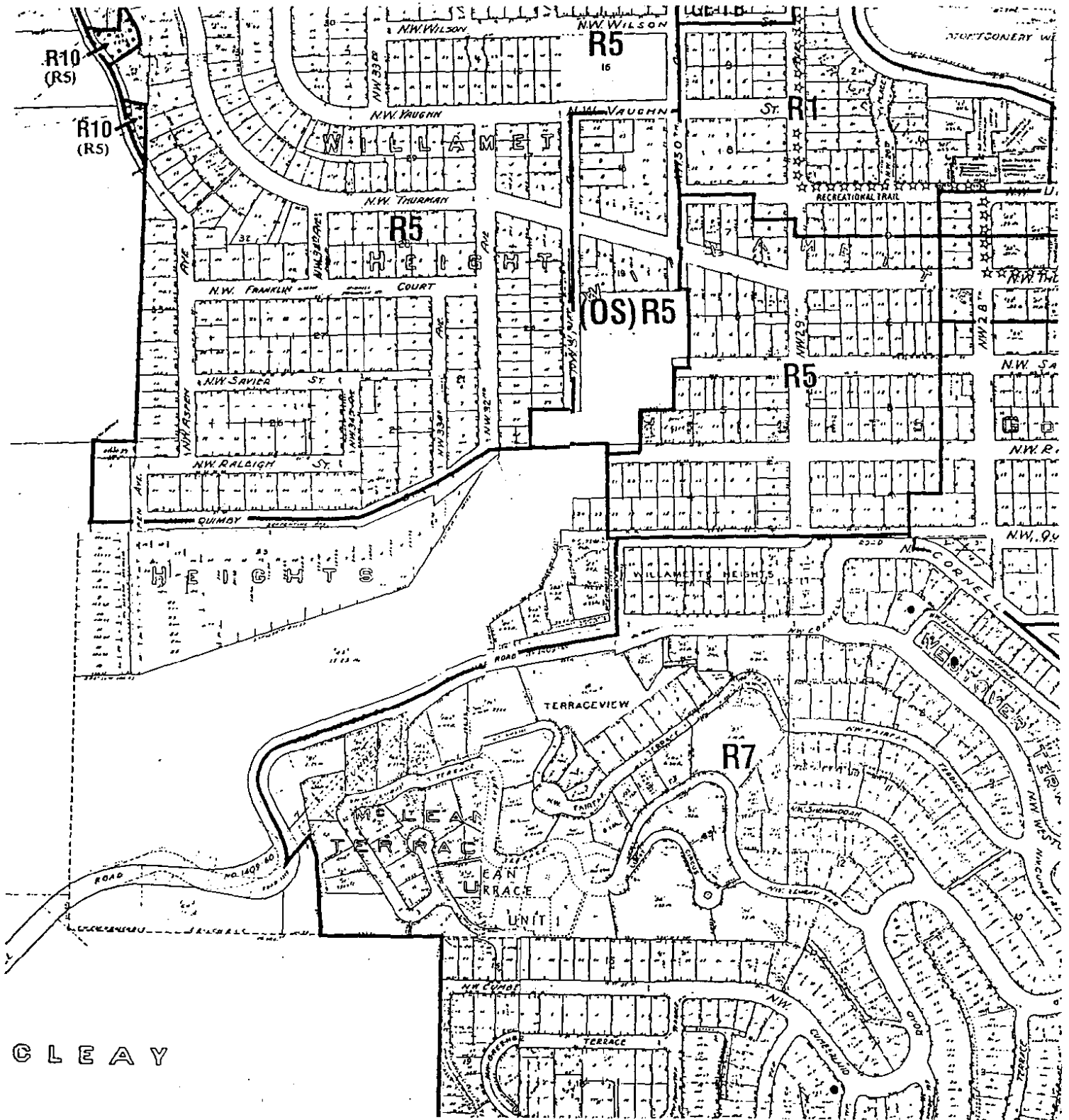
All of the Balch Creek Watershed was examined. Detailed field work was conducted on the thirteen City sites. Contiguous land with similar resources and similar zoning was combined to form these sites. Sites range in size from three acres to two hundred acres.

### Inventory Method

Each site was visited and examined for resource functions and values. The only numerically measured value was wildlife habitat. Balch Watershed wildlife habitat scores ranged from 22 to 102, on a possible scale from zero to 116. All 85 City sites scored to date range from 17 to 106. Balch Creek Watershed wildlife habitat scores are among the highest in the City. Balch Creek Watershed functions like flood control, groundwater recharge, and pollution control rated highly. Fish habitat, scenery, recreational, and educational values also rate highly. All these functions and values were considered in determining the quality of a site.

### Site Inventory Summaries

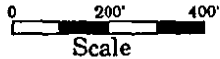
Individual site summaries follow. These summaries describe the location, quantity, and quality of resource values and functions for each site. A conclusion states the value of the site in relation to all other City sites examined.



Site 73  
Existing Zoning



North  
Bureau of Planning • City of Portland



**BALCH CREEK**  
WATERSHED PROTECTION PLAN

**Site 73**

Area in and near the Lower Macleay Park Lavatories, Parking Lot, and Lawn

**NEIGHBORHOODS:** Forest Park and Northwest  
**QUARTER SECTION MAPS:** 2825 and 2826  
**APPROXIMATE AREA:** Three Acres  
**OWNERSHIPS:** Eight  
**PROPERTIES:** Ten

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-91340-2460 | R5        | none         | OS        | 00.11 |
| R-91340-2470 | R5        | none         | OS        | 01.10 |
| R-91340-2560 | R5        | none         | OS        | 00.14 |
| R-91340-2570 | R5        | none         | OS        | 00.15 |
| R-91340-2580 | R5        | none         | OS        | 00.15 |
| R-91340-2590 | R5        | none         | OS        | 00.11 |
| R-91340-2600 | R5        | none         | OS        | 00.11 |
| R-91340-2610 | R5        | none         | OS        | 00.64 |
| R-91340-2660 | R5        | none         | OS        | 00.09 |
| R-91340-2670 | R5        | none         | OS        | 00.11 |

**DATE OF LAST FIELD INVENTORY:** April 28, 1990

**WETLANDS HABITAT CLASSIFICATIONS:** Full-Year Stream with a Riparian Gallery.

**UPLANDS HABITAT CLASSIFICATIONS:** Artificial Meadow (park lawn) with Second Growth Forest on slopes. Ornamental dawn redwoods planted next to lawn.

**WILDLIFE HABITAT ASSESSMENT SCORE:** 90

**TYPES OF RESOURCES:** Fish and wildlife habitat, rare flora and fauna, historic, open space, scenic, recreational, educational.

**QUANTITY OF RESOURCES:** There is more water per unit of area on this Site 73 than any other site in the watershed. Site 73 contains about two acres of park lawn and one acre of forest. The stream, forest, and lawn provide recreational, scenic, educational and open space resources. Four historic resources are on the site and three more, associated with the site, are nearby.

**QUALITY OF RESOURCES:** The stream provides very high fishery habitat values, but these values are diminished by a vertical section of concrete which restricts passage of fish to the upper stream spawning beds. Trapped fish provide educational value, but are lost from the population because they are periodically flushed into a storm sewer that does not support

## Balch Creek Watershed

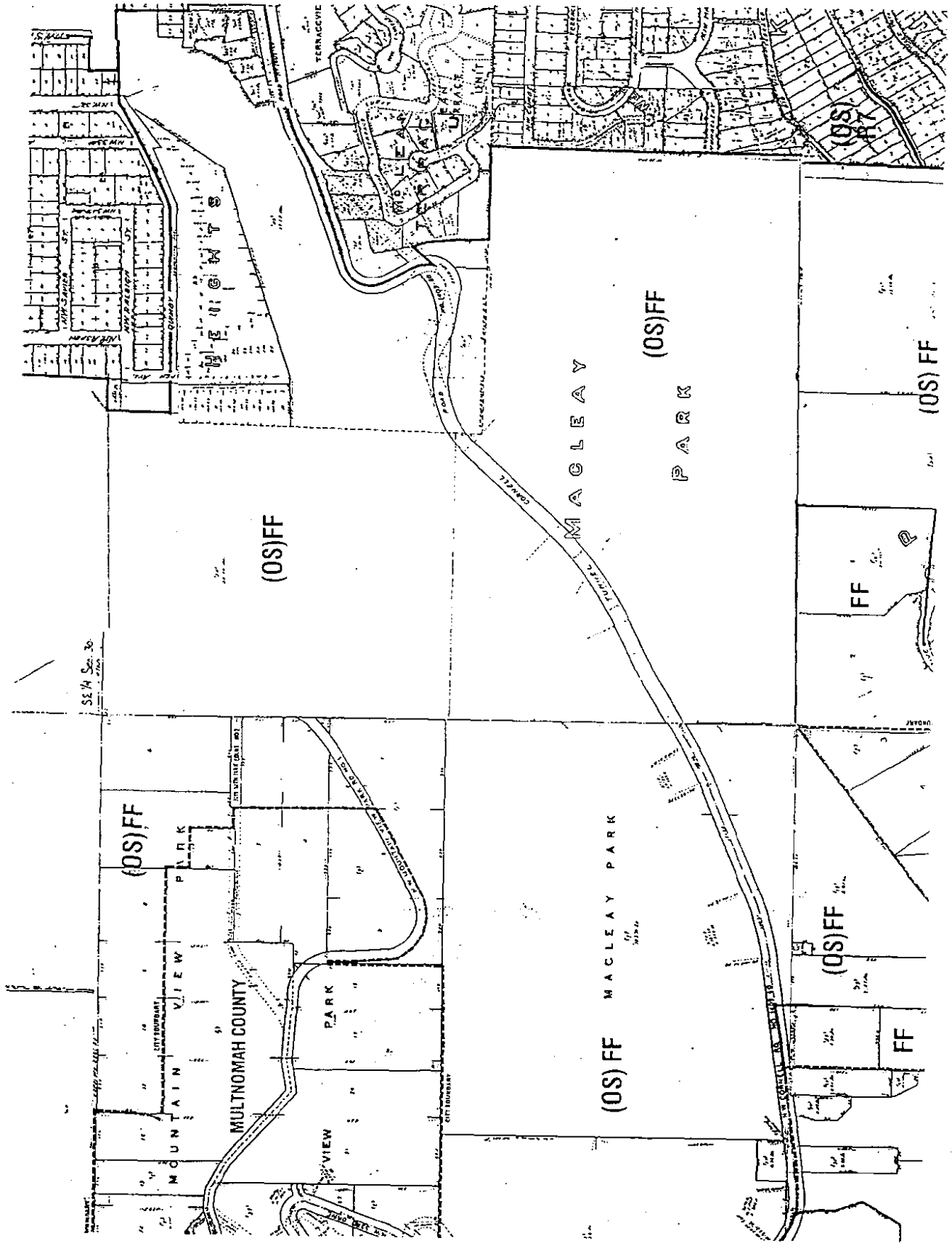
aquatic life. Wildlife values on this site would not be considered high, except for the fact that this site is close enough to provide water for animals using better forest cover on adjacent, dryer sites. Educational, scenic, and open space resources are all high. Historic resources on the site are medium to low when considered individually, but high when considered as an historic assemblage associated with Danforth Balch. The the original Balch home built in 1850 was located on this site.<sup>55</sup> The site also contains remnants of water works purchased by the City of Portland in 1864,<sup>56</sup> remnants of sluicing flumes from a failed 1906 development<sup>57</sup>, and the 1905 Thurman Street Bridge<sup>58</sup>. Two nearby homes were owned by Anna Hamilton, the remarried widow of Danforth Balch. One of these is of medium significance and was built in 1890 at 2729 N.W. Savier Street.<sup>59</sup> The other is of low significance and built in 1889 at 2748 N.W. Thurman Street.<sup>60</sup> Another nearby home was built in 1872 at 2149 N.W. 32nd Avenue, and this house has high historic significance.<sup>61</sup> Balch Creek is also worthy of scenic corridor status.<sup>62</sup> Rare species include a native isolated population of cutthroat trout, western wahoo shrubs, and dawn redwoods.

### CONCLUSION:

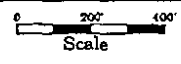
Site 73 is of high significance.

- 
55. Portland Bureau of Planning, *Historic Resource Inventory* (Portland, Oregon: 1984) 14 loose leaf volumes, inventory number 2-888-03021.
  56. idem, inventory number 2-888-03022.
  57. idem, inventory number 2-888-03024. The scheme involved the construction of 14 miles of flume along the north side of Balch Creek by Lafe Pence, a California developer. The water was to be used to sluice the soil from Willamette Heights to fill in Guild's Lake. The fill was to be used for industrial developments, and the remaining terraced slopes for were to be used for residential development. Public opposition (members of the City Council broke up the flume with axes) and the instability of the Wilamette Heights slopes caused the project to be abandoned in 1910.
  58. idem, inventory number 2-888-03010.
  59. idem, inventory number 2-782-02729.
  60. idem, inventory number 2-888-02748.
  61. idem, inventory number 2-032-02149.
  62. Portland Bureau of Planning, *Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan*, part vi, map facing page vi7.





Site 74  
Existing Zoning



Bureau of Planning • City of Portland

**BALCH CREEK**  
WATERSHED PROTECTION PLAN

Site 74

Area in and near Lower Macleay Park South of the Lawn

NEIGHBORHOOD: Forest Park and Northwest  
 QUARTER SECTION MAPS: 2924, 2925, and 2926  
 APPROXIMATE AREA: One Hundred and Ninety-Six Acres  
 OWNERSHIPS: Seven  
 PROPERTIES: Eighteen

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres               |
|--------------|-----------|--------------|-----------|---------------------|
| R-59030-0010 | FF        | none         | OS        | 05.34               |
| R-59030-0170 | FF        | none         | OS        | 04.00               |
| R-59030-0260 | FF        | none         | OS        | 03.28               |
| R-59030-0310 | FF        | none         | OS        | 03.16               |
| R-59030-0370 | FF        | none         | OS        | 05.65               |
| R-91340-3390 | FF        | none         | OS        | 02.87               |
| R-91340-3740 | FF        | none         | OS        | 02.13               |
| R-94129-0190 | FF        | none         | OS        | 16.90               |
| R-94129-0200 | FF        | none         | OS        | 52.43               |
| R-94131-0010 | FF        | none         | OS        | 49.00 <sup>63</sup> |
| R-94132-0320 | FF        | none         | OS        | 00.32               |
| R-94132-0340 | FF        | none         | OS        | 30.16               |
| R-94132-0430 | FF        | none         | OS        | 19.25               |
| R-94132-0840 | FF        | none         | OS        | 00.23               |
| R-94132-0890 | FF        | none         | OS        | 00.23               |
| R-94132-1010 | FF        | none         | OS        | 00.23               |
| R-94132-1050 | FF        | none         | OS        | 00.35               |
| R-94132-1100 | FF        | none         | OS        | 00.36               |

DATE OF LAST FIELD INVENTORY: April 28, 1990

WETLANDS HABITAT CLASSIFICATIONS: Full-Year Stream with a Hardwood Riparian Gallery.

UPLANDS HABITAT CLASSIFICATIONS: Mixed First and Second Growth Conifer Forest.

WILDLIFE HABITAT ASSESSMENT SCORE: 95

TYPES OF RESOURCES: Fish and wildlife habitat, rare flora and fauna, historic, open space, scenic, recreational, educational.

63. The total area of this parcel is 103.74 acres. Portions of this parcel are included in three separate sites for inventory purposes.

## Balch Creek Watershed

**QUANTITY OF RESOURCES:** About 180 acres of forested open space with a full-year stream, two hiking trails, and two historic resources.

**QUALITY OF RESOURCES:** Fish habitat is of the highest quality. Wildlife habitat, open space, recreation, and educational opportunities are of high quality. The stream supports cutthroat trout. Rare flora includes old conifers and an unusual shrub called western wahoo. Balch Creek is very scenic.<sup>64</sup> There are two historic resources in this site. The first is the Park itself which is of low historic significance. About 50 acres of this site is from the original Macleay Donation.<sup>65</sup> There is a WPA stonework building at the conjunction of Wildwood and Lower Macleay Trails. It was built in 1932 and provided public lavatories until its water supply was destroyed by the Columbus Day storm of 1962. This building is of moderate historic significance.<sup>66</sup>

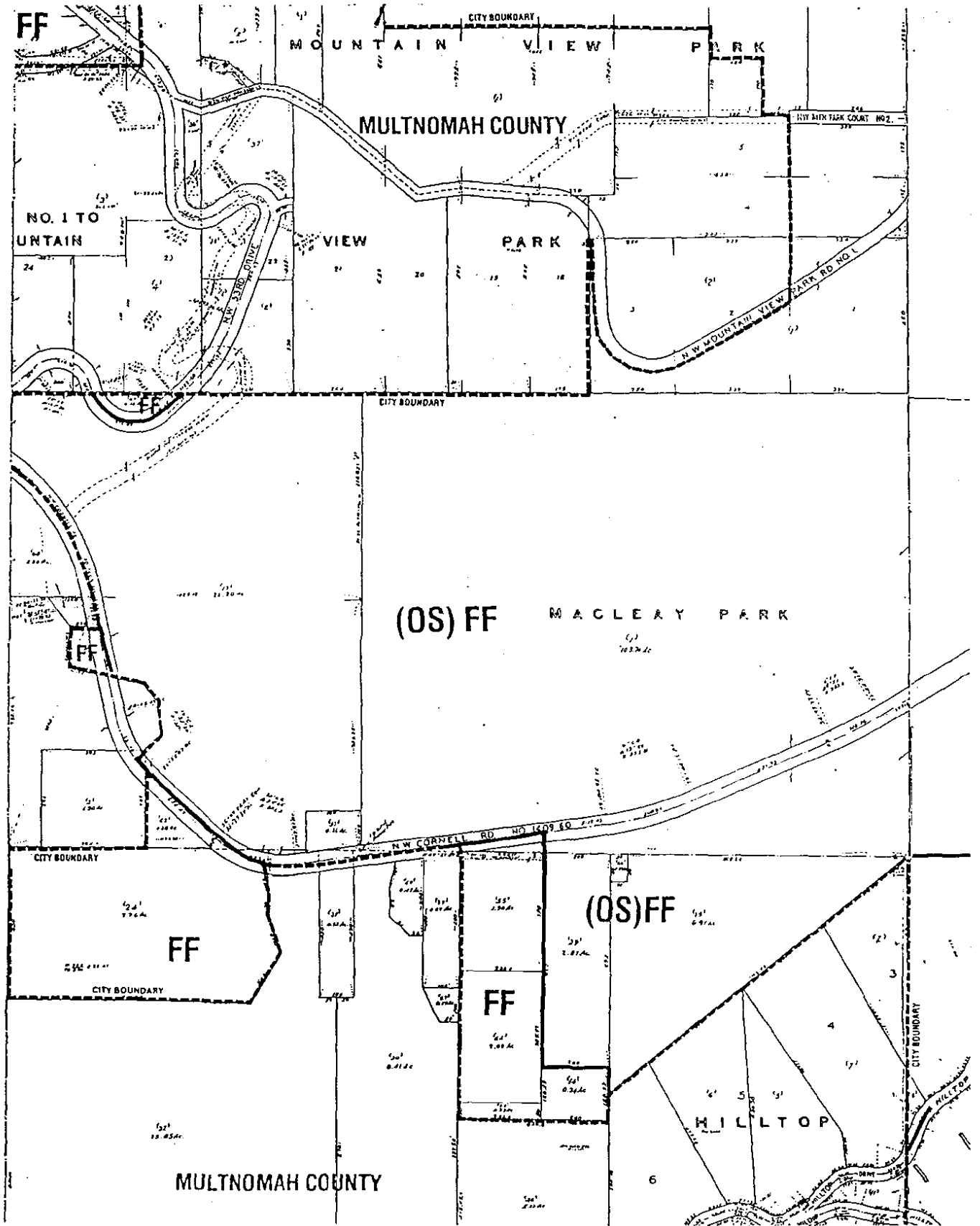
**CONCLUSION:** Site 74 is of very high significance.

---


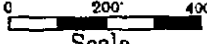
64. Portland Bureau of Planning, *Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan*, part vi, map facing page vi7.

65. Portland Bureau of Planning, *Historic Resource Inventory*, inventory number 2-888-03020.

66. idem, inventory number 2-888-03026.



**Site 75**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 75 Area in and near the Portland Audubon Society's Pittock Sanctuary

NEIGHBORHOOD: Forest Park  
 QUARTER SECTION MAPS: 2923 and 2924  
 APPROXIMATE AREA: Twenty-Three Acres  
 OWNERSHIPS: Two  
 PROPERTIES: Three

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-94131-0170 | FF        | none         | OS        | 22.20 |
| R-94131-0570 | FF        | none         | OS        | 00.36 |
| R-94131-0690 | FF        | none         | OS        | 00.18 |

DATE OF LAST FIELD INVENTORY: April 28, 1990

WETLANDS HABITAT CLASSIFICATIONS: Full-Year Forested Stream with a Hardwood Riparian Gallery and an Artificial Pond.

UPLANDS HABITAT CLASSIFICATIONS: Mixed First and Second Growth Conifer Forest.

WILDLIFE HABITAT ASSESSMENT SCORE: 90

TYPES OF RESOURCES: Fish and wildlife habitat, rare flora and fauna, historic, open space, scenic, recreational, educational.

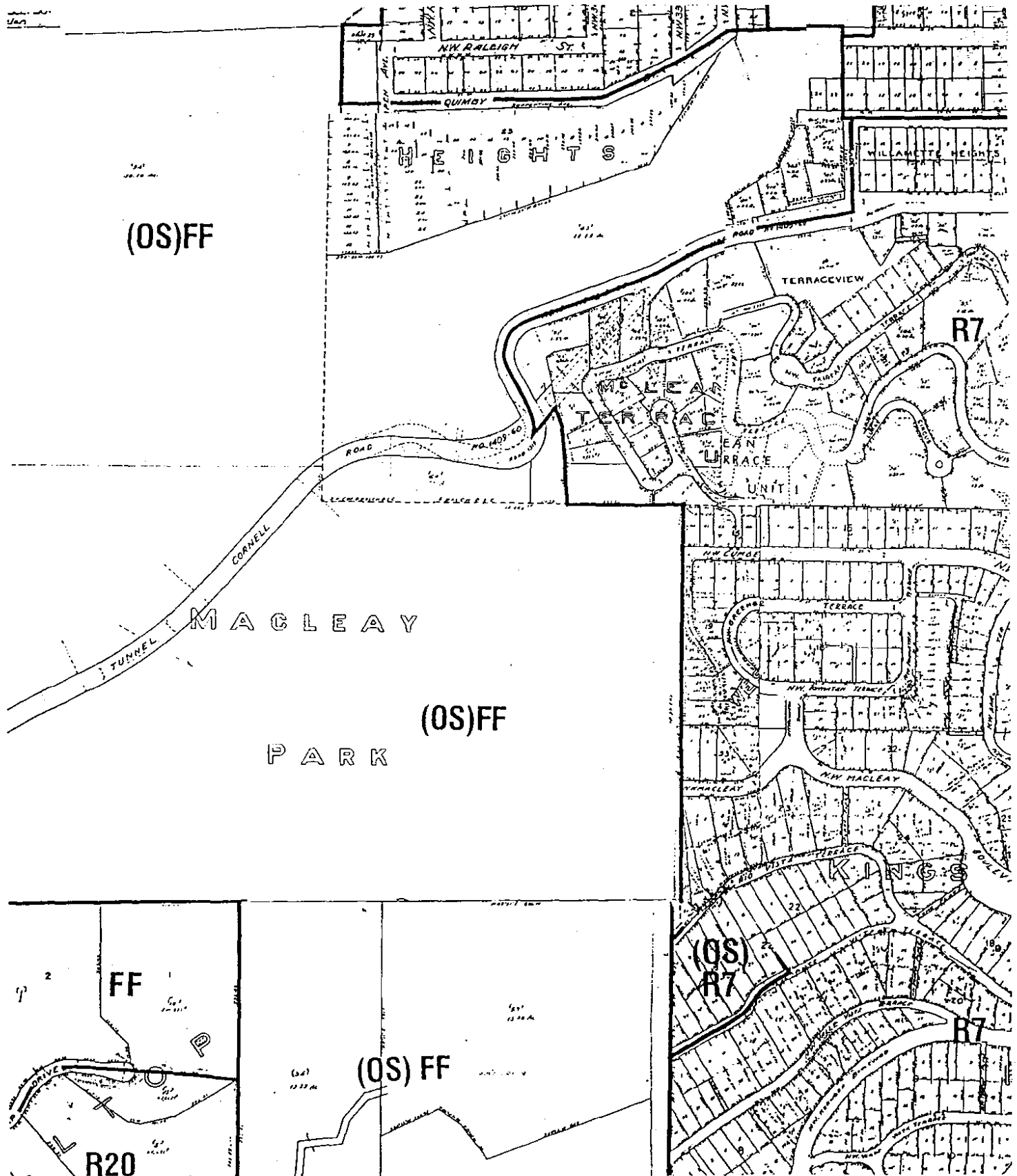
QUANTITY OF RESOURCES: About 20 acres of forested open space with a full-year stream, an artificial pond, many trails, and an historic resource.

QUALITY OF RESOURCES: Site 75 has the same natural values as Site 74 but is managed intensely for educational use. Fish habitat is degraded by a culvert which inhibits fish passage and would be degraded further if State permitted levels of water withdrawals were used to fill an existing artificial pond. Wildlife habitat is degraded by a high number of trails per unit of area. The site suffers from intrusion from exotic and naturalized plant species. Recreation and open space are degraded by trail placement and design. The site does have significant natural values and contributes to the values of surrounding sites. The site contains cutthroat trout and a large sequoia specimen. Balch Creek is scenic.<sup>67</sup> The sanctuary is also an historic resource of moderate significance.<sup>68</sup> The site provides more educational value than any other site in the watershed. The intensity of human use is mitigated by a ban on pets.


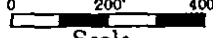
CONCLUSION: The site is of High Significance.

67. Portland Bureau of Planning, *Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan*, part vi, map facing page vi7.

68. Portland Bureau of Planning, *Historic Resource Inventory*, inventory number 2-183-05151.



**Site 76**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 76

Area Between Cornell Road Tunnels, and in and near Upper Macleay Park

**NEIGHBORHOOD:** Forest Park and Hillside  
**QUARTER SECTION MAPS:** 2925, 2926, 3025, and 3026  
**APPROXIMATE AREA:** Ninety-one Acres  
**OWNERSHIPS:** Thirteen  
**PROPERTIES:** Twenty

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres               |
|--------------|-----------|--------------|-----------|---------------------|
| R-45200-4230 | R7        | none         | OS        | 01.26               |
| R-45200-4450 | R7        | none         | OS        | 01.11               |
| R-55150-0010 | R7        | none         | R7        | 00.23               |
| R-55150-0020 | R7        | none         | R7        | 00.19               |
| R-55150-0030 | R7        | none         | R7        | 00.23               |
| R-55150-0050 | R7        | none         | R7        | 00.99               |
| R-82460-0320 | R7        | none         | R7        | 01.78               |
| R-94131-0010 | FF        | none         | OS        | 35.00 <sup>69</sup> |
| R-94132-0350 | FF        | none         | OS        | 13.33               |
| R-94132-0360 | FF        | none         | OS        | 17.16               |
| R-94132-0570 | FF        | none         | OS        | 13.80               |
| R-94132-0640 | FF        | none         | OS        | 01.80               |
| R-94132-0910 | R7        | none         | R7        | 01.29               |
| R-94132-0930 | R7        | none         | R7        | 00.34               |
| R-94132-0940 | R7        | none         | R7        | 00.39               |
| R-94132-0960 | R7        | none         | R7        | 00.40               |
| R-94132-1030 | R7        | none         | R7        | 00.29               |
| R-94132-1040 | R7        | none         | R7        | 00.70               |
| R-94132-1090 | R7        | none         | R7        | 00.44               |
| R-94132-1260 | R7        | none         | R7        | 00.42               |

**DATE OF LAST FIELD INVENTORY:** April 20, 1990

**WETLANDS HABITAT CLASSIFICATIONS:** Full-Year Stream with Wet Tolerant Conifers in Riparian Galleries

**UPLANDS HABITAT CLASSIFICATIONS:** Mixed First and Second Growth Conifer Forest.

**WILDLIFE HABITAT ASSESSMENT SCORE:** 102

**TYPES OF RESOURCES:** Wildlife habitat, rare flora and plant communities, historic, open space, scenic, recreational, educational.

69. The total area of this parcel is 103.74 acres. Portions of this parcel are included in three separate sites for inventory purposes.

## Balch Creek Watershed

**QUANTITY OF RESOURCES:** About 80 acres of forested open space with full-year tributary streams, two hiking trails, and two historic resources.

**QUALITY OF RESOURCES:** The forest is of the highest quality and represents a rare late successional community. It contains a variety of shade tolerant herbs and shrubs including cascara, a once abundant shrub now rare because of over collecting for pharmaceutical use. Recreation, open space and scenic resources are also of the highest quality. Cornell Road is worthy of scenic corridor status.<sup>70</sup> The two Cornell Road tunnels are historic resources of moderate significance.<sup>71</sup> A gravel area once considered a potential aggregate site has been determined to be of no significance.<sup>72</sup>

**CONCLUSION:** Site 76 is of the highest significance

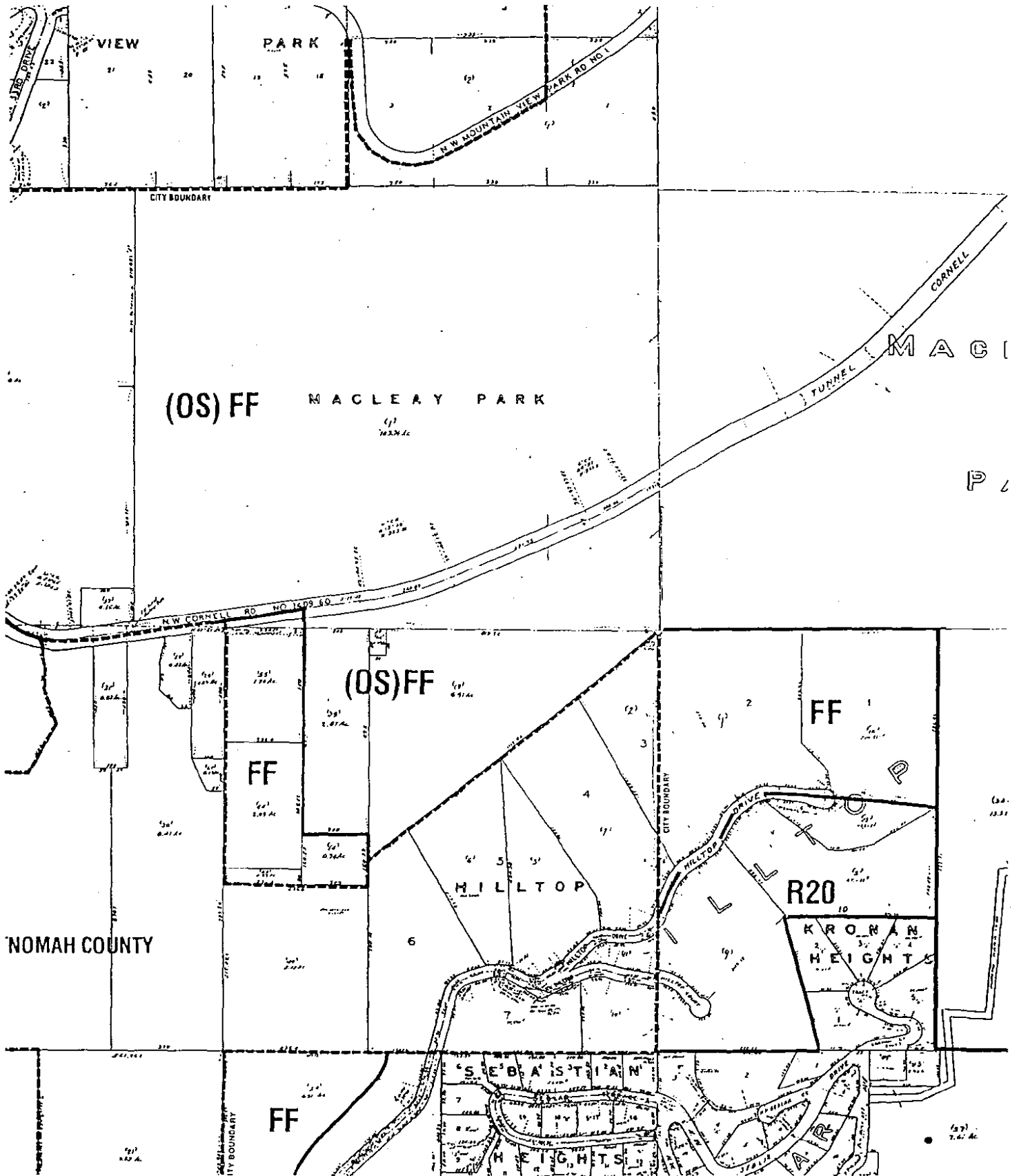
---

70. Portland Bureau of Planning, *Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan*, part vi, map facing page vi7.


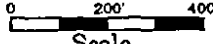
71. Portland Bureau of Planning, *Historic Resource Inventory*, inventory numbers 2-183-0330 and 2-183-0430.

72. Portland Bureau of Planning, *u*, p. 1.





**Site 77**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 77**

Area West of Cornell Road Tunnels in or near Adams and Upper Macleay Parks

**NEIGHBORHOOD:** Forest Park  
**QUARTER SECTION MAPS:** 2924 and 3024  
**APPROXIMATE AREA:** Thirty-Seven Acres  
**OWNERSHIPS:** Five  
**PROPERTIES:** Eight

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres               |
|--------------|-----------|--------------|-----------|---------------------|
| R-94131-0010 | FF        | none         | OS        | 20.00 <sup>73</sup> |
| R-94131-0140 | FF        | none         | FF        | 00.74               |
| R-94131-0190 | FF        | none         | OS        | 06.91               |
| R-94131-0390 | FF        | none         | OS        | 02.87               |
| R-94131-0550 | FF        | none         | FF        | 01.90               |
| R-94131-0640 | FF        | none         | FF        | 02.09               |
| R-94131-0650 | FF        | none         | FF        | 00.27               |
| R-94131-0660 | FF        | none         | OS        | 00.09               |

**DATE OF LAST FIELD INVENTORY:** April 20, 1990

**WETLANDS HABITAT CLASSIFICATIONS:** Intermittent Forested Stream with a Conifer Riparian Gallery.

**UPLANDS HABITAT CLASSIFICATIONS:** Mixed First and Second Growth Forest; Developed Land is Used for Residences and a Community Garden.

**WILDLIFE HABITAT ASSESSMENT SCORE:** 97

**TYPES OF RESOURCES:** Wildlife habitat, Rare Flora and Plant Communities, Open Space, Scenic, Recreational, Educational.

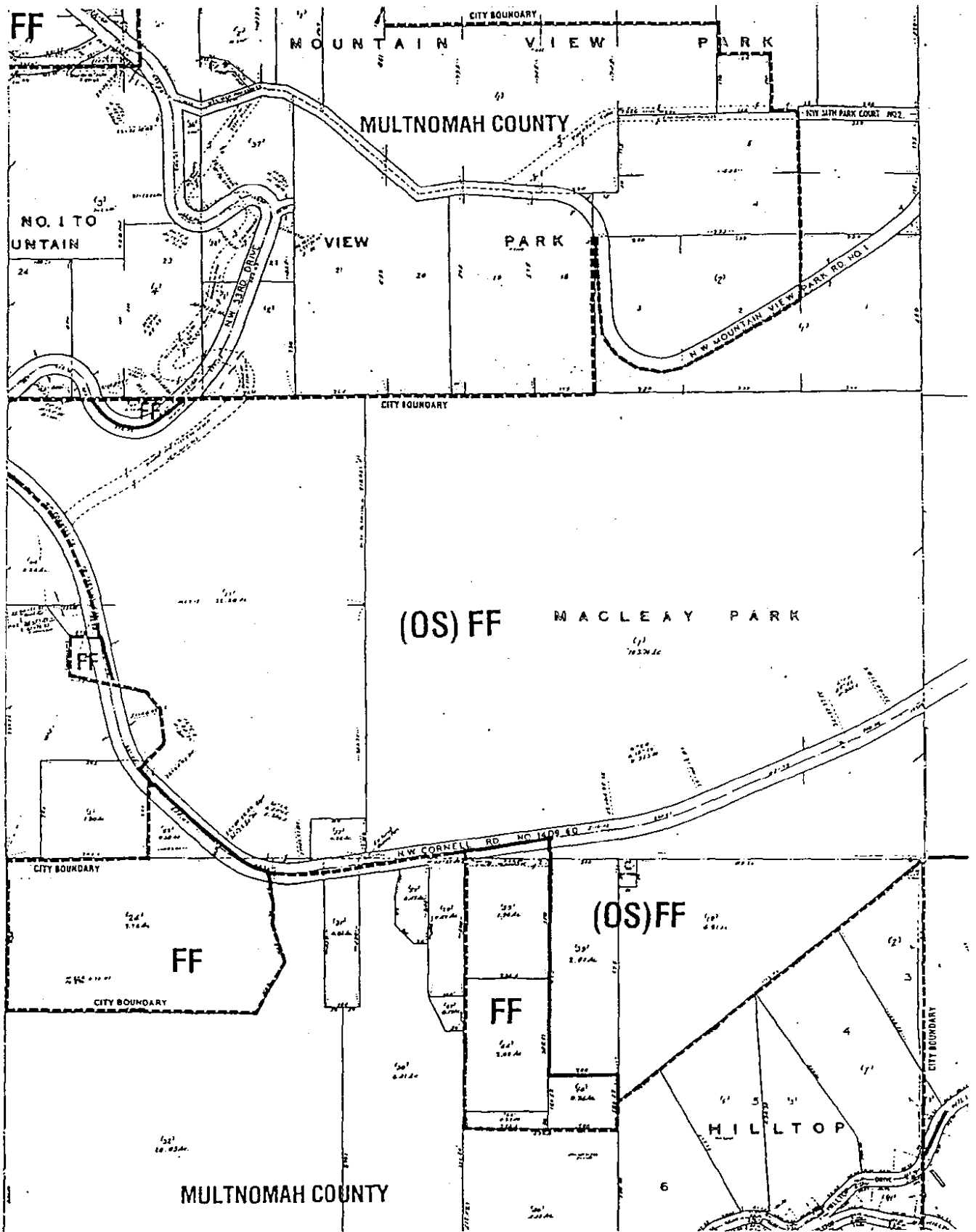
**QUANTITY OF RESOURCES:** About thirty acres of open space, over half of this is forested.

**QUALITY OF RESOURCES:** The forested eastern portion of Site 77 is the near equal of Site 76. Site 77 has slightly less water than Site 76, but some of the trees on Site 77 are among the largest in the City. The western portion of Site 77 has three residences and a cleared area used as a community garden. These features reduce the wildlife value of the western portion of Site 77.


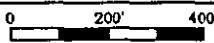
**CONCLUSION:** The eastern portion of Site 77 is of very high significance, while the western portion is of high significance.

---

73. The total area of this parcel is 103.74 acres. Portions of this parcel are included in three separate sites for inventory purposes.



**Site 78**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 78

Area of New Construction near Audubon Caretaker House

NEIGHBORHOOD: Forest Park  
 QUARTER SECTION MAPS: 2924 and 3024  
 APPROXIMATE AREA: Eight Acres  
 OWNERSHIPS: One  
 PROPERTIES: Two

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-94131-0240 | FF        | none         | FF        | 07.76 |
| R-94131-0620 | FF        | none         | FF        | 00.38 |

DATE OF LAST FIELD INVENTORY: April 28, 1990

WETLANDS HABITAT CLASSIFICATIONS: Riparian Gallery

UPLANDS HABITAT CLASSIFICATIONS: Second Growth Mixed Conifer  
 Hardwood Forest

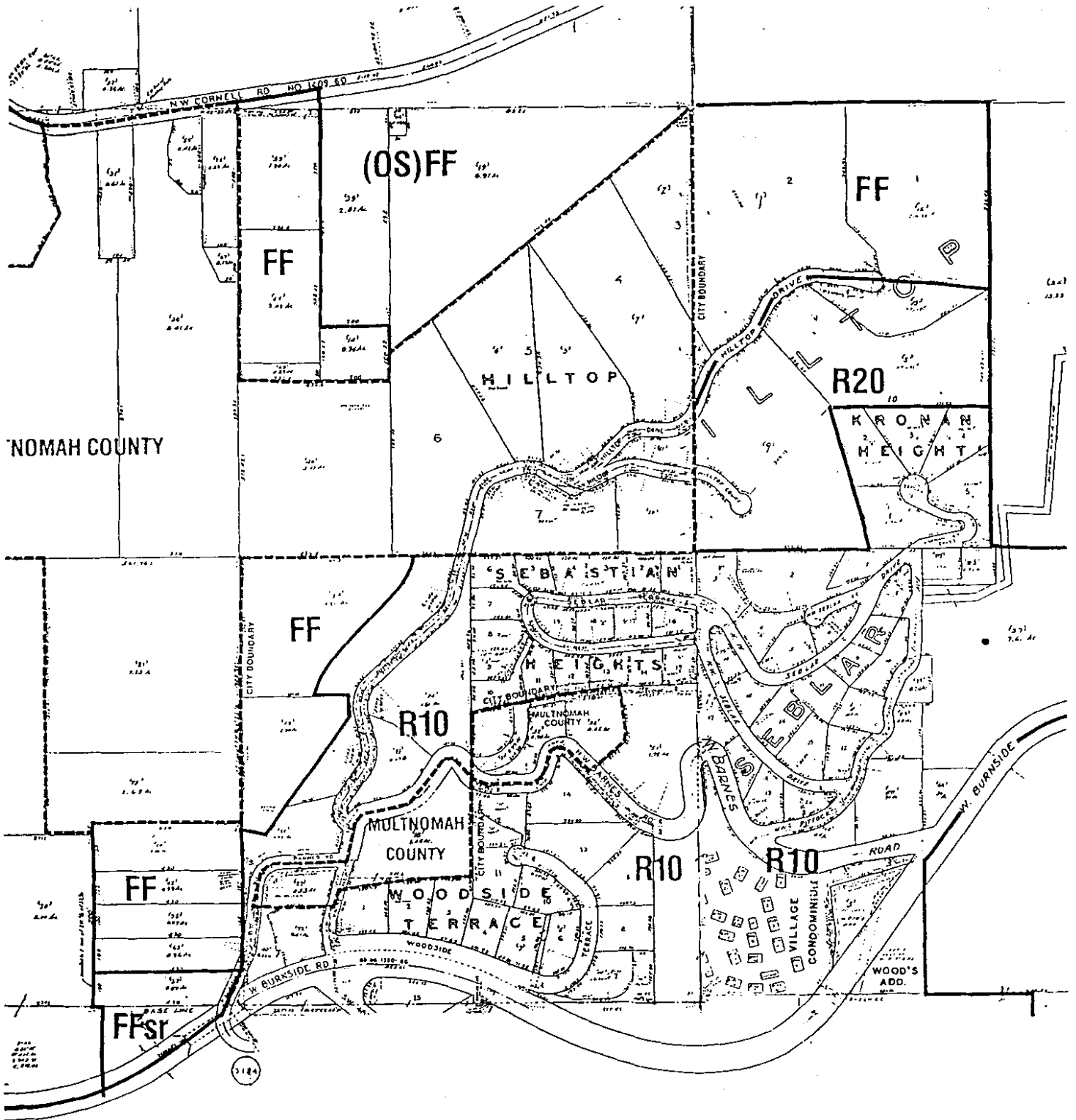
WILDLIFE HABITAT ASSESSMENT SCORE: 79

TYPES OF RESOURCES: Wildlife and Scenic


QUANTITY OF RESOURCES: Eight acres of forested open space except for one home site and an access drive.

QUALITY OF RESOURCES: The forest on Site 78 is of medium to high quality, with conifers growing above a hardwood canopy. Site 78 provides high quality scenery along Cornell Road. Site 78 is valuable because it provides cover to an adjacent Audubon Society Property in unincorporated Multnomah County. The Audubon property has year-round water but lower quality cover.

CONCLUSION: Site 78 is of high significance.



**Site 79**  
**Existing Zoning**


0 200' 400'  
 North Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 79

Areas near intersection of Barnes Road and Hilltop Drive

NEIGHBORHOOD: Forest Park  
 QUARTER SECTION MAPS: 3024, 3025, and 3124  
 APPROXIMATE AREA: Twenty-Six Acres  
 OWNERSHIPS: Nine  
 PROPERTIES: Eleven

| Tax Account  | Base Zone  | Overlay Zone | Comp Plan | Acres |
|--------------|------------|--------------|-----------|-------|
| R-39000-0010 | FF         | none         | FF        | 07.70 |
| R-39000-0100 | FF         | none         | FF        | 04.70 |
| R-94131-0270 | FF         | sr           | FF        | 00.89 |
| R-94131-0340 | FF and R10 | none         | FF        | 04.51 |
| R-94131-0350 | FF         | none         | FF        | 00.99 |
| R-94131-0420 | FF         | none         | FF        | 00.99 |
| R-94131-0490 | FF and R10 | none         | FF        | 02.50 |
| R-94131-0630 | FF         | none         | FF        | 00.96 |
| R-94131-0760 | FF         | none         | FF        | 01.40 |
| R-94131-0770 | R10        | none         | FF        | 00.82 |
| R-99106-2710 | FF         | sr           | FF        | 00.97 |

DATE OF LAST FIELD INVENTORY: January 24, 1990

UPLANDS HABITAT CLASSIFICATIONS: Second Growth Mixed Conifer and Hardwood Forest

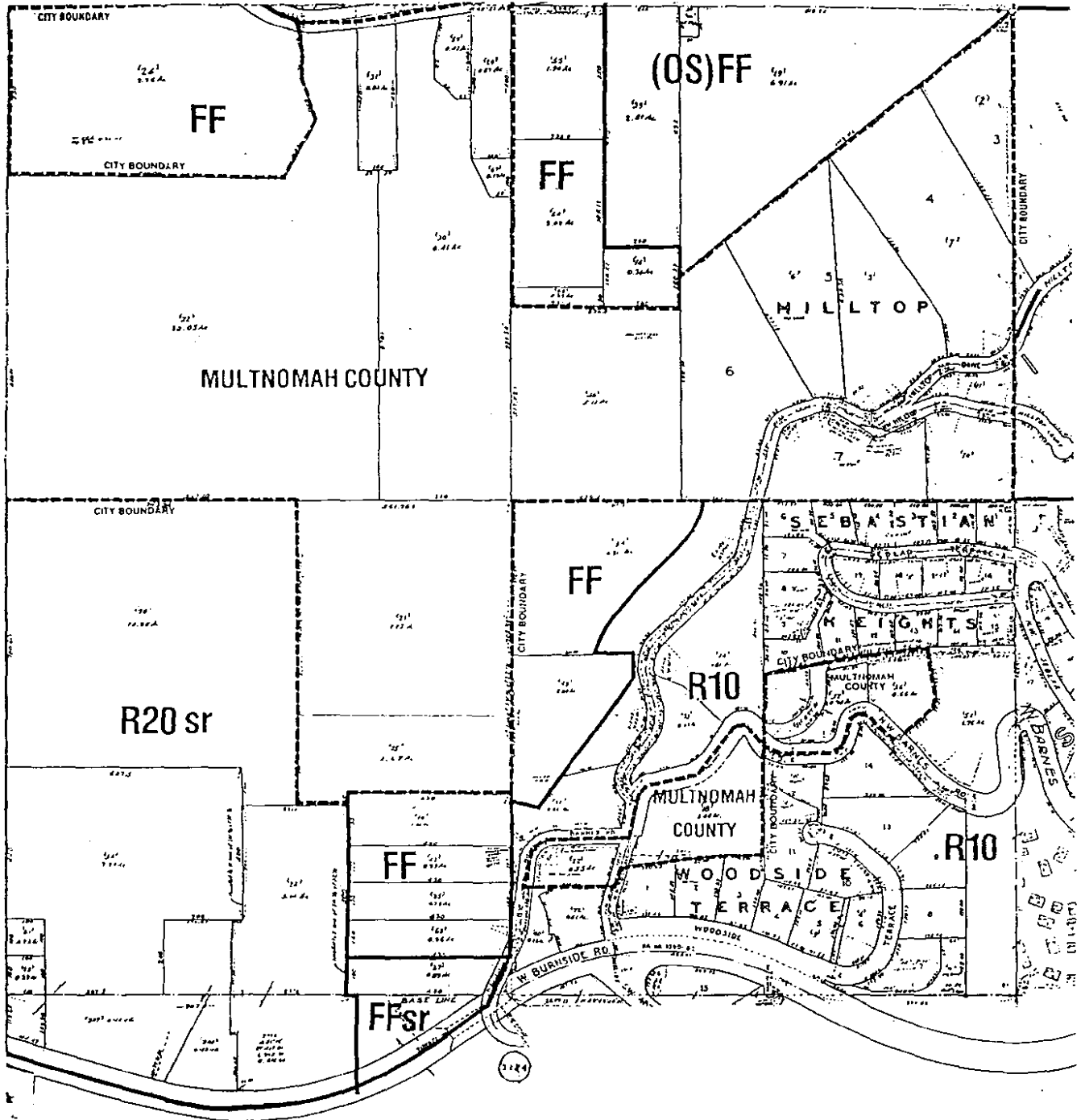
WILDLIFE HABITAT ASSESSMENT SCORE: 59

TYPES OF RESOURCES: Wildlife and Scenic


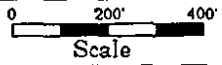
QUANTITY OF RESOURCES: About twenty acres of forest.

QUALITY OF RESOURCES: Site 79 is mapped as two separate areas. But since these areas are separated by an unincorporated area with very similar forest cover, topography, and development pattern, the City portions form a functional whole and are included in a single site inventory. The forest is fragmented by residences and ornamental plantings on the south side of Site 79. The forest cover becomes contiguous sloping north into Macleay Park and northwest into Audubon Sanctuaries in unincorporated Multnomah County. There are dry ravines in the forest which carry water during storms. The forest cover provides flood control as well wildlife values. The forest also provides high quality scenery from Barnes Road and Hilltop Drive.

CONCLUSION: The southern portion of Site 79 is of medium significance and the northern portion of Site 79 is of high significance.



**Site 80**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 80**

Area in or near the proposed Pittock Place, Planned Unit Development

**NEIGHBORHOOD:**

**QUARTER SECTION MAPS:**

3024 and 3123

**APPROXIMATE AREA:**

Twenty-Nine Acres

**OWNERSHIPS:**

Four

**PROPERTIES:**

Seven

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-94131-0250 | R20       | sr           | R20       | 00.23 |
| R-94131-0280 | R20       | sr           | R20       | 05.14 |
| R-94131-0580 | R20       | sr           | R20       | 07.17 |
| R-94131-0610 | R20       | sr           | R20       | 00.23 |
| R-94131-0700 | R20       | sr           | R20       | 12.28 |
| R-99106-3070 | R20       | sr           | R20       | 00.72 |
| R-99106-3080 | R20       | sr           | R20       | 03.04 |

**DATE OF LAST FIELD INVENTORY:**

January 24, 1990

**UPLANDS HABITAT CLASSIFICATIONS:** Second Growth Forest With Conifers Topping Hardwoods

**WILDLIFE HABITAT ASSESSMENT SCORE:**

62

**TYPES OF RESOURCES:**

Wildlife and Scenic

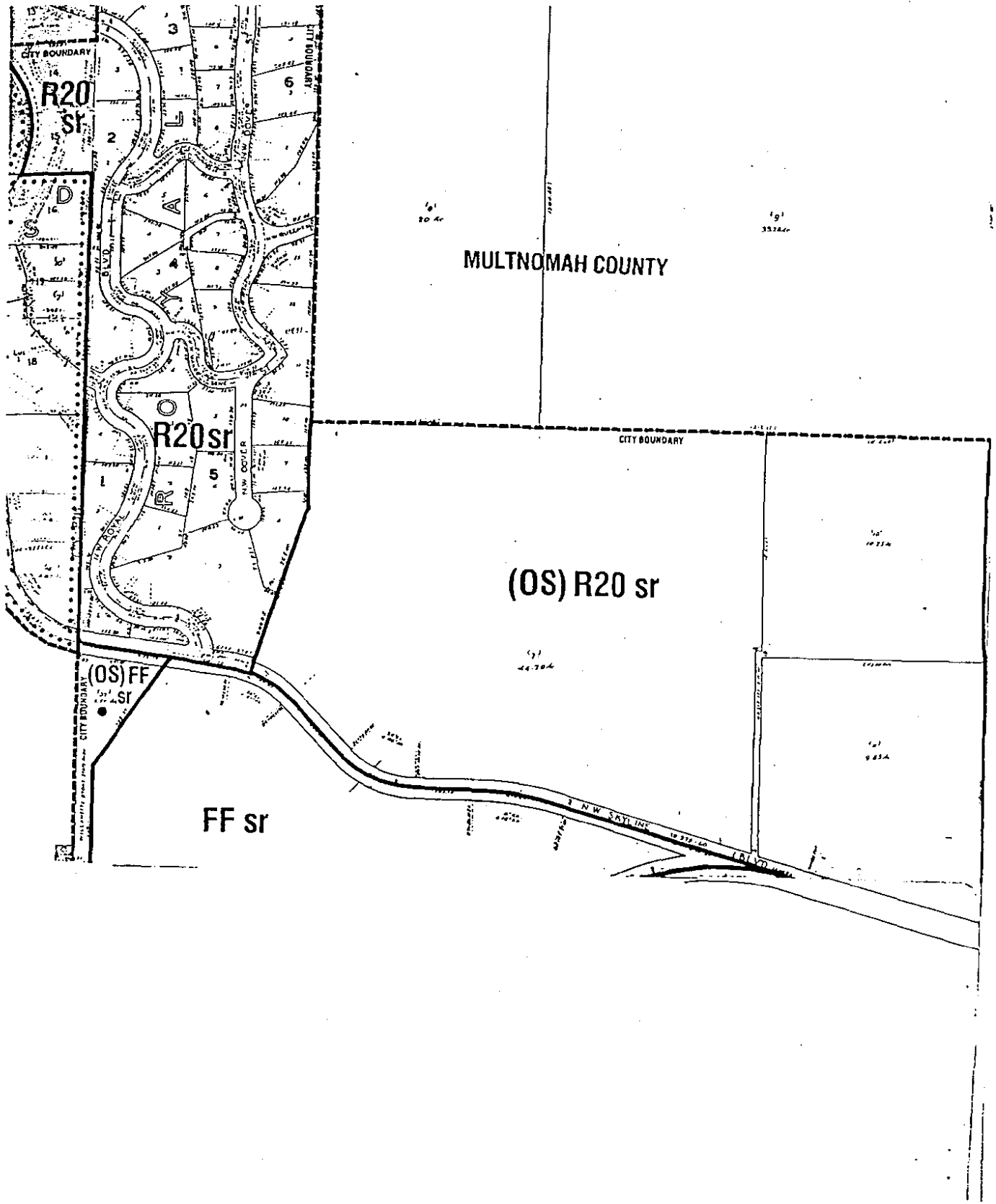
**QUANTITY OF RESOURCES:**

About twenty acres of forest.


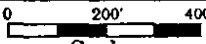
**QUALITY OF RESOURCES:** This forest is in a later stage of succession than the forest in Site 79. The conifers are growing through the alder and maple canopy, and shade tolerant conifer tree species like cedar, yew, and hemlock are well established in the understory. Site 80 is cut by several steep ravines. These ravines are completely vegetated and this vegetation prevents soil erosion and helps to control storm flooding. The forest is interrupted on the south side by water reservoirs and two residences, but the remaining forest has high wildlife quality and plays an important role in protecting the fish life in Balch Creek. The forest also provides high quality scenery from Skyline Boulevard and Barnes Road.

**CONCLUSION:** The forested ravine areas of Site 80 are of high significance, the remainder of the north side of the site is also of high significance because of the character of its forest cover; the south side of the site has high scenic significance.





**Site 81**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 81

Area in Mount Calvary Cemetery

NEIGHBORHOOD: Forest Park  
 QUARTER SECTION MAPS: 3023 and 3123  
 APPROXIMATE AREA: Sixty-Five Acres  
 OWNERSHIPS: One  
 PROPERTIES: Three

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-94131-0100 | R20       | sr           | OS        | 10.25 |
| R-94131-0110 | R20       | sr           | OS        | 09.85 |
| R-94131-0070 | R20       | sr           | OS        | 44.70 |

DATE OF LAST FIELD INVENTORY: January 24, 1990

UPLANDS HABITAT CLASSIFICATIONS: Cemetery Landscaping  
 and Second Growth Forest.

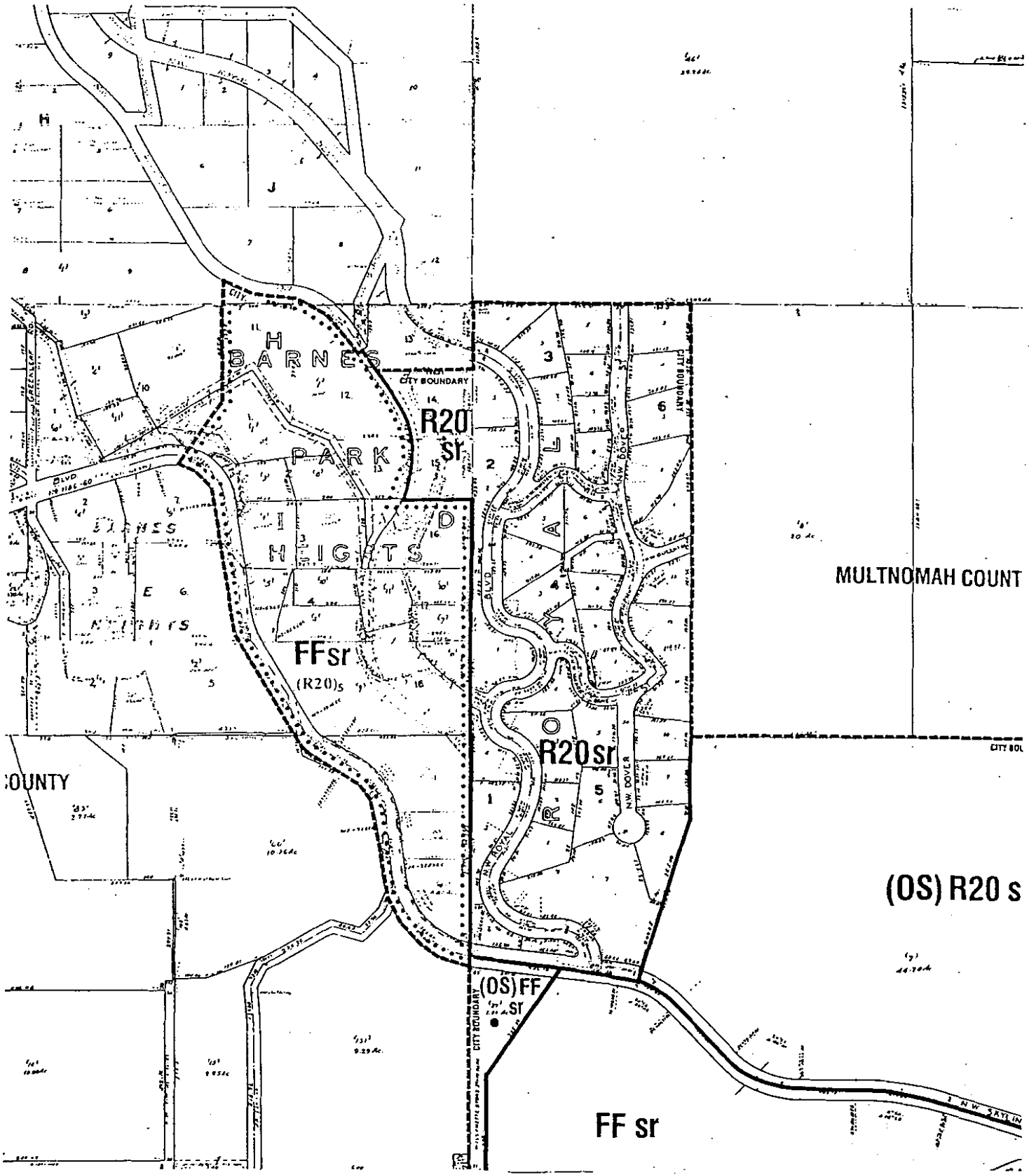
WILDLIFE HABITAT ASSESSMENT SCORE: 23


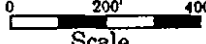
TYPES OF RESOURCES: Wildlife, Open Space, and Scenic

QUANTITY OF RESOURCES: About 30 Acres of Second Growth Forest.

QUALITY OF RESOURCES: The wildlife habitat assessment score for Site 81 was calculated from observation of the lawn area of a cemetery. Site 81 contains more forest than lawn, and this forest combines the topographic and vegetative features of Sites 79 and 80. This site has experienced a major slide which emphasized the instability of the soils and the importance of reestablishing vegetation after construction. This slide, although originating near the top of the watershed, seriously threatened fish life in lower Balch Creek. Evidence of continuing erosion was present on the inventory date. The effects of this erosion was mitigated by thick forest cover between an eroding fill and the nearest open water, but this cover is not capable of capturing all sediment during storms. The remaining forest in Site 81 has high wildlife and scenic values. The developed lawns have poor wildlife value, but high open space and scenic values.

CONCLUSION: The forested area of Site 81 is of high significance; the lawns are of low significance.



|  |   |  |
|--|---|--|
| <p><b>Site 82</b><br/><b>Existing Zoning</b></p> | <p style="text-align: center;"> <br/>           North<br/> <br/>           Scale<br/>           Bureau of Planning • City of Portland         </p> | <p><b>BALCH CREEK</b><br/><b>WATERSHED PROTECTION PLAN</b></p> |
|--|---|--|

Site 82

Area in or near the Royal Highlands and Barnes Park Subdivisions

NEIGHBORHOOD:

Forest Park

QUARTER SECTION MAPS:

3022 and 3023

APPROXIMATE AREA:

Forty-Three Acres

OWNERSHIPS:

Thirty-Two

PROPERTIES:

Fifty-Eight

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-05530-0980 | R20       | sr           | R20       | 01.90 |
| R-05530-1020 | FF        | sr           | R20       | 01.53 |
| R-05530-1060 | FF        | sr           | R20       | 00.45 |
| R-05530-1090 | FF        | sr           | R20       | 03.25 |
| R-05530-1100 | FF        | sr           | R20       | 00.59 |
| R-05530-1120 | FF        | sr           | R20       | 00.30 |
| R-05530-2070 | FF        | sr           | R20       | 01.61 |
| R-05530-2120 | FF        | sr           | R20       | 04.36 |
| R-05530-2180 | FF        | sr           | R20       | 01.38 |
| R-05530-2220 | FF        | sr           | R20       | 00.67 |
| R-05530-2240 | FF        | sr           | R20       | 00.47 |
| R-05530-2260 | FF        | sr           | R20       | 00.79 |
| R-05530-2310 | FF        | sr           | R20       | 00.69 |
| R-05530-2340 | FF        | sr           | R20       | 00.48 |
| R-05530-2360 | FF        | sr           | R20       | 00.40 |
| R-73100-0010 | R20       | sr           | R20       | 00.12 |
| R-73100-0030 | R20       | sr           | R20       | 00.29 |
| R-73100-0050 | R20       | sr           | R20       | 00.83 |
| R-73100-0150 | R20       | sr           | R20       | 00.60 |
| R-73100-0200 | R20       | sr           | R20       | 01.17 |
| R-73100-0300 | R20       | sr           | R20       | 00.36 |
| R-73100-0340 | R20       | sr           | R20       | 00.41 |
| R-73100-0380 | R20       | sr           | R20       | 00.65 |
| R-73100-0420 | R20       | sr           | R20       | 00.60 |
| R-73100-0460 | R20       | sr           | R20       | 00.56 |
| R-73100-0500 | R20       | sr           | R20       | 00.37 |
| R-73100-0530 | R20       | sr           | R20       | 00.28 |
| R-73100-0560 | R20       | sr           | R20       | 00.34 |
| R-73100-0600 | R20       | sr           | R20       | 00.33 |
| R-73100-0640 | R20       | sr           | R20       | 00.30 |
| R-73100-0680 | R20       | sr           | R20       | 00.44 |

**Balch Creek Watershed**

**Site 82 (Continued)**

| <b>Tax Account</b>         | <b>Base Zone</b> | <b>Overlay Zone</b> | <b>Comp Plan</b> | <b>Acres</b> |
|----------------------------|------------------|---------------------|------------------|--------------|
| R-73100-0690 <sup>74</sup> | R20              | sr                  | R20              | 00.00        |
| R-73100-0720               | R20              | sr                  | R20              | 00.47        |
| R-73100-0760               | R20              | sr                  | R20              | 00.46        |
| R-73100-0800               | R20              | sr                  | R20              | 00.44        |
| R-73100-0840               | R20              | sr                  | R20              | 00.34        |
| R-73100-0880               | R20              | sr                  | R20              | 00.40        |
| R-73100-0920               | R20              | sr                  | R20              | 00.34        |
| R-73100-1000               | R20              | sr                  | R20              | 00.36        |
| R-73100-1040               | R20              | sr                  | R20              | 00.71        |
| R-73100-1090               | R20              | sr                  | R20              | 00.35        |
| R-73100-1130               | R20              | sr                  | R20              | 00.52        |
| R-73100-1170               | R20              | sr                  | R20              | 00.68        |
| R-73100-1210               | R20              | sr                  | R20              | 02.29        |
| R-73100-1310               | R20              | sr                  | R20              | 00.75        |
| R-73100-1350               | R20              | sr                  | R20              | 00.52        |
| R-73100-1390               | R20              | sr                  | R20              | 00.50        |
| R-73100-1430               | R20              | sr                  | R20              | 00.55        |
| R-73100-1470               | R20              | sr                  | R20              | 00.50        |
| R-73100-1510               | R20              | sr                  | R20              | 00.50        |
| R-73100-1550               | R20              | sr                  | R20              | 00.38        |
| R-73100-1590               | R20              | sr                  | R20              | 00.64        |
| R-73100-1630               | R20              | sr                  | R20              | 00.67        |
| R-73100-1670               | R20              | sr                  | R20              | 00.56        |
| R-73100-1710               | R20              | sr                  | R20              | 00.63        |
| R-96136-1790               | FF               | sr                  | R20              | 01.49        |
| R-96136-1800               | FF               | sr                  | R20              | 00.69        |
| R-96136-1810               | FF               | sr                  | R20              | 00.87        |

**DATE OF LAST FIELD INVENTORY:** January 24, 1990

**UPLANDS HABITAT CLASSIFICATIONS:** Residential Landscaping and Second Growth Hardwood Forest

**WILDLIFE HABITAT ASSESSMENT SCORE:** 22

**TYPES OF RESOURCES:** Wildlife and Scenic

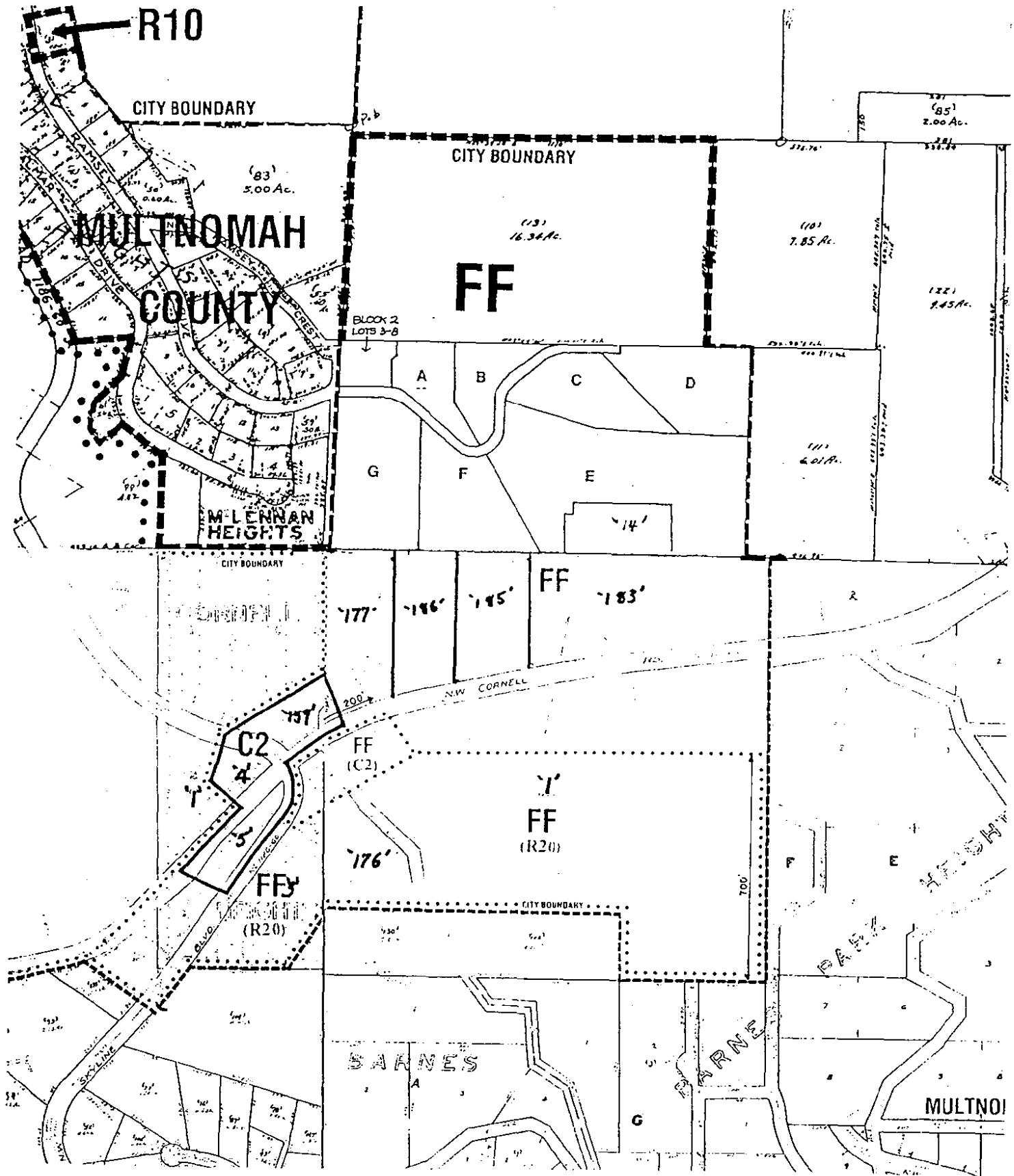
---

74. This property is on the zoning map as lot one, block five, of the Royal Highlands Subdivision, but is not on the Multnomah County Tax Assessor's Computer; it has probably been consolidated with an adjoining lot.


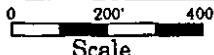
**QUANTITY OF RESOURCES:** About Twenty Acres of Second Growth Forest

**QUALITY OF RESOURCES:** The wildlife habitat assessment score for Site 82 was calculated from the observation of developed lots of a R20 subdivision. The site also contains several forested undeveloped lots similar in character to Multnomah County Site A. Undeveloped lots on the north side of the subdivision have high value for flood and erosion control, and may help to complete a critical wildlife corridor. Forest on the north side of the site provides high quality scenery from Skyline Boulevard.

**CONCLUSION:** Forested areas on the north side of Site 82 are of high significance, developed areas are not significant except for remaining forest along Skyline Boulevard which has high scenic corridor significance.



**Site 83**  
**Existing Zoning**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 83

Area near Intersection of Greenleaf and Cornell Roads

QUARTER SECTION MAPS:

2821, 2822, 2921, and 2922

APPROXIMATE AREA:

Seventy Acres

OWNERSHIPS:

Thirteen

PROPERTIES:

Fifteen

| Tax Account                | Base Zone | Overlay Zone | Comp Plan   | Acres               |
|----------------------------|-----------|--------------|-------------|---------------------|
| Unassigned A <sup>75</sup> | FF        | none         | FF          | 00.98               |
| Unassigned B <sup>76</sup> | FF        | none         | FF          | 00.99               |
| Unassigned C <sup>77</sup> | FF        | none         | FF          | 01.64               |
| Unassigned D <sup>78</sup> | FF        | none         | FF          | 02.13               |
| Unassigned E <sup>79</sup> | FF        | none         | FF          | 05.56               |
| Unassigned F <sup>80</sup> | FF        | none         | FF          | 02.12               |
| Unassigned G <sup>81</sup> | FF        | none         | FF          | 02.15               |
| R-17870-0250               | FF        | none         | R10         | 04.12               |
| R-17870-0290               | C2        | none         | C2          | 00.74               |
| R-17870-0330               | FF        | none         | R20         | 00.60               |
| R-17870-0380               | FF        | none         | R20 and C2  | 02.92               |
| R-59040-0280 <sup>82</sup> | FF        | none         | FF          | 00.00               |
| R-59040-0300               | FF        | none         | FF          | 00.34 <sup>83</sup> |
| R-96125-0130               | FF        | none         | FF          | 16.34               |
| R-96125-0140               | FF        | none         | FF          | 01.70               |
| R-96136-0010               | FF        | none         | FF, R20, C2 | 15.20               |
| R-96136-1760               | FF        | none         | C2 and R20  | 01.37               |
| R-96136-1770               | FF        | none         | FF          | 02.09               |
| R-96136-1830               | FF        | none         | FF          | 04.99               |
| R-96136-1850               | FF        | none         | FF          | 02.01               |
| R-96136-1860               | FF        | none         | FF          | 02.02               |

75. This property is lot 1 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

76. This property is lot 2 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

77. This property is lot 3 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

78. This property is lot 4 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

79. This property is lot 5 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

80. This property is lot 6 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

81. This property is lot 7 of the Mountain View Park No 2 subdivision which was replatted on March 1, 1990.

82. This lot no longer exists; it is part of the replat described above.

83. A variance (VZ 60-89) allows one house on 15,000 square feet of area for this lot only in a Farm and Forest zone. The Farm and Forest zone requires a two acre (87,120 square feet) minimum lot size.



## Balch Creek Watershed

**DATE OF LAST FIELD INVENTORY:** January 3, 1990

**WETLANDS HABITAT CLASSIFICATIONS:** Full-Year Stream With  
Riparian Gallery.

**UPLANDS HABITAT CLASSIFICATIONS:** Second Growth Forest and a  
Meadow

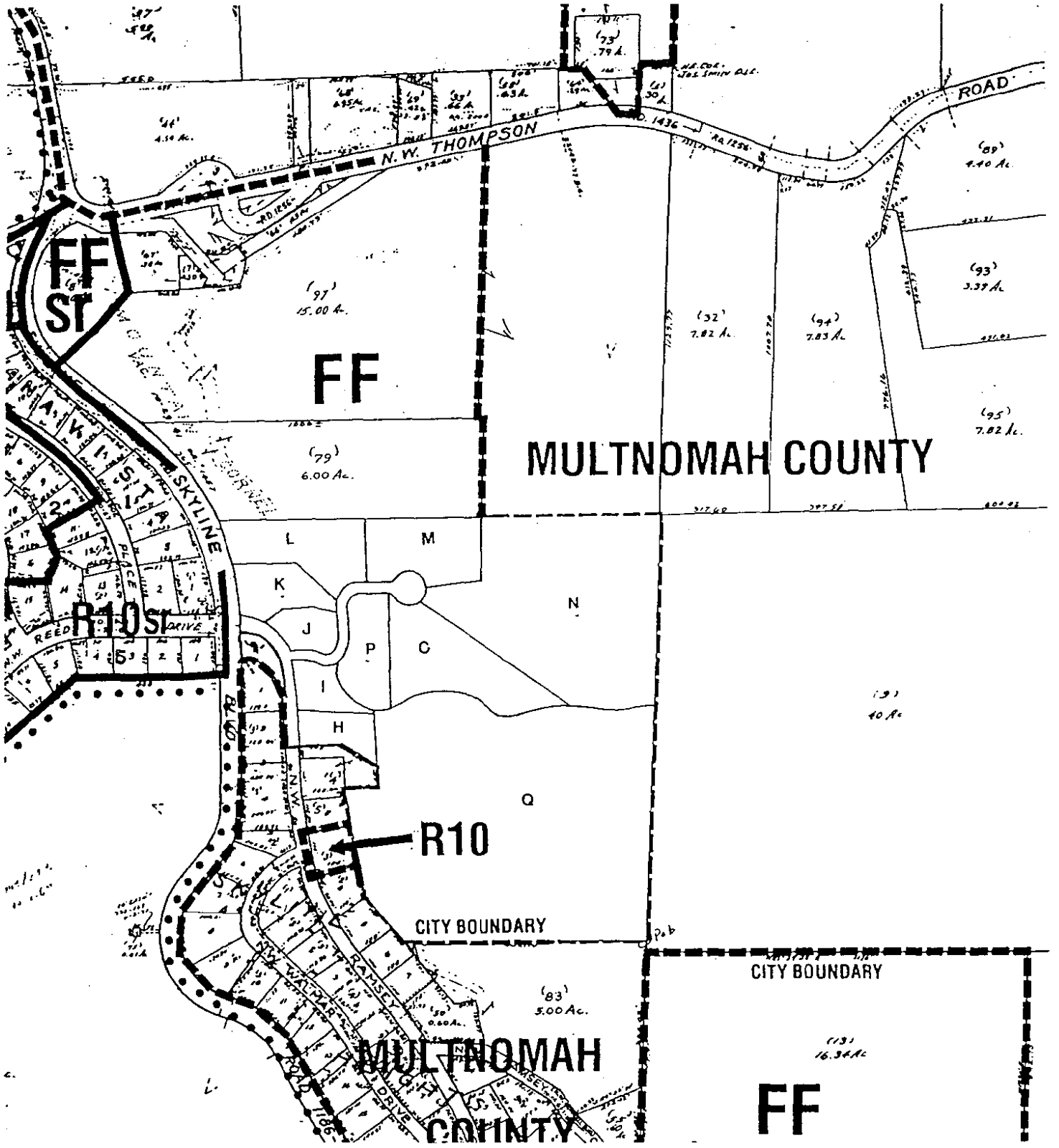
**WILDLIFE HABITAT ASSESSMENT SCORE:** 85

**TYPES OF RESOURCES:** Wildlife and Fish Habitat, Scenic


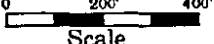
**QUANTITY OF RESOURCES:** About 90 Acres of Second Growth Forest  
with a Class One Forest Stream.

**QUALITY OF RESOURCES:** Site 83 contains the headwaters of Balch Creek. The site has second growth mixed conifer and hardwood cover with some remnant first growth Douglas fir trees. A meadow is also established on an unpermitted fill. Maintenance of the hydrography of Site 83 is of critical importance for Balch Creek. The existing fill harms the creek in two ways, by continuing to erode and by covering a spring which flows through the fill. The combination of fill and spring introduces discolored water into Balch Creek. Down stream water quality tests, however, have not discovered any significant levels of pollutants. The harm appears to be limited to increased turbidity and the silting of trout spawning beds. This is another site with steep forested ravines. Maintenance of forest cover in these ravines and stream banks is critical for erosion and flood control. The forest also provides high scenic value from Skyline Boulevard and Cornell Road. There is a stand of high quality conifer forest west of and beyond the Cornell Road scenic corridor, but this forest is disconnected from other similar forests in the watershed.

**CONCLUSION:** The portion of Site 83 south of Cornell Road is of very high significance; the portion north of Cornell Road is of high significance.



**Site 84**  
**Existing Zoning**

  
 North  
  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 84

Area near Skyline and Thompson Roads

NEIGHBORHOOD: Forest Park  
 QUARTER SECTION MAPS: 2721 and 2821  
 APPROXIMATE AREA: Fifty-Two Acres  
 OWNERSHIPS: Seven  
 PROPERTIES: Seventeen

| Tax Account                | Base Zone | Overlay Zone | Comp Plan | Acres |
|----------------------------|-----------|--------------|-----------|-------|
| Unassigned H <sup>84</sup> | FF        | none         | FF        | 00.61 |
| Unassigned I <sup>85</sup> | FF        | none         | FF        | 00.36 |
| Unassigned J <sup>86</sup> | FF        | none         | FF        | 00.50 |
| Unassigned K <sup>87</sup> | FF        | none         | FF        | 00.77 |
| Unassigned L <sup>88</sup> | FF        | none         | FF        | 01.50 |
| Unassigned M <sup>89</sup> | FF        | none         | FF        | 01.43 |
| Unassigned N <sup>90</sup> | FF        | none         | FF        | 06.15 |
| Unassigned O <sup>91</sup> | FF        | none         | FF        | 02.14 |
| Unassigned P <sup>92</sup> | FF        | none         | FF        | 00.93 |
| Unassigned Q <sup>93</sup> | FF        | none         | FF        | 12.76 |
| R-77380-0410               | R10       | none         | R10       | 00.35 |
| R-96125-0070               | FF        | none         | FF        | 00.30 |
| R-96125-0080               | FF        | none         | FF        | 01.96 |
| R-96125-0670               | FF        | none         | FF        | 00.78 |
| R-96125-0790               | FF        | none         | FF        | 06.00 |
| R-96125-0910               | FF        | none         | FF        | 00.53 |
| R-96125-0970               | FF        | none         | FF        | 15.00 |
| R-96125-1010 <sup>94</sup> | FF        | none         | FF        | 00.00 |

DATE OF LAST FIELD INVENTORY: January 24, 1990

WETLANDS HABITAT CLASSIFICATIONS: Full-Year Stream with Riparian Gallery Forest

- 84. This property is Lot 1, Block 1, of the Gales Ridge, Planned Unit Development.
- 85. This property is Lot 2, Block 1, of the Gales Ridge, Planned Unit Development.
- 86. This property is Lot 3, Block 1, of the Gales Ridge, Planned Unit Development.
- 87. This property is Lot 4, Block 1, of the Gales Ridge, Planned Unit Development.
- 88. This property is Lot 5, Block 1, of the Gales Ridge, Planned Unit Development.
- 89. This property is Lot 6, Block 1, of the Gales Ridge, Planned Unit Development.
- 90. This property is Lot 7, Block 1, of the Gales Ridge, Planned Unit Development.
- 91. This property is Lot 8, Block 1, of the Gales Ridge, Planned Unit Development.
- 92. This property is Lot 9, Block 1, of the Gales Ridge, Planned Unit Development.
- 93. This property is Lot 10, Block 1, of the Gales Ridge, Planned Unit Development.
- 94. This lot no longer exists; it has been replatted as the Gales Ridge, Planned Unit Development.

## Balch Creek Watershed

**UPLANDS HABITAT CLASSIFICATIONS:** Second Growth Mixed Conifer and Hardwood Forest

**WILDLIFE HABITAT ASSESSMENT SCORE:** 80

**TYPES OF RESOURCES:** Wildlife and Fish Habitat, Scenic

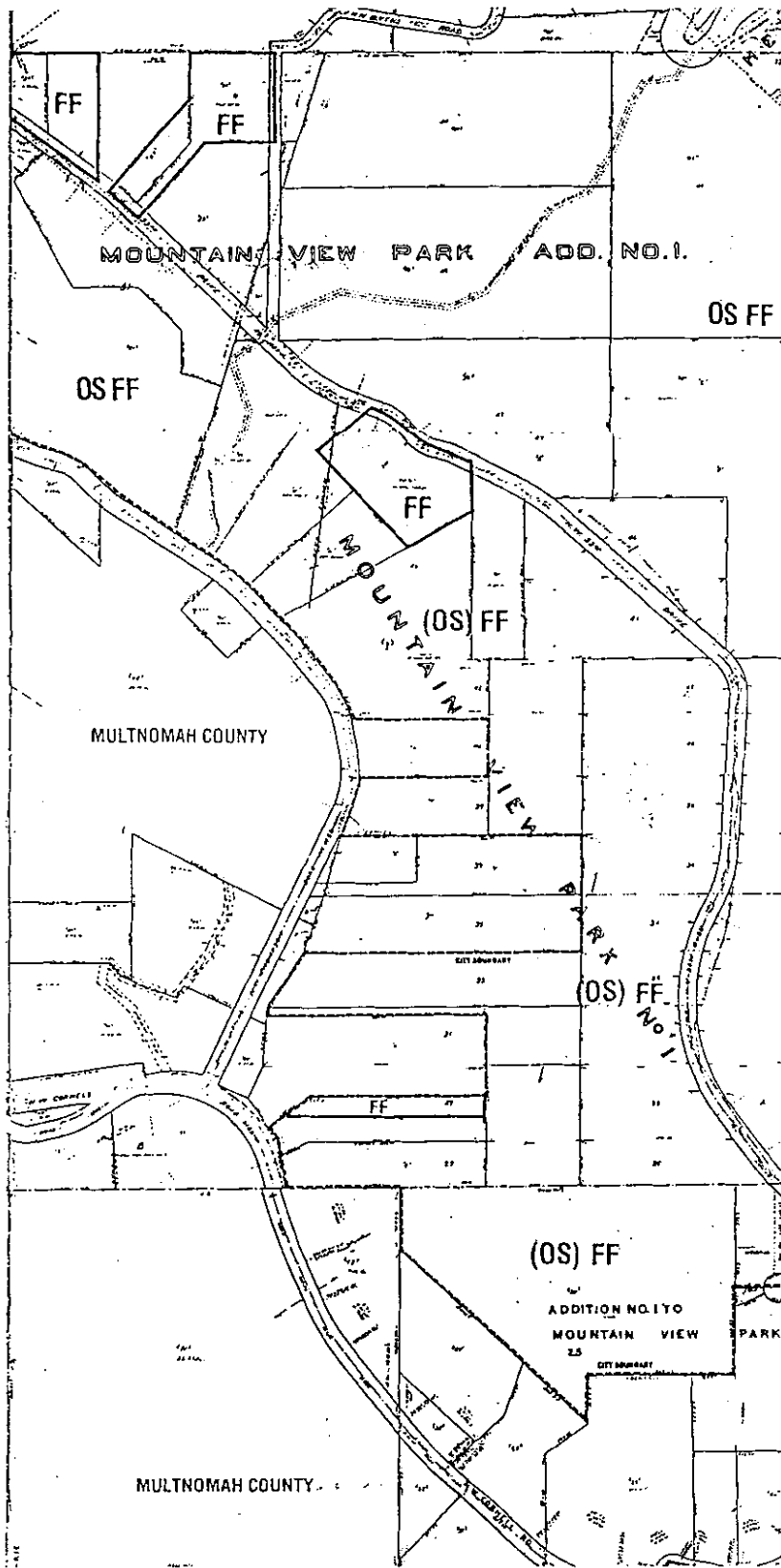
**QUANTITY OF RESOURCES:** About 45 Acres of Second Growth Forest

**QUALITY OF RESOURCES:** Although second growth, the forest on Site 84 has many conifers topping the hardwoods, and some remnant first growth fir remain. This site is also the headwaters of the Thompson Road stem of Balch Creek. This stem contains some of the best trout spawning beds in the watershed. This is another site with steep forested ravines. Very dark muddy water was observed in lowest section of Balch Creek during the spring of 1990. This mud was silting spawning beds and reducing clarity to a point that trout would have difficulty feeding. The source of some of this mud was a blowout at the juncture of a public and private water line in Site 84. This incident is yet another example of soil instability and erosion problems on steep, denuded banks. Site 84 has high fish and wildlife values. The forest on this site also provides scenery from Thompson Road and Skyline Boulevard, both of which are worthy of scenic corridor status.<sup>95</sup>

**CONCLUSION:** The steep forested slopes, ravines and streams on Site 84 are of the highest quality; the remainder of the forest provides high scenic value.

---

95. Portland Bureau of Planning, Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan, part vi, map facing page vi7.



Site 85  
Existing Zoning



Bureau of Planning • City of Portland



**BALCH CREEK**  
WATERSHED PROTECTION PLAN

**Site 85**

Area in and near Forest Park Between Thompson Road and 53rd Avenue

**NEIGHBORHOOD:** Forest Park  
**QUARTER SECTION MAPS:** 2723, 2823, 2923 and 2924  
**APPROXIMATE AREA:** Seventy-Eight Acres  
**OWNERSHIPS:** Two  
**PROPERTIES:** Eleven

| Tax Account  | Base Zone | Overlay Zone | Comp Plan | Acres |
|--------------|-----------|--------------|-----------|-------|
| R-59030-1860 | FF        | none         | OS        | 15.00 |
| R-59030-2100 | FF        | none         | OS        | 14.27 |
| R-59030-2340 | FF        | none         | OS        | 06.19 |
| R-59030-2660 | FF        | none         | OS        | 12.37 |
| R-59030-2910 | FF        | none         | OS        | 02.60 |
| R-59030-3310 | FF        | none         | OS        | 07.03 |
| R-59030-3510 | FF        | none         | FF        | 03.00 |
| R-59030-3560 | FF        | none         | OS        | 02.70 |
| R-59030-3610 | FF        | none         | OS        | 03.00 |
| R-59030-4010 | FF        | none         | OS        | 06.00 |
| R-59030-4014 | FF        | none         | OS        | 06.00 |

**DATE OF LAST FIELD INVENTORY:** January 24, 1990

**WETLANDS HABITAT CLASSIFICATIONS:** Full-Year Forested  
 Stream with a Riparian Gallery

**UPLANDS HABITAT CLASSIFICATIONS:** Second Growth Conifer Forest

**WILDLIFE HABITAT ASSESSMENT SCORE:** 97

**TYPES OF RESOURCES:** Fish and Wildlife Habitat, Open Space, Rare Plant Communities, Recreation, Education, Scenic.

**QUANTITY OF RESOURCES:** About Eighty-Nine Acres of Forest With Three Tributary Streams

**QUALITY OF RESOURCES:** Site 85 has a very high quality conifer forest with several species and of different ages. Although the forest is second growth, enough first growth fir remain to give the forest canopy good vertical structure. Fish and wildlife habitat are excellent because of proximity to Balch Creek and several hundred acres of adjoining forested land. There is one cleared lot in this site, but the clearing is far enough removed from other clearings to do no serious harm. Open space, recreation, and educational

## Balch Creek Watershed

opportunities are also excellent. The forest provides scenery for Thompson Road and 53rd Avenue, both of which are worthy of scenic corridor status.<sup>96</sup>

**CONCLUSION:**           The Forested Portion of Site 85 is of High Significance.

---

96. Portland Bureau of Planning, Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan, part vi, map facing page vi7.

**Multnomah County Site A**

Area North of the Royal Highlands Sewage Plant

**QUARTER SECTION MAPS:** 2923 and 3023

**APPROXIMATE AREA:** Twenty Acres

**DATE OF LAST FIELD INVENTORY:** December 2, 1989

**WETLANDS HABITAT CLASSIFICATIONS:** Intermittent Stream with  
Riparian Forest Gallery

**UPLANDS HABITAT CLASSIFICATIONS:** Second Growth Hardwood  
Forest

**WILDLIFE HABITAT ASSESSMENT SCORE:** 59

**TYPES OF RESOURCES:** Wildlife

**QUANTITY OF RESOURCES:** Twenty Acres of Second Growth Forest

**QUALITY OF RESOURCES:** Site A is important for its location and flood and erosion control functions. It has only medium habitat value, and this value is mainly provided to species preferring or requiring early succession forests. This forest appears to be "stuck" in an early stage because of the lack of a seed source for shade tolerant conifers. The result is a thick low canopy of maple and alder. However, a few old Douglas fir do remain, and cedar and grand fir seedlings are established.

**CONCLUSION:** Site A is significant because of its location. It is probably a critical link in a corridor for deer and elk, and its forest preserve water quantity and quality for Balch Creek.



**Balch Creek Watershed**

**Multnomah County Site B**

Area near Balch Creek Tributary South of Thompson Road

**QUARTER SECTION MAPS:** 2833

**APPROXIMATE AREA:** Forty-Five Acres

**DATE OF LAST FIELD INVENTORY:** January 3, 1990

**WETLANDS HABITAT CLASSIFICATIONS:** Full-Year Stream with a  
Riparian Forest Gallery

**UPLANDS HABITAT CLASSIFICATIONS:** Second Growth Forest

**WILDLIFE HABITAT ASSESSMENT SCORE:** 88

**TYPES OF RESOURCES:** Fish and Wildlife Habitat, Scenic

**QUANTITY OF RESOURCES:** About 40 acres of Forest

**QUALITY OF RESOURCES:** The Forest is of high quality and contains  
some the best trout spawning beds in the watershed. Wildlife values are also  
high. Site B also provides forest scenery from Thompson Road

**CONCLUSION:** Site B is of high significance.

**ANALYSIS**

## **Balch Creek Watershed**

### **Method**

This section analyses the consequences of protecting the natural resources of the Balch Creek Watershed and the consequences of allowing the resources to be diminished or lost. These consequences can be site specific or can effect the watershed as a whole. Uses which affect the entire watershed are addressed in the general analysis. Site specific uses are examined in the individual site analyses.

#### **Compatible Uses**

Only three uses allowed by present zoning are compatible with every resource in the Balch Creek Watershed. These compatible uses are the following:

1. Aesthetic enjoyment of natural features from existing roads or trails,
2. Educational use of natural areas by individuals and groups, and
3. Low intensity recreation on established trails such as walking, jogging, running, and nature observation.

Since these uses do not conflict with any identified resource, they are not addressed in either the general analysis of conflicting uses or the supplemental site by site analyses.

#### **Conflicting Uses**

Conflicting uses are those uses which are incompatible with resource protection but allowed by present City of Portland zoning. If these uses actually occurred at the intensities and during the times allowed by the Comprehensive Plan, they would diminish or destroy the identified resources of the Balch Creek Watershed. This protection plan identifies eleven uses which conflict with at least one Balch Creek Watershed resource. These uses, and their adverse effects on resources, are described and analyzed below. Other uses which would conflict with resource protection, but are not allowed by the existing zoning of the Balch Creek Watershed (an example is heavy industry), are not conflicting uses within the meaning of state law. These hypothetical conflicts are not analyzed by this protection plan.

#### **Environmental Consequences of Allowing Conflicting Uses**

The following is a general analysis of the effects of conflicting uses on the Balch Creek Watershed as a whole. Conflicts with site specific resources are analyzed in the sections examining the individual sites.

### Agriculture

Most common farm practices are allowed in the City's Farm and Forest Zone. Many of these practices cause erosion which silt spawning beds and muddy the water. Agriculture also takes irrigation water from streams and wells. This water is often needed to support aquatic life. To support the Balch Creek cutthroat trout population, the creek water must be maintained at its present quantity and purity, and at proper seasonal flows, clarity, and temperature. Irrigation could turn Balch Creek into a seasonal stream or a dry bed.

The conversion of forest to farm land also replaces diverse forest plant communities with only a few cultivated species. The forest cover in the Balch Creek Watershed is needed to prevent the synchronization of flood events, prevent bank erosion, and prevent silting of stream beds. Forest cover is also needed to maintain maximum and minimum stream flows at proper levels. Forest leaf mass and decaying organic matter act like a sponge by trapping and absorbing rainwater during wet periods and releasing stored water during dryer periods. The removal of cover would be enough to turn Balch Creek into a seasonal stream or a dry bed, even if the creek was not also used for irrigation. The removal of cover would also cause more frequent and severe flooding of City park land and the Northwest Industrial area.

Preparing land for planting or grazing often fills wetlands and removes riparian vegetation from stream banks. The removal of these natural features increases storm water runoff and eliminates the purifying effects of these natural features. Purifying vegetation is particularly valuable on farm land because crops often require the use of herbicides, fertilizers and pesticides. Some of these chemicals harm to aquatic life.

Farm use does not diminish open space, but can degrade some scenic areas and recreational opportunities. Farming also fragments, degrades, or destroys wildlife habitat. Clearing and planting provide opportunities for nonnative and intrusive plants to become established in adjacent forest. Clearing of forests destroys forest plants. Some of the Balch Creek Watershed plant species and plant communities are quite rare. Clearing also removes habitat needed by some native animals. Lost habitat includes nesting, perching and roosting places for birds. Clearing also removes plants which produce edible seeds, berries, nuts, bark, leaves, stems, and roots for animals.

The clearing of older forests removes habitat with shade tolerant tree species such as grand fir, Pacific silver fir, western hemlock, western red cedar, and western yew. These older forests are needed to resist intrusion of nonnative species, facilitate succession to climax ecosystems, and provide seed to less mature forests. These old forests have complex structure in the form of multiple layered canopies, downed logs, large trees, and snags. Several animals depend exclusively on older forests. Some of these species require

## Balch Creek Watershed

more old forest than others, and as the amount of old forest is fragmented into small patches or reduced in total area, fewer native species can survive. At some point native animals are replaced by domestic pests, such as mice and rats, as the forest continues to diminish. These old forest also contain more leaf mass than younger forest, so they are better able to retain and detain storm water.

### Forestry

Most common forest culture and harvest practices are allowed in the City's Farm and Forest Zone. Often forest harvest practices cause more erosion than farming because forestry is economically practicable on steeper slopes than farming. Forestry also uses irrigation water to establish tree plantations. The erosion, sedimentation, and water withdrawal effects of tree harvesting would be at least as destructive to the Balch Creek cutthroat trout population as the farm practices described above. The harvest of trees would also lead to more frequent and more severe flooding of City Park land and the Northwest Industrial area.

Forestry can replace multi function forest ecosystems with more simple systems or monoculture tree plantations. Cultured forests and tree plantations often have less leaf mass than the natural forests they replace; and the leaf mass they have is usually closer to the ground than in natural forests. Tree plantations have less ability to prevent the synchronization of flood events, prevent bank erosion, and prevent silting of stream beds than do old natural forests. Stream temperatures and flows are also more variable in tree plantations.

The harvest of trees also removes riparian vegetation from stream banks. The removal of riparian vegetation increases storm water runoff and eliminates the purifying effects stream side vegetation. Forestry also involves the use of herbicides, fertilizers and pesticides. Some of these chemicals can harm aquatic life.

Forestry does not diminish open space, but degrades scenic areas and diminishes recreational opportunities. The harvest of trees also fragments, degrades, or destroys wildlife habitat. Tree cutting and planting provide opportunities for nonnative and intrusive plants to become established in adjacent natural forest. Tree cutting, and the storing and transport of logs, destroys a variety of forest plants. Timber harvest has the same effects on native plants, fish, and wildlife as the clearing activities described in the analysis for agriculture. The establishment of tree plantations does, however, provide appropriate habitat for species which prefer or require early successional natural forests, or benefit from the forests fringes around clearings.

The harvest of older natural forests removes shade tolerant tree species, multiple layered canopies, downed logs, large trees, and snags. Shade tolerant trees are not usually grown in tree plantations. Monoculture plantations are also more vulnerable to forest diseases and pests than natural forests. The loss of these older forests have the same effects on wildlife and flooding as described in the analysis of agriculture above.

### Landscaping

The clearing of native forest and the establishment of lawns and other artificial landscape features is allowed in Farm and Forest, Residential, and Commercial zones. The clearing of forests, whether for homes, businesses, golf courses, school yards, cemeteries, or parks has the same effects as clearing done for agriculture or forestry. Like farming and forestry, the maintenance of landscaping requires the use of irrigation water. The erosion, sedimentation, and water withdrawal effects of clearing forests to establish landscapes would be as destructive to the Balch Creek cutthroat trout population as the farm and forest practices described above. The loss of native forests would also lead to more frequent and more severe flooding of City Park land and the Northwest Industrial area.

Urban landscapes often have less leaf mass than the forests they replace; and the leaf mass they have is usually closer to the ground than in natural forests or tree plantations. Urban landscapes have less ability to prevent the synchronization of flood events, prevent bank erosion, and prevent silting of stream beds than do natural forests or tree plantations. Stream temperatures and flows are also more variable through landscapes than through natural forests or tree plantations.

The establishment of urban landscapes often removes riparian vegetation from stream banks. The removal of riparian vegetation increases storm water runoff and eliminates the purifying effects stream side vegetation. The maintenance of landscapes also involves the use of herbicides, fertilizers and pesticides. Some of these chemicals can harm aquatic life.

Landscaping does not diminish open space, but can degrade scenic areas and diminish recreational opportunities. The effects of landscaping on fish and wildlife habitat is similar to the effects of forestry described above. Landscape trees and shrubs often invade adjoining native forests. Ivy, holly, laurel, and clematis are particular problems in the Balch Creek Watershed. Some animals do, however, benefit from the proximity of landscaping to forests. These species feed on seeds and berries produced by landscape plant, and while they are not feeding they find protective cover in the forest. This feeding pattern is, however, responsible for the spread of exotic seeds to the forest.

## Balch Creek Watershed

Urban landscaping rarely involves the reestablishment of shade tolerant tree species, and seldom attempts to replicate the multiple layered canopies, downed logs, large trees, and snags found in old native forests. The loss of older forests have the same effects on wildlife and flooding as described for agriculture and forestry above.

### Housing

Homes are allowed in Farm and Forest, Residential, and Commercial zones. Many farm and forest practices are also allowed in residential zones but these are not usually practicable because of small lot sizes. Residential use has all the landscape effects described above. It also has aggravating effects on storm water detention and retention, erosion, and sedimentation. These effects are most pronounced during construction, but continue afterward. The continuing effects are caused by soil compaction and by permanent surfaces impermeable to rain water. These surfaces include streets, private roads, drives, patios, sidewalks and roof tops. Compacted soil and hard surfaces accelerate stormwater runoff, and faster water causes more erosion. Runoff can also carry pollutants. Hard surfaces also prevent rain water from soaking into the soil and recharging ground water. Homes on drain fields can pollute ground and surface water. Household pets also kill and harass livestock and wildlife. Residences also generate traffic. Multifamily attached residential development generates less traffic per household than single family detached development, but could result in more total traffic because of greater total density. Residential use also diminishes open space, scenic values, and recreational opportunities.

### Businesses

Businesses are allowed in commercial zones. There is less than an acre of commercial zoning in the Balch Creek Watershed. Two activities which have the character of businesses, the Mount Calvary Cemetery and the Portland Audubon Society, have conditional use permits for their use of farm and forest lands. Many farm and forest practices are also allowed in commercial zones but these are not usually practicable because of small lot sizes. Residential use is allowed in commercial zones at multifamily densities. Commercial use has all the landscape and residential effects described above, but increased lot coverage allowances compounds the problem of impermeable surfaces. Businesses also generate more traffic than homes, and diminish or destroy open space, scenic values, and recreational opportunities.

### Developed Open Space

In the Balch Creek Watershed an Open Space Comprehensive Plan designation has been applied to cemeteries and parks. Cemeteries and developed park areas, such as lawns, groves, and arboretums, have the same

effects described for landscaping. These uses also generate traffic. The Open Space designation has also been mistakenly applied to some residential lots. The regulation section of this protection plan corrects these mistakes.

### Recreation

Park trail construction and maintenance practices in the more natural areas of parks can cause erosion by placing trails near creeks or on steep banks. Certain trail designs seem to invite people and domestic animals to walk on or down stream banks. Fecal contamination of creeks by pets can also be aggravated by trail configuration. Pets exercised off leash or allowed to roam free can also kill and harass wildlife. Intensive recreation such as cycling, motoring, and equestrian sports occur on trails designed for hiking, and these activities cause erosion. Camping in public parks either for shelter by homeless persons or for recreation, although not allowed by park rules, does occur and degrades natural, recreational, and scenic values. Particularly dangerous is the use of camp fires during dry seasons. Although not allowed, trash dumping and littering does occur in parks. Trash degrades natural, recreational, and scenic values. Trash is also a seed source for nonnative intrusive plants, it pollutes water, and it can harm wildlife. Undeveloped open space generates some traffic and automobile parking at unpaved access points causes erosion.

### Public Facilities and Utilities

Construction and maintenance practices for roads, storm water control structures, sewers, water lines and reservoirs, gas lines, utility poles, and electrical and telephone wiring have a variety of effects. These activities can cause erosion and provide opportunities for the establishment of nonnative plant species by disturbing soil and destroying perennial plant species. These practices degrade streams and wetlands and block fish passage. The establishment and maintenance of utilities often fragment wildlife habitat; increase storm water run-off; pollute water and reduce forest cover needed to support full-year streams at proper flows, clarity, and temperature. Maintenance removes important structural components from forests and removes vegetative cover. This cover is needed to prevent the synchronization of flood events, prevent bank erosion, prevent the silting of stream beds, and is needed to maintain maximum and minimum stream flows at proper levels.

### Traffic

Traffic originating south and west of the the Balch Creek Watershed travels along Cornell Road at commuter speeds, often exceeding the posted limit, and at commuter volumes. This level of service continues despite the City's classification of Cornell Road as a neighborhood collector and the Planning Bureau's pending recommended for scenic corridor status. Traffic at present



## **Balch Creek Watershed**

levels of service degrades recreational opportunities, scenic values, and wildlife habitat.

### **Education and Research**

Certain research and environmental education practices modify natural areas and compare the effects of the modifications with similar untouched areas. Modifications include the introduction of nonnative species, collecting native species at rate beyond the ability of affected populations to replace lost members by reproduction or recruitment; and the creation of habitats which would either not develop or not stabilize in nature. Many of these practices would conflict with the fish and wildlife habitat values of the Balch Creek Watershed.

### **County Zoning and Partition Practices**

The uses identified and analyzed above are also allowed by adjacent Multnomah County Zoning. For the different conflicting uses county zoning is comparable to city zoning but can be more restrictive or more permissive for certain uses. Because land use regulation of the Balch Creek Watershed is shared between Multnomah County and the City of Portland, incompatible or uncoordinated land use regulations can jeopardize development opportunities and resource protection. The county is, however, at a disadvantage to the city in carrying out certain decisions to protect resources, because an Oregon Statute bans county regulation of forest practices beyond urban growth boundaries.

### **Economic Consequences of Allowing Conflicting Uses**

Agricultural opportunities are not significant under present zoning. Small parcel size or steep slopes make the Balch Creek Watershed uneconomic for agriculture, although it is conceivable that some of the larger steep forested slopes could be cleared and used for grazing. Food production presently occurs only at the community garden in Adams Park and on home garden plots. This production appears to be more of a hobby than an economic activity, but may be important to some households.

Industrial forestry is no longer practiced in the Balch Creek Watershed. Most of the remaining significant timber resources are in City park land. The production of wood and firewood is, however, economic, and woodlot operations could continue under existing farm and forest zoning.

Existing commercial type activities are the Mount Calvary Cemetery and the Portland Audubon Society. These are not for profit activities which would continue under existing conditional use permits. The existing acre or so of

commercial zoning in the Balch Creek Watershed might be used for higher density residential development instead of businesses.

The most significant economic activity allowed by present zoning of the Balch Creek Watershed is residential development. Because residential development has such a high economic importance, this protection plan analyzes it on a site by site basis rather than generally.

### **Social Consequences of Allowing Conflicting Uses**

The increased residential development allowed by present zoning and Comprehensive Plan designations would have a positive effect on education by enhancing the school district tax base. It would also provide greater housing opportunities for wealthy families. Employment would increase in the construction trade and home service industries. Public health and safety would not be enhanced because increased tax bases generally do not cover the costs of providing police and fire protection response times to outlying areas which are equivalent to central areas. Sewer and water bills would not cover the costs of providing these services. Similar arguments can be made for public utilities. Recreational opportunities would be diminished. Existing transportation problems would be aggravated because the two Cornell Road tunnels and a winding entrance to downtown limit the service capability of this road to that of a neighborhood collector. W. Burnside Street could be improved to accommodate more traffic, but this would involve considerable public expense. Existing traffic pattern projections indicate that N. W. Cornell Road Commuter traffic will get as bad as it can get and will stay that way. Commuter traffic now originating in Washington County will be displaced by Forest Heights Planned Unit Development traffic, which will in turn be slightly displaced by commuter traffic originating in the Balch Creek Watershed. The displaced traffic will use W. Burnside Street and Highway 26, or be replaced by west side light rail commuting.

### **Energy Consequences of Allowing Conflicting Uses**

Existing zoning would ensure a small but steady supply of biomass fuel in the form of firewood. Electrical energy loss through low voltage transmission lines would be greater than the loss for similar numbers of homes served at a higher urban density. Employment opportunities in the Balch Creek Watershed are limited to one conservation organization and one religious institution, so almost every employed householder would commute. This commuting would use a considerable amount of fossil fuels, because existing densities do not justify mass transit.

## **Balch Creek Watershed**

### **Economic Consequences of Limiting or Prohibiting Conflicting Uses**

The limiting or prohibiting of conflicting uses would have a negligible adverse effect on agriculture, a small but significant adverse effect on forestry and commerce, and a large and significant adverse effect on residential development. This effect is related more to costs associated with limiting the adverse environmental effects of housing rather than the opportunity costs of prohibiting housing. The significance to residential development warrants site by site analysis.

### **Social Consequences of Limiting or Prohibiting Conflicting Uses**

The limiting or prohibiting of conflicting uses would have an adverse effect on education and housing, but a positive effect on public health, safety, and facilities. Projected traffic patterns would be only slightly improved, but recreational opportunities would be significantly enhanced.

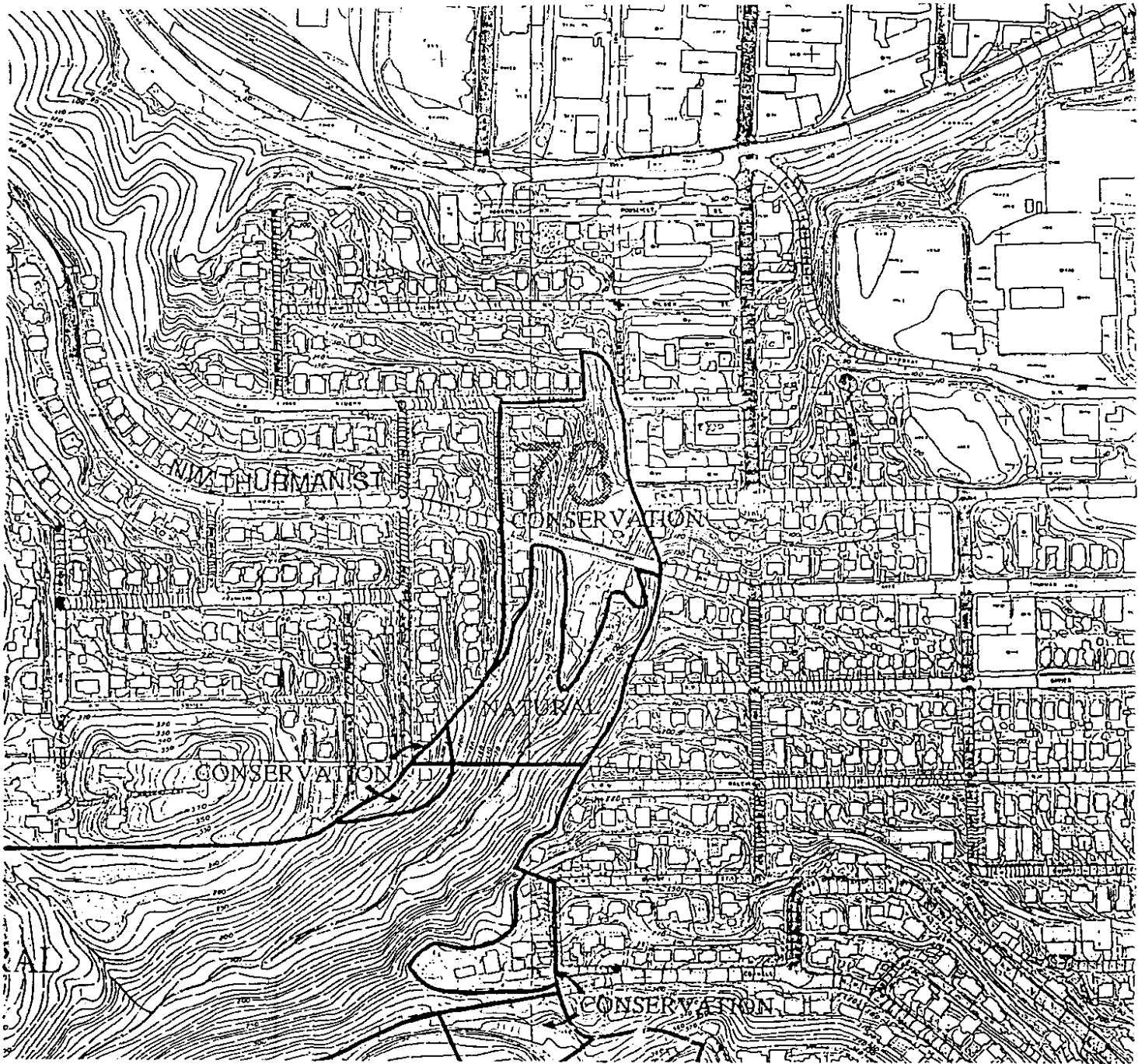
### **Environmental Consequences of Limiting or Prohibiting Conflicting Uses**

The limiting or prohibiting of conflicting uses would have a positive effect on the following ecologically significant forests, riparian areas, streams, wetlands, fish habitat, and wildlife habitat. Flood storage and desynchronization functions and groundwater recharge and discharge functions would be enhanced. Hazard areas would be avoided and heritage values would be protected. Minimum and maximum stream flows would be maintained within suitable ranges. Nutrient trapping and removal functions would be maintained and enhanced. Open space, recreation opportunities, and scenic values would be retained. Sediment trapping and shoreline anchoring functions would be enhanced. The erosive forces of flooding would also be dissipated. Water purity and water quantity would be maintained and eventually increased.


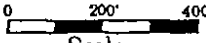
### **Energy Consequences of Limiting or Prohibiting Conflicting Uses**

The limiting or prohibiting of conflicting uses would have a large positive effect on energy conservation if alternative sites could be found for the some of the unbuilt homes now allowed in the Balch Creek Watershed, provided that these alternatives are closer to downtown, would allow more dense development, or could be served by public transit.

**Site Analysis Summaries**



**Site 73**  
**Natural Features**



  
 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 73**

Area in and near the Lower Macleay Park Lavatories, Parking Lot, and Lawn

**Conflicting Uses:**

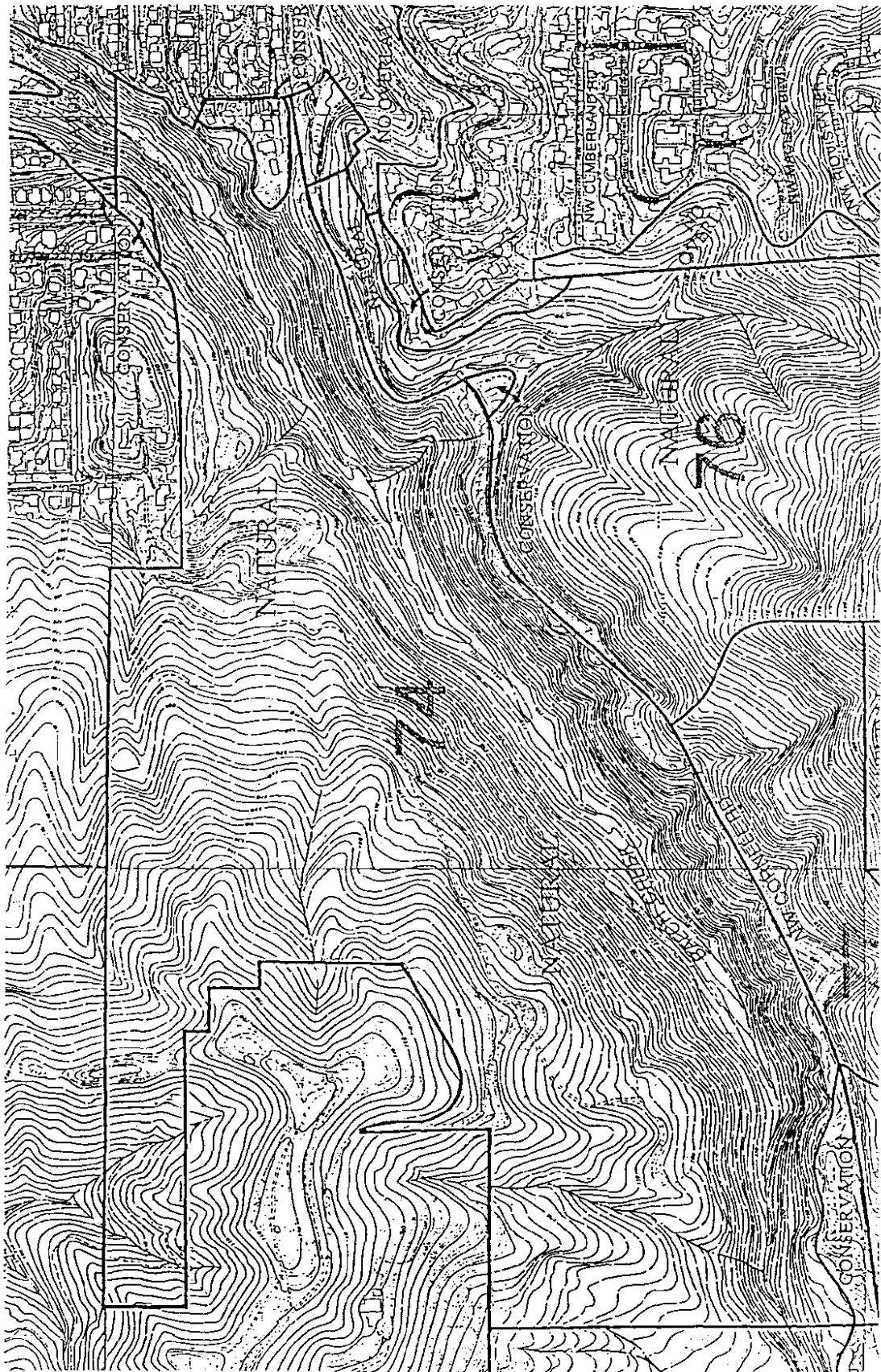
Identified conflicting uses on Site 73 include residential landscaping, park landscaping, and public storm water control facilities. The steep forested slopes of this site are heavily infected with ivy and clematis vines. Storm water controls block fish passage and degrade the aesthetic appeal and historic significance of an old sluice way.

**Housing Potential:**

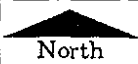
The housing capacity of Site 73 is fully utilized with seven existing homes and no remaining potential. Since further residential development opportunities do not exist, new home construction can be prohibited without adverse economic consequences. A lot by lot housing analysis follows.

| Tax Account                 | Comp Plan | Acres | Existing | Potential |
|-----------------------------|-----------|-------|----------|-----------|
| R-91340-2460 <sup>97</sup>  | OS        | 00.11 | 1        | 0         |
| R-91340-2470                | OS        | 01.10 | 0        | 0         |
| R-91340-2560 <sup>98</sup>  | OS        | 00.14 | 1        | 0         |
| R-91340-2570 <sup>99</sup>  | OS        | 00.15 | 1        | 0         |
| R-91340-2580 <sup>100</sup> | OS        | 00.15 | 1        | 0         |
| R-91340-2590                | OS        | 00.11 | 0        | 0         |
| R-91340-2600 <sup>101</sup> | OS        | 00.11 | 1        | 0         |
| R-91340-2610                | OS        | 00.64 | 0        | 0         |
| R-91340-2660 <sup>102</sup> | OS        | 00.09 | 1        | 0         |
| R-91340-2670 <sup>103</sup> | OS        | 00.11 | 1        | 0         |

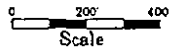
97. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.
98. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.
99. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.
100. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.
101. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.
102. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.
103. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is R5.



**Site 74**  
**Natural Features**



North



Scale

Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 74**                      Area in and near Lower Macleay Park South of the Lawn

**Conflicting Uses:**

Identified conflicting uses on Site 74 include agriculture, forestry, landscaping, housing, intensive recreation, shelters erected by homeless persons, maintenance of public streets, maintenance of public park trails, maintenance of public utilities, commuter traffic, trash dumping, and similar uses allowed by adjacent county zoning.

**Housing Potential:**

Site 74 contains five homes and no remaining housing potential. Protection of this site would have no adverse housing or economic effects. A lot by lot housing analysis follows.

| Tax Account                 | Comp Plan | Acres | Existing | Potential |
|-----------------------------|-----------|-------|----------|-----------|
| R-59030-0010                | OS        | 05.34 | 0        | 0         |
| R-59030-0170                | OS        | 04.00 | 0        | 0         |
| R-59030-0260                | OS        | 03.28 | 0        | 0         |
| R-59030-0310                | OS        | 03.16 | 0        | 0         |
| R-59030-0370                | OS        | 05.65 | 0        | 0         |
| R-91340-3390                | OS        | 02.87 | 0        | 0         |
| R-91340-3740                | OS        | 02.13 | 0        | 0         |
| R-94129-0190                | OS        | 16.90 | 0        | 0         |
| R-94129-0200                | OS        | 52.43 | 0        | 0         |
| R-94131-0010                | OS        | 49.00 | 0        | 0         |
| R-94132-0320 <sup>104</sup> | OS        | 00.32 | 1        | 0         |
| R-94132-0340                | OS        | 30.16 | 0        | 0         |
| R-94132-0430                | OS        | 19.25 | 0        | 0         |
| R-94132-0840 <sup>105</sup> | OS        | 00.23 | 0        | 0         |
| R-94132-0890 <sup>106</sup> | OS        | 00.23 | 1        | 0         |
| R-94132-1010 <sup>107</sup> | OS        | 00.23 | 1        | 0         |
| R-94132-1050 <sup>108</sup> | OS        | 00.35 | 1        | 0         |
| R-94132-1100 <sup>109</sup> | OS        | 00.36 | 1        | 0         |

104. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is Farm and Forest.

105. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is Farm and Forest.

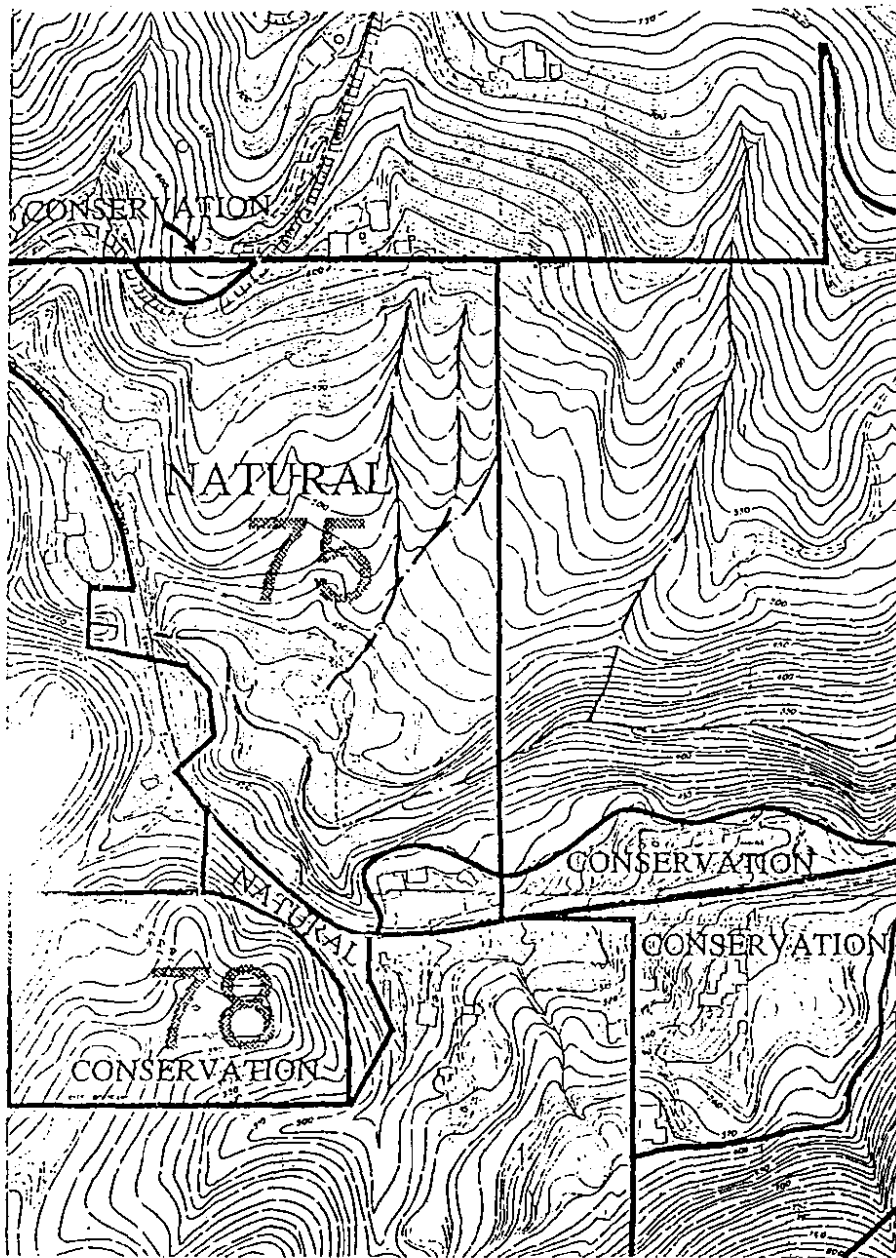
106. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is Farm and Forest.

107. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is Farm and Forest.


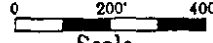
108. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is Farm and Forest.

109. The Open Space Comprehensive Plan Designation has been mistakenly applied to this lot; the correct designation is Farm and Forest.





**Site 75**  
**Natural Features**



  
 North Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 75

Area in and near the Portland Audubon Society’s Pittock Sanctuary

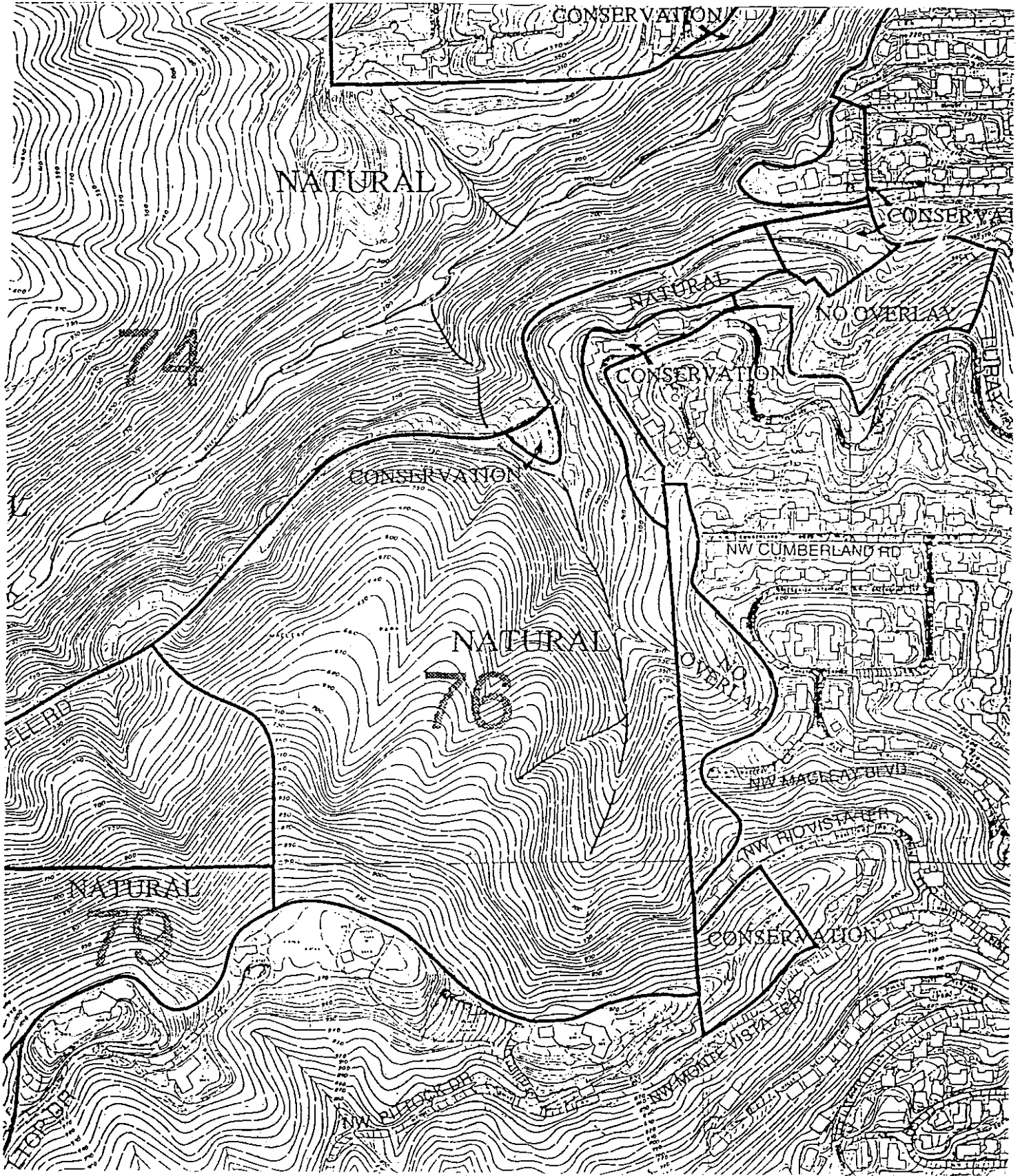
**Conflicting Uses:**

Identified conflicting uses on Site 75 include agriculture, forestry, landscaping, commercial type activities occurring under conditional use permits, intensive recreation, maintenance of public streets, maintenance of public utilities maintenance of public private trails, commuter traffic, withdrawal of creek water for educational purposes, trash dumping, and adjacent county zoning allowing similar uses. Water withdrawals, too many trails, poor trail design, poor trail locations, and invasive nonnative plants are particular problems on this site.


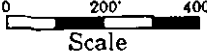
**Housing Potential:**

Site 75 has no houses and no remaining housing potential. A lot by lot analysis follows.

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-94131-0170 | FF and OS | 22.20 | 0        | 0         |
| R-94131-0570 | OS        | 00.36 | 0        | 0         |
| R-94131-0690 | FF        | 00.18 | 0        | 0         |



**Site 76**  
**Natural Features**



  
 North Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 76**

Area Between Cornell Road Tunnels, and in and near Upper Macleay Park

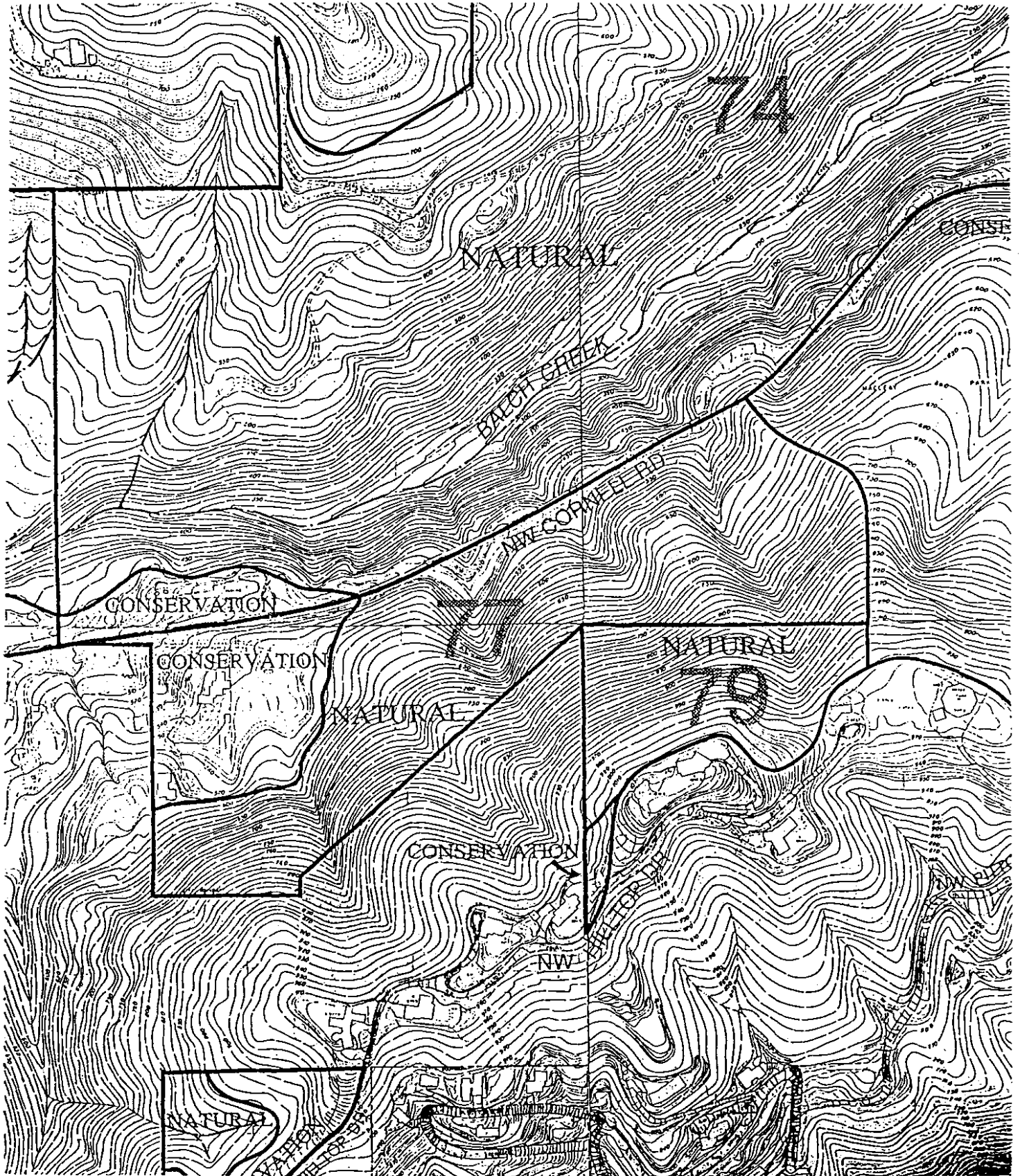
**Conflicting Uses:**


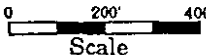
Identified conflicting uses include agriculture, forestry, landscaping, housing, intensive recreation, maintenance of public streets, maintenance of public utilities, maintenance of public park trails, commuter traffic, trash dumping, and similar uses allowed by county zoning. Invasive problem plants include holly, laurel, ivy, and clematis.

**Housing Potential:**

Site 76 contains nine homes with a potential for twenty-one more. A lot by lot analysis follows.

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-45200-4230 | OS        | 01.26 | 0        | 0         |
| R-45200-4450 | OS        | 01.11 | 0        | 0         |
| R-55150-0010 | R7        | 00.23 | 0        | 1         |
| R-55150-0020 | R7        | 00.19 | 0        | 1         |
| R-55150-0030 | R7        | 00.23 | 0        | 1         |
| R-55150-0050 | R7        | 00.99 | 1        | 5         |
| R-82460-0320 | R7        | 01.78 | 1        | 3         |
| R-94131-0010 | OS        | 45.00 | 0        | 0         |
| R-94132-0350 | OS        | 13.33 | 0        | 0         |
| R-94132-0360 | OS        | 17.16 | 0        | 0         |
| R-94132-0570 | OS        | 13.80 | 1        | 0         |
| R-94132-0640 | OS        | 01.80 | 0        | 0         |
| R-94132-0910 | R7        | 01.29 | 0        | 0         |
| R-94132-0930 | R7        | 00.34 | 1        | 1         |
| R-94132-0940 | R7        | 00.39 | 1        | 1         |
| R-94132-0960 | R7        | 00.40 | 1        | 1         |
| R-94132-1030 | R7        | 00.29 | 1        | 0         |
| R-94132-1040 | R7        | 00.70 | 1        | 3         |
| R-94132-1090 | R7        | 00.44 | 1        | 1         |
| R-94132-1260 | R7        | 00.42 | 0        | 2         |



|   |   |  |
|---|---|--|
| <p><b>Site 77</b><br/><b>Natural Features</b></p> | <p> <br/>           North<br/> <br/>           Scale<br/>           Bureau of Planning • City of Portland         </p> | <p><b>BALCH CREEK</b><br/><b>WATERSHED PROTECTION PLAN</b></p> |
|---|---|--|

**Site 77**

Area West of Cornell Road Tunnels in or near Adams and Upper Macleay Parks

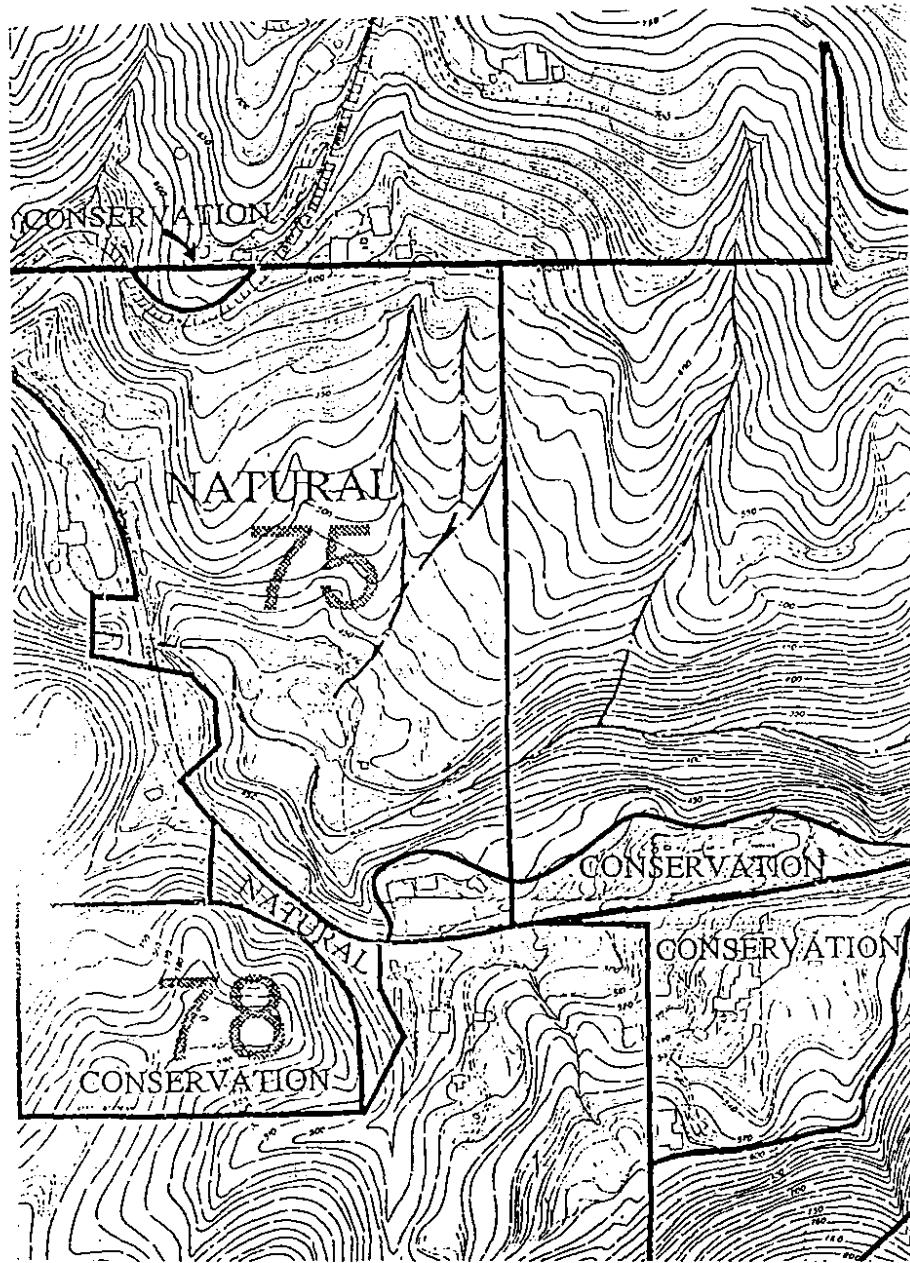
**Conflicting Uses:**

Identified conflicting uses include agriculture, forestry, landscaping, housing, intensive recreation, maintenance of public streets, maintenance of public park trails, maintenance of public utilities, community gardening, commuter traffic, trash dumping, and similar uses allowed by county zoning. Problem invasive plants include English laurel and tansy ragwort.

**Housing Potential:**

Site 77 has three homes and no remaining housing potential. A lot by lot analysis follows.

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-94131-0010 | OS        | 10.00 | 0        | 0         |
| R-94131-0140 | FF        | 00.74 | 0        | 0         |
| R-94131-0190 | OS        | 06.91 | 0        | 0         |
| R-94131-0390 | OS        | 02.87 | 0        | 0         |
| R-94131-0550 | FF        | 01.90 | 1        | 0         |
| R-94131-0640 | FF        | 02.09 | 1        | 0         |
| R-94131-0650 | FF        | 00.27 | 0        | 0         |
| R-94131-0660 | OS        | 00.09 | 1        | 0         |



Site 78  
Natural Features

North

0 200' 400'  
Scale

Bureau of Planning • City of Portland

**BALCH CREEK**  
WATERSHED PROTECTION PLAN

**Site 78**

Area of New Construction near Audubon Caretaker House

**Conflicting Uses:**

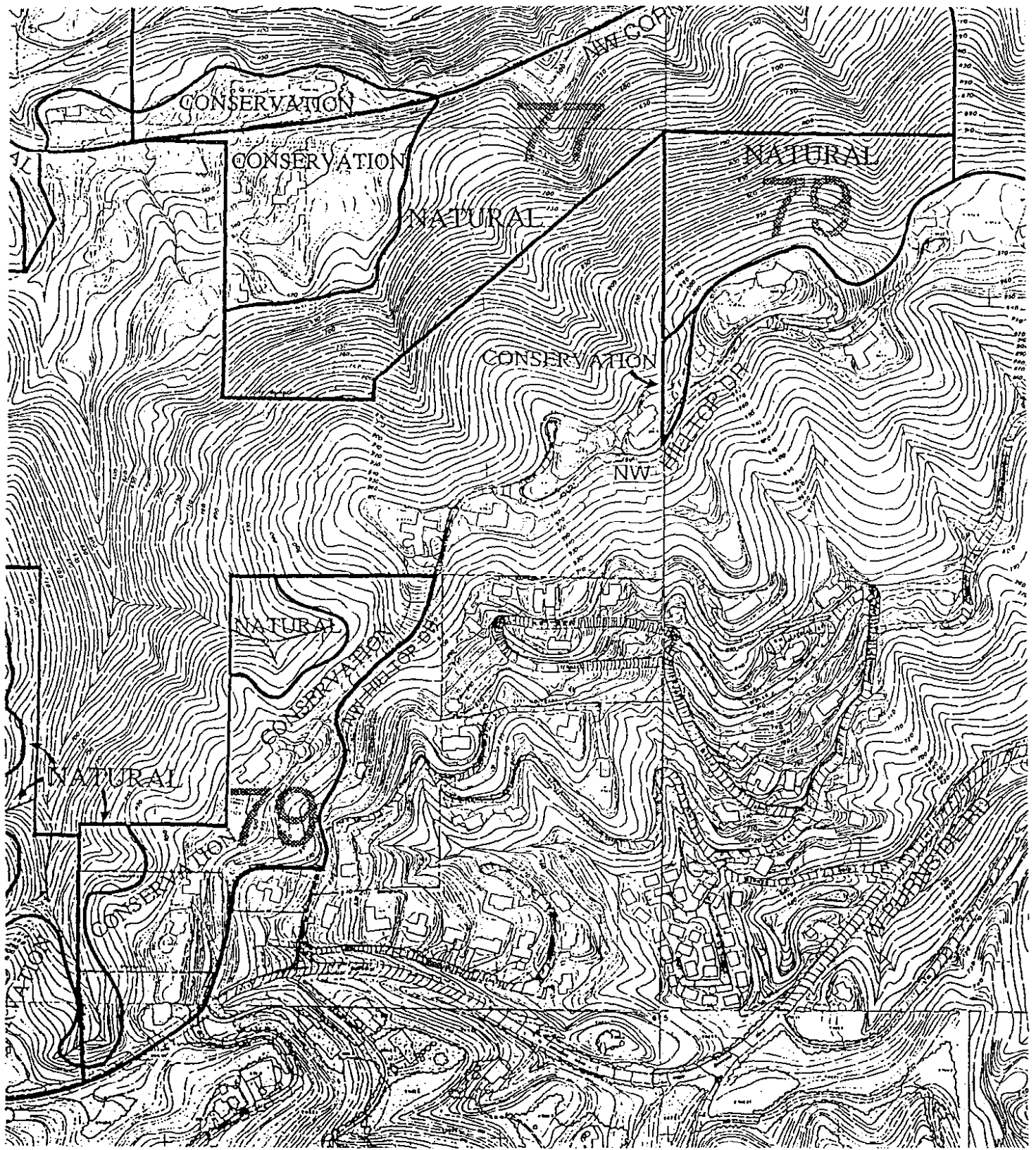
Identified conflicting uses include agriculture, forestry, landscaping, housing, maintenance of public streets, maintenance of public utilities, maintenance of a long private drive way, commuter traffic, and similar uses allowed by county zoning.

**Housing Potential:**


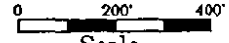
Site 78 has one house built in 1990 and the potential for two more. The site has two lots in common ownership, which if consolidated would provide for three rather than two additional homes. The lots are analyzed in the chart below.

| <b>Tax Account</b> | <b>Comp Plan</b> | <b>Acres</b> | <b>Existing</b> | <b>Potential</b> |
|--------------------|------------------|--------------|-----------------|------------------|
| R-94131-0240       | FF               | 07.76        | 1               | 2                |
| R-94131-0620       | FF               | 00.38        | 0               | 0                |





**Site 79**  
**Natural Features**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 79**

Areas near intersection of Barnes Road and Hilltop Drive

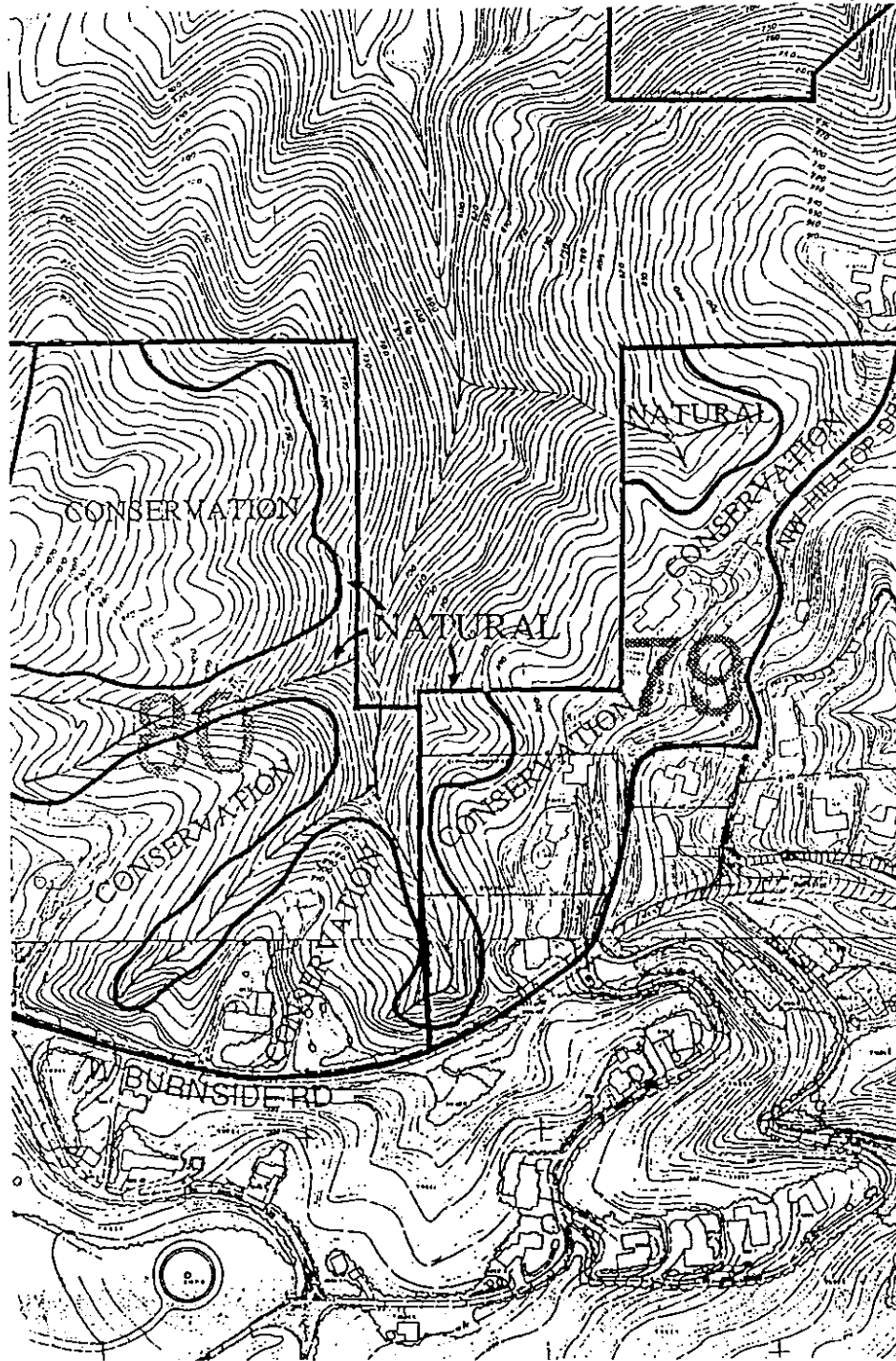
**Conflicting Uses:**

Identified conflicting uses on Site 79 include agriculture, forestry, landscaping, housing, maintenance of public and private streets, maintenance of public utilities, traffic, trash dumping, and similar uses allowed by adjacent county zoning.

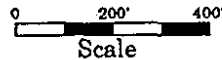
**Housing Potential:**

Site 79 contains six homes with the potential for five more. A lot by lot analysis follows.

| Tax Account  | Comp Plan  | Acres | Existing | Potential |
|--------------|------------|-------|----------|-----------|
| R-39000-0010 | FF         | 07.70 | 1        | 2         |
| R-39000-0100 | FF         | 04.70 | 1        | 1         |
| R-94131-0270 | FF         | 00.89 | 0        | 0         |
| R-94131-0340 | FF and R10 | 04.51 | 0        | 2         |
| R-94131-0350 | FF         | 00.99 | 1        | 0         |
| R-94131-0420 | FF         | 00.99 | 1        | 0         |
| R-94131-0490 | FF and R10 | 02.50 | 1        | 0         |
| R-94131-0630 | FF         | 00.96 | 0        | 0         |
| R-94131-0760 | FF         | 01.40 | 0        | 0         |
| R-94131-0770 | FF         | 00.82 | 0        | 0         |
| R-99106-2710 | FF         | 00.97 | 1        | 0         |



**Site 80**  
**Natural Features**



Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 80**

Area in or near the Proposed Pittock Place, Planned Unit Development

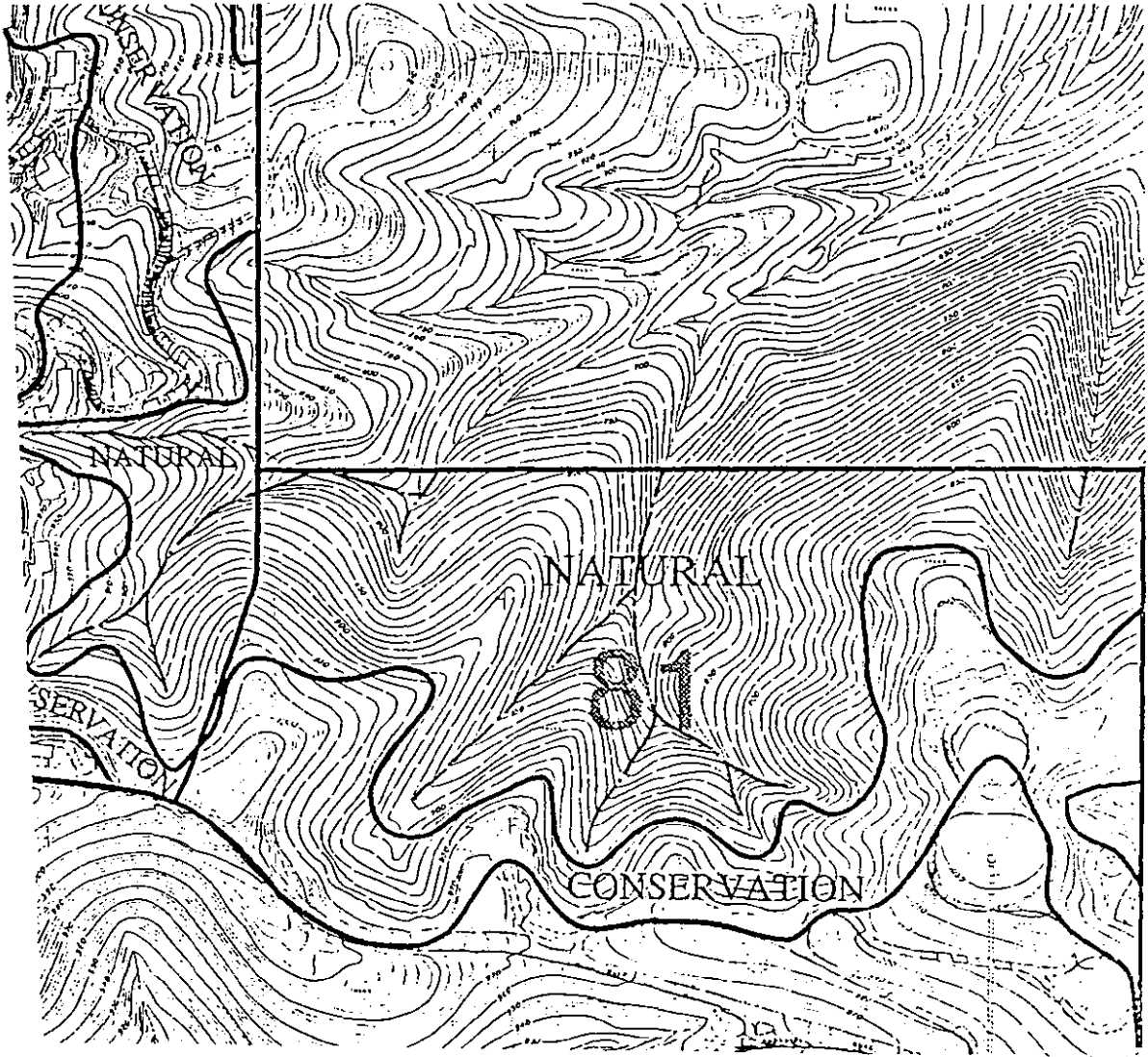
**Conflicting Uses:**

Identified conflicting uses on Site 80 include agriculture, forestry, landscaping, housing, maintenance of public streets, maintenance of public utilities, trash dumping, and similar uses allowed by county zoning.

**Housing Potential:**

Site 80 contains two houses. Comprehensive Plan designations would allow fifty-seven more. A lot by lot analysis follows.

| <b>Tax Account</b> | <b>Comp Plan</b> | <b>Acres</b> | <b>Existing</b> | <b>Potential</b> |
|--------------------|------------------|--------------|-----------------|------------------|
| R-94131-0250       | R20              | 00.23        | 0               | 0                |
| R-94131-0280       | R20              | 05.14        | 1               | 10               |
| R-94131-0580       | R20              | 07.17        | 0               | 15               |
| R-94131-0610       | R20              | 00.23        | 0               | 0                |
| R-94131-0700       | R20              | 12.28        | 0               | 26               |
| R-99106-3070       | R20              | 03.04        | 0               | 6                |
| R-99106-3080       | R20              | 00.72        | 1               | 0                |



Site 81

Area in Mount Calvary Cemetery

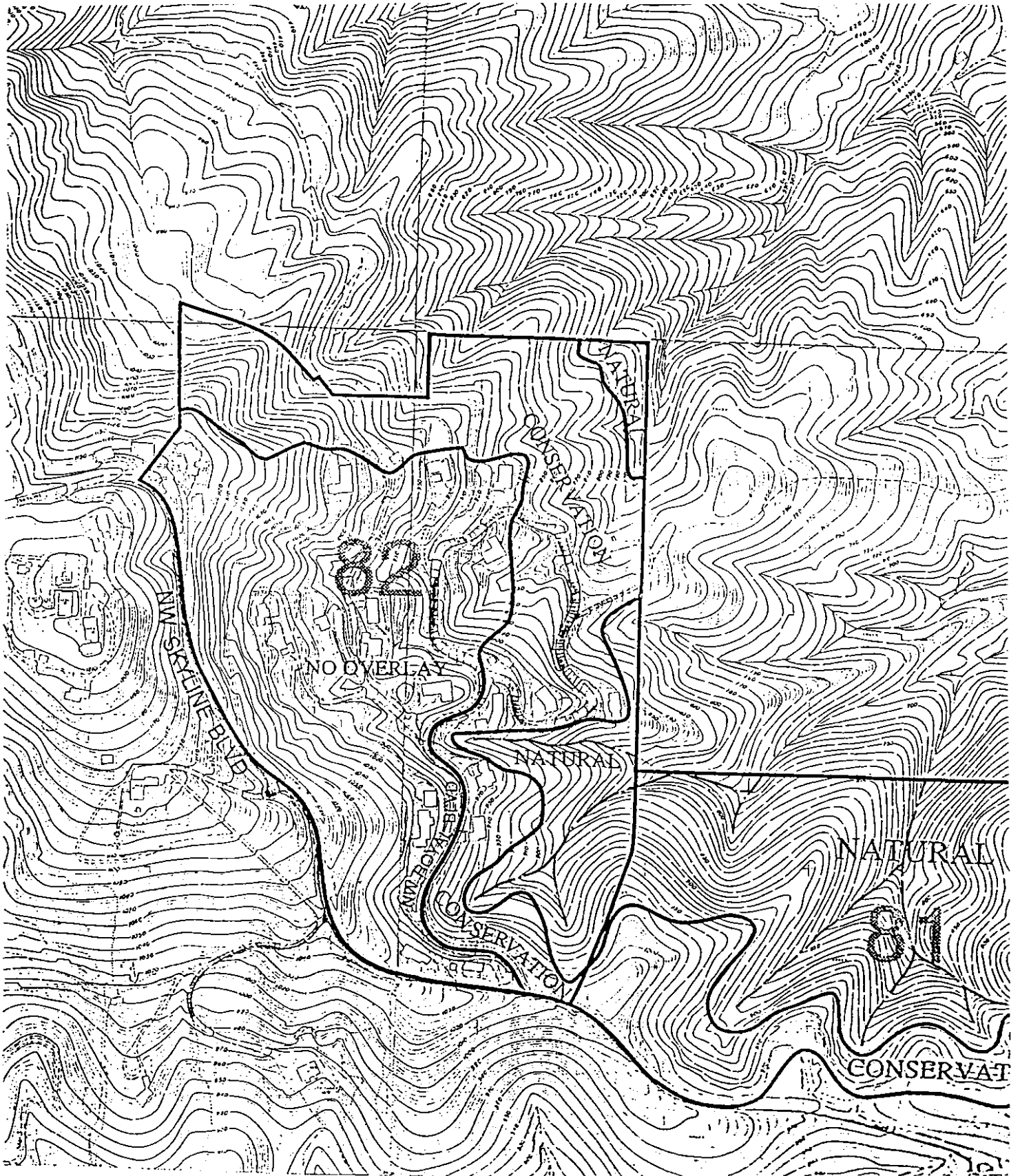
**Conflicting Uses:**

Identified conflicting uses on Site 81 include agriculture, forestry, landscaping, housing, commercial type cemetery activities occurring under conditional use permits, maintenance of public and private streets, maintenance of public utilities, and similar uses allowed by county zoning.


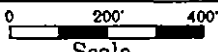
**Housing Potential:**

Site 81 has no houses and no housing potential under existing Comprehensive Plan designations. The site is three lots in one ownership. A chart follows.

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-94131-0100 | OS        | 10.25 | 0        | 0         |
| R-94131-0110 | OS        | 09.85 | 0        | 0         |
| R-94131-0070 | OS        | 44.70 | 0        | 0         |



**Site 82**  
**Natural Features**


  
 North Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 82**

Area in or near the Royal Highlands and Barnes Park Subdivisions

**Conflicting Uses:**

Identified conflicting uses on Site 82 include agriculture, forestry, landscaping, housing, maintenance of public streets, maintenance of public utilities, operation and maintenance of a private sewage treatment plant, trash dumping, and similar uses allowed by county zoning.

**Housing Potential:**

Site 82 contains twenty-six homes. Existing Comprehensive Plan designations would allow forty-nine more homes. A lot by lot analysis follows.

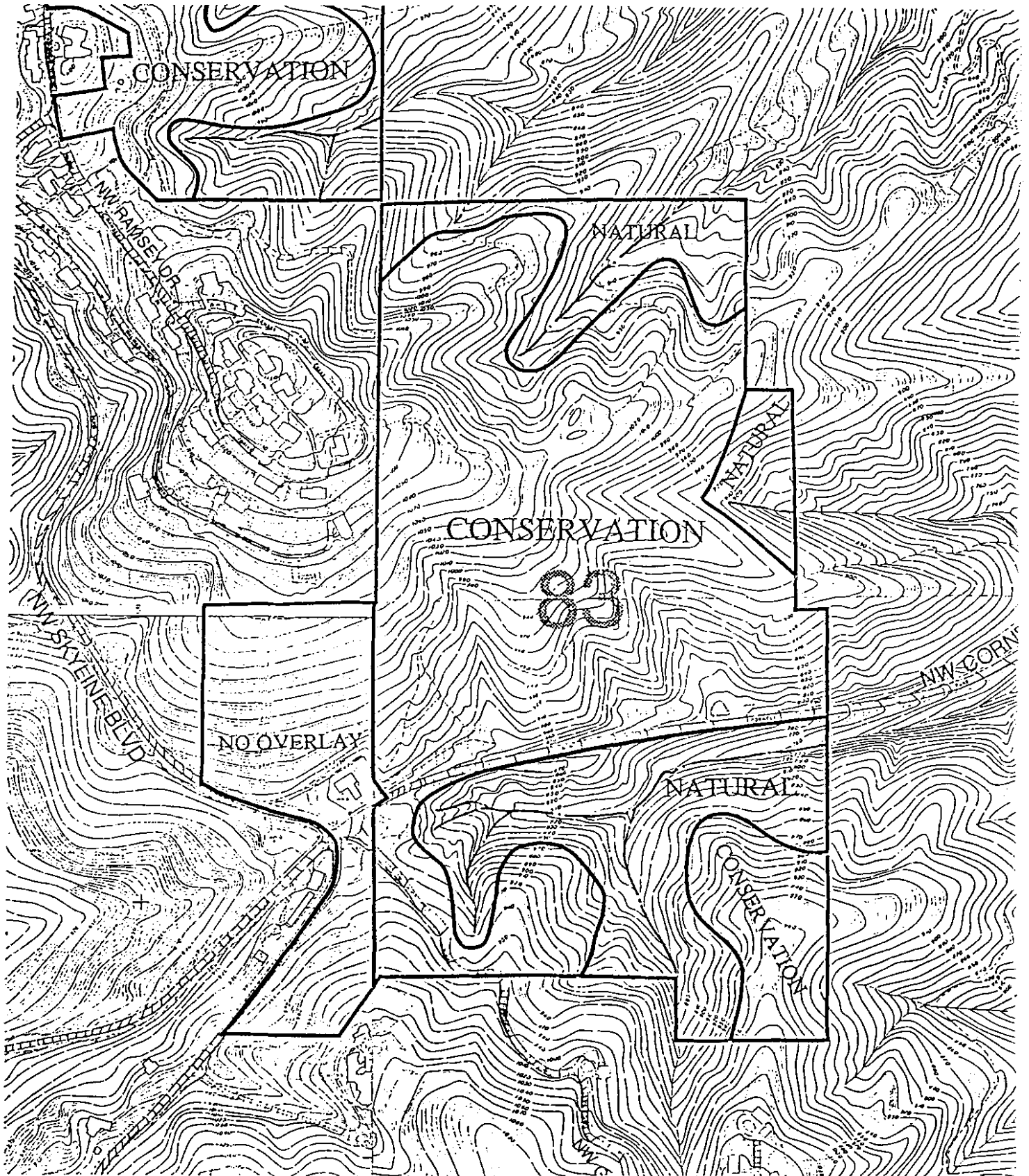
| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-05530-0980 | R20       | 01.90 | 1        | 3         |
| R-05530-1020 | R20       | 01.53 | 0        | 3         |
| R-05530-1060 | R20       | 00.45 | 1        | 0         |
| R-05530-1090 | R20       | 03.25 | 0        | 7         |
| R-05530-1100 | R20       | 00.59 | 1        | 0         |
| R-05530-1120 | R20       | 00.30 | 0        | 0         |
| R-05530-2070 | R20       | 01.61 | 1        | 2         |
| R-05530-2120 | R20       | 04.36 | 1        | 8         |
| R-05530-2180 | R20       | 01.38 | 1        | 2         |
| R-05530-2220 | R20       | 00.67 | 1        | 0         |
| R-05530-2240 | R20       | 00.47 | 1        | 0         |
| R-05530-2260 | R20       | 00.79 | 0        | 1         |
| R-05530-2310 | R20       | 00.69 | 0        | 1         |
| R-05530-2340 | R20       | 00.48 | 1        | 0         |
| R-05530-2360 | R20       | 00.40 | 0        | 0         |
| R-73100-0010 | R20       | 00.12 | 1        | 0         |
| R-73100-0030 | R20       | 00.29 | 1        | 0         |
| R-73100-0050 | R20       | 00.83 | 1        | 0         |
| R-73100-0150 | R20       | 00.60 | 1        | 0         |
| R-73100-0200 | R20       | 01.17 | 1        | 2         |
| R-73100-0300 | R20       | 00.36 | 1        | 0         |
| R-73100-0340 | R20       | 00.41 | 0        | 0         |
| R-73100-0380 | R20       | 00.65 | 0        | 1         |
| R-73100-0420 | R20       | 00.60 | 0        | 1         |
| R-73100-0460 | R20       | 00.56 | 0        | 1         |
| R-73100-0500 | R20       | 00.37 | 0        | 0         |
| R-73100-0530 | R20       | 00.28 | 0        | 0         |
| R-73100-0560 | R20       | 00.34 | 0        | 0         |
| R-73100-0600 | R20       | 00.33 | 1        | 0         |
| R-73100-0640 | R20       | 00.30 | 1        | 0         |


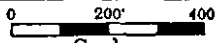


Balch Creek Watershed

Site 82 (Continued)

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-73100-0680 | R20       | 00.44 | 0        | 0         |
| R-73100-0720 | R20       | 00.47 | 0        | 1         |
| R-73100-0760 | R20       | 00.46 | 1        | 0         |
| R-73100-0800 | R20       | 00.44 | 0        | 0         |
| R-73100-0840 | R20       | 00.34 | 0        | 0         |
| R-73100-0880 | R20       | 00.40 | 0        | 0         |
| R-73100-0920 | R20       | 00.34 | 0        | 0         |
| R-73100-1000 | R20       | 00.36 | 1        | 0         |
| R-73100-1040 | R20       | 00.71 | 1        | 0         |
| R-73100-1090 | R20       | 00.35 | 1        | 0         |
| R-73100-1130 | R20       | 00.52 | 1        | 0         |
| R-73100-1170 | R20       | 00.68 | 0        | 1         |
| R-73100-1210 | R20       | 02.29 | 0        | 4         |
| R-73100-1310 | R20       | 00.75 | 0        | 1         |
| R-73100-1350 | R20       | 00.52 | 0        | 1         |
| R-73100-1390 | R20       | 00.50 | 0        | 1         |
| R-73100-1430 | R20       | 00.55 | 1        | 0         |
| R-73100-1470 | R20       | 00.50 | 0        | 1         |
| R-73100-1510 | R20       | 00.50 | 0        | 1         |
| R-73100-1550 | R20       | 00.38 | 0        | 0         |
| R-73100-1590 | R20       | 00.64 | 0        | 1         |
| R-73100-1630 | R20       | 00.67 | 0        | 1         |
| R-73100-1670 | R20       | 00.56 | 0        | 1         |
| R-73100-1710 | R20       | 00.63 | 0        | 1         |
| R-96136-1790 | R20       | 01.49 | 1        | 2         |
| R-96136-1800 | R20       | 00.69 | 1        | 0         |
| R-96136-1810 | R20       | 00.87 | 1        | 0         |



|   |   |   |
|---|---|---|
| <p><b>Site 83</b><br/><b>Natural Features</b></p> | <p> <br/>           North<br/> <br/>           Scale<br/>           Bureau of Planning • City of Portland         </p> | <p><b>BALCH CREEK</b><br/>WATERSHED PROTECTION PLAN</p> |
|---|---|---|

## Site 83

Area near Intersection of Greenleaf and Cornell Roads

**Conflicting Uses:**

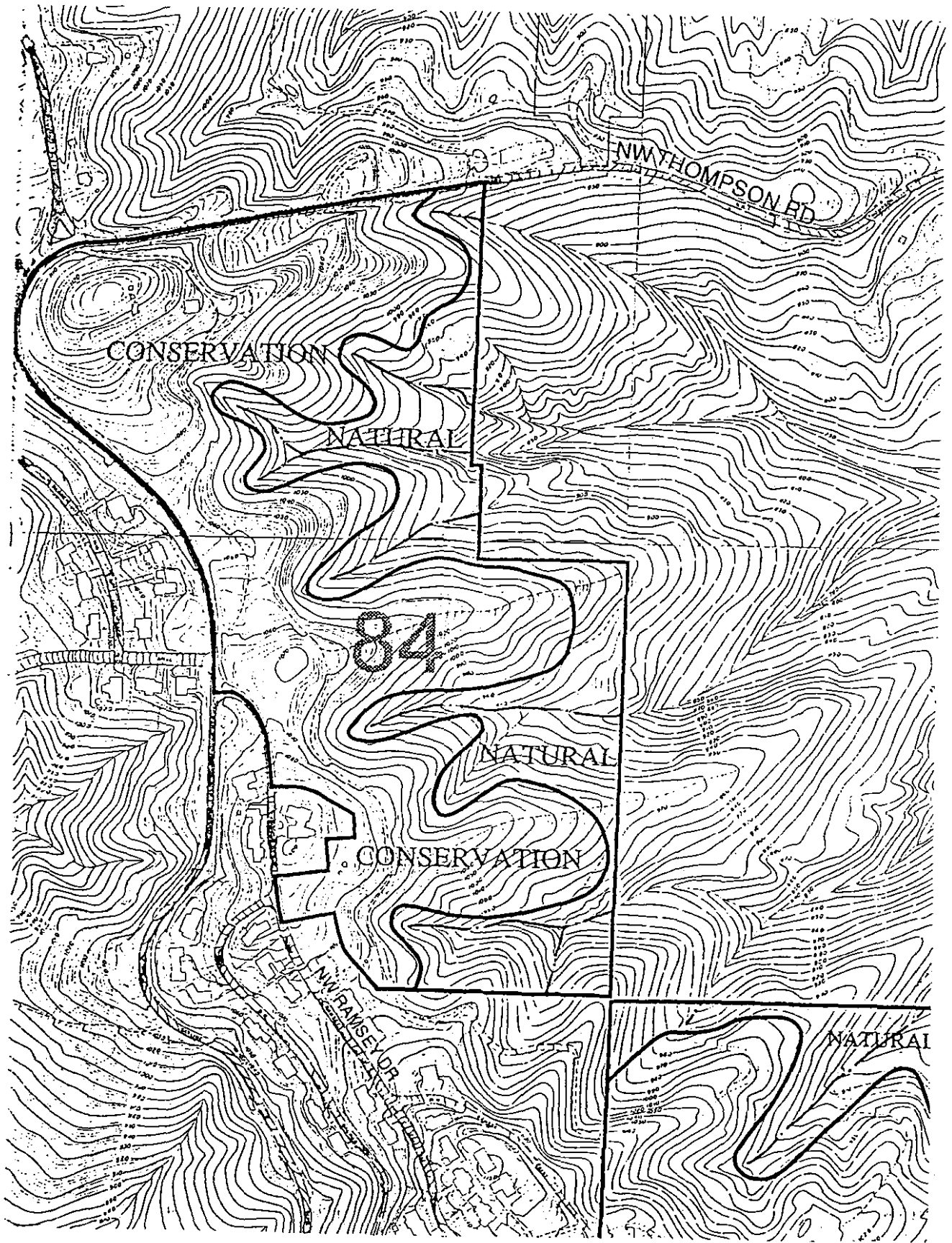
Identified conflicting uses include agriculture, forestry, landscaping, housing, commercial development, maintenance of public streets, maintenance of public utilities, trash dumping, and similar uses allowed by county zoning. This is the only site in the Balch Creek Watershed with commercial zoning. The residential density and lot coverage provisions of C2 zoning would cause severe damage to identified resources.

**Housing Potential:**

Site 83 has four homes. Comprehensive Plan designations would allow one hundred more. Sixty-five of these allowed residences would be on two lots with C2 Comprehensive Plan designations. This zoning allows multifamily attached dwellings at R1 density. A lot by lot analysis follows.

| Tax Account  | Comp Plan   | Acres                | Existing | Potential |
|--------------|-------------|----------------------|----------|-----------|
| Unassigned A | FF          | 00.98                | 0        | 1         |
| Unassigned B | FF          | 00.99                | 0        | 1         |
| Unassigned C | FF          | 01.64                | 0        | 1         |
| Unassigned D | FF          | 02.13                | 0        | 1         |
| Unassigned E | FF          | 05.56                | 0        | 1         |
| Unassigned F | FF          | 02.12                | 0        | 1         |
| Unassigned G | FF          | 02.15                | 0        | 1         |
| R-17870-0250 | R10         | 04.12                | 1        | 7         |
| R-17870-0290 | C2          | 00.74                | 0        | 32        |
| R-17870-0330 | R20         | 00.60                | 1        | 0         |
| R-17870-0380 | R20 and C2  | 02.92                | 0        | 6         |
| R-59040-0300 | FF          | 00.34 <sup>110</sup> | 0        | 1         |
| R-96125-0130 | FF          | 16.34                | 0        | 8         |
| R-96125-0140 | FF          | 01.70                | 0        | 0         |
| R-96136-0010 | FF, R20, C2 | 15.20                | 0        | 23        |
| R-96136-1760 | C2 and R20  | 01.37                | 0        | 2         |
| R-96136-1770 | FF          | 02.09                | 0        | 1         |
| R-96136-1830 | FF          | 04.99                | 0        | 2         |
| R-96136-1850 | FF          | 02.01                | 1        | 0         |
| R-96136-1860 | FF          | 02.02                | 0        | 1         |

110. A variance (VZ 60-89) allows one house on 15,000 square feet of area for this lot only in a Farm and Forest zone. The Farm and Forest zone requires a two acre (87,120 square feet) minimum lot size.



**Site 84**  
**Natural Features**

North  
Bureau of Planning • City of Portland

0 200' 400'  
Scale

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

Site 84

Area near Skyline and Thompson Roads

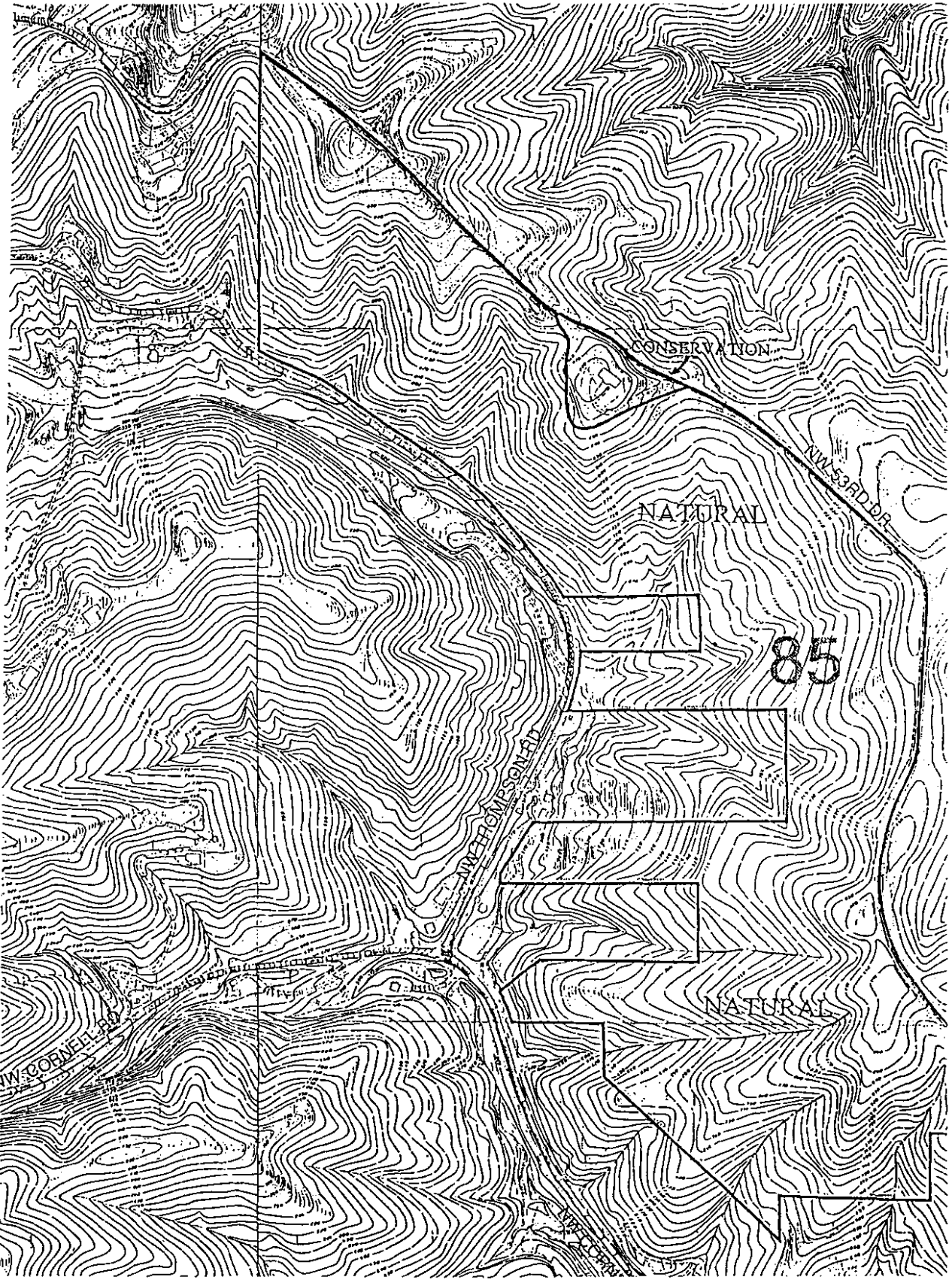
**Conflicting Uses:**

Identified conflicting uses on Site 84 include agriculture, forestry, landscaping, housing, maintenance of public and private streets, maintenance of public utilities, trash dumping, and similar uses allowed by county zoning.


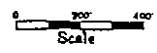
**Housing Potential:**

Site 84 contains two houses with the potential for twenty-three more. A lot by lot analysis follows.

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| Unassigned H | FF        | 00.61 | 0        | 1         |
| Unassigned I | FF        | 00.36 | 0        | 1         |
| Unassigned J | FF        | 00.50 | 0        | 1         |
| Unassigned K | FF        | 00.77 | 0        | 1         |
| Unassigned L | FF        | 01.50 | 0        | 1         |
| Unassigned M | FF        | 01.43 | 0        | 1         |
| Unassigned N | FF        | 06.15 | 0        | 1         |
| Unassigned O | FF        | 02.14 | 0        | 1         |
| Unassigned P | FF        | 00.93 | 0        | 1         |
| Unassigned Q | FF        | 12.76 | 0        | 4         |
| R-77380-0410 | R10       | 00.35 | 1        | 0         |
| R-96125-0070 | FF        | 00.30 | 1        | 0         |
| R-96125-0080 | FF        | 01.96 | 0        | 0         |
| R-96125-0670 | FF        | 00.78 | 0        | 0         |
| R-96125-0790 | FF        | 06.00 | 0        | 3         |
| R-96125-0910 | FF        | 00.53 | 0        | 0         |
| R-96125-0970 | FF        | 15.00 | 0        | 7         |



**Site 85**  
**Natural Features**

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

**Site 85**

Area in and near Forest Park Between Thompson Road and 53rd Avenue

**Conflicting Uses:**

Identified conflicting uses on Site 85 include agriculture, forestry, landscaping, housing, maintenance of park trails, intensive recreation, maintenance of public streets, maintenance of public utilities, trash dumping, and similar uses allowed by county zoning.

**Housing Potential:**

Site 85 contains one house. It has no further housing potential under current Comprehensive Plan designations.

| Tax Account  | Comp Plan | Acres | Existing | Potential |
|--------------|-----------|-------|----------|-----------|
| R-59030-1860 | OS        | 15.00 | 0        | 0         |
| R-59030-2100 | OS        | 14.27 | 0        | 0         |
| R-59030-2340 | OS        | 06.19 | 0        | 0         |
| R-59030-2660 | OS        | 12.37 | 0        | 0         |
| R-59030-2910 | OS        | 02.60 | 0        | 0         |
| R-59030-3310 | OS        | 07.03 | 0        | 0         |
| R-59030-3510 | FF        | 03.00 | 1        | 0         |
| R-59030-3560 | OS        | 02.70 | 0        | 0         |
| R-59030-3610 | OS        | 03.00 | 0        | 0         |
| R-59030-4010 | OS        | 06.00 | 0        | 0         |
| R-59030-4014 | OS        | 06.00 | 0        | 0         |

**REGULATIONS**



## General Summary

New regulations are needed to limit and prohibit conflicting uses in the Balch Creek Watershed. High resource values and functions warrant a high degree of protection. Significant watershed resources include a full year stream, an isolated population of cutthroat trout, and old conifer forests. The regulations listed below can accomplish the needed protection with a net reduction of only one home site. Protection is accomplished by directing residential development away from the center of the watershed and toward the least sensitive edge.

The regulations are designed to preserve watershed functions and values as a whole. By preserving storm water and erosion control functions and fish and wildlife habitat values, site specific resources such as streams and forests are also preserved. The regulations do this by carrying out four management objectives. These objectives are the product of the preceding inventory of resources and preceding analysis of conflicting uses. All applicable policies of Oregon land use law and the Portland Comprehensive Plan are met through these objectives. The objectives are:

- **Maintain Balch Creek Cutthroat Trout.**  
These fish should be maintained in all of their present range and at population of at least 2,000. Opportunities for stream enhancement should also be maintained.
- **Maintain a Wildlife Corridor between Forest Park and Pittock Acres Park.**  
Contiguous forest and contiguous forest cover should be maintained as habitat and a corridor sufficient for of deer and elk.
- **Limit Floods.**  
The frequency and severity of flooding in Macleay Park and the Northwest industrial area should not increase. Opportunities to reduce the severity and frequency of flooding should also be maintained.
- **Protect Streams and Forests.**  
All full year streams, intermittent streams, ravine bottoms, springs, and all significant ground water recharge areas should be protected; significant conifer forests and significant mixed broad-leafed and conifer forests should also be protected.

### Protection Plan Implementing Measures

The following regulations are needed to carry out these objectives:

- **Adopt One New Goal 8 Comprehensive Plan Policy.**

## Balch Creek Watershed

- **Change One Existing Goal 2 Comprehensive Plan Policy.**
- **Replace the Natural Resource Overlay Zone Chapter of the January 1, 1991, City Zoning Code with a Future Urban Overlay Zone.**
- **Add Special Use Restrictions, Development Standards, and Approval Criteria to the Environmental Zones Chapter of the January 1, 1991 City Zoning Code.**
- **Change Several Existing Comprehensive Plan Designations.**
- **Change Several Existing Base Zones.**
- **Apply the Natural Resource Overlay Zone (recommended Future Urban Overlay Zone).**
- **Apply the Environmental Natural Overlay Zone (Environmental Protection Overlay Zone in the January 1, 1991, City Zoning Code).**
- **Apply the Environmental Conservation Overlay Zone.**

The following existing regulations are not needed to carry out the objects, and should be repealed because they are made obsolete or unnecessary by the new regulations, or because they were erroneously applied when first adopted:

- **Repeal Stream Feature Designations.**
- **Repeal Site Review Overlay Zones.**
- **Repeal Open Space Designations on Residential Properties.**

The following is the regulatory language needed to protect Balch Creek Watershed resources:

### **Change Policy 8.11**

Change Goal 8.11 of the Portland Comprehensive Plan by adding a new policy for the Balch Creek Watershed. The existing policy reads,

~~“8.11 Willamette River Greenway  
Protect and preserve the natural and economic qualities of lands along the Willamette River through implementation of the City’s Willamette River Greenway Plan.”~~

Change this policy to read,

*“8.11 Special Areas*

*Recognize unique land qualities and adopt specific planning objectives for special areas.*

- A. *Willamette River Greenway*  
*Protect and preserve the natural and economic qualities of lands along the Willamette River through implementation of the City's Willamette River Greenway Plan.*
  
- B. *Balch Creek Watershed*  
*Protect and preserve fishery, wildlife, flood control, and other natural resource values of the Balch Creek Watershed through the application of special development standards and approval criteria in the environmental overlay zones."*

#### **Change Policy 2.5**

Current Comprehensive Plan policy limits the application of the Natural Resource overlay zone (recommended Future Urban overlay zone) to lands which are both within the City and beyond the Urban Growth Boundary. Both of these overlay zone limits the minimum area of new lots to 20 acres. In special cases this limit should also apply within the Urban Growth Boundary. Such a case is the portion of the Balch Creek Watershed, which is within both the City and the Urban Growth Boundary, but has no access to a sewer line. Providing a sewer to this area would be costly and would do great harm to the environment. The minimum area of new lots in this portion of the watershed should be limited to twenty acres. The application of the Natural Resource overlay zone is, however, governed by Comprehensive Plan Policy 2.5 which reads,

#### ~~"2.5 Natural Resource Area~~

~~Limit extension of development-related facilities, except for reasons of public health and safety, in areas designated Natural Resource on the Land Use Framework Map adopted by the Metropolitan Service District."~~

It should also be noted that the existing policy makes references to a map which has been superseded by the Comprehensive Plan maps and zoning maps of Portland and the other metropolitan jurisdictions.

Change the existing policy 2.5 to read,

#### **"2.5 Future Urban Areas**

*Do not extend urban services to areas within the Urban Services Boundary which are designated future urban areas. Provide exceptions only to correct declared health hazards and violations of pollution control laws.*

## Balch Creek Watershed

### *Objectives:*

- A** *Future Urban Area*  
*Designate, as future urban areas, (1) all areas beyond the Urban Growth Boundary, and (2) areas within the Urban Growth Boundary for which the extension of services would not be cost effective or would not be environmentally acceptable as determined by a detailed facility study.*
- B** *Replacement Areas*  
*Identify areas which could replace areas designated pursuant to (A) (2) above, and cooperate with the Metropolitan Service District and interested city and county governments to include these areas within the Urban Service Boundary."*

Replace the Natural Resource Overlay Zone with the Future Urban Overlay Zone

Change the January 1, 1991, City Zoning Code to carry out amended Policy 2.5 above. The January 1, 1991, code now reads,

~~“CHAPTER 33.460  
NATURAL RESOURCE ZONE~~

### **Sections:**

- ~~33.460.010 Purpose~~  
~~33.460.020 Map Symbol~~  
~~33.460.030 Applying and Removing the Zone~~  
~~33.460.040 Minimum Lot Area~~

#### ~~33.460.010 Purpose~~

~~The Natural Resource overlay zone limits development in the Natural Resource area outside of the Metropolitan Service District's adopted Urban Growth Boundary (UGB). This is achieved by limiting the minimum area of new lots to 20 acres.~~

#### ~~33.460.020 Map Symbol~~

~~The Natural Resource zone is shown on the Official Zoning Maps with an "f" map symbol (for forest).~~

#### ~~33.460.030 Applying and Removing the Zone~~

~~The Natural Resource zone must be applied to all lands designated "Natural Resource" on the Metro Regional Land Use Framework Map. When the UGB is expanded to include Natural Resource-zoned land, the Natural Resource zone is to be removed from that land following the zoning map amendment procedures in 33.855.080.~~

~~33.460.040 Minimum Lot Area~~

~~The minimum lot area for the creation of new lots in the Natural Resource zone is 20 acres. Existing lots of less than 20 acres may be developed, but may not be reduced in area."~~

Change the January 1, 1991, code to read,

**"CHAPTER 33.435  
FUTURE URBAN ZONE**

*Sections:*

*33.435.010 Purpose*

*33.435.020 Map Symbol*

*33.435.030 Applying and Removing the Zone*

*33.435.040 Minimum Lot Area*

*33.435.010 Purpose*

*The Future Urban overlay zone limits development in future urban areas. Future urban areas are, (1) all areas beyond the the Metropolitan Service District's Urban Growth Boundary (UGB), and (2) areas within the UGB to which the extension of full urban services would not be cost effective or would cause unacceptable harm to the environment. The Future Urban overlay zone limits development by prohibiting the creation of new lots with a total area of less than 20 acres.*

*33.435.020 Map Symbol*

*The Future Urban zone is shown on the Official Zoning Maps with an "f" map symbol (for future).*

*33.435.030 Applying and Removing the Zone*

*The Future Urban zone must be applied to all lands designated "Natural Resource" on the Metro Regional Land Use Framework Map. When the UGB is expanded to include Future Urban-zoned land, the Future Urban zone*

## Balch Creek Watershed

*is to be removed from that land following the zoning map amendment procedures in 33.855.080.*

### **33.435.040 Minimum Lot Area**

*The minimum lot area for the creation of new lots in the Future Urban zone is 20 acres. The creation of new lots of less than 20 acres is prohibited. Existing lots of less than 20 acres may be developed, but may not be reduced in area."*

### **Change existing Comprehensive Plan and Zoning Designations**

Change several existing Comprehensive Plan and Zoning Designations. Charts and maps of these changes follow in the individual site summaries. These changes are recommended under the existing code but would probably not take effect until after the January 1, 1991, effective date of the new City Zoning Code. Under the new code the Open Space (OS) Comprehensive Plan designation would become the Open Space (OS) base zone, This would have the effect of (OS)FF, (OS)R20, (OS)R10, (OS)R7, and (OS)R5 base zones under the existing code all becoming OS base zones under the new code. The Farm and Forest (FF) base zone under the existing code would become the Residential Farm and Forest (RF) base zone under the new code. The single example of the Commercial Four (C4) base zone in the Balch Creek Watershed would become a Neighborhood Commercial Two (CN2) base zone under the new code. The Environmental Natural (en) overlay zone in the existing code would become the Environmental Protection (p) overlay zone in the new code. The Environmental Conservation (ec) overlay zone in the existing code would become Environmental Conservation (c) overlay zone in the new code. Finally, the Natural Resource (nr) overlay zone in both the existing code and the present version of the new code would become the Future Urban (f) overlay zone if the recommendations of this plan were adopted. For the sake of simplicity, only existing zone designations are used in maps and charts. The following is a summary of the recommended comprehensive plan map zone map changes:

- **Redesignate Commercial Property**  
Change the C2 Comprehensive Plan designation on parts of three properties to FF, and change the C2 Comprehensive Plan Designation for all of another property to C4.
- **Redesignate Residential Property**  
Change the R20 Comprehensive Plan designation to FF on one property, and change the R7 Comprehensive Plan Designation to OS on three properties.
- **Remove Open Space Designations**

Change the OS Comprehensive Plan designation to R5 on seven properties. The original application of this designation was an error.

- **Increase Future Housing Density in Some Areas**  
Change the R20 Comprehensive Plan designation to R10 on 17 properties.
- **Lower Level of Commercial Development**  
Change the C2 base zone for one property to C4.
- **Decrease Future Housing Density in Other Areas**  
Change the R7 Comprehensive Plan Designation to FF on three properties and change the R5 Base Zone Designation to FF on three properties.
- **Discontinue Site Review**  
Remove the Site Review (sr) overlay zone from all properties in the Balch Creek Watershed. Site review is not needed in conjunction with environmental review.
- **Replace Stream Features**  
Amend the City Map of Stream Features to removed all stream feature designations from the Balch Creek Watershed. Environmental overlay zones provide more protection to Balch Creek and its tributaries than existing stream feature designations.
- **Limit future lot sizes**  
Apply the Natural Resource (nr) overlay zone to 39 properties zoned FF.
- **Preserve Natural Resources**  
Apply the Environmental Natural (en) overlay zone completely to 13 properties and partially to 91 properties. Little or no development will be allowed in en zones. Allowed development will comply with special development standards and approval criteria.
- **Conserve Natural Resources**  
Apply the Environmental Conservation (ec) overlay zone completely to 65 properties and to the remainder of the 91 properties with partial en zoning. Most development allowed by base zones will be allowed in ec zones. Allowed development will comply with special development standards and approval criteria.

## Balch Creek Watershed

**Adopt New Use Restrictions, Development Standards, and Approval Criteria.** One use restriction, two development standards, and four approval criteria are needed to protect Balch Creek Watershed resources. These standards and criteria will provide certainty to developers and ensure consistency of environmental reviews. Only those proposed developments that are in accord with the criteria will be approved, and approved developments will abide by uniform standards.

Adopt the following as amendments to Chapter 33.430.100, .200, .330 and .340 of the January 1, 1991, City Zoning Code:

### **33.430.100 Uses Allowed**

- A. Review required.** Uses and development allowed by the base zone, overlay zone, and plan district regulations are allowed in the environmental zones if they comply with the development standards and are approved through an environmental review. The amount and placement of development may be restricted to ensure conformance with the regulations of this chapter.
- B. Hazardous substances.** Hazardous substances greater than the consumer commodity quantity are prohibited in the environmental zones. See 33.140.120 for descriptions of hazardous material quantities.
- C. *Balch Creek Watershed.*** *In the Balch Creek Watershed, residential development is prohibited in commercial zones.*

### **33.430.200 Development Standards**

The development standards of this section apply to all transition and natural resource areas.

- A. Building placement.** This standard is intended to protect adjacent natural resource areas by allowing for solar access and controlling the scale and bulk of buildings near natural resources. A building or structure up to 25 feet in height may be placed up to the boundary of the natural resource area. A setback from the natural resource area boundary of at least 1 foot for every 1 foot in height over 25 feet is required.
- B. Parking and truck areas.** These regulations are intended to provide a transition between the natural resource area and development, to assist in controlling runoff, and to protect the visual amenity values of the natural resource.
  - 1. Auto and light truck areas.** Parking areas for autos and light trucks must be set back at least 10 feet from natural resource area boundaries. The setback must be landscaped to at least the



**L2 standard, as stated in Chapter 33.248, Landscaping and Screening.**

- 2. Medium and heavy truck areas. Parking, loading, and maneuvering areas for medium and heavy trucks must be set back at least 10 feet from natural resource area boundaries. The setback must be landscaped to at least the L3 standard.**
- C. Exterior work activities. Exterior work activities are prohibited unless in conjunction with a river-related or river-dependent use.**
- D. Exterior storage and display. Exterior storage and display areas must be set back at least 10 feet from resource area boundaries. The setback must be landscaped to at least the L3 standard.**
- E. Drainage and topography.**
- 1. The site must be contoured, planted, or developed to prevent erosion, pollution, and sedimentation into the adjacent natural resource area.**
  - 2. The Bureau of Environmental Services may require water pollution mitigation measures as a condition of approving the discharge of runoff into a natural resource or into a stormwater drainage facility which discharges into a natural resource. Preferred treatment is with natural pollution control systems compatible in character with the natural resource. The type of mitigation measure or facility, will be determined by the Bureau of Environmental Services.**
- F. Landscape materials.**
- 1. The first 10 feet of landscaping, measured from the natural resource boundary line, must be planted with plant species native to the Willamette Valley or to the Pacific Northwest. Allowable plant species are described in Section IV.C, Landscaping, of the Willamette Greenway Plan. This requirement applies to all landscaping whether required or optional.**
  - 2. The standard in Paragraph 1. above does not apply where the identified natural resource does not include native plant species as a characteristic or value. In these cases, landscaping may be similar in type and character to that in the natural resource area.**
- G. Lighting. Exterior and interior lights must be placed so that they do not shine directly into natural resource areas.**
- H. Trash collection areas. Outdoor trash collection areas are prohibited.**

## Balch Creek Watershed

- I. **Noise.** Buildings must be placed and constructed to meet the noise standards for nonresidential development adjacent to residential zones. See Title 18, Nuisance Abatement and Noise Control.
- J. **Construction management.** Construction must be done in a manner which will ensure that the remainder of the site with Environmental zoning will not be adversely impacted.
- K. **Balch Creek Watershed.** *In the Balch Creek Watershed the following additional development standards apply:*
  1. **Development Season.** *All ground disturbing activities regulated by this chapter must take place between May 1 and September 30 of any year. Any activity which exposes soil to direct contact with stormwater between October 1 and April 30 is prohibited. An exception to this standard allows emergency repair of existing structures during any time of year.*
  2. **Prohibited Plants.** *The propagation of Himalayan Blackberry (Rubis discolor), English Ivy (Hedra helix), Western Clematis (Clematis linguisticiflora), Traveler's-Joy (Clematis vitalba) or any plant identified as a nuisance plant on the Portland Plant List is prohibited.*

### 33.430.330 Supplemental Application Requirements

All of the information listed below must be included with an environmental review application, in addition to the standard application requirements of 33.730.060.

- A. **Special site plan requirements.**
  1. The site plan must clearly show the boundaries of the natural resource area and the transition area at a scale of at least 1 inch for every 100 feet. Location of the environmental zone is based upon the maps adopted with the ESEE analysis for the area.
  2. **Additional site plan requirements.** In addition, the site plan must show:
    - Proposed site contouring;
    - Proposed stormwater management and disposal;
    - Existing or proposed, above or below ground utilities;
    - Proposed right-of-way dedication;
    - All trees greater than six inches in diameter measured at five feet above the ground. As an option to showing all trees greater than 6 inches in wooded areas not being disturbed, the crown cover outline can be shown;
    - Other vegetation cover types, general distribution, and identification of vegetation affected by the proposed project;
    - Existing floodplains and elevations;
    - Proposed sanitary waste disposal systems; and

- Proposed recreational trails, viewpoints, and outdoor recreational spaces.
- *Erosion control features to be employed during construction.*

**B. Additional plans and analyses.** The following information is required in either a site plan or narrative form, or in a combination of the two:

1. A construction management plan showing enough detail to fully address the concerns described in 33.430.210.J. above. The plan should address the handling of construction equipment, construction materials, excess fill, runoff, erosion, how trees and vegetation will be protected, and similar items;
2. If the development is proposed for a transition area, a detailed description of any proposed on-site or off-site mitigation measures;
3. An impact evaluation if the development is proposed for a natural resource area, See 33.430.350. If the impact evaluation shows that there will be a degradation or loss of functional values, a mitigation plan will also be required. See 33.430.360.

*C. Balch Creek Watershed site plans. In addition to the requirements stated above, site plans in the Balch Creek Watershed must show vegetation to remain, vegetation to be removed during construction, and vegetation to be reestablished.*

#### **33.430.340 Approval Criteria**

An environmental review application will be approved if the review body finds that the applicant has shown that all of the applicable approval criteria stated below are met.

**A. Recreational trails.**

1. Which approval criteria apply. Recreational trails to be located outside of a natural resource area are subject to the approval criterion stated in Paragraph 2. below. Recreational trails to be located in a natural resource area in the EP and EC zones are subject to the approval criteria stated in Subsection E. below.
2. Approval criterion. Trails, rest points, view points, and other facilities constructed for the enjoyment of the natural resource limit and balance significant detrimental environmental impacts with the potential for enjoyment of the natural resource.

**B. Resource enhancement projects.** Resource enhancement projects must have adequate mitigation measures to ensure that there will be no net loss of natural resources and functional values and that the objectives of the enhancement project will be achieved.

## Balch Creek Watershed

- C. Excavations and fills.** Excavations and fills are subject to the approval criteria of Subsections D, E, or F below and the approval criteria for excavations and fills stated in Chapter 33.830, Excavations and Fills.
- D. Development in transition areas.**
1. Development within the the transition area will have no significant detrimental environmental impacts on adjacent natural resource areas due to any change of drainage patterns, erosion, sedimentation, hazardous material spills, litter, or exterior lighting.
  2. Existing trees and other vegetation are retained to the greatest extent possible.
  3. The proposed construction management plan is adequate to protect the adjacent natural resource area.
- E. Development in natural resource areas in the EC zone.**
1. The proposal has as few significant detrimental environmental impacts on functional values as is practical.
  2. All identified significant detrimental environmental impacts on the functional values will be compensated for through a mitigation plan.
  3. Proposed construction management measures are adequate to protect remaining natural resource areas during the construction period.
- F. Development in natural resource areas in the EP zone.**
1. There are no alternative sites available within the City that are suitably zoned to allow the proposal and that would have less impact on natural resources.
  2. The applicant's analysis of the economic, social, environmental, and energy consequences (ESEE) of the proposal is able to show that the City's prior ESEE analysis for the site is no longer valid due to a change in the factors considered. The applicant's ESEE analysis also clearly demonstrates that there is a public need for the proposal in the natural resource, and that the public benefit resulting from the proposal outweighs the significant detrimental environmental impacts on the natural resource.
  3. All significant detrimental environmental impacts on the functional values will be compensated for through a mitigation plan.
  4. Proposed construction management measures are adequate to protect remaining natural resource areas during the construction period.

**G. Development in the Balch Creek Watershed. In addition to the approval criteria stated above, the following approval criteria must also be met in resource areas and transition areas in the Balch Creek Watershed:**

- 1. Fish. Balch Creek cutthroat trout must be maintained in a range at least as extensive as their range in 1987 and at population of at least 2,000. Opportunities for stream enhancement must also be maintained.**
- 2. Wildlife. The location, quantity, and quality of forest and contiguous forest cover must be sufficient to provide habitat for deer and elk and to provide for the passage of deer and elk between Forest Park and Pittock Acres Park.**
- 3. Stormwater Runoff. The frequency and severity of flooding in Macleay Park and the Northwest industrial area must not increase. Post-development flows must not exceed pre-development flows. Flow calculations must be based on a typical Portland area 25 year, 24 hour storm and be made in accord with the methods described in the United States Department of Agriculture, Soil Conservation Services', Technical Release 55, Urban Hydrology for Small Watersheds. Private stormwater control facilities must have an operation and maintenance plan.**
- 4. Soil Erosion. Erosion control features effective as those described in the City of Portland's and Washington County's joint Erosion Control Plans Technical Guidance Handbook must be employed during all ground disturbing construction. Site clearing must be limited to the minimum necessary for construction. All cleared areas which are not within a building foundation or a graveled entrance way must be covered with mulch, matting, or other effective erosion control features within fifteen days of the initial clearing. Temporary erosion control features must be removed by October first of the same year the development was begun. All permanent vegetation must be seeded or planted by October first of the same year the development was begun, and all soil not covered by buildings or other impervious surfaces must be completely vegetated by December first of the same year the development was begun.**
- 5. Forest Cover. Ninety percent of the portion of development sites in environmental zones must be retained or established in closed canopy forest. An exception to this standard allows 3,000 square feet of unforested area for sites less than 30,000 square feet in total area. Planned unit developments, subdivisions, and clustered subdivisions must combine ninety percent of the portion of their plat within environmental zones into forested common open space. The planting of trees and shrubs for forest restoration, forest establishment, or landscaping must be done with native plants, but not with red**

## Balch Creek Watershed

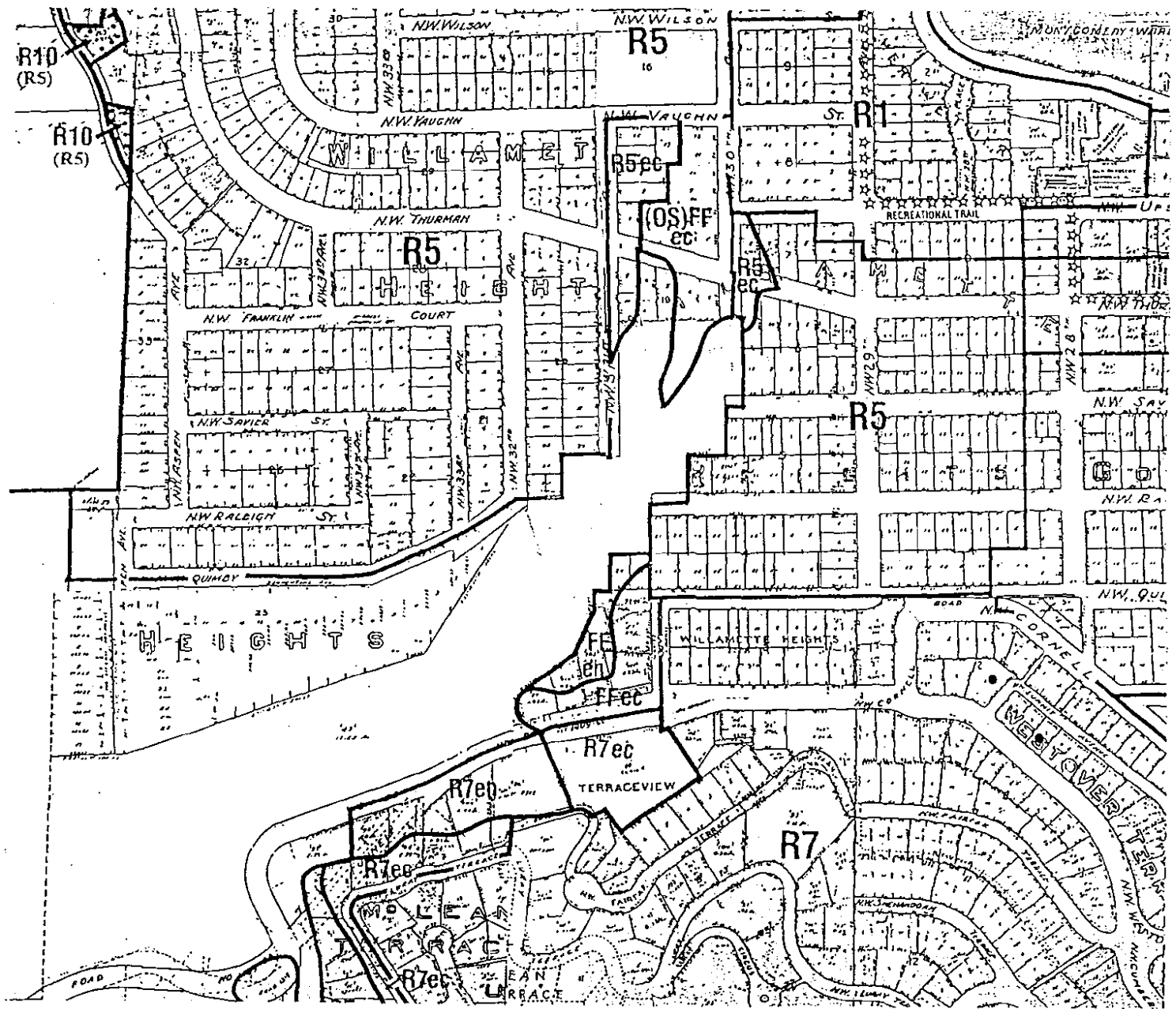
*alder or big-leaf maple. This standard allows the granting of adjustments to allow up to twenty percent of the total area to remain unforested provided that approval criteria (1), (2), (3), and (4) above are met.*

## Natural Resource Management Plans


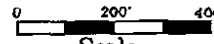
The Planning Bureau recognizes that natural resource management plans might be an appropriate, and in some cases a superior, alternative for limiting conflicting uses within the Balch Creek Watershed. These plans are provided for and encouraged by Policy 8.18 of the Comprehensive Plan, Section 33.430.370 of the January 1, 1991, City Zoning Code. If proposed by an interested business, organization, or agency, and if approved by the Planning Commission and the City Council, the provisions of these plans would supersede the environmental zoning regulations described above. The Planning Bureau believes that the following natural resource management plans would be most appropriate:

- **Parks Bureau**  
Portions of Adams, Forest, Holman, Pittock, and Macleay Parks would fall within conservation or preservation zones. Issues concerning the location, design and maintenance of trails, parking lots, overlooks, lavatories, and landscaping would be better addressed through a plan rather than case-by-case reviews.
- **Maintenance Bureau**  
Portions of rights of way for N.W. Cornell, Greenleaf, and Thompson Roads, N.W. Skyline Boulevard, and N.W. 53rd Avenue would fall within conservation zones. Since road maintenance occurs in accord with specifications and schedules, simple modifications of existing practices would be the basis for a management plan.
- **Portland Audubon Society**  
The Portland Audubon Society manages its lands for both resource protection and environmental education. Audubon society lands would fall within conservation and preservation zones. A management plan would provide a unique opportunity to balance education and conservation objectives and to coordinate management with adjacent park land.
- **Mount Calvary Cemetery**  
Cemeteries are unique uses of open space which require extensive areas of landscaping and can require large structures. Maintenance and construction of these facilities would be better addressed through a management plan than case-by-case reviews.

**Site Regulation Summaries**



**Site 73**  
**Recommended Zoning**

  
 North  
  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**



**Site 73**

Area in and near the Lower Macleay Park Lavatories, Parking Lot, and Lawn

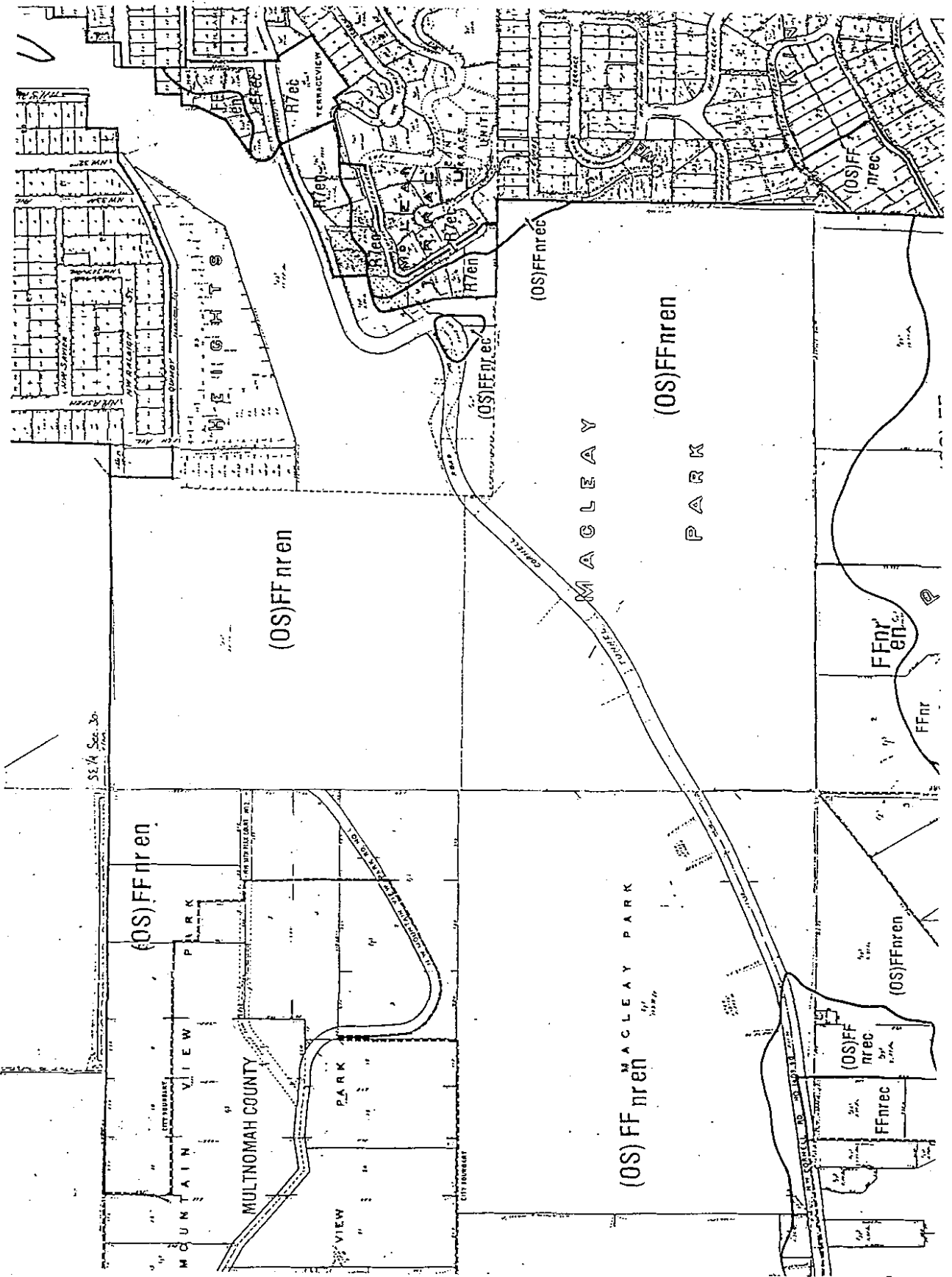
**New Overlay Zones**

ec, en, and nr

**Housing Potential Change**

None

| <b>Tax Account</b> | <b>Base Zone</b> | <b>Overlay Zones</b> | <b>Comp Plan</b> | <b>Housing</b> |
|--------------------|------------------|----------------------|------------------|----------------|
| R-91340-2460       | R5               | ec                   | R5               | no change      |
| R-91340-2470       | FF               | ec and en            | OS               | no change      |
| R-91340-2560       | R5               | ec and en            | R5               | no change      |
| R-91340-2570       | R5               | ec and en            | R5               | no change      |
| R-91340-2580       | R5               | ec and en            | R5               | no change      |
| R-91340-2590       | FF               | ec and en            | OS               | no change      |
| R-91340-2600       | R5               | ec and en            | R5               | no change      |
| R-91340-2610       | FF               | ec and en            | OS               | no change      |
| R-91340-2660       | R5               | ec and en            | R5               | no change      |
| R-91340-2670       | R5               | ec                   | R5               | no change      |

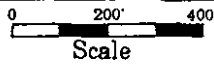


**Site 74**

**Recommended Zoning**



North



Scale

Bureau of Planning • City of Portland

**BALCH CREEK**

**WATERSHED PROTECTION PLAN**

Site 74

Area in and near Lower Macleay Park South of the Lawn

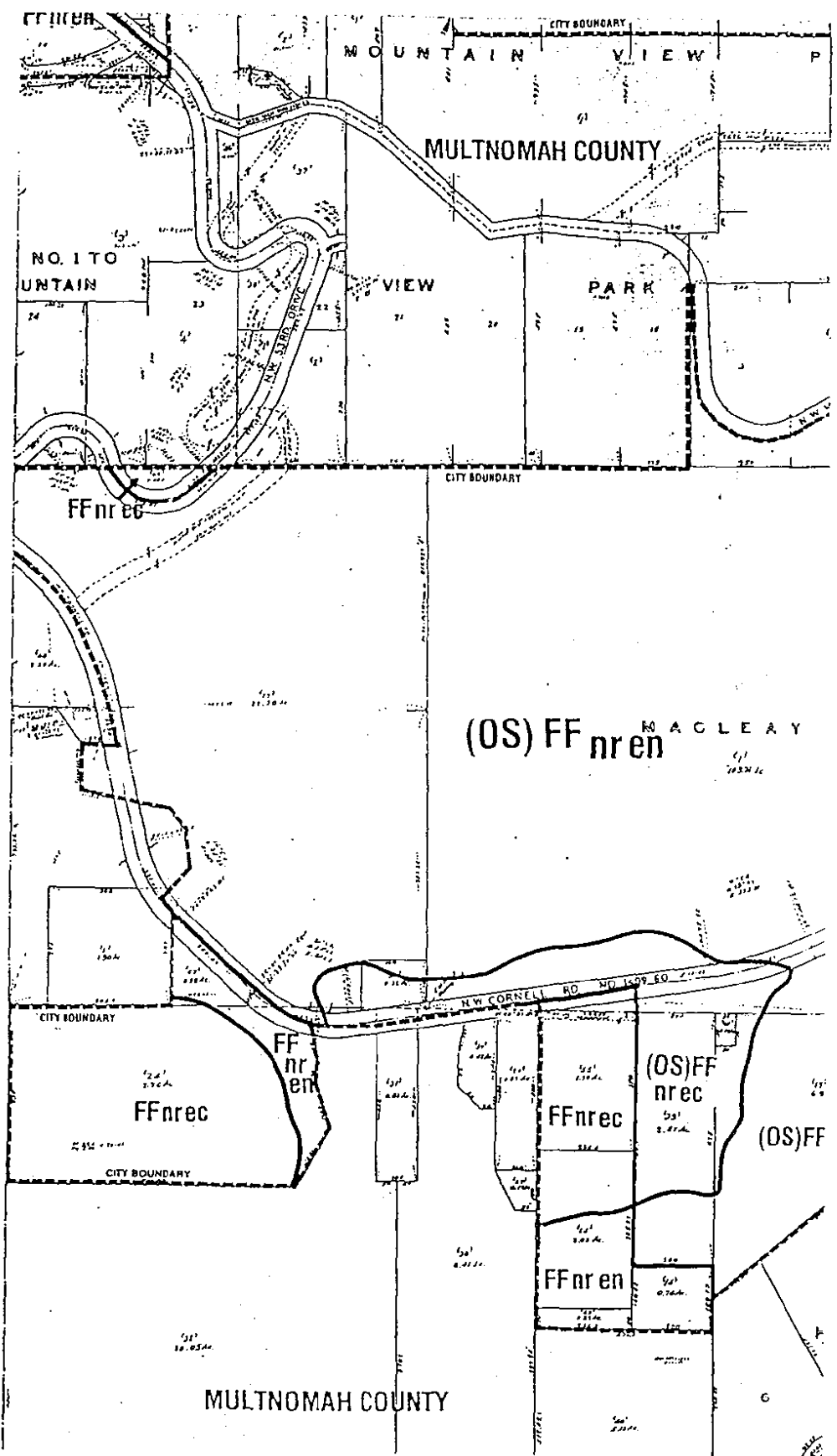
New Overlay Zones

ec, en, and nr

Housing Potential Change

None

| Tax Account  | Base Zone | Overlay Zones  | Comp Plan | Housing   |
|--------------|-----------|----------------|-----------|-----------|
| R-59030-0010 | FF        | en and nr      | OS        | no change |
| R-59030-0170 | FF        | en and nr      | OS        | no change |
| R-59030-0260 | FF        | en and nr      | OS        | no change |
| R-59030-0310 | FF        | en and nr      | OS        | no change |
| R-59030-0370 | FF        | en and nr      | OS        | no change |
| R-91340-3390 | FF        | en and nr      | OS        | no change |
| R-91340-3740 | FF        | en and nr      | OS        | no change |
| R-94129-0190 | FF        | en and nr      | OS        | no change |
| R-94129-0200 | FF        | en and nr      | OS        | no change |
| R-94131-0010 | FF        | ec, en and nr  | OS        | no change |
| R-94132-0320 | FF        | ec and en      | FF        | no change |
| R-94132-0340 | FF        | en and nr      | OS        | no change |
| R-94132-0430 | FF        | ec, en, and nr | OS        | no change |
| R-94132-0840 | FF        | ec and en      | FF        | no change |
| R-94132-0890 | FF        | ec and en      | FF        | no change |
| R-94132-1010 | FF        | ec and en      | FF        | no change |
| R-94132-1050 | FF        | ec and en      | FF        | no change |
| R-94132-1100 | FF        | ec and en      | FF        | no change |



|  |   |   |
|--|---|---|
| <p><b>Site 75</b><br/> <b>Recommended Zoning</b></p> | <p>North</p> <p>0 200' 400'</p> <p>Scale</p> <p>Bureau of Planning • City of Portland</p> | <p><b>BALCH CREEK</b><br/> <b>WATERSHED PROTECTION PLAN</b></p> |
|--|---|---|

Site 75

Area in and near the Portland Audubon Society's Pittock Sanctuary

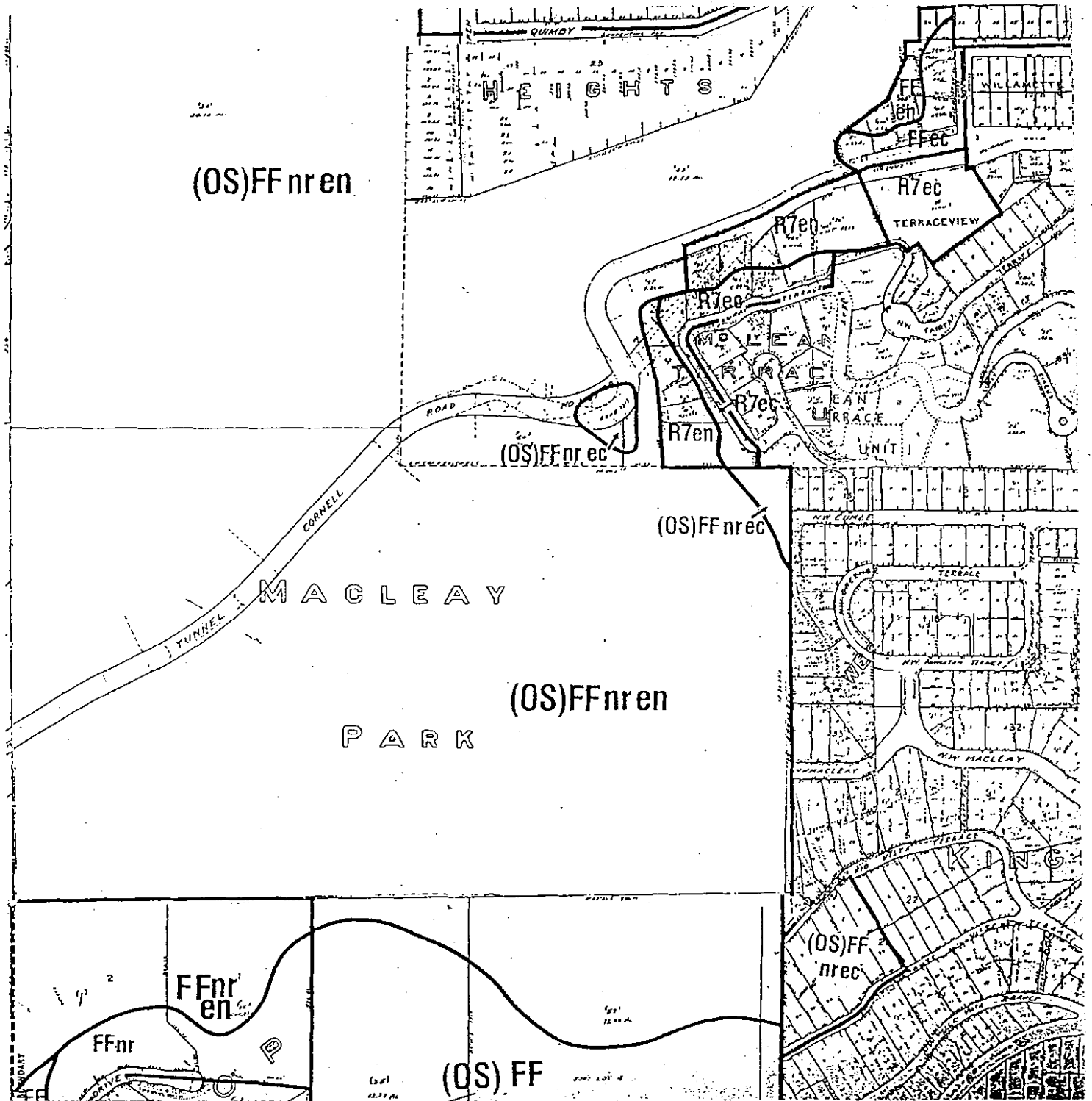
New Overlay Zones


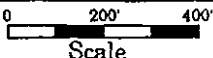
ec, en, and nr

Housing Potential Change

None

| Tax Account  | Base Zone | Overlay Zones  | Comp Plan | Housing   |
|--------------|-----------|----------------|-----------|-----------|
| R-94131-0170 | FF        | ec, en, and nr | OS        | no change |
| R-94131-0570 | FF        | ec, en, and nr | OS        | no change |
| R-94131-0690 | FF        | ec and nr      | FF        | no change |



|   |  |   |  |
|---|--|---|--|
| <b>Site 76</b><br><b>Recommended Zoning</b> | <br>North | <br>Scale | <b>BALCH CREEK</b><br><b>WATERSHED PROTECTION PLAN</b> |
|   | Bureau of Planning • City of Portland  |   |  |

**Site 76**

Area Between Cornell Road Tunnels, and in and near Upper Macleay Park

**New Overlay Zones**

ec, en, and nr

**Housing Potential Change**

None

| <b>Tax Account</b> | <b>Base Zone</b> | <b>Overlay Zones</b> | <b>Comp Plan</b> | <b>Housing</b> |
|--------------------|------------------|----------------------|------------------|----------------|
| R-45200-4230       | FF               | ec                   | OS               | no change      |
| R-45200-4450       | FF               | ec                   | OS               | no change      |
| R-55150-0010       | R7               | ec and en            | R7               | no change      |
| R-55150-0020       | R7               | ec and en            | R7               | no change      |
| R-55150-0030       | R7               | ec and en            | R7               | no change      |
| R-55150-0050       | R7               | ec and en            | R7               | no change      |
| R-82460-0320       | R7               | ec and en            | R7               | no change      |
| R-94131-0010       | FF               | ec, en, and nr       | OS               | no change      |
| R-94132-0350       | FF               | ec and nr            | OS               | no change      |
| R-94132-0360       | FF               | ec and nr            | OS               | no change      |
| R-94132-0570       | FF               | ec and nr            | OS               | no change      |
| R-94132-0640       | FF               | ec, en, and nr       | OS               | no change      |
| R-94132-0910       | FF               | en                   | OS               | no change      |
| R-94132-0930       | R7               | ec and en            | R7               | no change      |
| R-94132-0940       | R7               | ec and en            | R7               | no change      |
| R-94132-0960       | R7               | ec and en            | R7               | no change      |
| R-94132-1030       | R7               | ec and en            | R7               | no change      |
| R-94132-1040       | R7               | ec and en            | R7               | no change      |
| R-94132-1090       | R7               | ec and en            | R7               | no change      |
| R-94132-1260       | R7               | ec and en            | R7               | no change      |

**Site 77**

Area West of Cornell Road Tunnels in or near Adams and Upper Macleay Parks

**New Overlay Zones**

ec, en, and nr

**Housing Potential Change**

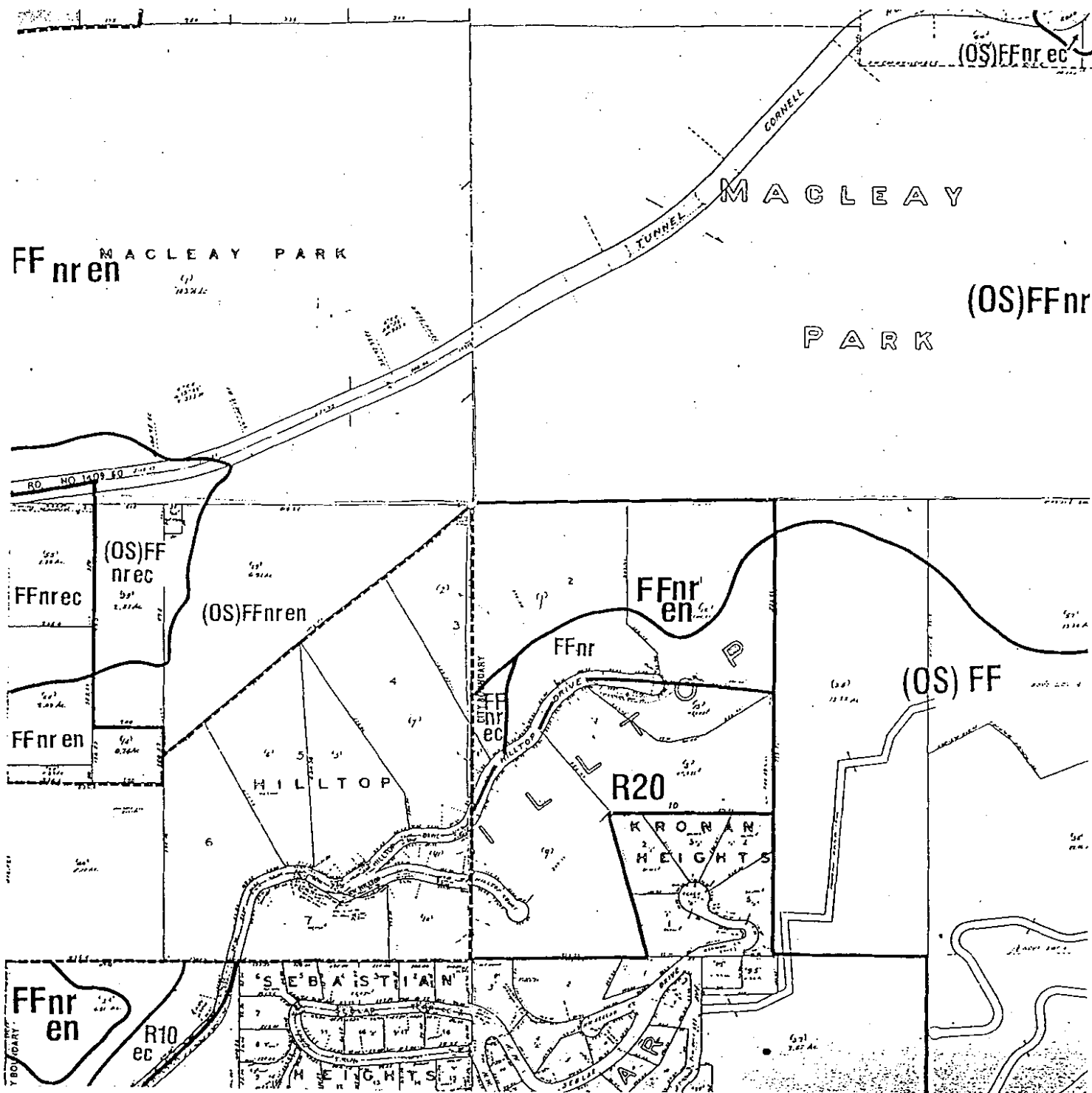
None

| Tax Account                 | Base Zone | Overlay Zones  | Comp Plan | Housing   |
|-----------------------------|-----------|----------------|-----------|-----------|
| R-94131-0010                | FF        | ec, en, and nr | OS        | no change |
| R-94131-0140 <sup>111</sup> | FF        | en and nr      | FF        | no change |
| R-94131-0190                | FF        | ec, en, and nr | OS        | no change |
| R-94131-0390                | FF        | ec, en, and nr | OS        | no change |
| R-94131-0550                | FF        | nr             | FF        | no change |
| R-94131-0640                | FF        | ec, en, and nr | FF        | no change |
| R-94131-0140 <sup>112</sup> | FF        | en and nr      | FF        | no change |
| R-94131-0660                | FF        | ec and nr      | OS        | no change |

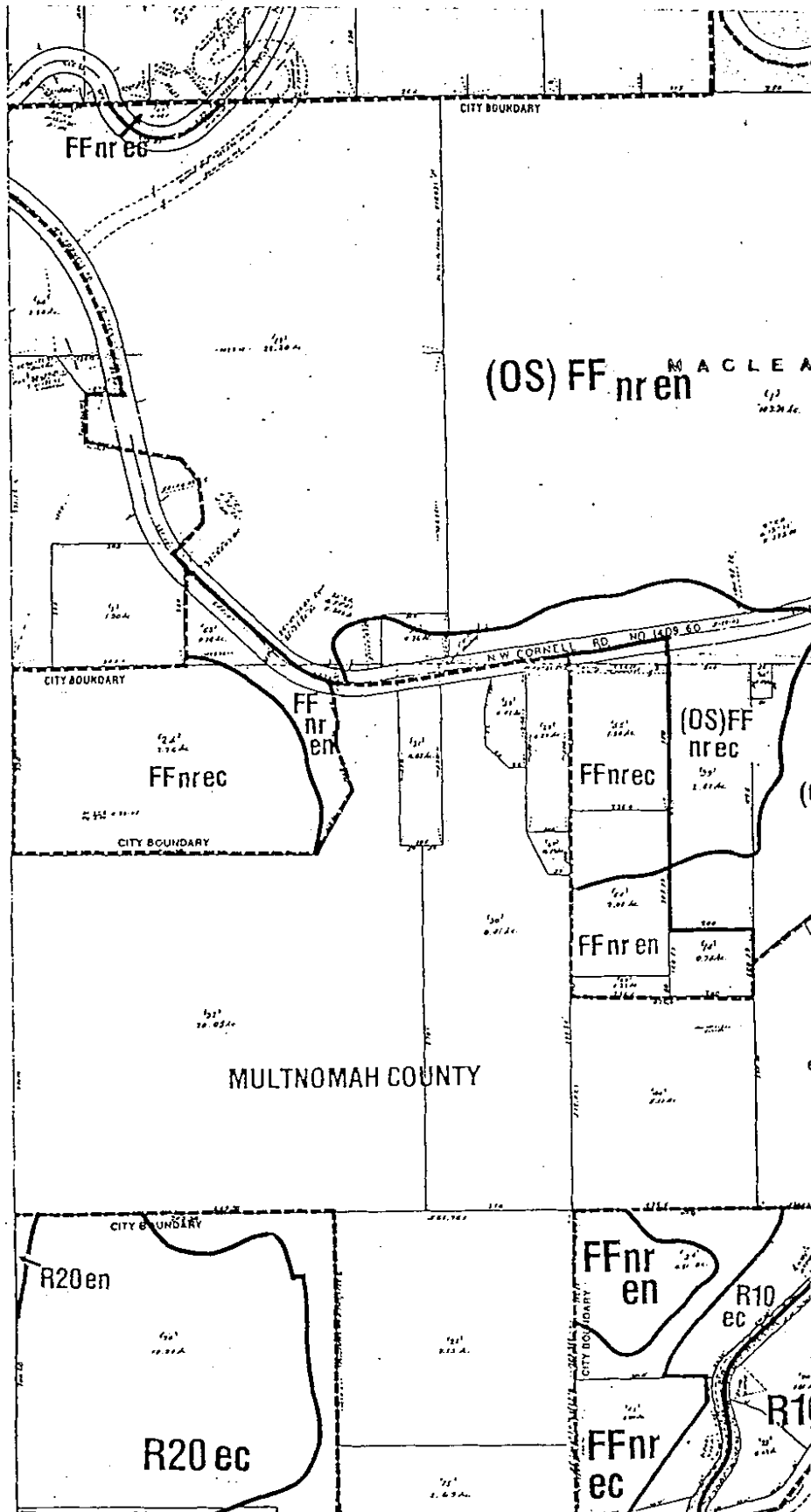
111. R-94131-0140 and R-94131-0140 are in common ownership. These lots cannot be used for housing under existing zoning.

112. R-94131-0140 and R-94131-0140 are in common ownership. These lots cannot be used for housing under existing zoning.





|  |  |   |
|--|--|---|
| <p><b>Site 77</b><br/> <b>Recommended Zoning</b></p> | <p>North<br/>         Scale 0 200' 400'<br/>         Bureau of Planning • City of Portland</p> | <p><b>BALCH CREEK</b><br/> <b>WATERSHED PROTECTION PLAN</b></p> |
|--|--|---|



Site 78

Recommended Zoning



North

0 200' 400'

Scale

Bureau of Planning • City of Portland

**BALCH CREEK**

WATERSHED PROTECTION PLAN

134

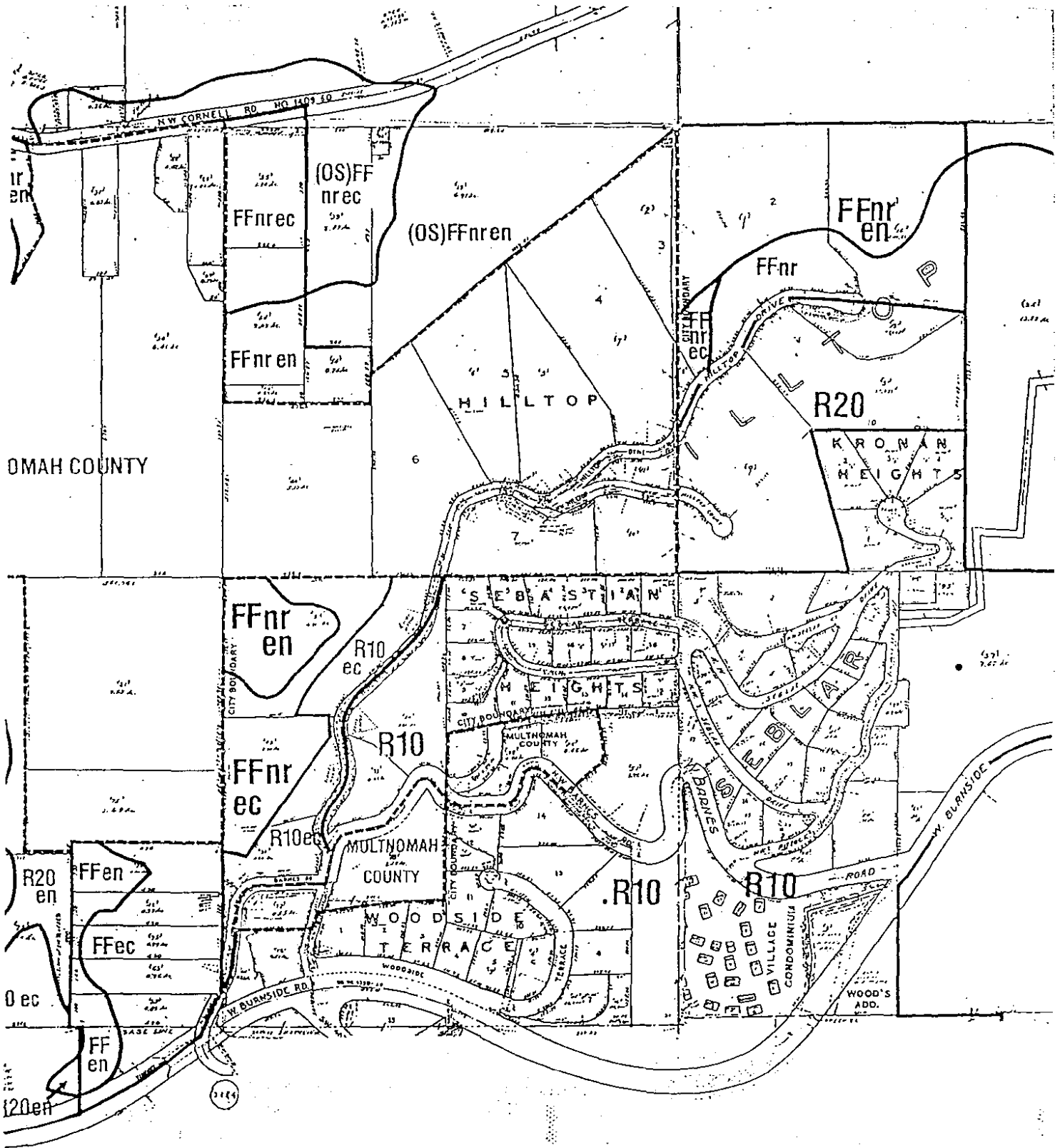
Site 78

Area of New Construction near Audubon Caretaker House

New Overlay Zones ec, en, and nr

Housing Potential Change Loss of Two

| Tax Account  | Base Zone | Overlay Zones  | Comp Plan | Housing   |
|--------------|-----------|----------------|-----------|-----------|
| R-94131-0240 | FF        | ec, en, and nr | FF        | -2        |
| R-94131-0620 | FF        | ec, en, and nr | FF        | no change |



|  |   |   |
|--|---|---|
| <p><b>Site 79</b><br/> <b>Recommended Zoning</b></p> | <p>North</p> <p>0 200' 400'</p> <p>Scale</p> <p>Bureau of Planning • City of Portland</p> | <p><b>BALCH CREEK</b><br/> <b>WATERSHED PROTECTION PLAN</b></p> |
|--|---|---|

Site 79

Areas near intersection of Barnes Road and Hilltop Drive

New Overlay Zones

ec and en

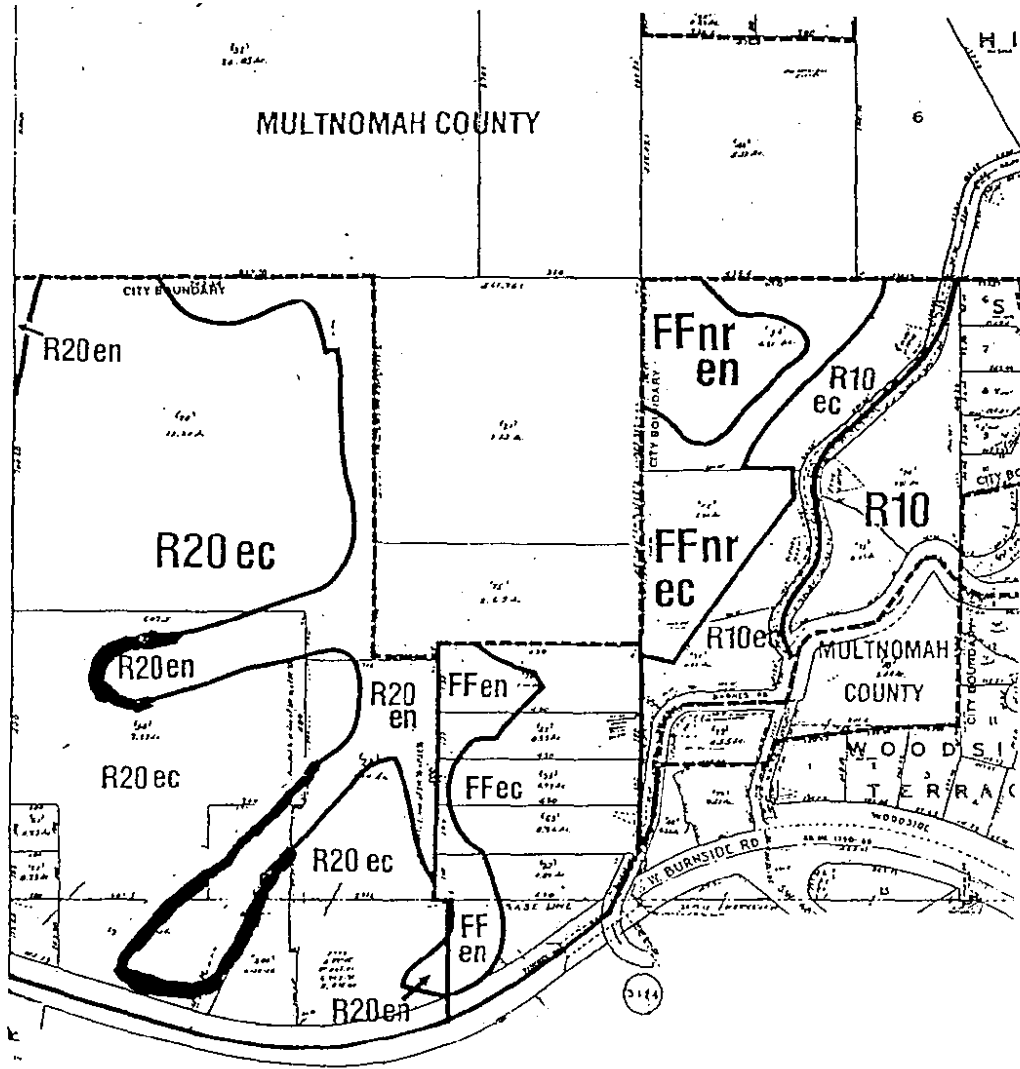
Housing Potential Change

Loss of Two

| Tax Account                 | Base Zone  | Overlay Zones  | Comp Plan | Housing   |
|-----------------------------|------------|----------------|-----------|-----------|
| R-39000-0010 <sup>113</sup> | FF         | en and nr      | FF        | -2        |
| R-39000-0100 <sup>114</sup> | FF         | ec, en, and nr | FF        | no change |
| R-94131-0270                | FF         | ec and en      | FF        | no change |
| R-94131-0340                | FF and R10 | ec, en, and nr | FF        | no change |
| R-94131-0350                | FF         | ec and en      | FF        | no change |
| R-94131-0420                | FF         | ec and en      | FF        | no change |
| R-94131-0490                | FF and R10 | ec and nr      | FF        | no change |
| R-94131-0630                | FF         | ec and en      | FF        | no change |
| R-94131-0760                | FF         | ec and en      | FF        | no change |
| R-94131-0770                | R10        | ec             | FF        | no change |
| R-99106-2710                | FF         | ec and en      | FF        | no change |

113. A portion of this lot has no environmental overlay zones.

114. A portion of this lot has no environmental overlay zones.



|  |   |   |
|--|---|---|
| <p><b>Site 80</b><br/> <b>Recommended Zoning</b></p> | <p>North<br/>         Bureau of Planning • City of Portland</p> | <p>0 200 400'<br/>         Scale</p> <p><b>BALCH CREEK</b><br/>         WATERSHED PROTECTION PLAN</p> |
|--|---|---|

**Site 80**

Area in or near the Proposed Pittock Place, Planned Unit Development

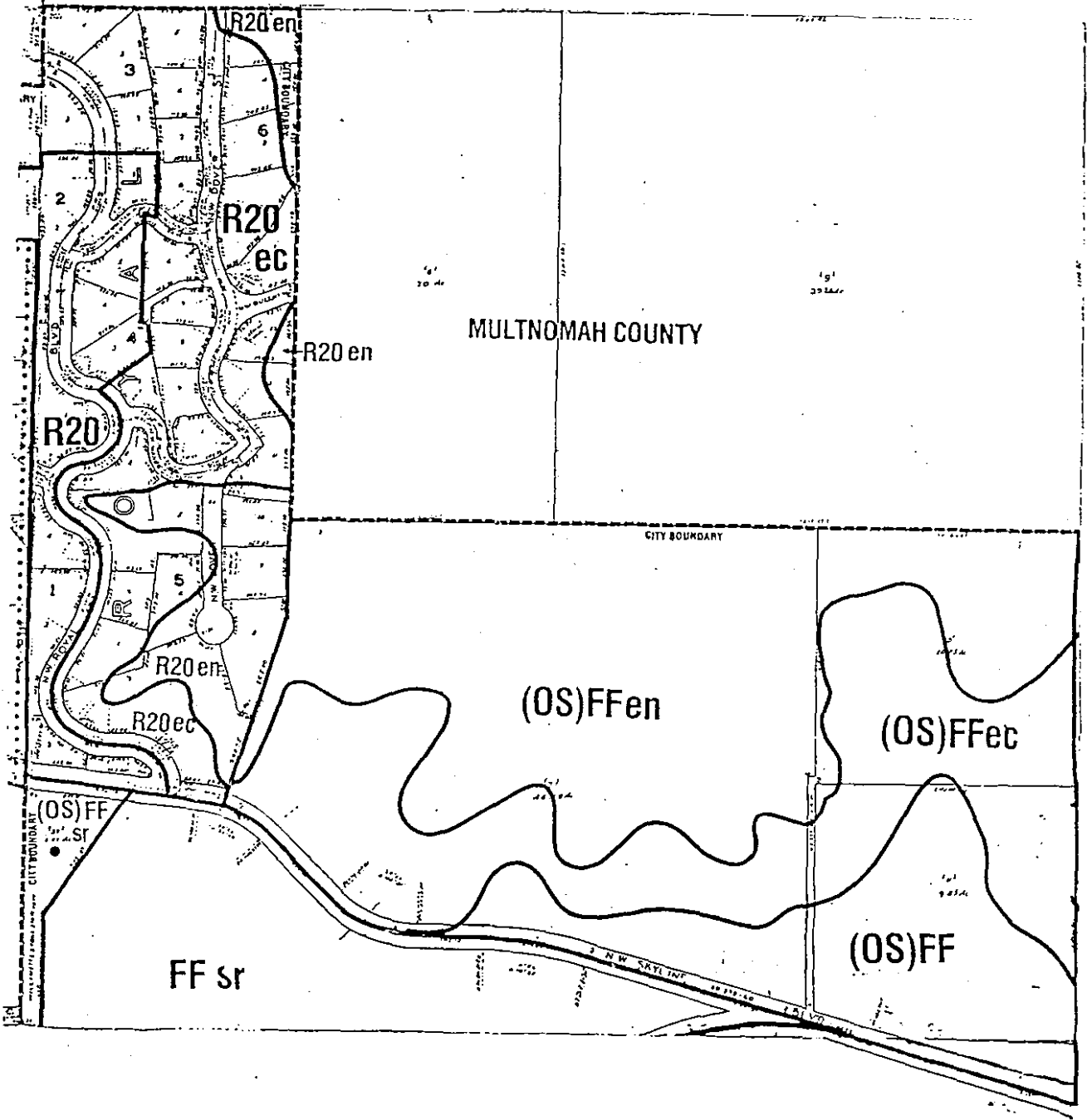
**New Overlay Zones**



ec and en

**Housing Potential Change**

None

| <b>Tax Account</b> | <b>Base Zone</b> | <b>Overlay Zones</b> | <b>Comp Plan</b> | <b>Housing</b> |
|--------------------|------------------|----------------------|------------------|----------------|
| R-94131-0250       | R20              | ec                   | R20              | no change      |
| R-94131-0280       | R20              | ec and en            | R20              | no change      |
| R-94131-0580       | R20              | ec and en            | R20              | no change      |
| R-94131-0610       | R20              | ec                   | R20              | no change      |
| R-94131-0700       | R20              | ec and en            | R20              | no change      |
| R-99106-3070       | R20              | ec and en            | R20              | no change      |
| R-99106-3080       | R20              | ec                   | R20              | no change      |



|  |   |   |
|--|---|---|
| <p><b>Site 81</b><br/> <b>Recommended Zoning</b></p> | <p> <br/>         North<br/> <br/>         Scale<br/>         Bureau of Planning • City of Portland       </p> | <p><b>BALCH CREEK</b><br/> <b>WATERSHED PROTECTION PLAN</b></p> |
|--|---|---|

140



Site 81

Area in Mount Calvary Cemetery

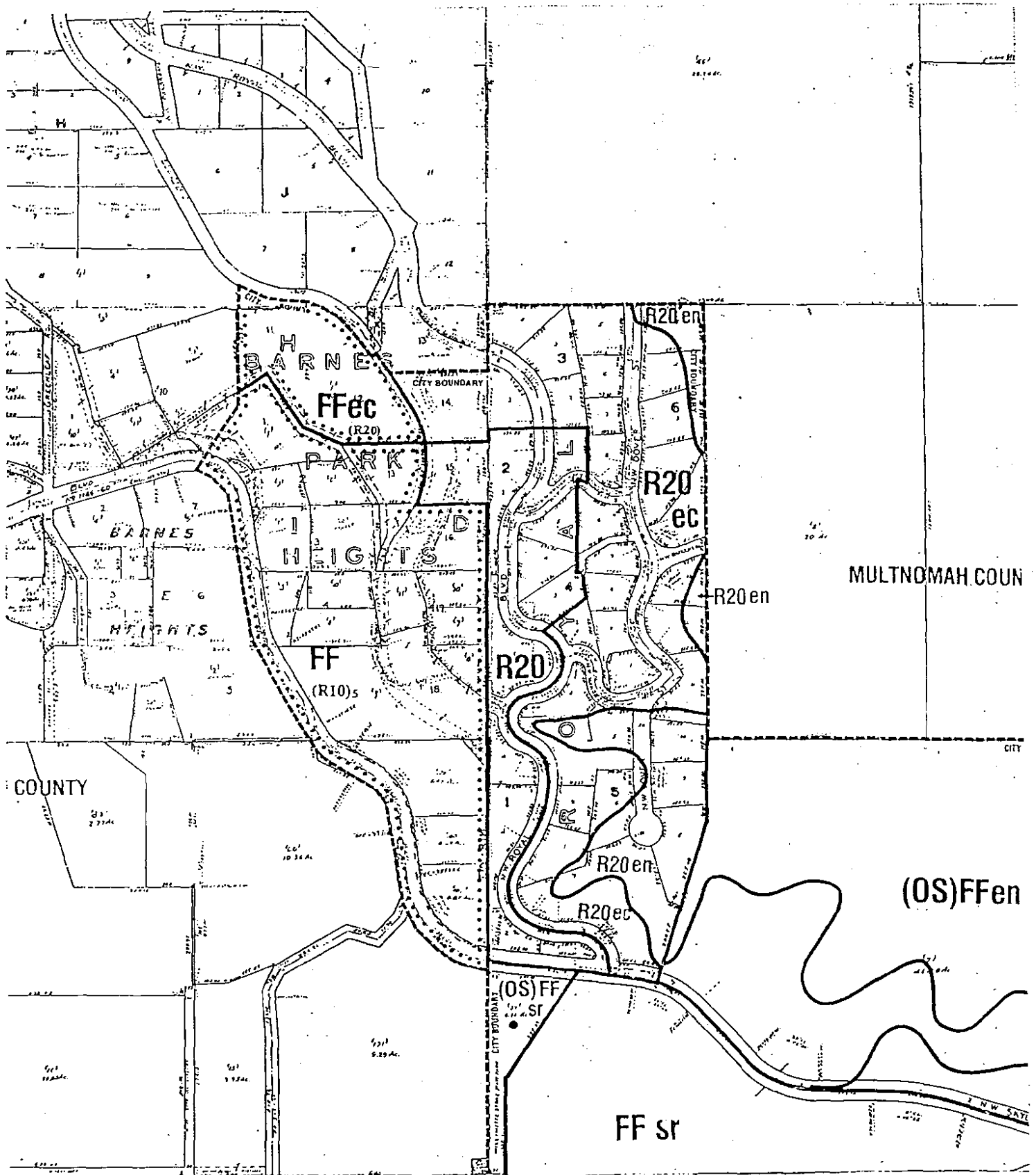
New Overlay Zones

ec and en


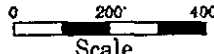
Housing Potential Change

None

| Tax Account  | Base Zone | Overlay Zones | Comp Plan | Housing   |
|--------------|-----------|---------------|-----------|-----------|
| R-94131-0100 | FF        | ec and en     | OS        | no change |
| R-94131-0110 | FF        | ec and en     | OS        | no change |
| R-94131-0070 | FF        | ec and en     | OS        | no change |



**Site 82**  
**Recommended Zoning**

  
 North  
  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
**WATERSHED PROTECTION PLAN**

## Site 82

Area in or near the Royal Highlands and Barnes Park Subdivisions

## New Overlay Zones

ec and en

## Housing Potential Change

Gain of Thirty-Five

| Tax Account  | Base Zone | Overlay Zones | Comp Plan | Housing   |
|--------------|-----------|---------------|-----------|-----------|
| R-05530-0980 | R20       | ec            | R20       | no change |
| R-05530-1020 | FF        | none          | R10       | +3        |
| R-05530-1060 | FF        | none          | R10       | +1        |
| R-05530-1090 | FF        | none          | R10       | +7        |
| R-05530-1100 | FF        | none          | R10       | +1        |
| R-05530-1120 | FF        | none          | R10       | +1        |
| R-05530-2070 | FF        | none          | R10       | +2        |
| R-05530-2120 | FF        | ec            | R10       | +8        |
| R-05530-2180 | FF        | ec            | R10       | +2        |
| R-05530-2220 | FF        | ec            | R10       | +1        |
| R-05530-2240 | FF        | ec            | R10       | +1        |
| R-05530-2260 | FF        | ec            | R10       | +2        |
| R-05530-2310 | FF        | ec            | R10       | +1        |
| R-05530-2340 | FF        | ec            | R10       | +1        |
| R-05530-2360 | FF        | ec            | R10       | +1        |
| R-73100-0010 | R20       | ec            | R20       | no change |
| R-73100-0030 | R20       | ec            | R20       | no change |
| R-73100-0050 | R20       | ec            | R20       | no change |
| R-73100-0150 | R20       | ec            | R20       | no change |
| R-73100-0200 | R20       | ec            | R20       | no change |
| R-73100-0300 | R20       | ec            | R20       | no change |
| R-73100-0340 | R20       | ec            | R20       | no change |
| R-73100-0380 | R20       | ec            | R20       | no change |
| R-73100-0420 | R20       | ec            | R20       | no change |
| R-73100-0460 | R20       | ec            | R20       | no change |
| R-73100-0500 | R20       | ec            | R20       | no change |
| R-73100-0530 | R20       | ec            | R20       | no change |
| R-73100-0560 | R20       | ec            | R20       | no change |
| R-73100-0600 | R20       | ec            | R20       | no change |
| R-73100-0640 | R20       | ec            | R20       | no change |
| R-73100-0680 | R20       | ec            | R20       | no change |
| R-73100-0720 | R20       | ec            | R20       | no change |
| R-73100-0760 | R20       | ec            | R20       | no change |
| R-73100-0800 | R20       | ec            | R20       | no change |
| R-73100-0840 | R20       | ec            | R20       | no change |

Balch Creek Watershed

Site 82 (Continued)

| Tax Account                 | Base Zone | Overlay Zones | Comp Plan | Housing   |
|-----------------------------|-----------|---------------|-----------|-----------|
| R-73100-0880                | R20       | ec            | R20       | no change |
| R-73100-0920                | R20       | ec            | R20       | no change |
| R-73100-1000                | R20       | ec and en     | R20       | no change |
| R-73100-1040                | R20       | ec and en     | R20       | no change |
| R-73100-1090                | R20       | ec and en     | R20       | no change |
| R-73100-1130 <sup>115</sup> | R20       | ec and en     | R20       | no change |
| R-73100-1170 <sup>116</sup> | R20       | ec and en     | R20       | no change |
| R-73100-1210                | R20       | ec and en     | R20       | no change |
| R-73100-1310 <sup>117</sup> | R20       | en            | R20       | -1        |
| R-73100-1350 <sup>118</sup> | R20       | en            | R20       | -1        |
| R-73100-1390 <sup>119</sup> | R20       | en            | R20       | -1        |
| R-73100-1430                | R20       | ec and en     | R20       | no change |
| R-73100-1470                | R20       | ec and en     | R20       | no change |
| R-73100-1510                | R20       | ec and en     | R20       | no change |
| R-73100-1550                | R20       | ec            | R20       | no change |
| R-73100-1590                | R20       | ec            | R20       | no change |
| R-73100-1630                | R20       | ec and en     | R20       | no change |
| R-73100-1670                | R20       | ec and en     | R20       | no change |
| R-73100-1710                | R20       | ec and en     | R20       | no change |
| R-96136-1790                | FF        | ec            | R10       | +2        |
| R-96136-1800                | FF        | ec            | R10       | +2        |
| R-96136-1810                | FF        | ec            | R10       | +2        |

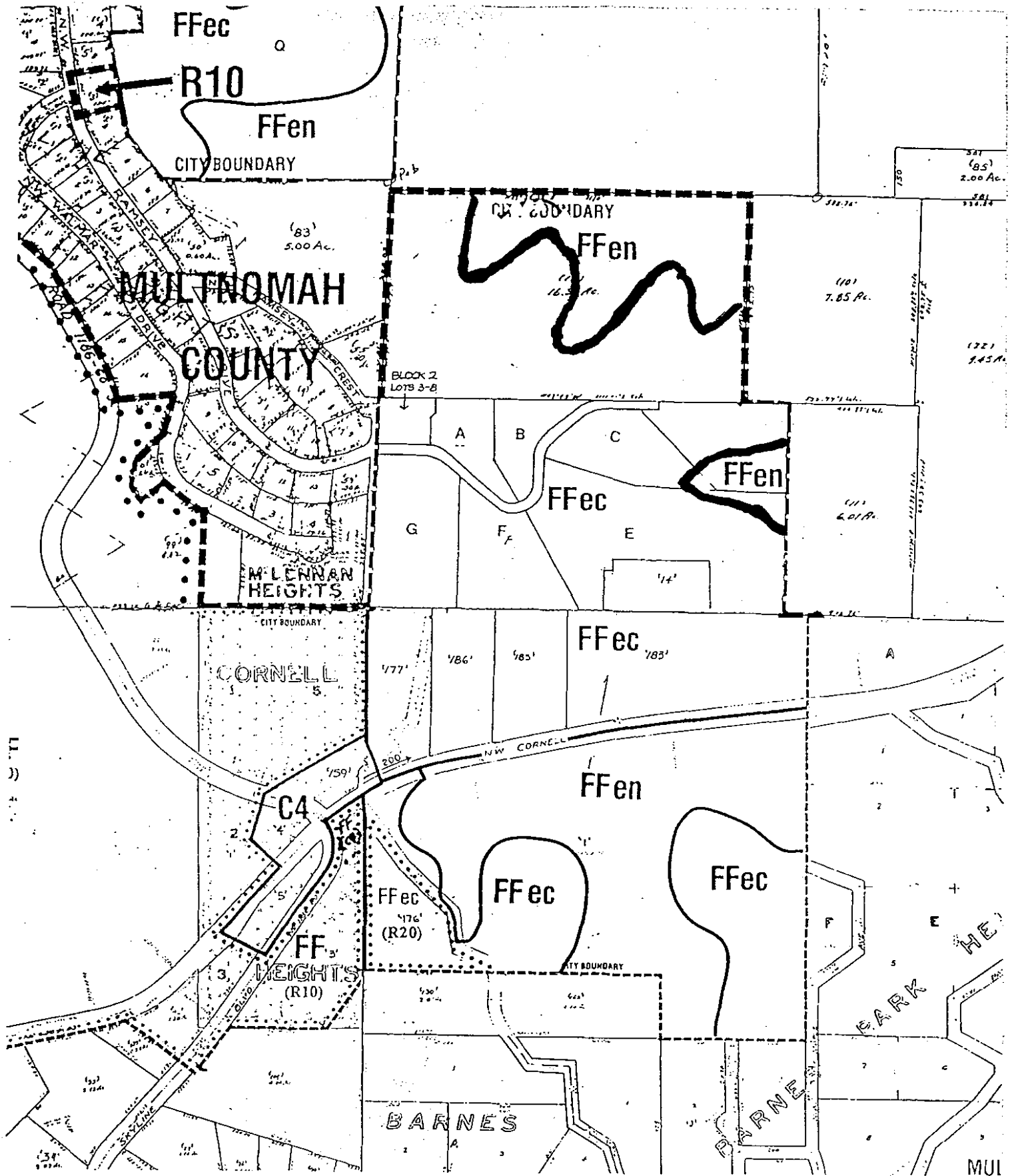
115. R-73100-1130, R-73100-1170, R-73100-1310, R-73100-1350, and R-73100-1390 are in common ownership.

116. R-73100-1130, R-73100-1170, R-73100-1310, R-73100-1350, and R-73100-1390 are in common ownership.

117. R-73100-1130, R-73100-1170, R-73100-1310, R-73100-1350, and R-73100-1390 are in common ownership.

118. R-73100-1130, R-73100-1170, R-73100-1310, R-73100-1350, and R-73100-1390 are in common ownership.

119. R-73100-1130, R-73100-1170, R-73100-1310, R-73100-1350, and R-73100-1390 are in common ownership.



|  |  |   |
|--|--|---|
| <p><b>Site 83</b><br/>Recommended Zoning</p> | <p>North<br/>Bureau of Planning • City of Portland</p> | <p>0 200' 400'<br/>Scale<br/><b>BALCH CREEK</b><br/>WATERSHED PROTECTION PLAN</p> |
|--|--|---|

Site 83

Area near Intersection of Greenleaf and Cornell Roads

New Overlay Zones

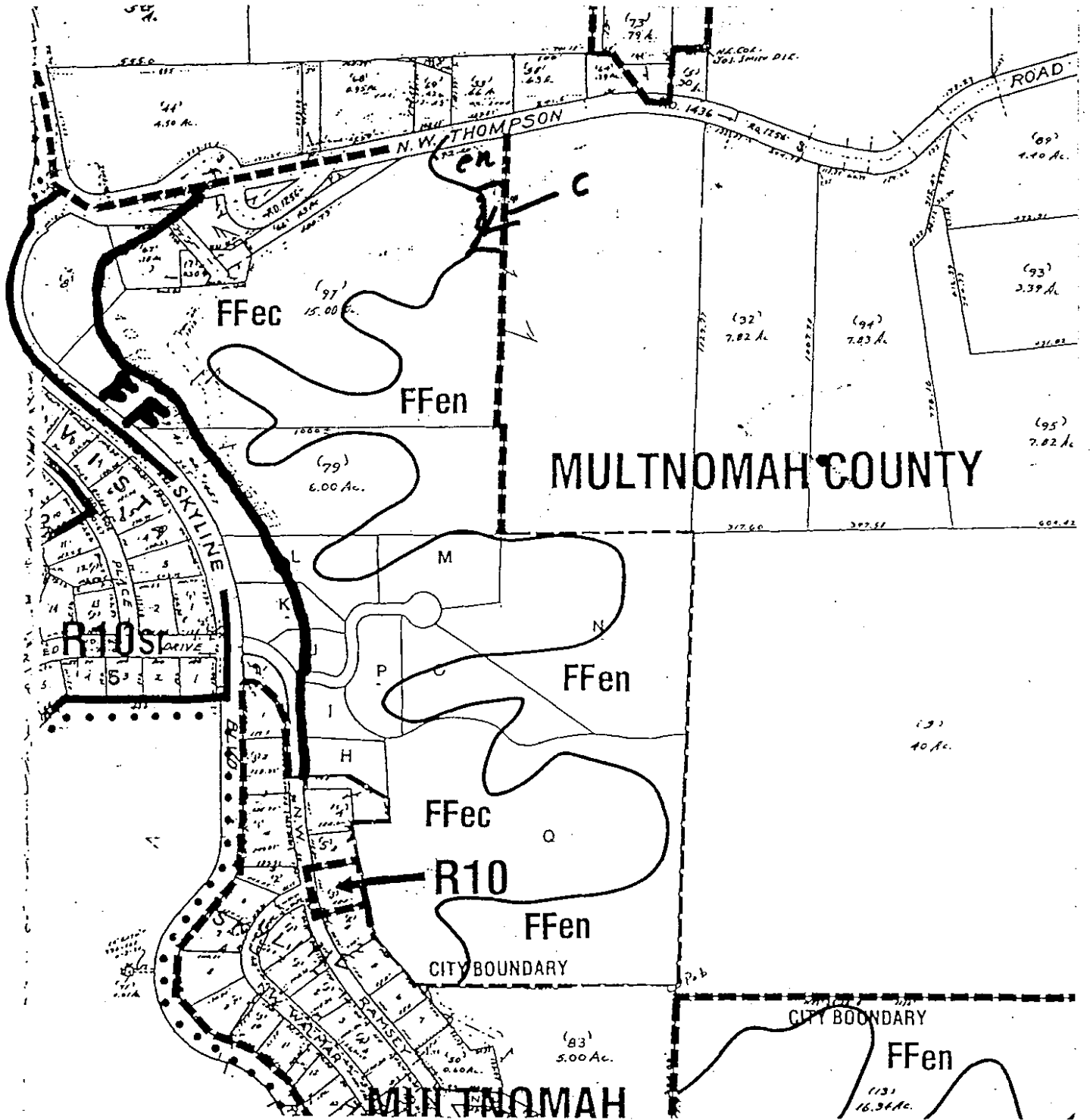
ec and en

Housing Potential Change

Loss of Thirty-Two

| Tax Account  | Base Zone | Overlay Zones | Comp Plan | Housing            |
|--------------|-----------|---------------|-----------|--------------------|
| Unassigned A | FF        | ec            | FF        | no change          |
| Unassigned B | FF        | ec            | FF        | no change          |
| Unassigned C | FF        | ec and en     | FF        | no change          |
| Unassigned D | FF        | ec and en     | FF        | no change          |
| Unassigned E | FF        | ec and en     | FF        | no change          |
| Unassigned F | FF        | ec            | FF        | no change          |
| Unassigned G | FF        | ec            | FF        | no change          |
| R-17870-0250 | FF        | ec            | R10       | +9                 |
| R-17870-0290 | C4        | ec            | C4        | -32 <sup>120</sup> |
| R-17870-0330 | FF        | ec            | R10       | +1                 |
| R-17870-0380 | FF        | ec            | R10       | +6                 |
| R-59040-0300 | FF        | ec            | FF        | no change          |
| R-96125-0130 | FF        | ec and en     | FF        | no change          |
| R-96125-0140 | FF        | ec            | FF        | no change          |
| R-96136-0010 | FF        | ec and en     | FF        | -16                |
| R-96136-1760 | FF        | ec and en     | R20       | no change          |
| R-96136-1770 | FF        | ec            | FF        | no change          |
| R-96136-1830 | FF        | ec            | FF        | no change          |
| R-96136-1850 | FF        | ec            | FF        | no change          |
| R-96136-1860 | FF        | ec            | FF        | no change          |

120. The reduction of thirty-two units assumes that a commercial property would develop at R1 density.



|   |  |  |
|---|--|--|
| <p><b>Site 84</b><br/><b>Recommended Zoning</b></p> | <p>North<br/>Scale 0 200' 400'<br/>Bureau of Planning • City of Portland</p> | <p><b>BALCH CREEK</b><br/><b>WATERSHED PROTECTION PLAN</b></p> |
|---|--|--|

Site 84

Area near Skyline and Thompson Roads

New Overlay Zones

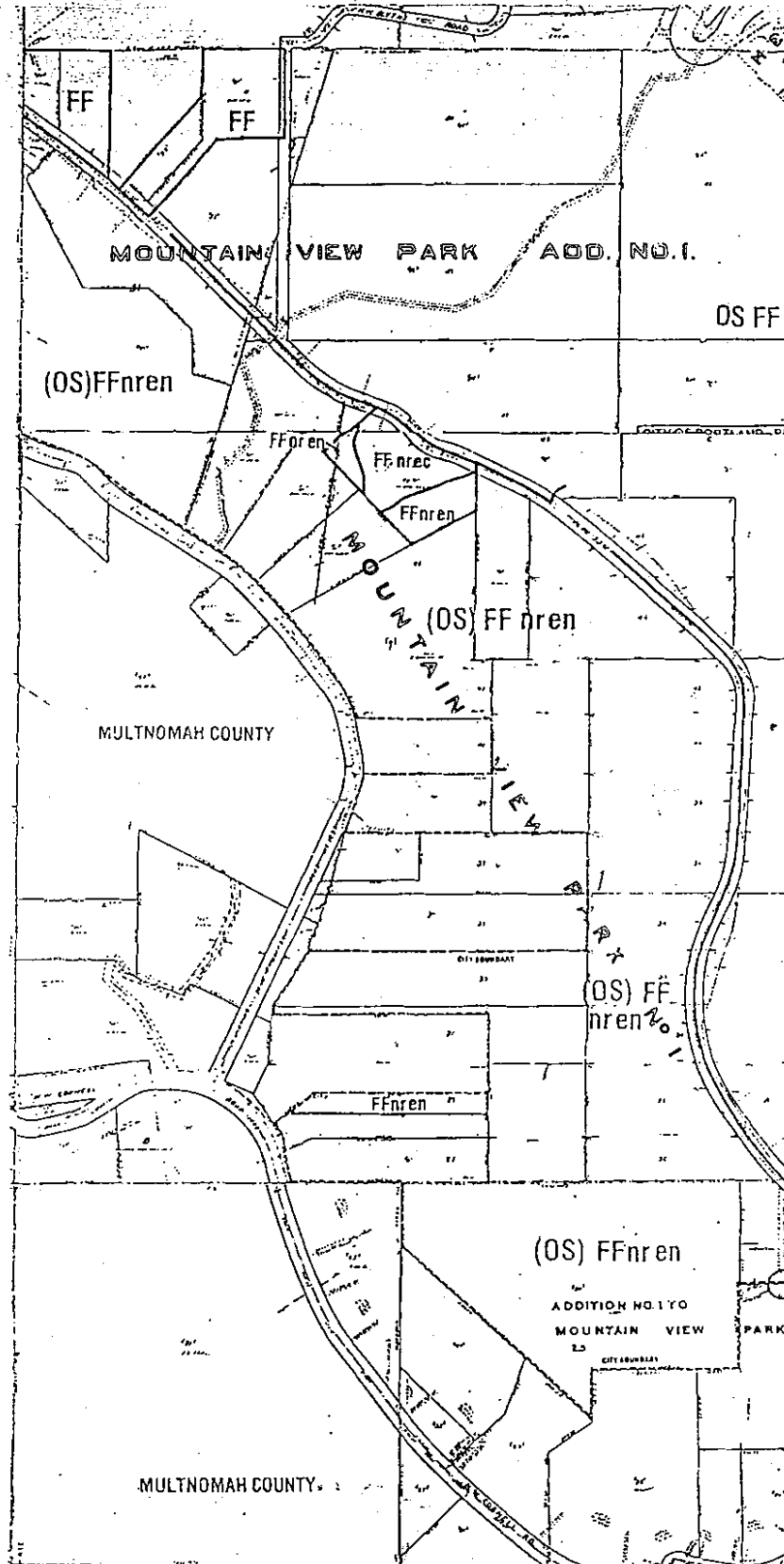
ec and en

Housing Potential Change


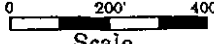
None

| Tax Account  | Base Zone | Overlay Zones | Comp Plan | Housing   |
|--------------|-----------|---------------|-----------|-----------|
| Unassigned H | FF        | ec            | FF        | no change |
| Unassigned I | FF        | ec            | FF        | no change |
| Unassigned J | FF        | ec            | FF        | no change |
| Unassigned K | FF        | ec            | FF        | no change |
| Unassigned L | FF        | ec and en     | FF        | no change |
| Unassigned M | FF        | ec and en     | FF        | no change |
| Unassigned N | FF        | ec and en     | FF        | no change |
| Unassigned O | FF        | ec and en     | FF        | no change |
| Unassigned P | FF        | ec and en     | FF        | no change |
| Unassigned Q | FF        | ec and en     | FF        | no change |
| R-77380-0410 | R10       | ec            | R10       | no change |
| R-96125-0070 | FF        | ec            | FF        | no change |
| R-96125-0080 | FF        | ec            | FF        | no change |
| R-96125-0670 | FF        | ec            | FF        | no change |
| R-96125-0790 | FF        | ec and en     | FF        | no change |
| R-96125-0910 | FF        | ec            | FF        | no change |
| R-96125-0970 | FF        | ec and en     | FF        | no change |





Site 85  
Recommended Zoning

 North  
 Scale  
 Bureau of Planning • City of Portland

**BALCH CREEK**  
WATERSHED PROTECTION PLAN

Site 85

Area in and near Forest Park Between Thompson Road and 53rd Avenue

New Overlay Zones

en, ec, and nr

Housing Potential Change

None

| Tax Account  | Base Zone | Overlay Zone   | Comp Plan | Standards |
|--------------|-----------|----------------|-----------|-----------|
| R-59030-1860 | FF        | en and nr      | OS        | no change |
| R-59030-2100 | FF        | en and nr      | OS        | no change |
| R-59030-2340 | FF        | en and nr      | OS        | no change |
| R-59030-2660 | FF        | en and nr      | OS        | no change |
| R-59030-2910 | FF        | en and nr      | OS        | no change |
| R-59030-3310 | FF        | en and nr      | OS        | no change |
| R-59030-3510 | FF        | ec, en, and nr | FF        | no change |
| R-59030-3560 | FF        | ec, en, and nr | OS        | no change |
| R-59030-3610 | FF        | en and nr      | OS        | no change |
| R-59030-4010 | FF        | en and nr      | OS        | no change |
| R-59030-4014 | FF        | en and nr      | OS        | no change |

INDEX

Agriculture 13, 69, 70, 71, 72, 75, 76, 81, 83, 85, 87, 89, 91, 93, 95, 97, 101, 103, 105  
Alder, Red Alder 7, 8, 9, 47, 65, 122  
Approval Criteria 110, 111, 115, 121, 122  
Audubon Society 13, 33, 43, 73, 75, 83, 122, 129  
Balch Creek 4, 12, 13, 18, 19, 26, 30, 33, 47, 49, 56, 60, 63, 65, 66, 70, 71, 72, 109, 115, 121  
Balch Creek Task Force 15, 18, 20  
Barnes Road 45, 47, 91, 137  
Boring lava 5  
Business 17, 72, 73, 75, 122  
Cedar, Western Red Cedar 6, 7, 8, 47, 65, 70  
Coast Range 7  
Columbia River Basalt 5  
Columbus Day storm of 1962 30  
Commercial 72, 73, 75, 83, 95, 101, 114, 116  
Comprehensive Plan 14, 17, 69, 73, 75, 93, 95, 97, 101, 105, 109, 110, 111, 114, 115, 122  
Cornell Road 12, 13, 18, 19, 20, 37, 38, 40, 43, 55, 56, 74, 76, 85, 87, 101, 131, 133, 147  
Cottonwood 7  
Cutthroat Trout 13, 26, 30, 33, 70, 71, 72, 109, 121  
Danforth Balch 12  
Deer 9, 65, 109, 121  
Development Standards 20, 110, 111, 115  
Donald Macleay 12  
Elk 9, 65, 109, 121  
Environmental Conservation Overlay Zone 110  
Environmental Natural Overlay Zone 110  
Erosion 5, 6, 16, 17, 47, 49, 52, 56, 60, 65, 69, 70, 71, 72, 73, 74, 121  
Farm Practices 69, 71  
Fir, Douglas Fir 6, 7, 8, 56, 60, 63, 65, 70  
Forest Park 5, 7, 25, 29, 33, 37, 40, 43, 45, 49, 51, 59, 63, 105, 109, 121, 151  
Forestry 13, 71, 72, 75, 76, 81, 83, 85, 87, 89, 91, 93, 95, 97, 101, 103, 105  
Fragipan 5, 6  
Future Urban Overlay Zone 110, 111  
Gallery Forest 7, 25, 29, 33, 40, 43, 56, 59, 63, 65, 66  
Goal 5 Administrative Rule 14, 15, 16  
groundwater 17, 23, 77  
Hemlock, Western Hemlock 6, 7, 8, 47, 70  
Hilltop Drive 45, 91, 137  
Holman Park 12, 122  
Housing Potential 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 101, 103, 105, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 147, 149, 151  
Irrigation 70, 71, 72

## Balch Creek Watershed

Landscaping 49, 52, 72, 73, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 101, 103, 105, 122  
Loam 5, 13  
Macleay Park 7, 13, 25, 29, 37, 40, 45, 79, 81, 85, 87, 109, 122, 125, 127, 131  
Maintenance Bureau 122  
Management Objectives 109  
Maple, Big-leaf Maple 7, 8, 9, 47, 65, 122  
Mount Calvary Cemetery 49, 73, 75, 95, 122, 141  
Multnomah County Zoning 75  
Natural Resource Management Plans 122  
Natural Resource Overlay Zone 110, 111  
New Overlay Zones 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 147, 149, 151  
Northwest Hills Study 17, 18  
Northwest industrial area 109  
Open Space 6, 7, 12, 14, 25, 26, 29, 30, 33, 37, 38, 40, 43, 49, 63, 70, 71, 72, 73, 74, 77, 110, 114, 121, 122  
Parks Bureau 122  
Public Utilities 76, 81, 83, 85, 87, 89, 91, 93, 95, 97, 101, 103, 105  
Regulations 4, 14, 15, 16, 17, 20, 73, 75, 109, 110, 122  
Research 6, 74  
Residential use 73  
Riparian Vegetation 70, 71, 72  
Scappoose Formation 5  
Scenic Resources 14, 19, 20, 38  
Sewer 13, 16, 18, 19, 20, 25, 74, 76, 111  
Silt 5, 13, 56, 60, 69, 70, 71, 72, 74  
Site Review 110, 115  
Skyline Boulevard 18, 19, 20, 47, 52, 53, 56, 60, 122  
Slide 6, 7, 13, 18, 49  
Soils 5, 6, 7, 13, 49  
Statewide Planning Goal 5 4, 14, 16, 17  
Stormwater Runoff 121  
Stream Feature Designations 110, 115  
Sword Fern 6  
Thompson Road 13, 19, 20, 59, 60, 63, 66, 103, 105, 122, 149, 151  
Thurman Street Bridge 26  
traffic 18, 73, 74, 76, 81, 83, 85, 87, 89, 91  
Trash Dumping 74, 81, 83, 85, 87, 91, 93, 97, 101, 103, 105  
Tualatin Mountains 4, 5  
Urban Growth Boundary 13, 14, 111  
Use Restrictions 110, 115  
West Hills 4, 5, 6, 7, 9, 12, 13, 14, 18  
Western Wahoo 26, 30  
Wildlife 4, 6, 7, 9, 13, 17, 23, 25, 29, 30, 33, 37, 40, 43, 45, 47, 49, 52, 56, 60, 63, 65, 66, 70, 71, 72, 73, 74, 75, 77, 111, 121  
Yew, Western Yew 8, 47, 70

**APPENDICES**

**APPENDIX A**

**Statewide Planning Goal 5**

# 5

## OPEN SPACES, SCENIC AND HISTORIC AREAS, AND NATURAL RESOURCES

**GOAL:** To conserve open space and protect natural and scenic resources.

Programs shall be provided that will: (1) insure open space, (2) protect scenic and historic areas and natural resources for future generations, and (3) promote healthy and visually attractive environments in harmony with the natural landscape character. The location, quality and quantity of the following resources shall be inventoried:

- a. Land needed or desirable for open space;
- b. Mineral and aggregate resources;
- c. Energy sources;
- d. Fish and wildlife areas and habitats;
- e. Ecologically and scientifically significant natural areas, including desert areas;
- f. Outstanding scenic views and sites;
- g. Water areas, wetlands, watersheds and groundwater resources;
- h. Wilderness areas;
- i. Historic areas, sites, structures and objects;
- j. Cultural areas;
- k. Potential and approved Oregon recreation trails;
- l. Potential and approved federal wild and scenic waterways and state scenic waterways.

Where no conflicting uses for such resources have been identified, such resources shall be managed so as to preserve their original character. Where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal.

**Cultural Area** — refers to an area characterized by evidence of an ethnic, religious or social group with distinctive traits, belief and social forms.

**Historic Areas** — are lands with sites, structures and objects that have local, regional, statewide or national historical significance.

**Natural Area** — includes land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitats for plant, animal or marine life, for the study of its natural historical, scientific or paleontological features, or for the appreciation of its natural features.

**Open Space** — consists of lands used for agricultural or forest uses, and any land area that would, if preserved and continued in its present use:

- (a) Conserve and enhance natural or scenic resources;
- (b) Protect air or streams or water supply;
- (c) Promote conservation of soils, wetlands, beaches or tidal marshes;
- (d) Conserve landscaped areas, such as public or private golf courses, that reduce air pollution and enhance the value of abutting or neighboring property;
- (e) Enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open space;
- (f) Promote orderly urban development.

**Scenic Areas** — are lands that are valued for their aesthetic appearance.

**Wilderness Areas** — are areas where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. It is an area of undeveloped land retaining its primeval character and influence, without permanent improvement or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) may also contain ecological, geological, or other features of scientific, educational, scenic or historic value.

### GUIDELINES:

#### A. Planning:

1. The need for open space in the planning area should be determined, and standards developed for the amount, distribution, and type of open space.
2. Criteria should be developed and utilized to determine what uses are consistent with open space values and to evaluate the effect of converting open space lands to inconsistent uses. The maintenance and development of open space in urban areas should be encouraged.
3. Natural resources and required sites for the generation of energy (i.e. natural gas, oil, coal, hydro, geothermal, uranium, solar and others) should be conserved and protected; reservoir sites should be identified and protected against irreversible loss.
4. Plans providing for open space, scenic and historic areas and natural resources should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.
5. The National Register of Historic Places and the recommendations of the State Advisory Committee on Historic Preservation should be utilized in designating historic sites.
6. In conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected.
7. As a general rule, plans should prohibit outdoor advertising signs except in commercial or industrial zones. Plans

should not provide for the reclassification of land for the purpose of accommodating an outdoor advertising sign. The term "outdoor advertising sign" has the meaning set forth in ORS 377.710(23).

#### B. Implementation:

1. Development should be planned and directed so as to conserve the needed amount of open space.
2. The conservation of both renewable and nonrenewable natural resources and physical limitations of the land should be used as the basis for determining the quantity, quality, location, rate and type of growth in the planning area.
3. The efficient consumption of energy should be considered when utilizing natural resources.
4. Fish and wildlife areas and habitats should be protected and managed in accordance with the Oregon Wildlife Commission's fish and wildlife management plans.
5. Stream flow and water levels should be protected and managed at a level adequate for fish, wildlife, pollution abatement, recreation, aesthetics and agriculture.
6. Significant natural areas that are historically, ecologically or scientifically unique, outstanding or important, including those identified by the State Natural Area Preserves Advisory Committee, should be inventoried and evaluated. Plans should provide for the preservation of natural areas consistent with an inventory of scientific, educational, ecological and recreational needs for significant natural areas.
7. Local, regional and state governments should be encouraged to investigate and utilize fee acquisition, easements, cluster developments, preferential assessment, development rights acquisition and similar techniques to implement this goal.
8. State and federal agencies should develop statewide natural resource, open space, scenic and historic area plans and provide technical assistance to local and regional agencies. State and federal plans should be reviewed and coordinated with local and regional plans.
9. Areas identified as having non-renewable mineral and aggregate resources should be planned for interim, transitional and "second use" utilization as well as for the primary use.

## **APPENDIX B**

### **Goal 5 Administrative Rule**



DIVISION 16

REQUIREMENTS AND APPLICATION  
PROCEDURES FOR COMPLYING WITH  
STATEWIDE GOAL 5

Inventory Goal 5 Resources

660-16-000 (1) The inventory process for Statewide Planning Goal 5 begins with the collection of available data from as many sources as possible including experts in the field, local citizens and landowners. The local government then analyzes and refines the data and determines whether there is sufficient information on the location, quality and quantity of each resource site to properly complete the Goal 5 process. This analysis also includes whether a particular natural area is "ecologically and scientifically significant", or an open space area is "needed", or a scenic area is "outstanding", as outlined in the Goal. Based on the evidence and local government's analysis of those data, the local government then determines which resource sites are of significance and includes those sites on the final plan inventory.

(2) A "valid" inventory of a Goal 5 resource under subsection (5)(c) of this rule must include a determination of the location, quality, and quantity of each of the resource sites. Some Goal 5 resources (e.g., natural areas, historic sites, mineral and aggregate sites, scenic waterways) are more site-specific than others (e.g., groundwater, energy sources). For site-specific resources, determination of location must include a description or map of the boundaries of the resource site and of the impact area to be affected, if different. For non-site-specific resources, determination must be as specific as possible.

(3) The determination of quality requires some consideration of the resource site's relative value, as compared to other examples of the same resource in at least the jurisdiction itself. A determination of quantity requires consideration of the relative abundance of the resource (of any given quality). The level of detail that is provided will depend on how much information is available or "obtainable".

(4) The inventory completed at the local level, including options (5)(a), (b), and (c) of this rule, will be adequate for Goal compliance unless it can be shown to be based on inaccurate data, or does not adequately address location, quality or quantity. The issue of adequacy may be raised by the Department or objectors, but final determination is made by the Commission.

(5) Based on data collected, analyzed and refined by the local government, as outlined above, a jurisdiction has three basic options:

(a) Do Not Include on Inventory: Based on information that is available on location, quality and quantity, the local government might determine that a particular resource site is not important enough to warrant inclusion on the plan inventory, or is not required to be included in the inventory based on the specific Goal standards. No further action need be taken with regard to these sites. The local government is not required to justify in its comprehensive plan a decision not to include a particular site in the plan inventory unless challenged by the Department, objectors or the Commission based upon contradictory information.

(b) Delay Goal 5 Process: When some information is available, indicating the possible existence of a resource site, but that information is not adequate to identify with particularity the location, quality and quantity of the resource site, the local government should only include the site on the comprehensive plan inventory as a special category. The local government must express its intent relative to the resource site through a plan policy to address that resource site and proceed

through the Goal 5 process in the future. The plan should include a time-frame for this review. Special implementing measures are not appropriate or required for Goal 5 compliance purposes until adequate information is available to enable further review and adoption of such measures. The statement in the plan commits the local government to address the resource site through the Goal 5 process in the post-acknowledgment period. Such future actions could require a plan amendment.

(c) Include on Plan Inventory: When information is available on location, quality and quantity, and the local government has determined a site to be significant or important as a result of the data collection and analysis process, the local government must include the site on its plan inventory and indicate the location, quality and quantity of the resource site (see above). Items included on this inventory must proceed through the remainder of the Goal 5 process.

Stat. Auth.: ORS Ch. 183 & 197

Hist.: LCD 5-1981(Temp), f. & cf. 5-8-81; LCD 7-1981, f. & cf. 6-29-81

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Identify Conflicting Uses

660-16-005 It is the responsibility of local government to identify conflicts with inventoried Goal 5 resource sites. This is done primarily by examining the uses allowed in broad zoning districts established by the jurisdiction (e.g., forest and agricultural zones). A conflicting use is one which, if allowed, could negatively impact a Goal 5 resource site. Where conflicting uses have been identified, Goal 5 resource sites may impact those uses. These impacts must be considered in analyzing the economic, social, environmental and energy (ESEE) consequences:

(1) Preserve the Resource Site: If there are no conflicting uses for an identified resource site, the jurisdiction must adopt policies and ordinance provisions, as appropriate, which insure preservation of the resource site.

(2) Determine the Economic, Social, Environmental, and Energy Consequences: If conflicting uses are identified, the economic, social, environmental and energy consequences of the conflicting uses must be determined. Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process. A determination of the ESEE consequences of identified conflicting uses is adequate if it enables a jurisdiction to provide reasons to explain why decisions are made for specific sites.

Stat. Auth.: ORS Ch. 183 & 197

Hist.: LCD 5-1981(Temp), f. & cf. 5-8-81; LCD 7-1981, f. & cf. 6-29-81

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Develop Program to Achieve the Goal

660-16-010 Based on the determination of the economic, social, environmental and energy consequences, a jurisdiction must "develop a program to achieve the Goal". Assuming there is adequate information on the location, quality, and quantity of the resource site as well as on the nature of the conflicting use and ESEE consequences, a jurisdiction is expected to "resolve" conflicts with specific sites in any of the following three ways listed below. Compliance with Goal 5 shall also be based on the plan's overall ability to protect and

OREGON ADMINISTRATIVE RULES  
CHAPTER 660, DIVISION 16 — LAND CONSERVATION AND DEVELOPMENT COMMISSION

conserve each Goal 5 resource. The issue of adequacy of the overall program adopted or of decisions made under sections (1), (2) and (3) of this rule may be raised by the Department or objectors, but final determination is made by the Commission, pursuant to usual procedures:

(1) **Protect the Resource Site:** Based on the analysis of the ESEE consequences, a jurisdiction may determine that the resource site is of such importance, relative to the conflicting uses, and the ESEE consequences of allowing conflicting uses are so great that the resource site should be protected and all conflicting uses prohibited on the site and possibly within the impact area identified in OAR 660-16-000(5)(c). Reasons which support this decision must be presented in the comprehensive plan, and plan and zone designations must be consistent with this decision.

(2) **Allow Conflicting Uses Fully:** Based on the analysis of ESEE consequences and other Statewide Goals, a jurisdiction may determine that the conflicting use should be allowed fully, notwithstanding the possible impacts on the resource site. This approach may be used when the conflicting use for a particular site is of sufficient importance, relative to the resource site. Reasons which support this decision must be presented in the comprehensive plan, and plan and zone designations must be consistent with this decision.

(3) **Limit Conflicting Uses:** Based on the analysis of ESEE consequences, a jurisdiction may determine that both the resource site and the conflicting use are important relative to each other, and that the ESEE consequences should be balanced so as to allow the conflicting use but in a limited way so as to protect the resource site to some desired extent. To implement this decision, the jurisdiction must designate with certainty what uses and activities are allowed fully, what uses and activities are not allowed at all and which uses are allowed conditionally, and what specific standards or limitations are placed on the permitted and conditional uses and activities for each resource site. Whatever mechanisms are used, they must be specific enough so that affected property owners are able to determine what uses and activities are allowed, not allowed, or allowed conditionally and under what clear and objective conditions or standards. Reasons which support this decision must be presented in the comprehensive plan, and plan and zone designations must be consistent with this decision.

Stat. Auth.: ORS Ch. 183 & 197

Hist.: LCD 5-1981(Temp), f. & cf. 5-8-81; LCD 7-1981, f. & cf. 6-29-81

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

#### Post-Acknowledgment Period

660-16-015 All data, findings, and decisions made by a local government prior to acknowledgment may be reviewed by that local government in its periodic update process. This includes decisions made as a result of OAR 660-16-000(5)(a), 660-16-005(1), and 660-16-010. Any changes, additions, or deletions would be made as a plan amendment, again following all Goal 5 steps.

If the local government has included in its plan items under OAR 660-16-000(5)(b), the local government has committed itself to take certain actions within a certain time frame in the post-acknowledgment period. Within those stated time frames, the local government must address the issue as stated in its plan, and treat the action as a plan amendment.

Stat. Auth.: ORS Ch. 183 & 197

Hist.: LCD 5-1981(Temp), f. & cf. 5-8-81; LCD 7-1981, f. & cf. 6-29-81

[ED. NOTE: The text of Temporary Rules is not printed in the

Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

#### Landowner Involvement

660-16-020 (1) The development of inventory data, identification of conflicting uses and adoption of implementing measures must, under Statewide Planning Goals 1 and 2, provide opportunities for citizen involvement and agency coordination. In addition, the adoption of regulations or plan provisions carries with it basic legal notice requirements. (County or city legal counsel can advise the planning department and governing body of these requirements.) Depending upon the type of action involved, the form and method of landowner notification will vary. State statutes and local charter provisions contain basic notice requirements. Because of the nature of the Goal 5 process as outlined in this paper it is important to provide for notification and involvement of landowners, including public agencies, at the earliest possible opportunity. This will likely avoid problems or disagreements later in the process and improve the local decision-making process in the development of the plan and implementing measures.

(2) As the Goal 5 process progresses and more specificity about the nature of resources, identified conflicting uses, ESEE consequences and implementing measures is known, notice and involvement of affected parties will become more meaningful. Such notice and landowner involvement, although not identified as a Goal 5 requirement is in the opinion of the Commission, imperative.

Stat. Auth.: ORS Ch. 183 & 197

Hist.: LCD 5-1981(Temp), f. & cf. 5-8-81; LCD 7-1981, f. & cf. 6-29-81

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

#### Policy Application

660-16-025 OAR 660-16-000 through 660-16-025 are applicable to jurisdictions as specified below:

(1) **Category 1:** Compliance with OAR 660-16-000 through 660-16-025 is required prior to granting acknowledgment of compliance under ORS 197.251 and OAR 660-03-000 through 660-03-040 for those jurisdictions which:

(a) Have not submitted their comprehensive plan for acknowledgment as of the date of adoption of this rule;

(b) Are under denial orders as of the date of adoption of this rule;

(c) Are not scheduled for review prior to or at the June 1981 Commission meeting.

(2) **Category 2:**

(a) Compliance with OAR 660-16-000 through 660-16-025 is required as outlined below for those jurisdictions which:

(A) Are under continuance orders adopted pursuant to OAR 660-03-040;

(B) Are scheduled for review at the April 30/May 1, May 29 or June 1981 Commission meetings.

(b) For these jurisdictions a notice will be given to all parties on the original notice list providing a 45-day period to object to the plan based on OAR 660-16-000 through 660-16-025.

(c) OAR 660-16-000 will be applied based on objections alleging violations of specific provisions of the rule on specific resource sites. Objections must be filed following requirements outlined in OAR 660-03-000 through 660-03-040 (Acknowledgment of Compliance Rule). Where no objections are filed or objections are not specific as to which elements of OAR 660-16-000 through 660-16-025 have been violated, and on what resource sites, the plan will be reviewed against Goal 5

**OREGON ADMINISTRATIVE RULES**  
**CHAPTER 660, DIVISION 16 — LAND CONSERVATION AND DEVELOPMENT COMMISSION**

---

standards as they existed prior to adoption of OAR 660-16-000 through 660-16-023.

(3) Jurisdictions which receive acknowledgment of compliance (as outlined in ORS 197.251) at the April 30/May 1, 1981 Commission meeting will not be subject to review procedures outlined above, but will be treated as other previously acknowledged jurisdictions.

Stat. Auth.: ORS Ch. 183 & 197

Hist: LCD 5-1981(Temp), f. & cf. 5-8-81; LCD 7-1981, f. & cf. 6-29-81

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

## **APPENDIX C**

### **Introduction to Wildlife Habitat Assessment Form**

## **Balch Creek Watershed, Appendix C**

The Bureau of Planning reviewed several methods of rating habitat areas and decided to use a wildlife habitat assessment rating system first employed by the City of Beaverton in 1983. This method was developed for a Goal 5 examination of sites containing wetlands or water bodies. This rating method provides an appropriate level of detail, has been tested in the Portland area, and land use decisions made from this method have been found compliant with Goal 5 by the Oregon Land Conservation and Development Commission.

The selected wildlife habitat assessment system was developed by biologists from a number of agencies. These biologist established criteria for examination and assigned relative numeric values for the quantity and quality of various habitat components. The originally technical advisory team was comprised of representatives from the following agencies and organizations:

United States Environmental Protection Agency;  
United States Fish and Wildlife Service;  
United States Army Corps of Engineers;  
Oregon Department of Fish and Wildlife;  
Audubon Society of Portland;  
The Wetlands Conservancy; and  
Beaverton Planning Bureau.

The City of Portland modified the Beaverton method before employing it in Willamette and Columbia River Goal 5 studies. The system was reviewed for application to the new study areas by a technical advisory committee similar in makeup to the original committee. This committee developed a second rating form to assess upland areas, sites containing no wetlands or water bodies. The second form eliminated the bias of the original form toward the presence of water. The original form required water in order to recognize high quality habitat. A method which allows the use of an alternative uplands form recognizes that certain wildlife species do not need large water bodies to thrive. Both rating forms were revised for the Balch Creek Study. These revisions were limited form and style. The forms and field notes were also automated and linked to an electronic data base.

The revised Portland Bureau of Planning method of assessing wildlife habitat is used in field inventories to rate the value of wildlife habitat. The premise of the rating system is that all wildlife species share three basic requirements for survival- food, water, and cover. These requirements are the three principle components evaluated in part three of the assessment forms. Each site is evaluated in terms of quantity, quality, diversity, and seasonal presence of food, water, and cover offered on the site. Also considered is the degree and permanence of physical and human disturbance on the site, whether there are other usable habitats nearby, and the unique features on the site. These unique features include wildlife, flora, scenic qualities, rarity of habitat, and educational potential. Each of these is discussed in the instructions for the wildlife habitat forms.

The rating system is not intended to provide a comprehensive analysis of each site, but allows relative values between habitat areas to be determined and compared. The method is not designed to be the sole basis of a Goal 5 decision for any specific site. More thorough biological analysis are appropriate whenever the importance of a site is in question.

## **APPENDIX D**

### **Instructions for Wildlife Habitat Assessment Form**

## Balch Creek Watershed, Appendices D

The Wetlands Wildlife Habitat Assessment form is a single page divided into four parts. Each part has several blanks. Observers should fill in these spaces in the field. Before entering the field observers should have prepared by reviewing aerial photography, topographic maps, and zoning maps. Sites to be assessed should be delineated from these resources. Always carry a map, compass, thermometer, camera, and binoculars into the field. Suitable clothing and safety equipment are also advised. Upon returning from the field observers should enter the information collected in computer data base version of the assessment form.

### PART ONE, HEADER:

The first part of the form is a header. The header includes a site number, the total habitat score for the site, the potential total score the site could obtain if restoration or enhancement measures were carried out, the area of the site, the location of the site, the field dates, and the names of the field observers.

#### Site Number

A space is provided for the observer to assign each site a number. Fill in this space before beginning parts two, three, or four. The computer data base will accept only unique numbers. It will not accept letters, nor will it accept a number which has been assigned to another site.

#### Total Habitat Score as Existing

Leave this space blank. The computer will automatically calculate the cumulative existing score as the individual existing scores are entered from parts three and four below.

#### Total Habitat Score as Enhanced

Leave this space blank. The computer will automatically calculate the cumulative enhanced score as the individual enhanced scores are entered from parts three and four below.

#### Total Acres

Measure the site area from a map. The computer will only accept numbers. If the site is smaller than an acre use a decimal point and then numbers. There are 43,560 square feet in an acre.

#### Location

Use this space to briefly describe the location of the site. Fill it out before you begin parts two, three, or four. The computer will only accept text.



Field dates

Enter the date the site was observed. The computer will only accept dates in the six digit, two slash, month/day/year format; an example of this format is 07/04/76 for July 4, 1976.

Field Observers

Enter your name and the names of any field partners. The computer will accept only text.

**PART TWO, GENERAL COMMENTS:**

This is the only space on the form for general comments. Fill it out in the field, either before or after you complete parts three and four. Use this space for additional remarks on reasoning behind individual numeric scores, opinions on the potential of the site for rehabilitation or enhancement, and any other comments. The computer will only accept text.

**PART THREE, HABITAT COMPONENTS:**

This part assesses the wildlife habitat components of water, food, and cover. Each of these components is divided into three, four, or five factors. This section must be completed in the field. Each habitat component factor should be scored as it exists. And if the existing score is not the maximum score, examine the site for rehabilitation and restoration potential. If no potential exists reenter the existing score in the adjacent enhanced score space. If restoration or enhancement measures could improve a habitat component factor, enter the score which would result if the measures are carried out. This score must be at least one point higher than the existing score but no more than the maximum score. Also list the measures used to derive the enhanced score in the adjacent comment space. In the case of multiple field dates resulting in different scores, always record the higher rather than the lower scores. Partners observing together in the field should try to score by consensus. But if partners are deadlocked, add all scores, divide by the number of partners, and round up to the nearest whole number. The computer will accept only numbers within the ranges listed on the form in the score spaces, and only text in the comment spaces.

**WATER** The water habitat component factors are seasonal presence, diversity of types, proximity to cover, and how often the water is flushed. These factors play an important role in the site's significance to wildlife. Note that the relative value of the water factors is higher than the food and cover factors. The total number of possible points from the water is 30 points, while the highest totals for food and cover are 24 and 28 points, respectively. The reason the water component is weighted so highly is that wetlands and riparian zones are important to all wildlife species and are the only places where some species can survive and reproduce.

## **Balch Creek Watershed, Appendices D**

### **Seasonal Presence**

This factor is the amount of water available and its seasonal variability. Give sites with significant seasonal water sources a score of four and those with significant perennial water sources a value of eight. If there is no evidence of any water on a site, do not use the wetlands form; use the Uplands Wildlife Habitat Assessment form.

### **Diversity Of Types**

Give sites with one type of water feature a score of two, those with two types a score between two and eight, and sites with three or more types a score of eight. Habitats with streams, open ponds, lakes, swamps, and marshes have a higher wildlife value than sites with only one type of water feature.

### **Proximity to Cover**

Give sites with dense cover immediately adjacent to a water source a score of eight, those with nearby cover a score of four, and those with no cover a score of zero. Wildlife will use water more readily if it is close to vegetative cover. Cover provides escape from predators and protection from weather extremes. A source of water becomes more important to wildlife as its cover grows closer and denser.

### **Flushed How Often**

Give sites with only stagnant water a score of zero, those with seasonally flushed water a score of three, and those with continually flushed water a score of six. Water flushing is only an indirect measure of quality. It would be better to take water samples and judge quality from laboratory reports, but this method is too expensive. Although stagnant water has some wildlife habitat value, assign it a value of zero because seasonally and continually-flushed water have higher values, and because stagnant water probably contains substances which can harm wildlife.

**FOOD** The food habitat component factors are variety, quantity and seasonal presence, and proximity to cover. Food is a basic requirement for any organism. Wildlife cannot survive in one area for any appreciable period of time without food. The greater the variety and quantity of food, the greater a habitat's the potential for serving the needs of more wildlife species.

Seasonal Presence

This factor is the amount of food available at different times of year. Give sites having large quantities of food available year-round a score of eight, those with large quantities of food available only on a seasonal basis a score of four, and those which never have large quantities of food a score of zero.

Diversity Of Kinds

Give sites with only one kind of food a score of zero and sites with many kinds of food a score of eight.

Proximity to Cover

Cover provides safe space to forage for food and escape predation. Give sites with cover immediately adjacent to a food source a value of eight, those with nearby cover a value of four, and those with no cover a value of zero.

**COVER** The cover habitat component factors are seasonal presence, diversity of structure, variety of species, nesting places, and escape places. Cover provides shelter from the elements, concealment from predators, and places to needed to forage, travel, reproduce.

Seasonal Presence

Habitat with cover available year-round is more valuable than than habitat with only seasonal cover. Observe whether the vegetation is deciduous or evergreen. If there is some evergreen vegetation, or the deciduous vegetation retains some of its canopy year-round, the site is more valuable. Give a site with all year-round cover a score of four, those with some year-round cover a score of two, and those with only seasonal cover a score of zero.

Diversity Of Structure

Observe the vertical stratification of vegetation. Is there only one layer of plants like in a lawn or blackberry thicket, or are there more? The most

## Balch Creek Watershed, Appendices D

diverse structural system you could encounter in the City would be multi-layered, with a ground layer of herbaceous vegetation (grasses and wild flowers), a second layer consisting of shrubs (salmonberry, snowberry, Oregon grape, sword fern), a third layer of taller plants (red and blue elderberry, Indian plum, red osier dogwood), a fourth short tree layer (flowering dogwood, hazelnut, saplings of taller species), and finally a tall canopy layer (Douglas fir, western hemlock, big-leaf maple, black cottonwood, Oregon white ash, Oregon white oak). Habitat values increase as the number of these layers increase. Give sites with only one of these layers a score of zero, those with two well developed layers a score of four, and those with three or more well developed layers a score of eight.

### Variety Of Species

Observe how many plant species are in each vegetative layer. Habitat values increase as the number of plant species per layer increases. A wetland with a mixture of rushes, sedges, smartweed, spirea, and willow is much more valuable as wildlife habitat than a wetland with a monoculture of reed canarygrass. Give sites with only single species layers a score of zero, those with two multispecies layers a score of four, and those with three or more multispecies layers a score of eight.

### Nesting Places

While there may be both good variety and diversity of vegetative cover, the overall nesting potential may vary from site to site. This factor is added to address the overall nesting potential of a site for a variety of bird species. Give sites with high nesting potential a score of eight and those with little or no nesting potential a score of zero.

### Escape Places

This factor is primarily a function of density of cover and its ability to afford escape from predation. Give sites with

dense cover a score of eight, those with moderate cover a score of four, and those with little cover a score of zero.

**PART FOUR, ADDITIONAL VALUES:**

The fourth part of the form examines values other than food, water, and cover. These values are physical disturbance, human disturbance, interspersions with habitats, rare habitat, rare flora, rare fauna, educational value, scenic value. This section must be scored in the field. Each additional value should be scored as it exists. And if the existing score is not the maximum score, you should examine the site for rehabilitation and restoration potential. If no rehabilitation potential exists reenter the existing score in the adjacent enhanced score space. If restoration or enhancement measures could improve a value, enter the score which would result if the measures are carried out. This score must be at least one point higher than the existing score but no more than the maximum score. Also list the measures used to derive the enhanced score in the adjacent comment space. Follow the procedures outlined in part three for multiple field dates or observers. The computer will accept only numbers within the ranges listed on the form in the score spaces and only text in the comment spaces

Physical Disturbance

Use this value to assign a higher score to those sites with little physical disturbance. Disturbance or elimination of a habitat component such as food, water, or cover is detrimental to wildlife. However, recognize that some disturbances are relatively short-lived while others are long-term or permanent. Give relatively undisturbed sites a score of four, sites with temporary physical disturbance a score of two, and those with permanent or long-term disturbance a score of zero.

Human Disturbance

Use this value to assign a higher score to sites with little human disturbance. Human and human-related disturbances can be very detrimental to wildlife. On the other hand, an area that is highly disturbed from a physical perspective may receive little human use. Give a site with low human or domestic animal disturbance a score of four and those with high human or domestic animal disturbance a score of zero.

## **Balch Creek Watershed, Appendices D**

### **Interspersion With Habitats**

Habitats are more important whenever a number of different adjacent habitats can provide a diversity of water, food, and cover lacking in any single habitat. An isolated habitat surrounded physical disturbances and human activities has a lower interspersion value than a similar habitat surrounded by wetlands, upland forests, shrubby areas, and meadows. A habitat becomes more valuable as the number of different adjacent habitat types increases. Give sites surrounded by habitats of different types a score of six, those surrounded by habitats of similar types a score of three, and those which are isolated from other habitats a score of zero

### **Rare Habitat**

Give sites with habitat types which are rare within the City a score between one and four depending the rarity from a City, regional, and national perspective.

### **Rare Flora**

Give sites with plant communities which are not commonly found in the City a score between one and four depending the rarity from a City, regional, and national perspective. You should also give sites which support a plant species threatened with or endangered of extinction; a plant species likely to be extricated from the City, region, or nation; or a plant species observed only rarely within the City a score between one and four depending the rarity of the species from a City, regional, and national perspective.

### **Rare Fauna**

Give sites with habitat types which support animals not commonly found in the City a score between one and four depending the rarity of these animals from a City, regional, and national perspective. You should also give sites which support an animal species threatened with or endangered of extinction; an animal species likely to be extricated from the City, region, or nation; or an animal species observed only rarely within the City a score

between one and four depending the rarity of the species from a City, regional, and national perspective.

**Educational Value**

You should determine whether a site has potential for educational uses by either school groups or individuals. Give sites which provides good visual or physical access to the public a score between one and four, depending upon the overall significance of the site as wildlife habitat.

**Scenic Value:**

Make a subjective evaluation of the visual quality of the site. Give sites having aesthetic qualities or providing aesthetic views of areas beyond the site a score between one and four depending on the significance of these qualities.

## **APPENDIX E**

### **Wildlife Habitat Site Assessments**



## WETLANDS WILDLIFE HABITAT ASSESSMENT

|               |   |                                 |             |                                     |            |                 |                       |
|---------------|---|---------------------------------|-------------|-------------------------------------|------------|-----------------|-----------------------|
| SITE NUMBER   | <b>73</b>                                   | TOTAL HABITAT SCORE AS EXISTING | <b>90</b>   | POTENTIAL HABITAT SCORE IF ENHANCED | <b>103</b> | TOTAL ACRES     | <b>3</b>              |
| SITE LOCATION | Lower Balch Creek, Lower Macleay Trail Head |                                 | FIELD DATES | 11/09/89 to 04/28/90                |            | FIELD OBSERVERS | Duncan Brown Al Burns |

**GENERAL COMMENTS** This site is the Balch Creek Basin north of the steel "I"-beam log barrier in Macleay Park. The unit contains a parking lot, rest rooms, the overhead Thurman Bridge, park lawn, paved trail, trash rack, cat walk, storm water control structures, and residences.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED                                | SPECIFIC COMMENTS                                 |
|-------------------|-----------------------------|----------------|----------------|----------------|----------------|---|---|
| <b>WATER</b>      | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>8</b>       | <b>8</b>                                      |   |
|                   | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>2</b>       | <b>4</b>                                      | Remove concrete falls and enlarge pool            |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>                                      |   |
|                   | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>6</b>       | <b>6</b>                                      |   |
| <b>FOOD</b>       | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>6</b>       | <b>6</b>                                      |   |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>5</b>       | <b>6</b>                                      | Reduce lawn area                                  |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>7</b>       | <b>8</b>                                      | Plant shrubs along creek                          |
| <b>COVER</b>      | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>3</b>       | <b>4</b>                                      |   |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>8</b>                                      | Plant more native shrubs and have less grass lawn |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>8</b>                                      | Remove English ivy                                |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>                                      | More small trees and shrubs                       |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>                                      |   |
| <b>ADDITIONAL</b> | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>1</b>                                      | Developed park and storm water controls           |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>2</b>                                      |   |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>                                      | Parks, sanctuaries, unincorporated lands          |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>                                      | Full-year stream                                  |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>                                      | Dawn redwoods                                     |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>                                      | Protected population of cutthroat trout           |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>                                      |   |
| SCENIC VALUE      | LOW<br>0                    | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       | Remove catwalk, redesign storm water controls |   |



## WETLANDS WILDLIFE HABITAT ASSESSMENT

|               |  |                                 |             |                                     |            |                 |                           |
|---------------|--|---------------------------------|-------------|-------------------------------------|------------|-----------------|---------------------------|
| SITE NUMBER   | <b>74</b>                              | TOTAL HABITAT SCORE AS EXISTING | <b>95</b>   | POTENTIAL HABITAT SCORE IF ENHANCED | <b>104</b> | TOTAL ACRES     | <b>180</b>                |
| SITE LOCATION | Lower Balch Creek, Lower Macleay Trail |                                 | FIELD DATES | 11/09/89 to 04/28/90                |            | FIELD OBSERVERS | Al Burns and Duncan Brown |

**GENERAL COMMENTS** This site is the portion of the Balch Creek Basin from the steel "I"-beam log barrier south to the fence at the Portland Audubon Society's Pittock Bird Sanctuary and west to N.W 53rd Avenue. It includes the Lower Macleay Trail and some of the Wildwood Trail.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                                      |
|-------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|--|
| <b>WATER</b>      | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>8</b>       | <b>8</b>       |  |
|                   | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>3</b>       | <b>3</b>       |  |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
|                   | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>6</b>       | <b>6</b>       |  |
| <b>FOOD</b>       | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>5</b>       | <b>7</b>       | Plant shrubs with winter berries                       |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>4</b>       | <b>6</b>       | Plant seed and berry producing shrubs                  |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
| <b>COVER</b>      | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>3</b>       | <b>3</b>       |  |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>7</b>       | <b>8</b>       | Plant more shrubs                                      |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>7</b>       | <b>8</b>       | Plant western hemlock and grand fir                    |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>3</b>       |  |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>       | Plant native shrubs                                    |
| <b>ADDITIONAL</b> | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>3</b>       | Trails allow easy access to creek which causes erosion |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>3</b>       | <b>3</b>       |  |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>       | Parks, sanctuaries, unincorporated lands               |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       | Full-year stream, downed logs, and snags               |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>       | Some large trees                                       |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       | Protected population of cutthroat trout                |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
|                   | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |



## WETLANDS WILDLIFE HABITAT ASSESSMENT

|               |   |                                 |             |                                     |           |                 |                           |
|---------------|---|---------------------------------|-------------|-------------------------------------|-----------|-----------------|---------------------------|
| SITE NUMBER   | <b>75</b>                                   | TOTAL HABITAT SCORE AS EXISTING | <b>90</b>   | POTENTIAL HABITAT SCORE IF ENHANCED | <b>99</b> | TOTAL ACRES     | <b>23</b>                 |
| SITE LOCATION | Lower Balch Creek, Portland Audubon Society |                                 | FIELD DATES | 11/09/89 to 04/28/90                |           | FIELD OBSERVERS | Duncan Brown and Al Burns |

**GENERAL COMMENTS** This site the portion of the Balch Creek Basin within the Portland Audubon Society's Pittock Bird Sanctuary.

| HABITAT COMPONENT             |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                            |
|-------------------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|--|
| <b>WATER</b>                  | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>8</b>       | <b>8</b>       |  |
|                               | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>4</b>       | <b>4</b>       |  |
|                               | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
|                               | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>6</b>       | <b>6</b>       |  |
| <b>FOOD</b>                   | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>5</b>       | <b>6</b>       |  |
|                               | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>5</b>       | <b>6</b>       |  |
|                               | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
| <b>COVER</b>                  | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>3</b>       | <b>4</b>       |  |
|                               | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>5</b>       | <b>6</b>       |  |
|                               | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>6</b>       |  |
|                               | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>       |  |
|                               | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       |  |
| <b>ADDITIONAL QUALITATIVE</b> | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>2</b>       |  |
|                               | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>2</b>       |  |
|                               | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>       | Parks, sanctuaries, unincorporated lands     |
|                               | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       | Full-year stream, cutthroat trout, sanctuary |
|                               | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       |  |
|                               | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
|                               | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
|                               | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>3</b>       |  |

Page One of Four



**City of Portland, Oregon**  
**Bureau of Planning**

DEVELOPED BY:  
Mike Houck - Portland Audubon Society  
Esther Lev - Portland Bureau of Planning  
Michael Jennings - Portland Bureau of Planning  
COMPUTER AUTOMATION BY:  
Al Burns - Portland Bureau of Planning

DEVELOPMENT ASSISTED BY:  
Dennis Peters - U.S. Fish and Wildlife Service  
Ralph Rogers - U.S. Environmental Protection Agency  
Gene Herb - Oregon Department of Fish and Wildlife  
Jack Broome - Wetlands Conservancy  
Diana Hwang - U.S. Fish and Wildlife Service

## WETLANDS WILDLIFE HABITAT ASSESSMENT

|               |  |                                 |             |                                     |            |                 |                          |
|---------------|--|---------------------------------|-------------|-------------------------------------|------------|-----------------|--------------------------|
| SITE NUMBER   | <b>76</b>                                    | TOTAL HABITAT SCORE AS EXISTING | <b>102</b>  | POTENTIAL HABITAT SCORE IF ENHANCED | <b>102</b> | TOTAL ACRES     | <b>25</b>                |
| SITE LOCATION | Balch Creek Tributary, Tunnel and Cumberland |                                 | FIELD DATES | 01/13/89 to 04/20/90                |            | FIELD OBSERVERS | Al Burns and Gail Curtis |

**GENERAL COMMENTS** This site is an area beginning at the portion of Cornell Road between the tunnels and includes the part of Macleay Park containing the Tunnel and Cumberland Trails, and part of the Wildwood and Upper Macleay Trails.

| HABITAT COMPONENT           |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                     |
|-----------------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------|
| <b>WATER</b>                | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>8</b>       | <b>8</b>       |                                       |
|                             | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>2</b>       | <b>2</b>       |                                       |
|                             | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |                                       |
|                             | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>6</b>       | <b>6</b>       |                                       |
| <b>FOOD</b>                 | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>8</b>       | <b>8</b>       |                                       |
|                             | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>6</b>       |                                       |
|                             | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |                                       |
| <b>COVER</b>                | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>3</b>       | <b>3</b>       |                                       |
|                             | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>8</b>       | <b>8</b>       |                                       |
|                             | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>8</b>       | <b>8</b>       |                                       |
|                             | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                                       |
|                             | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                                       |
| <b>ADDITIONAL VALUABLES</b> | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>1</b>       | <b>1</b>       | Tunnels, parking lot, near residences |
|                             | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>4</b>       | <b>4</b>       |                                       |
|                             | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>       |                                       |
|                             | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                                       |
|                             | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                                       |
|                             | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>2</b>       |                                       |
|                             | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                                       |
|                             | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                                       |

Page One of Four



**City of Portland, Oregon**  
**Bureau of Planning**

DEVELOPED BY:  
Mike Houck - Portland Audubon Society  
Esther Lev - Portland Bureau of Planning  
Michael Jennings - Portland Bureau of Planning  
COMPUTER AUTOMATION BY:  
Al Burns - Portland Bureau of Planning

DEVELOPMENT ASSISTED BY:  
Dennis Peters - U.S. Fish and Wildlife Service  
Ralph Rogers - U.S. Environmental Protection Agency  
Gene Herb - Oregon Department of Fish and Wildlife  
Jack Broome - Wetlands Conservancy  
Diana Hwang - U.S. Fish and Wildlife Service

## WETLANDS WILDLIFE HABITAT ASSESSMENT

|  |   |  |                       |
|--|---|--|-----------------------|
| SITE NUMBER <b>77</b>  | TOTAL HABITAT SCORE AS EXISTING <b>97</b> | POTENTIAL HABITAT SCORE IF ENHANCED <b>98</b>            | TOTAL ACRES <b>24</b> |
| SITE LOCATION <b>Upper Macleay Trail and Wildwood Trail Segments</b> | FIELD DATES <b>12/14/89 to 04/20/90</b>   | FIELD OBSERVERS <b>Al Burns Gail Curtis Duncan Brown</b> |                       |

**GENERAL COMMENTS** This site is an area south of Cornell Road and West of the Tunnels including Adams Park and a small part of the upper portion of Macleay Park. It contains portions of the Wildwood and Upper Macleay Trails.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                            |
|-------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|--|
| <b>WATER</b>      | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>4</b>       | <b>4</b>       |  |
|                   | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>2</b>       | <b>2</b>       |  |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
|                   | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>3</b>       | <b>3</b>       |  |
| <b>FOOD</b>       | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>8</b>       | <b>8</b>       |  |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>6</b>       |  |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
| <b>COVER</b>      | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>3</b>       | <b>3</b>       |  |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>8</b>       | <b>8</b>       |  |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>8</b>       | <b>8</b>       |  |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
| <b>ADDITIONAL</b> | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>3</b>       | <b>4</b>       | Better Designed Trail Near Cornell Road      |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>4</b>       | <b>4</b>       |  |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>       | Parks, sanctuaries, unincorporated lands     |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       | Very large trees and snags, diverse conifers |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>2</b>       |  |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
| SCENIC VALUE      | LOW<br>0                    | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |                |  |



# WETLANDS WILDLIFE HABITAT ASSESSMENT

|   |   |   |                      |
|---|---|---|----------------------|
| SITE NUMBER <b>78</b>   | TOTAL HABITAT SCORE AS EXISTING <b>79</b> | POTENTIAL HABITAT SCORE IF ENHANCED <b>88</b>     | TOTAL ACRES <b>8</b> |
| SITE LOCATION Upper Balch Creek, Near Audubon Caretaker House | FIELD DATES 12/14/89 to 04/28/90          | FIELD OBSERVERS Al Burns Gail Curtis Duncan Brown |                      |

**GENERAL COMMENTS** This site is a farm and forest zone north of Cornell Road and west of the Audubon Society's caretakers house.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                        |
|-------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|--|
| WATER             | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>4</b>       | <b>4</b>       |  |
|                   | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>2</b>       | <b>2</b>       | Balch Creek Tributary                    |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
|                   | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>6</b>       | <b>6</b>       |  |
| FOOD              | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>5</b>       | <b>5</b>       |  |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>6</b>       |  |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>8</b>       | <b>8</b>       |  |
| COVER             | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>2</b>       | <b>3</b>       | Plant more conifer species               |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>4</b>       | <b>6</b>       | Plant more shrub species                 |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>5</b>       | <b>6</b>       | Plant more shrub species                 |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       | Plant more shrub species                 |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>4</b>       | Plant more shrub species                 |
| ADDITIONAL VALUES | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>0</b>       | <b>0</b>       | Cornell Road and residences              |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>2</b>       | Trash dumping and high speed traffic     |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>       | Parks, sanctuaries, unincorporated lands |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       | Full-year stream, cutthroat trout        |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       |  |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>4</b>       | <b>4</b>       |  |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>3</b>       |  |
|                   | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>3</b>       | <b>3</b>       | Scenic drive                             |



## UPLANDS WILDLIFE HABITAT ASSESSMENT

|                 |           |                                 |           |                                     |           |             |           |
|-----------------|-----------|---------------------------------|-----------|-------------------------------------|-----------|-------------|-----------|
| SITE NUMBER     | <b>79</b> | TOTAL HABITAT SCORE AS EXISTING | <b>59</b> | POTENTIAL HABITAT SCORE IF ENHANCED | <b>62</b> | TOTAL ACRES | <b>26</b> |
| SITE LOCATION   |           | Barnes and Hilltop              |           | FIELD DATES                         | 01/24/90  |             |           |
| FIELD OBSERVERS |           | Al Burns                        |           |                                     |           |             |           |

**GENERAL COMMENTS** This site is the area within the City near the intersection of Barnes Road and Hilltop Drive .

| HABITAT COMPONENT                      |                             | DEGREE PRESENT |                  |                 | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                    |
|--|-----------------------------|----------------|------------------|-----------------|----------------|----------------|--------------------------------------|
| <b>F O O D</b>                         | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>5.5 | FULL YEAR<br>11 | <b>11</b>      | <b>11</b>      |                                      |
|  | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>5.5    | HIGH<br>11      | <b>10</b>      | <b>10</b>      |                                      |
|  | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>5.5      | ADJACENT<br>11  | <b>3</b>       | <b>3</b>       |                                      |
| <b>C O V E R</b>                       | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4   | FULL YEAR<br>8  | <b>4</b>       | <b>4</b>       |                                      |
|  | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>5.5    | HIGH<br>11      | <b>5</b>       | <b>5</b>       |                                      |
|  | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>5.5    | HIGH<br>11      | <b>5</b>       | <b>5</b>       |                                      |
|  | NESTING PLACES              | LOW<br>0       | MEDIUM<br>4      | HIGH<br>8       | <b>4</b>       | <b>4</b>       |                                      |
|  | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>4      | HIGH<br>8       | <b>4</b>       | <b>4</b>       |                                      |
| <b>A D D I T I O N A L V A L U E S</b> | PHYSICAL DISTURBANCE        | PERMANENT<br>0 | TEMPORARY<br>2   | NONE<br>4       | <b>0</b>       | <b>0</b>       |                                      |
|  | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2      | LOW<br>4        | <b>2</b>       | <b>2</b>       |                                      |
|  | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>4      | HIGH<br>9       | <b>4</b>       | <b>4</b>       |                                      |
|  | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>0</b>       | <b>0</b>       |                                      |
|  | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>2</b>       | <b>4</b>       |                                      |
|  | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>1</b>       | <b>2</b>       |                                      |
|  | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>0</b>       | <b>0</b>       |                                      |
|  | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>4</b>       | <b>4</b>       | Views of Mount Hood and Balch Canyon |



## UPLANDS WILDLIFE HABITAT ASSESSMENT

|                 |           |   |           |                                     |           |             |           |
|-----------------|-----------|---|-----------|-------------------------------------|-----------|-------------|-----------|
| SITE NUMBER     | <b>80</b> | TOTAL HABITAT SCORE AS EXISTING         | <b>62</b> | POTENTIAL HABITAT SCORE IF ENHANCED | <b>64</b> | TOTAL ACRES | <b>29</b> |
| SITE LOCATION   |           | Pittock Place, Planned Unit Development |           | FIELD DATES                         | 01/24/90  |             |           |
| FIELD OBSERVERS |           | Al Burns                                |           |                                     |           |             |           |

**GENERAL COMMENTS** This site contains the proposed Pittock Place, Planned Unit Development and the Wolf Creek water tanks.

| HABITAT COMPONENT |                             | DEGREE PRESENT |           |           | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS |
|-------------------|-----------------------------|----------------|-----------|-----------|----------------|----------------|-------------------|
|                   |                             | SELDOM         | HALF YEAR | FULL YEAR |                |                |                   |
| FOOD              | SEASONAL PRESENCE           | 0              | 5.5       | 11        | <b>5</b>       | <b>5</b>       |                   |
|                   | DIVERSITY OF KINDS          | 0              | 5.5       | 11        | <b>9</b>       | <b>9</b>       |                   |
|                   | PROXIMITY TO COVER          | 0              | 5.5       | 11        | <b>9</b>       | <b>9</b>       |                   |
| COVER             | SEASONAL PRESENCE           | 0              | 4         | 8         | <b>4</b>       | <b>4</b>       |                   |
|                   | DIVERSITY OF STRUCTURE      | 0              | 5.5       | 11        | <b>4</b>       | <b>4</b>       |                   |
|                   | VARIETY OF SPECIES          | 0              | 5.5       | 11        | <b>11</b>      | <b>11</b>      |                   |
|                   | NESTING PLACES              | 0              | 4         | 8         | <b>4</b>       | <b>4</b>       |                   |
|                   | ESCAPE PLACES               | 0              | 4         | 8         | <b>6</b>       | <b>6</b>       |                   |
| ADDITIONAL        | PHYSICAL DISTURBANCE        | 0              | 2         | 4         | <b>1</b>       | <b>1</b>       |                   |
|                   | HUMAN DISTURBANCE           | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | INTERSPERSION WITH HABITATS | 0              | 4         | 9         | <b>4</b>       | <b>4</b>       |                   |
|                   | RARE HABITAT                | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | SIGNIFICANT FLORA           | 0              | 2         | 4         | <b>2</b>       | <b>4</b>       |                   |
|                   | SIGNIFICANT FAUNA           | 0              | 2         | 4         | <b>2</b>       | <b>2</b>       |                   |
|                   | EDUCATIONAL VALUE           | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | SCENIC VALUE                | 0              | 2         | 4         | <b>1</b>       | <b>1</b>       |                   |





## UPLANDS WILDLIFE HABITAT ASSESSMENT

|               |                        |                                 |             |                                     |           |                 |           |
|---------------|------------------------|---------------------------------|-------------|-------------------------------------|-----------|-----------------|-----------|
| SITE NUMBER   | <b>81</b>              | TOTAL HABITAT SCORE AS EXISTING | <b>23</b>   | POTENTIAL HABITAT SCORE IF ENHANCED | <b>26</b> | TOTAL ACRES     | <b>65</b> |
| SITE LOCATION | Mount Calvary Cemetery |                                 | FIELD DATES | 01/24/90                            |           | FIELD OBSERVERS | Al Burns  |

**GENERAL COMMENTS** This site is the portion of Mount Calvary Cemetery within the Balch Creek Watershed.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                  |                 | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                         |
|-------------------|-----------------------------|----------------|------------------|-----------------|----------------|----------------|---|
| FOOD              | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>5.5 | FULL YEAR<br>11 | <b>4</b>       | <b>4</b>       |   |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>5.5    | HIGH<br>11      | <b>0</b>       | <b>3</b>       | More seed and Berry producing landscaping |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>5.5      | ADJACENT<br>11  | <b>0</b>       | <b>0</b>       |   |
| COVER             | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4   | FULL YEAR<br>8  | <b>4</b>       | <b>4</b>       |   |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>5.5    | HIGH<br>11      | <b>0</b>       | <b>0</b>       |   |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>5.5    | HIGH<br>11      | <b>0</b>       | <b>0</b>       |   |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>4      | HIGH<br>8       | <b>3</b>       | <b>3</b>       |   |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>4      | HIGH<br>8       | <b>0</b>       | <b>0</b>       |   |
| ANNUAL            | PHYSICAL DISTURBANCE        | PERMANENT<br>0 | TEMPORARY<br>2   | NONE<br>4       | <b>0</b>       | <b>0</b>       |   |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2      | LOW<br>4        | <b>2</b>       | <b>2</b>       |   |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>4      | HIGH<br>9       | <b>6</b>       | <b>6</b>       |   |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>0</b>       | <b>0</b>       |   |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>0</b>       | <b>0</b>       |   |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>0</b>       | <b>0</b>       |   |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>0</b>       | <b>0</b>       |   |
|                   | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2      | HIGH<br>4       | <b>4</b>       | <b>4</b>       | Scenic views, open space                  |



## UPLANDS WILDLIFE HABITAT ASSESSMENT

|               |           |                                    |           |                                     |           |             |                 |          |  |
|---------------|-----------|------------------------------------|-----------|-------------------------------------|-----------|-------------|-----------------|----------|--|
| SITE NUMBER   | <b>82</b> | TOTAL HABITAT SCORE AS EXISTING    | <b>22</b> | POTENTIAL HABITAT SCORE IF ENHANCED | <b>22</b> | TOTAL ACRES | <b>46</b>       |          |  |
| SITE LOCATION |           | Royal Highlands and Barnes Heights |           | FIELD DATES                         | 01/24/90  |             | FIELD OBSERVERS | Al Burns |  |

**GENERAL COMMENTS** This site is the Royal Highlands Subdivision and the portion of the Barnes Heights Subdivision within the City.

| HABITAT COMPONENT |                             | DEGREE PRESENT |           |           | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS |
|-------------------|-----------------------------|----------------|-----------|-----------|----------------|----------------|-------------------|
|                   |                             | SELDOM         | HALF YEAR | FULL YEAR |                |                |                   |
| FOOD              | SEASONAL PRESENCE           | 0              | 5.5       | 11        | <b>4</b>       | <b>4</b>       |                   |
|                   | DIVERSITY OF KINDS          | 0              | 5.5       | 11        | <b>0</b>       | <b>0</b>       |                   |
|                   | PROXIMITY TO COVER          | 0              | 5.5       | 11        | <b>4</b>       | <b>4</b>       |                   |
| COVER             | SEASONAL PRESENCE           | 0              | 4         | 8         | <b>4</b>       | <b>4</b>       |                   |
|                   | DIVERSITY OF STRUCTURE      | 0              | 5.5       | 11        | <b>0</b>       | <b>0</b>       |                   |
|                   | VARIETY OF SPECIES          | 0              | 5.5       | 11        | <b>0</b>       | <b>0</b>       |                   |
|                   | NESTING PLACES              | 0              | 4         | 8         | <b>2</b>       | <b>2</b>       |                   |
|                   | ESCAPE PLACES               | 0              | 4         | 8         | <b>2</b>       | <b>2</b>       |                   |
| ADDITIONAL VALUES | PHYSICAL DISTURBANCE        | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | HUMAN DISTURBANCE           | 0              | 2         | 4         | <b>2</b>       | <b>2</b>       |                   |
|                   | INTERSPERSION WITH HABITATS | 0              | 4         | 9         | <b>4</b>       | <b>4</b>       |                   |
|                   | RARE HABITAT                | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | SIGNIFICANT FLORA           | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | SIGNIFICANT FAUNA           | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | EDUCATIONAL VALUE           | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |
|                   | SCENIC VALUE                | 0              | 2         | 4         | <b>0</b>       | <b>0</b>       |                   |



# WETLANDS WILDLIFE HABITAT ASSESSMENT

|               |                              |                                 |             |                                     |           |                 |                           |
|---------------|------------------------------|---------------------------------|-------------|-------------------------------------|-----------|-----------------|---------------------------|
| SITE NUMBER   | <b>83</b>                    | TOTAL HABITAT SCORE AS EXISTING | <b>85</b>   | POTENTIAL HABITAT SCORE IF ENHANCED | <b>93</b> | TOTAL ACRES     | <b>94</b>                 |
| SITE LOCATION | Upper Balch Creek Headwaters |                                 | FIELD DATES | 01/03/90                            |           | FIELD OBSERVERS | Al Burns and Duncan Brown |

**GENERAL COMMENTS** This site includes the headwaters of the main stem of Balch Creek. It also contains the portion of Mountain View Park No.2 subdivision which was replatted in March of 1990.

| HABITAT COMPONENT        |                             | DEGREE PRESENT |           |           | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                                 |
|--------------------------|-----------------------------|----------------|-----------|-----------|----------------|----------------|---|
|                          |                             | SELDOM         | HALF YEAR | FULL YEAR |                |                |   |
| <b>WATER</b>             | SEASONAL PRESENCE           | 4              | 6         | 8         | <b>8</b>       | <b>8</b>       |   |
|                          | DIVERSITY OF TYPES          | 2              | 4         | 8         | <b>2</b>       | <b>4</b>       | a wetland could be created                        |
|                          | PROXIMITY TO COVER          | 0              | 4         | 8         | <b>8</b>       | <b>8</b>       |   |
|                          | FLUSHED HOW OFTEN           | 0              | 3         | 6         | <b>6</b>       | <b>6</b>       | pollution problem from fill                       |
| <b>FOOD</b>              | SEASONAL PRESENCE           | 0              | 4         | 8         | <b>4</b>       | <b>6</b>       | more conifer species                              |
|                          | DIVERSITY OF KINDS          | 0              | 4         | 8         | <b>4</b>       | <b>6</b>       | restoration of filled site                        |
|                          | PROXIMITY TO COVER          | 0              | 4         | 8         | <b>8</b>       | <b>8</b>       |   |
| <b>COVER</b>             | SEASONAL PRESENCE           | 0              | 2         | 4         | <b>2</b>       | <b>2</b>       |   |
|                          | DIVERSITY OF STRUCTURE      | 0              | 4         | 8         | <b>6</b>       | <b>6</b>       |   |
|                          | VARIETY OF SPECIES          | 0              | 4         | 8         | <b>6</b>       | <b>6</b>       |   |
|                          | NESTING PLACES              | 0              | 2         | 4         | <b>2</b>       | <b>2</b>       |   |
|                          | ESCAPE PLACES               | 0              | 2         | 4         | <b>4</b>       | <b>4</b>       |   |
| <b>ADDITIONAL VALUES</b> | PHYSICAL DISTURBANCE        | 0              | 2         | 4         | <b>1</b>       | <b>1</b>       | Roads, fill, low density residential              |
|                          | HUMAN DISTURBANCE           | 0              | 2         | 4         | <b>2</b>       | <b>2</b>       |   |
|                          | INTERSPERSION WITH HABITATS | 0              | 3         | 6         | <b>6</b>       | <b>6</b>       | Parks, sanctuaries, unincorporated lands          |
|                          | RARE HABITAT                | 0              | 2         | 4         | <b>4</b>       | <b>4</b>       | full year stream                                  |
|                          | SIGNIFICANT FLORA           | 0              | 2         | 4         | <b>2</b>       | <b>4</b>       |   |
|                          | SIGNIFICANT FAUNA           | 0              | 2         | 4         | <b>4</b>       | <b>4</b>       |   |
|                          | EDUCATIONAL VALUE           | 0              | 2         | 4         | <b>2</b>       | <b>2</b>       |   |
|                          | SCENIC VALUE                | 0              | 2         | 4         | <b>4</b>       | <b>4</b>       | Several large Douglas fir trees near Cornell Road |



# WETLANDS WILDLIFE HABITAT ASSESSMENT

|               |   |                                 |             |                                     |    |                 |          |  |
|---------------|---|---------------------------------|-------------|-------------------------------------|----|-----------------|----------|--|
| SITE NUMBER   | 84  | TOTAL HABITAT SCORE AS EXISTING | 80          | POTENTIAL HABITAT SCORE IF ENHANCED | 90 | TOTAL ACRES     | 52       |  |
| SITE LOCATION | Near intersection of Skyline and Thompson |                                 | FIELD DATES | 01/24/90                            |    | FIELD OBSERVERS | Al Burns |  |

**GENERAL COMMENTS** This site is the headwaters of the Thompson Road branch of Balch Creek in City farm and forest zones and the Gales Ridge Planned Unit Development.

| HABITAT COMPONENT |                             | DEGREE PRESENT |           |           | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS             |
|-------------------|-----------------------------|----------------|-----------|-----------|----------------|----------------|-------------------------------|
|                   |                             | SELDOM         | HALF YEAR | FULL YEAR |                |                |                               |
| WATER             | SEASONAL PRESENCE           | 4              | 6         | 8         | 8              | 8              |                               |
|                   | DIVERSITY OF TYPES          | 2              | 4         | 8         | 2              | 2              |                               |
|                   | PROXIMITY TO COVER          | 0              | 4         | 8         | 5              | 6              | Plant shrub species.          |
|                   | FLUSHED HOW OFTEN           | 0              | 3         | 6         | 6              | 6              |                               |
| FOOD              | SEASONAL PRESENCE           | 0              | 4         | 8         | 6              | 6              |                               |
|                   | DIVERSITY OF KINDS          | 0              | 4         | 8         | 6              | 7              | Plant berry producing plants. |
|                   | PROXIMITY TO COVER          | 0              | 4         | 8         | 6              | 6              |                               |
| COVER             | SEASONAL PRESENCE           | 0              | 2         | 4         | 3              | 4              | Plant shrub species.          |
|                   | DIVERSITY OF STRUCTURE      | 0              | 4         | 8         | 6              | 7              | Plant shrub species.          |
|                   | VARIETY OF SPECIES          | 0              | 4         | 8         | 5              | 7              | Plant shrub species.          |
|                   | NESTING PLACES              | 0              | 2         | 4         | 3              | 4              | Plant shrub species.          |
|                   | ESCAPE PLACES               | 0              | 2         | 4         | 3              | 4              | Plant shrub species.          |
| ADDITIONAL        | PHYSICAL DISTURBANCE        | 0              | 2         | 4         | 1              | 1              |                               |
|                   | HUMAN DISTURBANCE           | 0              | 2         | 4         | 4              | 4              |                               |
|                   | INTERSPERSION WITH HABITATS | 0              | 3         | 6         | 3              | 3              |                               |
|                   | RARE HABITAT                | 0              | 2         | 4         | 4              | 4              | Full year stream.             |
|                   | SIGNIFICANT FLORA           | 0              | 2         | 4         | 2              | 4              |                               |
|                   | SIGNIFICANT FAUNA           | 0              | 2         | 4         | 4              | 4              |                               |
|                   | EDUCATIONAL VALUE           | 0              | 2         | 4         | 1              | 1              |                               |
|                   | SCENIC VALUE                | 0              | 2         | 4         | 2              | 2              |                               |



# WETLANDS WILDLIFE HABITAT ASSESSMENT

|   |   |   |                       |
|---|---|---|-----------------------|
| SITE NUMBER <b>85</b>                           | TOTAL HABITAT SCORE AS EXISTING <b>97</b> | POTENTIAL HABITAT SCORE IF ENHANCED <b>99</b> | TOTAL ACRES <b>89</b> |
| SITE LOCATION Thompson Tributary in Forest Park | FIELD DATES 01/24/90                      | FIELD OBSERVERS Al Burns                      |                       |

**GENERAL COMMENTS** This site is the portion of Forest Park south and west of 53rd and north and east of Thompson and Cornell Roads and includes the the Thompson tributary of Balch Creek north of Balch Creek.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                     |
|-------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------|
| WATER             | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | 8              | 8              |                                       |
|                   | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | 2              | 2              |                                       |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | 8              | 8              |                                       |
|                   | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | 6              | 6              |                                       |
| FOOD              | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | 7              | 7              |                                       |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | 6              | 6              |                                       |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | 6              | 6              |                                       |
| COVER             | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | 4              | 4              |                                       |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | 7              | 7              |                                       |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | 7              | 7              |                                       |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |                                       |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |                                       |
| ADDITIONAL VALUES | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | 1              | 1              |                                       |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | 2              | 3              | Better Controlled curb side pull outs |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | 6              | 6              |                                       |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |                                       |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 3              | 4              |                                       |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |                                       |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |                                       |
|                   | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |                                       |



# WETLANDS WILDLIFE HABITAT ASSESSMENT

|             |          |                                 |           |                                     |           |                       |           |
|-------------|----------|---------------------------------|-----------|-------------------------------------|-----------|-----------------------|-----------|
| SITE NUMBER | <b>A</b> | TOTAL HABITAT SCORE AS EXISTING | <b>59</b> | POTENTIAL HABITAT SCORE IF ENHANCED | <b>84</b> | TOTAL ACRES           | <b>20</b> |
| SITE        |          | Balch Creek Tributaries         |           | FIELD DATES                         |           | 12/02/89              |           |
| LOCATION    |          | South of Balch Creek            |           | FIELD OBSERVERS                     |           | Task Force Field Trip |           |

**GENERAL COMMENTS** This site is within the jurisdiction of Multnomah County and includes Oregon Parks Foundation land and the Royal Highlands sewage treatment plant.

| HABITAT COMPONENT        |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                        |
|--------------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|--|
| <b>WATER</b>             | SEASONAL PRESENCE           | SELDOM<br>4    | HALF YEAR<br>6 | FULL YEAR<br>8 | <b>4</b>       | <b>4</b>       |  |
|                          | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | <b>2</b>       | <b>2</b>       |  |
|                          | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>4</b>       | <b>6</b>       |  |
|                          | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | <b>3</b>       | <b>3</b>       |  |
| <b>FOOD</b>              | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | <b>5</b>       | <b>8</b>       |  |
|                          | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>6</b>       | <b>8</b>       |  |
|                          | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | <b>4</b>       | <b>6</b>       |  |
| <b>COVER</b>             | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | <b>2</b>       | <b>3</b>       |  |
|                          | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>4</b>       | <b>8</b>       |  |
|                          | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | <b>4</b>       | <b>8</b>       |  |
|                          | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       |  |
|                          | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>4</b>       |  |
| <b>ADDITIONAL VALUES</b> | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>3</b>       | <b>3</b>       |  |
|                          | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | <b>2</b>       | <b>1</b>       |  |
|                          | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | <b>6</b>       | <b>6</b>       | Parks, sanctuaries, unincorporated lands |
|                          | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>1</b>       | <b>1</b>       | A few large trees and snags              |
|                          | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>1</b>       | <b>4</b>       |  |
|                          | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>1</b>       | <b>2</b>       |  |
|                          | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>1</b>       | <b>1</b>       |  |
|                          | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | <b>2</b>       | <b>2</b>       |  |



# WETLANDS WILDLIFE HABITAT ASSESSMENT

|                      |  |  |                    |  |           |                        |                  |
|----------------------|--|--|--------------------|--|-----------|------------------------|------------------|
| <b>SITE NUMBER</b>   | <b>B</b>                               | <b>TOTAL HABITAT SCORE AS EXISTING</b> | <b>88</b>          | <b>POTENTIAL HABITAT SCORE IF ENHANCED</b> | <b>98</b> | <b>TOTAL ACRES</b>     | <b>45</b>        |
| <b>SITE LOCATION</b> | Balch Creek Tributary<br>Thompson Road |  | <b>FIELD DATES</b> | 01/03/90                                   |           | <b>FIELD OBSERVERS</b> | City/County Team |

**GENERAL COMMENTS** This site is within jurisdiction of Multnomah County. It includes the major tributary of Balch Creek south of Thompson Road.

| HABITAT COMPONENT |                             | DEGREE PRESENT |                |                | SCORE EXISTING | SCORE ENHANCED | SPECIFIC COMMENTS                           |
|-------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|---|
|                   |                             | SELDOM         | HALF YEAR      | FULL YEAR      |                |                |   |
| WATER             | SEASONAL PRESENCE           | 4              | 6              | 8              | 8              | 8              |   |
|                   | DIVERSITY OF TYPES          | ONE<br>2       | TWO<br>4       | THREE<br>8     | 2              | 2              |   |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | 8              | 8              |   |
|                   | FLUSHED HOW OFTEN           | SELDOM<br>0    | HALF YEAR<br>3 | FULL YEAR<br>6 | 6              | 6              |   |
| FOOD              | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>4 | FULL YEAR<br>8 | 6              | 6              |   |
|                   | DIVERSITY OF KINDS          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | 4              | 6              |   |
|                   | PROXIMITY TO COVER          | FAR<br>0       | NEAR<br>4      | ADJACENT<br>8  | 8              | 8              |   |
| COVER             | SEASONAL PRESENCE           | SELDOM<br>0    | HALF YEAR<br>2 | FULL YEAR<br>4 | 3              | 4              |   |
|                   | DIVERSITY OF STRUCTURE      | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | 7              | 7              |   |
|                   | VARIETY OF SPECIES          | LOW<br>0       | MEDIUM<br>4    | HIGH<br>8      | 4              | 6              |   |
|                   | NESTING PLACES              | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 3              | 3              |   |
|                   | ESCAPE PLACES               | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |   |
| ADDITIONAL VALUES | PHYSICAL DISTURBANCE        | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | 1              | 1              | Roads and houses                            |
|                   | HUMAN DISTURBANCE           | HIGH<br>0      | MEDIUM<br>2    | LOW<br>4       | 2              | 3              | Garbage dumping and low density residential |
|                   | INTERSPERSION WITH HABITATS | LOW<br>0       | MEDIUM<br>3    | HIGH<br>6      | 6              | 6              | Parks, sanctuaries, unincorporated lands    |
|                   | RARE HABITAT                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              | Full year stream and Cutthroat trout        |
|                   | SIGNIFICANT FLORA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 2              | 4              |   |
|                   | SIGNIFICANT FAUNA           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              |   |
|                   | EDUCATIONAL VALUE           | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 2              | 4              |   |
|                   | SCENIC VALUE                | LOW<br>0       | MEDIUM<br>2    | HIGH<br>4      | 4              | 4              | Scenic drive                                |



## **APPENDIX F**

### **Preferred Native Plant List**



## Balch Creek Watershed, Appendix F

Preferred native plants observed in the Balch Creek Watershed are indicated with an asterix.

| Common Name               | Relatives       | Scientific Name                 |
|---------------------------|-----------------|---------------------------------|
| Compact Selaginella       | Lesser-clubmoss | <i>Selaginella densa</i>        |
| Northern Maidenhair Fern* | Common Fern     | <i>Adiantum pedatum</i>         |
| Maidenhair Spleenwort     | Common Fern     | <i>Asplenium trichomanes</i>    |
| Lady Fern*                | Common Fern     | <i>Athyrium filix-femina</i>    |
| Deer Fern                 | Common Fern     | <i>Blechnum spicant</i>         |
| Brittle Bladder Fern      | Common Fern     | <i>Cystopteris fragilis</i>     |
| Spreading Wood Fern*      | Common Fern     | <i>Dryopteris austriaca</i>     |
| Licorice Fern*            | Common Fern     | <i>Polypodium glycyrrhiza</i>   |
| Licorice Fern             | Common Fern     | <i>Polypodium hesperium</i>     |
| Anderson's Sword Fern     | Common Fern     | <i>Polystichum andersonii</i>   |
| Sword Fern*               | Common Fern     | <i>Polystichum munitum</i>      |
| Bracken*                  | Common Fern     | <i>Pteridium aquilinum</i>      |
| Wood Fern*                | Common Fern     | <i>Thelypteris nevadensis</i>   |
| Duckweed                  | Water Fern      | <i>Azolla filiculoides</i>      |
| Pacific Silver Fir*       | Pine            | <i>Abies amabilis</i>           |
| Grand Fir                 | Pine            | <i>Abies grandis</i>            |
| Lodgepole Pine            | Pine            | <i>Pinus contorta</i>           |
| Ponderosa Pine*           | Pine            | <i>Pinus ponderosa</i>          |
| Douglas Fir*              | Pine            | <i>Pseudotsuga menziesii</i>    |
| Western Hemlock*          | Pine            | <i>Tsuga heterophylla</i>       |
| Western Red Cedar*        | Cypress         | <i>Thuja plicata</i>            |
| Western Yew*              | Yew             | <i>Taxus brevifolia</i>         |
| American Water-plantain   | Water-plantain  | <i>Alisma plantago-aquatica</i> |
| Wapato                    | Water-plantain  | <i>Sagittaria latifolia</i>     |
| Water Lentil              | Duckweed        | <i>Lemna minor</i>              |
| Common Cattail            | Cattail         | <i>Typha latifolia</i>          |
| Skunk Cabbage             | Calla-lily      | <i>Lysichitum americanum</i>    |
| Baltic Rush               | Rush            | <i>Juncus balticus</i>          |
| Short-leaved Rush         | Rush            | <i>Juncus brachyphyllus</i>     |
| Toad Rush                 | Rush            | <i>Juncus bufonius</i>          |
| Common Rush               | Rush            | <i>Juncus effusus</i>           |
| Dagger-leaf rush          | Rush            | <i>Juncus ensifolius</i>        |
| Field Woodrush            | Rush            | <i>Luzula campestris</i>        |
| Small-flowered Woodrush   | Rush            | <i>Luzula parviflora</i>        |
| Big-leaf Sedge            | Sedge           | <i>Carex amplifolia</i>         |
| Columbia Sedge            | Sedge           | <i>Carex aperta</i>             |
| Slenderbeaked Sedge       | Sedge           | <i>Carex athrostachys</i>       |
| Gray Sedge                | Sedge           | <i>Carex canescens</i>          |
| Cusick's Sedge            | Sedge           | <i>Carex cusickii</i>           |
| Dewey's Sedge             | Sedge           | <i>Carex deweyana</i>           |
| Henderson's Wood Sedge    | Sedge           | <i>Carex hendersonii</i>        |
| Inland Sedge              | Sedge           | <i>Carex interior</i>           |
| Pale Sedge                | Sedge           | <i>Carex livida</i>             |
| Slough Sedge              | Sedge           | <i>Carex obnupta</i>            |
| Meadow Sedge              | Sedge           | <i>Carex praticola</i>          |

Balch Creek Watershed, Appendix F

|                               |        |                                   |
|-------------------------------|--------|-----------------------------------|
| Beaked Sedge                  | Sedge  | <i>Carex rostrata</i>             |
| Sitka Sedge                   | Sedge  | <i>Carex sitchensis</i>           |
| Sawbeak Sedge                 | Sedge  | <i>Carex stipata</i>              |
| Inflated Sedge                | Sedge  | <i>Carex vesicaria</i>            |
| Creeping Spikesedge           | Sedge  | <i>Eleocharis palustris</i>       |
| Hardstem Bulrush              | Sedge  | <i>Scirpus acutus</i>             |
| Pale Great Bulrush            | Sedge  | <i>Scirpus heterochaetus</i>      |
| Small-fruited Bulrush         | Sedge  | <i>Scirpus microcarpus</i>        |
| Olney's Bulrush               | Sedge  | <i>Scirpus olneyi</i>             |
| Softstem Bulrush              | Sedge  | <i>Scirpus validus</i>            |
| Water Foxtail                 | Grass  | <i>Alopecurus geniculatus</i>     |
| California Brome-grass        | Grass  | <i>Bromus carinatus</i>           |
| Alaska Brome                  | Grass  | <i>Bromus sitchensis</i>          |
| Large Barnyard-grass          | Grass  | <i>Echinochloa grusgalli</i>      |
| Western Fescue-grass          | Grass  | <i>Festuca occidentalis</i>       |
| Bearded Fescue-grass          | Grass  | <i>Festuca subulata</i>           |
| Coast Range Fescue-grass      | Grass  | <i>Festuca subuliflora</i>        |
| Oniongrass                    | Grass  | <i>Melica bulbosa</i>             |
| Old-witch Grass               | Grass  | <i>Panicum capillare</i>          |
| Annual Bluegrass              | Grass  | <i>Poa annua</i>                  |
| Canada Bluegrass              | Grass  | <i>Poa compressa</i>              |
| Gray's Bluegrass              | Grass  | <i>Poa grayana</i>                |
| Howell's Bluegrass            | Grass  | <i>Poa howellii</i>               |
| Kentucky Bluegrass            | Grass  | <i>Poa pratensis</i>              |
| Wild Onion                    | Lily   | <i>Allium amplexens</i>           |
| Slim-leaved Onion*            | Lily   | <i>Allium amplexens</i>           |
| Howell's Brodiaea             | Lily   | <i>Brodiaea howellii</i>          |
| Leichtlin's Camas             | Lily   | <i>Camassia leichlinii</i>        |
| Common Camas                  | Lily   | <i>Camassia quamash</i>           |
| Hooker Fairy-bell*            | Lily   | <i>Disporum hookeri</i>           |
| Large-flowered Fairy-bell*    | Lily   | <i>Disporum smithii</i>           |
| Giant Fawn-lily               | Lily   | <i>Erythronium oregonum</i>       |
| Mission Bells                 | Lily   | <i>Fritillaria lanceolata</i>     |
| Columbia Lily                 | Lily   | <i>Lilium columbianum</i>         |
| Red Lily                      | Lily   | <i>Lilium philadelphicum</i>      |
| Deerberry                     | Lily   | <i>Maianthemum dilatatum</i>      |
| Oregon Fetid Adder's-tongue   | Lily   | <i>Scolopos hallii</i>            |
| Western False Solomon's Seal  | Lily   | <i>Smilacina racemosa</i>         |
| Starry False Solomon's Seal   | Lily   | <i>Smilacina stellata</i>         |
| Clasping-leaved Twisted-stalk | Lily   | <i>Streptopus amplexifolius</i>   |
| Giant Trillium                | Lily   | <i>Trillium chloropetalum</i>     |
| Western Trillium*             | Lily   | <i>Trillium ovatum</i>            |
| False Hellebore               | Lily   | <i>Veratrum californicum</i>      |
| Oregon Iris                   | Iris   | <i>Iris tenax</i>                 |
| Blue-eyed grass               | Iris   | <i>Sisyrinchium angustifolium</i> |
| Fairy Slipper                 | Orchid | <i>Calypso bulbosa</i>            |
| Pacific Coral-root            | Orchid | <i>Corallorhiza maculata</i>      |
| Hooded Coral-root             | Orchid | <i>Corallorhiza striata</i>       |
| Snow-orchid                   | Orchid | <i>Eburophyton austiniacae</i>    |

## Balch Creek Watershed, Appendix F

|                               |                |                                 |
|-------------------------------|----------------|---------------------------------|
| Giant Rattlesnake-plantain    | Orchid         | <i>Goodyera oblongifolia</i>    |
| Heart-leaved Listera          | Orchid         | <i>Listera cordata</i>          |
| Water-shield                  | Water-lily     | <i>Brasenia schreberi</i>       |
| Yellow Water-lily             | Water-lily     | <i>Nuphar polysepalum</i>       |
| Baneberry                     | Buttercup      | <i>Actaea rubra</i>             |
| Western White Anemone         | Buttercup      | <i>Anemone deltoidea</i>        |
| Lyall's Anemone               | Buttercup      | <i>Anemone lyallii</i>          |
| Oregon Anemone                | Buttercup      | <i>Anemone oregana</i>          |
| Red Columbine                 | Buttercup      | <i>Aquilegia formosa</i>        |
| Cutleaf Goldthread            | Buttercup      | <i>Coptis laciniata</i>         |
| Pale Larkspur                 | Buttercup      | <i>Delphinium leucophaeum</i>   |
| Menzies' Larkspur             | Buttercup      | <i>Delphinium menziesii</i>     |
| Nuttall's Larkspur            | Buttercup      | <i>Delphinium nuttallii</i>     |
| Shore Buttercup               | Buttercup      | <i>Ranunculus cymbalaria</i>    |
| Creeping Buttercup*           | Buttercup      | <i>Ranunculus flammula</i>      |
| Macoun's Buttercup            | Buttercup      | <i>Ranunculus macounii</i>      |
| Western Buttercup             | Buttercup      | <i>Ranunculus occidentalis</i>  |
| Straightbeak Buttercup        | Buttercup      | <i>Ranunculus orthorhyncus</i>  |
| Pennsylvania Buttercup        | Buttercup      | <i>Ranunculus pensylvanicus</i> |
| Little Buttercup              | Buttercup      | <i>Ranunculus uncinatus</i>     |
| Western Meadowrue             | Buttercup      | <i>Thalictrum occidentale</i>   |
| Lanceleaved Stonecrop         | Stonecrop      | <i>Sedum lanceolatum</i>        |
| Spatula-leaf Stonecrop        | Stonecrop      | <i>Sedum spathulifolium</i>     |
| Coontail                      | Hornwort       | <i>Ceratophyllum demersum</i>   |
| Vanillaleaf*                  | Barberry       | <i>Achlys triphylla</i>         |
| Tall Oregongrape              | Barberry       | <i>Berberis aquifolium</i>      |
| Dull Oregongrape*             | Barberry       | <i>Berberis nervosa</i>         |
| White Inside-out Flower*      | Barberry       | <i>Vancouveria hexandra</i>     |
| Meadow Lotus                  | Pea            | <i>Lotus denticulatus</i>       |
| Seaside Lotus                 | Pea            | <i>Lotus formosissimus</i>      |
| Small-flowered Deervetch      | Pea            | <i>Lotus micranthus</i>         |
| Spanish Clover                | Pea            | <i>Lotus purshiana</i>          |
| Two-color Lupine              | Pea            | <i>Lupinus bicolor</i>          |
| Broadleaf Lupine              | Pea            | <i>Lupinus latifolius</i>       |
| Spurred Lupine                | Pea            | <i>Lupinus laxiflorus</i>       |
| Prarie Lupine                 | Pea            | <i>Lupinus lepidus</i>          |
| Field Lupine                  | Pea            | <i>Lupinus micranthus</i>       |
| Chick Lupine                  | Pea            | <i>Lupinus microcarpus</i>      |
| Large-leaved Lupine           | Pea            | <i>Lupinus polyphyllus</i>      |
| Stream Lupine                 | Pea            | <i>Lupinus rivularis</i>        |
| Sulfur Lupine                 | Pea            | <i>Lupinus sulphureus</i>       |
| American Vetch                | Pea            | <i>Vicia americana</i>          |
| Bergia                        | Waterwort      | <i>Bergia texana</i>            |
| Three-stamen Waterwort        | Waterwort      | <i>Elatine triandra</i>         |
| Different-leaf Water-starwort | Water-starwort | <i>Callitriche hetrophylla</i>  |
| Black Cottonwood*             | Willow         | <i>Populus trichocarpa</i>      |
| Columbia River Willow         | Willow         | <i>Salix fluviatilis</i>        |
| Pacific Willow                | Willow         | <i>Salix lasiandra</i>          |
| Piper's Willow                | Willow         | <i>Salix piperi</i>             |

Balch Creek Watershed, Appendix F

|                            |           |                                       |
|----------------------------|-----------|---------------------------------------|
| Rigid Willow               | Willow    | <i>Salix rigida</i>                   |
| Scouler Willow*            | Willow    | <i>Salix scouleriana</i>              |
| Soft-leaved Willow         | Willow    | <i>Salix sessilifolia</i>             |
| Sitka Willow               | Willow    | <i>Salix sitchensis</i>               |
| Oregon Ash*                | Ash       | <i>Fraxinus latifolia</i>             |
| Red Alder*                 | Birch     | <i>Alnus rubra</i>                    |
| Hazelnut*                  | Birch     | <i>Corylus cornuta</i>                |
| Garry Oak                  | Beech     | <i>Quercus garryana</i>               |
| Branching Montia           | Purslane  | <i>Montia diffusa</i>                 |
| Narrow-leaved Montia       | Purslane  | <i>Montia linearis</i>                |
| Streambank Springbeauty    | Purslane  | <i>Montia parvifolia</i>              |
| Miner's Lettuce            | Purslane  | <i>Montia perfoliata</i>              |
| Siberian Montia            | Purslane  | <i>Montia sibirica</i>                |
| Bigleaf Sandwart           | Pink      | <i>Arenaria macrophylla</i>           |
| Western Pearlwort          | Pink      | <i>Sagina occidentalis</i>            |
| Crisped Starwort           | Pink      | <i>Stellaria crispa</i>               |
| Water Smartweed            | Buckwheat | <i>Polygonum amphibium</i>            |
| Doorweed                   | Buckwheat | <i>Polygonum aviculare</i>            |
| American Bistort           | Buckwheat | <i>Polygonum bistoides</i>            |
| Water Smartweed            | Buckwheat | <i>Polygonum coccineum</i>            |
| Douglas' Knotweed          | Buckwheat | <i>Polygonum douglasii</i>            |
| Common Waterpepper         | Buckwheat | <i>Polygonum hydropiperoides</i>      |
| Kellogg's Knotweed         | Buckwheat | <i>Polygonum kelloggii</i>            |
| Nuttall's Knotweed         | Buckwheat | <i>Polygonum nutallii</i>             |
| Water Smartweed            | Buckwheat | <i>Polygonum punctatum</i>            |
| Fall Knotweed              | Buckwheat | <i>Polygonum spergulariaeforme</i>    |
| Western Dock               | Buckwheat | <i>Rumex occidentalis</i>             |
| Gold Poppy                 | Poppy     | <i>Eschscholzia californica</i>       |
| Pacific Bleedingheart      | Fumitory  | <i>Dicentra formosa</i>               |
| Meadow Sidalcea            | Mallow    | <i>Sidalcea campestris</i>            |
| Bolandra                   | Saxifrage | <i>Bolandra oregana</i>               |
| Greater Boykinia           | Saxifrage | <i>Boykinia major</i>                 |
| Pacific Water-carpet       | Saxifrage | <i>Chrysosplenium glechomaefolium</i> |
| Smooth Alumroot            | Saxifrage | <i>Heuchera glabra</i>                |
| Smallflowered Alumroot     | Saxifrage | <i>Heuchera micrantha</i>             |
| Leafy Mitrewort            | Saxifrage | <i>Mitella caulescens</i>             |
| Five-stamened Mitrewort    | Saxifrage | <i>Mitella pentandra</i>              |
| Rusty Saxifrage            | Saxifrage | <i>Saxifraga ferruginea</i>           |
| Swamp Saxifrage            | Saxifrage | <i>Saxifraga integrifolia</i>         |
| Western Saxifrage          | Saxifrage | <i>Saxifraga occidentalis</i>         |
| Sullivantia                | Saxifrage | <i>Sullivantia oregana</i>            |
| Fringecup                  | Saxifrage | <i>Tellima grandiflorum</i>           |
| Laceflower                 | Saxifrage | <i>Tiarella trifoliata</i>            |
| Angled Bittercress         | Mustard   | <i>Cardamine angulata</i>             |
| Little Western Bittercress | Mustard   | <i>Cardamine oligosperma</i>          |
| Pennsylvania Bittercress   | Mustard   | <i>Cardamine pensylvanica</i>         |
| Slender Toothwort          | Mustard   | <i>Cardamine pulcherrima</i>          |
| Spring Whitlow-grass       | Mustard   | <i>Draba verna</i>                    |
| Prairie Rocket             | Mustard   | <i>Erysimum asperum</i>               |

**Balch Creek Watershed, Appendix F**

|                             |             |                                  |
|-----------------------------|-------------|----------------------------------|
| Columbia Cress              | Mustard     | <i>Rorippa columbiae</i>         |
| Early Blue Violet           | Violet      | <i>Viola adunca</i>              |
| Stream Violet*              | Violet      | <i>Viola glabella</i>            |
| Marsh Violet                | Violet      | <i>Viola palustris</i>           |
| Evergreen Violet*           | Violet      | <i>Viola sempervirens</i>        |
| Oregon Oxalis               | Wood-sorrel | <i>Oxalis oregana</i>            |
| Western Yellow Oxalis       | Wood-sorrel | <i>Oxalis suksdorfii</i>         |
| Trillium-leaved Wood-sorrel | Wood-sorrel | <i>Oxalis trilliifolia</i>       |
| Vine Maple*                 | Maple       | <i>Acer circinatum</i>           |
| Big-leaf Maple*             | Maple       | <i>Acer macrophyllum</i>         |
| Western Wahoo*              | Staff-tree  | <i>Euonymus occidentalis</i>     |
| Oregon Tea-tree             | Buckthorn   | <i>Ceanothus sanguineus</i>      |
| Cascara*                    | Buckthorn   | <i>Rhamnus purshiana</i>         |
| Madrone*                    | Heath       | <i>Arbutus menziesii</i>         |
| Salal*                      | Heath       | <i>Gaultheria shallon</i>        |
| Indian-pipe                 | Heath       | <i>Monotropa uniflora</i>        |
| Western Rhododendron*       | Heath       | <i>Rhododendron macrophyllum</i> |
| Western Azalea              | Heath       | <i>Rhododendron occidentale</i>  |
| Alaska Blueberry            | Heath       | <i>Vaccinium alaskaense</i>      |
| Evergreen Huckleberry       | Heath       | <i>Vaccinium ovatum</i>          |
| Red Huckleberry*            | Heath       | <i>Vaccinium parvifolium</i>     |
| Mockorange*                 | Hydrangea   | <i>Philadelphus lewisii</i>      |
| Western Serviceberry        | Rose        | <i>Amelanchier alnifolia</i>     |
| Goatsbeard*                 | Rose        | <i>Aruncus sylvester</i>         |
| Black Hawthorn              | Rose        | <i>Crataegus douglasii</i>       |
| Wood Strawberry*            | Rose        | <i>Fragaria vesca</i>            |
| Broadpetal Strawberry       | Rose        | <i>Fragaria virginiana</i>       |
| Oregon Avens*               | Rose        | <i>Geum macrophyllum</i>         |
| Ocean-spray                 | Rose        | <i>Holodiscus discolor</i>       |
| Indian Plum*                | Rose        | <i>Oemleria cerasiformis</i>     |
| Pacific Ninebark            | Rose        | <i>Physocarpus capitatus</i>     |
| Sticky Cinquefoil           | Rose        | <i>Potentilla glandulosa</i>     |
| Marsh Cinquefoil            | Rose        | <i>Potentilla palustris</i>      |
| Bitter Chokecherry*         | Rose        | <i>Prunus emarginata</i>         |
| Common Chokecherry          | Rose        | <i>Prunus virginiana</i>         |
| Western Crabapple           | Rose        | <i>Pyrus fusca</i>               |
| Baldhip Rose                | Rose        | <i>Rosa gymnocarpa</i>           |
| Nootka Rose                 | Rose        | <i>Rosa nutkana</i>              |
| Swamp Rose                  | Rose        | <i>Rosa pisocarpa</i>            |
| Trailing Blackberry*        | Rose        | <i>Rubus lasiococcus</i>         |
| Blackcap*                   | Rose        | <i>Rubus leucodermis</i>         |
| Thimbleberry*               | Rose        | <i>Rubus parviflorus</i>         |
| Fiveleaved Bramble          | Rose        | <i>Rubus pedatus</i>             |
| Salmonberry*                | Rose        | <i>Rubus spetabilis</i>          |
| Pacific Blackberry*         | Rose        | <i>Rubus ursinus</i>             |
| Annual Burnet               | Rose        | <i>Sanguisorba occidentalis</i>  |
| Sitka Mountain-ash          | Rose        | <i>Sorbus sitchensis</i>         |
| Douglas's Spirea            | Rose        | <i>Spirea douglasii</i>          |
| Wild Ginger*                | Birthwort   | <i>Asarum caudatum</i>           |

## Balch Creek Watershed, Appendix F

|                               |                  |                                  |
|-------------------------------|------------------|----------------------------------|
| Enchanter's Nightshade        | Evening-primrose | <i>Circeae alpina</i>            |
| Fireweed                      | Evening-primrose | <i>Epilobium angustifolium</i>   |
| Common Willow-weed            | Evening-primrose | <i>Epilobium glandulosum</i>     |
| Watson's Willow-weed          | Evening-primrose | <i>Epilobium watsonii</i>        |
| Bastard Toad-flax             | Sandalwood       | <i>Comandra umbellata</i>        |
| Bunchberry                    | Dogwood          | <i>Cornus canadensis</i>         |
| Western Flowering Dogwood*    | Dogwood          | <i>Cornus nuttallii</i>          |
| Red-osier Dogwood             | Dogwood          | <i>Cornus stolonifera</i>        |
| Blue Currant                  | Currant          | <i>Ribes bracteosum</i>          |
| Western Black Currant         | Currant          | <i>Ribes laxiflorum</i>          |
| Red Currant                   | Currant          | <i>Ribes sanguineum</i>          |
| Sticky Currant                | Currant          | <i>Ribes viscosissimum</i>       |
| Sharptooth Angelica           | Parsley          | <i>Angelica arguta</i>           |
| Cow-parsnip                   | Parsley          | <i>Heracleum lanatum</i>         |
| Parsley-leaved Lovage         | Parsley          | <i>Ligusticum apiifolium</i>     |
| Gray's Lovage                 | Parsley          | <i>Ligusticum grayii</i>         |
| Common Lomatium               | Parsley          | <i>Lomatium utriculatum</i>      |
| Pacific Water-parsley         | Parsley          | <i>Oenanthe sarmentosa</i>       |
| Mountain Sweet-root           | Parsley          | <i>Osmorhiza chilensis</i>       |
| Pacific Sanicle               | Parsley          | <i>Sanicula crassicaulis</i>     |
| Fringed Loosestrife           | Primrose         | <i>Lysimachia ciliata</i>        |
| Tufted Loosestrife            | Primrose         | <i>Lysimachia thyrsiflora</i>    |
| Western Starflower            | Primrose         | <i>Trientalis latifolia</i>      |
| Common Bladderwort            | Bladderwort      | <i>Utricularia vulgaris</i>      |
| Common Forget-me-not          | Borage           | <i>Cryptantha intermedia</i>     |
| Pacific Hound's-tongue        | Borage           | <i>Cynoglossum grande</i>        |
| Western Bluebells             | Borage           | <i>Mertensia platyphylla</i>     |
| Fragrant Plagiobothrys        | Borage           | <i>Plagiobothrys figuratus</i>   |
| Wild Hyssop                   | Verbena          | <i>Verbena hastata</i>           |
| Field Mint                    | Mint             | <i>Mentha arvensis</i>           |
| Savory                        | Mint             | <i>Satureja douglasii</i>        |
| Marsh Skullcap                | Mint             | <i>Scutellaria galericulata</i>  |
| Marsh Betony                  | Mint             | <i>Stachys palustris</i>         |
| Wood Sage                     | Mint             | <i>Teucrium canadense</i>        |
| Northern Gentian              | Gentian          | <i>Gentiana amarella</i>         |
| Staff Gentian                 | Gentian          | <i>Gentiana sceptrum</i>         |
| Spreading Dogbane             | Dogbane          | <i>Apocynum androsaemifolium</i> |
| Large-flowered Collomia       | Phlox            | <i>Collomia grandiflora</i>      |
| Varied-leaf Collomia          | Phlox            | <i>Collomia heterophylla</i>     |
| Bicolored Linanthus           | Phlox            | <i>Linanthus bicolor</i>         |
| Microsteris                   | Phlox            | <i>Microsteris gracilis</i>      |
| Skunkweed                     | Phlox            | <i>Navarretia squarrosa</i>      |
| Buckbean                      | Buck-bean        | <i>Menyanthes trifoliata</i>     |
| Pacific Waterleaf*            | Waterleaf        | <i>Hydrophyllum tenuipes</i>     |
| Shade Phacelia                | Waterleaf        | <i>Phacelia nemoralis</i>        |
| Garden Nightshade             | Nightshade       | <i>Solanum nigrum</i>            |
| Lesser's Snapdragon           | Figwort          | <i>Antirrhinum orontium</i>      |
| Golden Indian-paintbrush      | Figwort          | <i>Castilleja levisecta</i>      |
| Large-flowered Blue-eyed Mary | Figwort          | <i>Collinsia grandiflora</i>     |

**Balch Creek Watershed, Appendix F**

|                               |             |                                  |
|-------------------------------|-------------|----------------------------------|
| Small-flowered Blue-eyed Mary | Figwort     | <i>Collinsia parviflora</i>      |
| Mudwort                       | Figwort     | <i>Limosella aquatica</i>        |
| Chickweed Monkey-flower       | Figwort     | <i>Mimulus alsinoides</i>        |
| Yellow Monkey-flower          | Figwort     | <i>Mimulus guttatus</i>          |
| Musk-flower                   | Figwort     | <i>Mimulus moschatus</i>         |
| Hairy Owl-Clover              | Figwort     | <i>Orthocarpus hispidus</i>      |
| Broad-leaved Penstemon        | Figwort     | <i>Penstemon ovatus</i>          |
| California Figwort            | Figwort     | <i>Scrophalaria californica</i>  |
| Snow Queen                    | Figwort     | <i>Synhyris reniformis</i>       |
| Small-flowered Tonella        | Figwort     | <i>Tonella tenella</i>           |
| American Brooklime            | Figwort     | <i>Veronica americana</i>        |
| Manroot                       | Cucumber    | <i>Marah oreganus</i>            |
| Scouler's Bellflower          | Harebell    | <i>Campanula scouleri</i>        |
| Howellia                      | Harebell    | <i>Howellia aquatilis</i>        |
| Sweet Woodruff                | Madder      | <i>Asperula odorata</i>          |
| Cleavers                      | Madder      | <i>Galium aparine</i>            |
| Rough Bedstraw                | Madder      | <i>Galium asperrimum</i>         |
| Small Bedstraw                | Madder      | <i>Galium trifidum</i>           |
| Sweetscented Bedstraw*        | Madder      | <i>Galium triflorum</i>          |
| Twinflower                    | Honeysuckle | <i>Linnaea borealis</i>          |
| Trumpet Vine                  | Honeysuckle | <i>Lonicera ciliosa</i>          |
| Black Twinberry               | Honeysuckle | <i>Lonicera involucrata</i>      |
| Blue Elderberry               | Honeysuckle | <i>Sambucus cerulea</i>          |
| Red Elderberry*               | Honeysuckle | <i>Sambucus racemosa</i>         |
| Common Snowberry*             | Honeysuckle | <i>Symphoricarpos albus</i>      |
| Creeping Snowberry            | Honeysuckle | <i>Symphoricarpos mollis</i>     |
| Yarrow                        | Aster       | <i>Achillea millefolium</i>      |
| Pathfinder*                   | Aster       | <i>Adenocaulon bicolor</i>       |
| Large-flowered Agoseris       | Aster       | <i>Agoseris grandiflora</i>      |
| Pearly-everlasting            | Aster       | <i>Anaphalis margaritacea</i>    |
| Douglas's Sagewort            | Aster       | <i>Artemisia douglasiana</i>     |
| Columbia River Mugwort        | Aster       | <i>Artemisia lindleyana</i>      |
| Common California Aster       | Aster       | <i>Aster chilensis</i>           |
| White-topped Aster            | Aster       | <i>Aster curtus</i>              |
| Douglas's Aster               | Aster       | <i>Aster subspicatus</i>         |
| Nodding Beggars-tick          | Aster       | <i>Bidens cernua</i>             |
| Leafy Beggars-tick            | Aster       | <i>Bidens frondosa</i>           |
| Western Beggars-tick          | Aster       | <i>Bidens vulgata</i>            |
| Horseweed                     | Aster       | <i>Conyza canadensis</i>         |
| Annual Fleabane               | Aster       | <i>Erigeron annuus</i>           |
| Philadelphia Fleabane         | Aster       | <i>Erigeron philadelphicus</i>   |
| Marsh Cudweed                 | Aster       | <i>Gnaphalium palustre</i>       |
| White-flowered Hawkweed       | Aster       | <i>Hieracium albiflorum</i>      |
| Cluster Tarweed               | Aster       | <i>Madia glomerata</i>           |
| Chile Tarweed                 | Aster       | <i>Madia sativa</i>              |
| Pineapple Weed                | Aster       | <i>Matricaria matricarioides</i> |
| Sweet Coltsfoot               | Aster       | <i>Petasites frigidus</i>        |
| Canada Goldenrod              | Aster       | <i>Solidago canadensis</i>       |
| Cocklebur                     | Aster       | <i>Xanthium strumarium</i>       |

**APPENDIX G**

**Vertebrate List**



## Balch Creek Watershed, Appendix G

| <b>Common Name</b>            | <b>Scientific Name</b>            |
|-------------------------------|-----------------------------------|
| Cutthroat Trout               | <i>Salmo clarki</i>               |
| Northwestern Salamander       | <i>Ambystoma gracile</i>          |
| Long-toed Salamander          | <i>Ambystoma macrodactylum</i>    |
| Pacific Giant Salamander      | <i>Dicamptodon ensatus</i>        |
| Olympic Salamander            | <i>Rhyacotriton olympicus</i>     |
| Clouded Salamander            | <i>Aneides ferreus</i>            |
| Oregon Slender Salamander     | <i>Batrachoseps wrighti</i>       |
| Dunn's Salamander             | <i>Plethodon dunni</i>            |
| Western Red-backed Salamander | <i>Plethodon vehiculum</i>        |
| Ensatina                      | <i>Ensatina eschscholtz</i>       |
| Rough-skinned Newt            | <i>Taricha granulosa</i>          |
| Western Toad                  | <i>Bufo boreas</i>                |
| Pacific Treefrog              | <i>Hyla regilla</i>               |
| Red-legged Frog               | <i>Rana aurora</i>                |
| Spotted Frog                  | <i>Rana pretisoa</i>              |
| Bullfrog                      | <i>Rana catesbeiana</i>           |
| Western Pond Turtle           | <i>Clemmys marmorat</i>           |
| Painted Turtle                | <i>Chrysemys picta</i>            |
| Western Fence Lizard          | <i>Sceloporus occidentalis</i>    |
| Northern Alligator Lizard     | <i>Gerrhonotus coeruleus</i>      |
| Southern Alligator Lizard     | <i>Gerrhonotus multicarinatus</i> |
| Western Skink                 | <i>Eumeces skiltonianus</i>       |
| Rubber Boa                    | <i>Charina bottae</i>             |
| Racer                         | <i>Coluber constrictor</i>        |
| Ringneck Snake                | <i>Diadophis punctatus</i>        |
| Common Garter Snake           | <i>Thamnophis sirtalia</i>        |
| Northwestern Garter Snake     | <i>Thamnophis ordinoides</i>      |
| Common Loon                   | <i>Gavia immer</i>                |
| Horned Grebe                  | <i>Podiceps auritus</i>           |
| Pied-billed Grebe             | <i>Podilymbus podiceps</i>        |
| Western Grebe                 | <i>Aechmophorus occidentalis</i>  |
| Double-crested Cormorant      | <i>Phalacrocorax auritus</i>      |
| American Bittern              | <i>Botaurus lentiginosus</i>      |
| Black-crowned Night Heron     | <i>Nycticorax nycticorax</i>      |
| Green-backed Heron            | <i>Butorides striatus</i>         |
| Great Blue Heron              | <i>Ardea herodias</i>             |
| Snow Goose                    | <i>Chen caerulescens</i>          |
| Canada Goose                  | <i>Branta canadensis</i>          |
| Mallard                       | <i>Anas platyrhynchos</i>         |
| Gadwall                       | <i>Anas strepera</i>              |
| Green-winged Teal             | <i>Anas crecca</i>                |
| American Wigeon               | <i>Anas americana</i>             |
| Eurasian Wigeon               | <i>Anas penelope</i>              |
| Northern Pintail              | <i>Anas acuta</i>                 |
| Northern Shoveler             | <i>Anas clypeata</i>              |
| Blue-winged Teal              | <i>Anas discors</i>               |
| Cinnamon Teal                 | <i>Anas cyanoptera</i>            |

Balch Creek Watershed, Appendix G

|                        |                                   |
|------------------------|-----------------------------------|
| Ruddy Duck             | <i>Oxyura jamaicensis</i>         |
| Wood Duck              | <i>Aix sponsa</i>                 |
| Canvasback             | <i>Aythya valisineria</i>         |
| Ring-necked Duck       | <i>Aythya collaris</i>            |
| Greater Scaup          | <i>Aythya marila</i>              |
| Lesser Scaup           | <i>Aythya affinis</i>             |
| Barrow's Goldeneye     | <i>Bucephala islandica</i>        |
| Common Goldeneye       | <i>Bucephala clangula</i>         |
| Bufflehead             | <i>Bucephala albeola</i>          |
| Common Merganser       | <i>Mergus merganser</i>           |
| Red-breasted Merganser | <i>Mergus serrator</i>            |
| Hooded Merganser       | <i>Lophodytes cucullatus</i>      |
| Virginia Rail          | <i>Rallus limicola</i>            |
| Sora Rail              | <i>Coturnicops noveboracensis</i> |
| American Coot          | <i>Fulica americana</i>           |
| Semipalmated Plover    | <i>Charadrius semipalmatus</i>    |
| Killdeer               | <i>Charadrius vociferus</i>       |
| Whimbrel               | <i>Numenius phaeopus</i>          |
| Long-billed Curlew     | <i>Numenius americanus</i>        |
| Greater Yellowlegs     | <i>Tringa melanoleuca</i>         |
| Solitary Sandpiper     | <i>Tringa solitaria</i>           |
| Spotted Sandpiper      | <i>Actitis macularia</i>          |
| Short-billed Dowitcher | <i>Limnodromus griseus</i>        |
| Long-billed Dowitcher  | <i>Limnodromus scolopaceus</i>    |
| Common Snipe           | <i>Gallinago gallinago</i>        |
| Dunlin                 | <i>Calidris alpina</i>            |
| Western Sandpiper      | <i>Calidris mauri</i>             |
| Least Sandpiper        | <i>Calidris minutilla</i>         |
| Bonaparte's Gull       | <i>Larus philadelphia</i>         |
| Ring-billed Gull       | <i>Larus delawarensis</i>         |
| Herring Gull           | <i>Larus argentatus</i>           |
| California Gull        | <i>Larus californicus</i>         |
| Glaucous Gull          | <i>Larus hyperboreus</i>          |
| Western Gull           | <i>Larus occidentalis</i>         |
| Forster's Tern         | <i>Sterna forsteri</i>            |
| Caspian Tern           | <i>Sterna caspia</i>              |
| Turkey Vulture         | <i>Cathartes aura</i>             |
| Bald Eagle             | <i>Haliaeetus leucocephalus</i>   |
| Northern Harrier       | <i>Circus cyaneus</i>             |
| Sharp-shinned Hawk     | <i>Accipiter striatus</i>         |
| Cooper's Hawk          | <i>Accipiter cooperii</i>         |
| Northern Goshawk       | <i>Accipiter gentilis</i>         |
| Red-tailed Hawk        | <i>Buteo jamaicensis</i>          |
| Swainson's Hawk        | <i>Buteo swainsoni</i>            |
| Rough-legged Hawk      | <i>Buteo lagopus</i>              |
| Osprey                 | <i>Pandion haliaetus</i>          |
| American Kestrel       | <i>Falco sparverius</i>           |
| Merlin                 | <i>Falco columbarius</i>          |
| Peregrine Falcon       | <i>Falco peregrinus</i>           |

## Balch Creek Watershed, Appendix G

|                               |                                   |
|-------------------------------|-----------------------------------|
| Ruffed Grouse                 | <i>Bonasa umbellus</i>            |
| California Quail              | <i>Callipepla</i>                 |
| Ring-necked Pheasant          | <i>Phasianus colchicus</i>        |
| Band-tailed Pigeon            | <i>Columba fasciata</i>           |
| Rock Dove                     | <i>Columba livia</i>              |
| Mourning Dove                 | <i>Zenaida macroura</i>           |
| Monk Parakeet                 | <i>Myiopsitta monachus</i>        |
| Barn Owl                      | <i>Tyto alba</i>                  |
| Short-eared Owl               | <i>Asio flammeus</i>              |
| Long-eared Owl                | <i>Asio otus</i>                  |
| Great Horned Owl              | <i>Bubo virginianus</i>           |
| Western Screech Owl           | <i>Otus kennicottii</i>           |
| Burrowing Owl                 | <i>Athene cunicularia</i>         |
| Northern Pygmy Owl            | <i>Glaucidium gnoma</i>           |
| Northern Saw-whet Owl         | <i>Aegolius acadicus</i>          |
| Common Nighthawk              | <i>Chordeiles minor</i>           |
| Anna's Hummingbird            | <i>Calypte ann</i>                |
| Rufous Hummingbird            | <i>Selasphorus rufus</i>          |
| Allen's Hummingbird           | <i>Selasphorus sasin</i>          |
| Belted Kingfisher             | <i>Ceryle alcyon</i>              |
| Northern Flicker              | <i>Colaptes auratus</i>           |
| Lewis' Woodpecker             | <i>Melanerpes lewis</i>           |
| Red-breasted Sapsucker        | <i>Sphyrapicus ruber</i>          |
| Downy Woodpecker              | <i>Picoides pubescens</i>         |
| Hairy Woodpecker              | <i>Picoides villosus</i>          |
| Pileated Woodpecker           | <i>Dryocopus pileatus</i>         |
| Western Kingbird              | <i>Tyrannus verticalis</i>        |
| Olive-sided Flycatcher        | <i>Contopus borealis</i>          |
| Western Wood-Pee-wee          | <i>Contopus sordidulus</i>        |
| Say's Phoebe                  | <i>Sayornis saya</i>              |
| Dusky Flycatcher              | <i>Empidonax oberholseri</i>      |
| Hammond's Flycatcher          | <i>Empidonax hammondii</i>        |
| Willow Flycatcher             | <i>Empidonax traillii</i>         |
| Western Flycatcher            | <i>Empidonax difficilis</i>       |
| Horned Lark                   | <i>Ermophila alpestris</i>        |
| Tree Swallow                  | <i>Tachycineta bicolor</i>        |
| Violet-green Swallow          | <i>Tachycineta thalassina</i>     |
| Purple Martin                 | <i>Progne subis</i>               |
| Bank Swallow                  | <i>Riparia riparia</i>            |
| Northern Rough-winged Swallow | <i>Stelgidopteryx serripennis</i> |
| Cliff Swallow                 | <i>Hirundo pyrrhonota</i>         |
| Barn Swallow                  | <i>Hirundo rustica</i>            |
| Scrub Jay                     | <i>Aphelocoma coerulescens</i>    |
| Stellar's Jay                 | <i>Cyanocitta stelleri</i>        |
| American Crow                 | <i>Corvus brachyrhynchos</i>      |
| Common Raven                  | <i>Corvus corax</i>               |
| Black-capped Chickadee        | <i>Parus atricapillus</i>         |
| Chestnut-backed Chickadee     | <i>Parus rufescens</i>            |
| Bushtit                       | <i>Psaltriparus minimus</i>       |

Balch Creek Watershed, Appendix G

|                         |                                      |
|-------------------------|--------------------------------------|
| Brown Creeper           | <i>Certhia americana</i>             |
| White-breasted Nuthatch | <i>Sitta carolinensis</i>            |
| Red-breasted Nuthatch   | <i>Sitta canadensis</i>              |
| House Wren              | <i>Troglodytes aedon</i>             |
| Winter Wren             | <i>Troglodytes troglodytes</i>       |
| Bewick's Wren           | <i>Thryomanes bewickii</i>           |
| Marsh Wren              | <i>Cistothorus palustris</i>         |
| Golden-crowned Kinglet  | <i>Regulus satrapa</i>               |
| Ruby-crowned Kinglet    | <i>Regulus calendula</i>             |
| Western Bluebird        | <i>Sialia mexicana</i>               |
| Swainson's Thrush       | <i>Catharus ustulatus</i>            |
| Varied Thrush           | <i>Ixoreus naevius</i>               |
| American Robin          | <i>Turdus migratorius</i>            |
| Northern Shrike         | <i>Lanius excubitor</i>              |
| Water Pipit             | <i>Anthus spinoletta</i>             |
| American Dipper         | <i>Cinclus mexicanus</i>             |
| Waxwings                | <i>Bombycillidae</i>                 |
| Cedar Waxwing           | <i>Bombycilla cedrorum</i>           |
| European Starling       | <i>Sturnus vulgaris</i>              |
| Hutton's Vireo          | <i>Vireo huttoni</i>                 |
| Solitary Vireo          | <i>Vireo solitarius</i>              |
| Warbling Vireo          | <i>Vireo gilvus</i>                  |
| Orange-crowned Warbler  | <i>Vermivora celata</i>              |
| Yellow-rumped Warbler   | <i>Dendroica coronata</i>            |
| Townsend's Warbler      | <i>Dendroica townsendi</i>           |
| Yellow Warbler          | <i>Dendroica petechia</i>            |
| MacGillivray's Warbler  | <i>Oporornis tolmiei</i>             |
| Wilson's Warbler        | <i>Wilsonia pusilla</i>              |
| Common Yellowthroat     | <i>Geothlypis trichas</i>            |
| Yellow-breasted Chat    | <i>Icteria virens</i>                |
| Black-headed Grosbeak   | <i>Pheucticus melanocephalus</i>     |
| Lazuli Bunting          | <i>Passerina amoena</i>              |
| Rufous-sided Towhee     | <i>Pipilo erthrophthalmus</i>        |
| Savannah Sparrow        | <i>Passerculus sandwichensis</i>     |
| Song Sparrow            | <i>Melospiza melodia</i>             |
| Chipping Sparrow        | <i>Spizella passerina</i>            |
| Dark-eyed Junco         | <i>Junco hyemalis</i>                |
| White-crowned Sparrow   | <i>Zonotrichia leucophrys</i>        |
| Golden-crowned Sparrow  | <i>Zonotrichia atricapilla</i>       |
| Fox Sparrow             | <i>Passerella iliaca</i>             |
| Western Meadowlark      | <i>Sturnella neglecta</i>            |
| Yellow-headed Blackbird | <i>Xanthocephalus xanthocephalus</i> |
| Red-winged Blackbird    | <i>Agelaius phoeniceus</i>           |
| Tricolored Blackbird    | <i>Agelaius tricolor</i>             |
| Brewer's Blackbird      | <i>Euphagus carolinus</i>            |
| Brown-headed Cowbird    | <i>Molothrus ater</i>                |
| Northern Oriole         | <i>Icterus galbula</i>               |
| Western Tanager         | <i>Piranga ludoviciana</i>           |
| House Sparrow           | <i>Passer domesticus</i>             |

## Balch Creek Watershed, Appendix G

|                           |                                       |
|---------------------------|---------------------------------------|
| Pine Siskin               | <i>Carduelis pinus</i>                |
| American Goldfinch        | <i>Carduelis tristis</i>              |
| Pine Grosbeak             | <i>Pinicola enucleator</i>            |
| Rosy Finch                | <i>Leucosticte arctoa</i>             |
| Purple Finch              | <i>Carpodacus</i>                     |
| Cassin's Finch            | <i>Carpodacus cassinii</i>            |
| House Finch               | <i>Carpodacus</i>                     |
| Evening Grosbeak          | <i>Coccothraustes vespertinus</i>     |
| Virginia Opposum          | <i>Didelphis virginiana</i>           |
| Vagrant Shrew             | <i>Sorex vagrans</i>                  |
| Dusky Shrew               | <i>Sorex monticolus</i>               |
| Marsh Shrew               | <i>Sorex bendirii</i>                 |
| Trowbridge Shrew          | <i>Sorex trowbridgii</i>              |
| American Shrew Mole       | <i>Neurotrichus gibbsii</i>           |
| Townsend's Mole           | <i>Scapanus townsendii</i>            |
| Coast Mole                | <i>Scapanus orarius</i>               |
| Yuma Bat                  | <i>Myotis yumanensis</i>              |
| Little Brown Bat          | <i>Myotis lucifugus</i>               |
| California Bat            | <i>Myotis californicus</i>            |
| Long Eared Bat            | <i>Myotis evotis</i>                  |
| Fringed Bat               | <i>Myotis thysanodes</i>              |
| Pacific Pallid Bat        | <i>Antrozous pallidus</i>             |
| Silver Haired Bat         | <i>Lasionycteris noctivagans</i>      |
| Big Brown Bat             | <i>Eptesicus fuscus</i>               |
| Hoary Bat                 | <i>Lasiurus cinereus</i>              |
| Western Big Eared Bat     | <i>Plecotus townsendii townsendii</i> |
| Brush Rabbit              | <i>Sylvilagus bachmani</i>            |
| Snowshoe Hare             | <i>Lepus americanus</i>               |
| Mountain Beaver           | <i>Aplodontia rufa</i>                |
| Townsend's Chipmunk       | <i>Eutamias townsendii</i>            |
| Beechey Chipmunk          | <i>Spermophilus beecheyi</i>          |
| Western Ground Squirrel   | <i>Sciurus griseus</i>                |
| Chickaree                 | <i>Tamiasciurus douglasii</i>         |
| Northern Flying Squirrel  | <i>Glaucomys sabrinus</i>             |
| Mazama Pocket Gopher      | <i>Thomomys mazama</i>                |
| Camas Pocket Gopher       | <i>Thomomys bulbivorus</i>            |
| Beaver                    | <i>Castor canadensis</i>              |
| Deer Mouse                | <i>Peromyscus maniculatus</i>         |
| Dusky Footed Wood Rat     | <i>Neotoma fuscipes</i>               |
| Bushy Tailed Wood Rat     | <i>Neotoma cinerea</i>                |
| California Redbacked Vole | <i>Clethrionomys californicus</i>     |
| Pacific Phenacomys        | <i>Phenacomys albipes</i>             |
| Red Tree Vole             | <i>Phenacomys canicaudus</i>          |
| Townsend's Vole           | <i>Microtus townsendii</i>            |
| Long Tailed Vole          | <i>Microtus longicaudus</i>           |
| Creeping Vole             | <i>Microtus oregoni</i>               |
| Muskrat                   | <i>Ondatra zibethica</i>              |
| Black Rat                 | <i>Rattus rattus</i>                  |
| Norway Rat                | <i>Rattus norvegicus</i>              |

## Balch Creek Watershed, Appendix G

|                       |                                 |
|-----------------------|---------------------------------|
| House Mouse           | <i>Mus musculus</i>             |
| Pacific Jumping Mouse | <i>Zapus trinotatus</i>         |
| Nutria                | <i>Myocastor coypus</i>         |
| Coyote                | <i>Canis latrans</i>            |
| Red Fox               | <i>Vulpes vulpes</i>            |
| Gray Fox              | <i>Urocyon cinereoargenteus</i> |
| Black Bear            | <i>Ursus americanus</i>         |
| Raccoon               | <i>Procyon lotor</i>            |
| Marten                | <i>Martes americana</i>         |
| Short Tailed Weasel   | <i>Mustela erminea</i>          |
| Long Tailed Weasel    | <i>Mustela frenata</i>          |
| Mink                  | <i>Mustela vison</i>            |
| Spotted Skunk         | <i>Spilogale putorius</i>       |
| Striped Skunk         | <i>Mephitis mephitis</i>        |
| River Otter           | <i>Lutra canadensis</i>         |
| Mule Deer             | <i>Odocoileus hemionus</i>      |
| Roosevelt Elk         | <i>Cervus elaphus</i>           |

## **APPENDIX H**

### **Charter of the Balch Creek Task Force**

## **Balch Creek Watershed, Appendix H**

The purpose of the Balch Creek Task Force is to provide two recommendations to Commissioner of Public Works for the City of Portland. The first recommendation shall propose cost effective facilities necessary to correct existing violations of state water quality standards. The second recommendation shall propose an appropriate level of urban development for the Balch Creek Watershed based on the facilities proposed in the first recommendation. The task force shall develop and evaluate alternative recommendations. These evaluations shall include an analysis of the effects of various levels of urban development on the recreational, scenic, fisheries, wildlife, water quality, and storm water control and drainage values of the watershed. The second recommendation shall propose comprehensive plan policies, land use regulations, and public facilities sufficient to restore, protect, and enhance the kinds, quality, and quantity of natural values in the Balch Creek Watershed.

The Balch Creek Task Force shall begin work on November 6, 1989, provide its first recommendation before March 1, 1990, and conclude its work before December 31, 1990. The task force shall not have any legal identity separate from the Department of Public Works of the City of Portland.

The Balch Creek Task force shall be composed of eleven members appointed by the Commissioner of Public Works. The members shall serve a single term coincident with the existence of the task force.

A quorum of the Balch Creek Task Force necessary to do business shall be six members. The task force shall seek consensus on all issues. But in the absence of consensus, recommendations to the Commissioner of Public Works shall have the support of at least a majority of the entire membership of the task force. The task force, by consensus or by at least a two-thirds vote of its entire membership, may adopt or suspend procedural rules necessary for the conduct of its business. Any such rules shall be accord with the provisions of this charter.

The Balch Creek Task Force shall have a first, second, and third officer chosen by and serving at the pleasure of at least a majority of the entire membership of the task force. The first officer shall facilitate meetings and the second officer shall present the minutes of the previous meeting. In the absence of the first officer the second officer shall facilitate and the third officer shall present minutes. In the absence of the first and second officers the third officer shall both facilitate and present minutes. No business of the task force shall be conducted in the absence of an officer. The task force may divide itself into groups of three, four, or five members for the purpose of field inspections or technical analysis, provided that each group have at least one member who is an officer of the task force.

The Commissioner of Public Works shall promptly fill any vacancy on the Balch Creek Task Force resulting from death, disability, resignation, or removal. In making such replacement appointments the Commissioner



## **Balch Creek Watershed, Appendix H**

shall give first consideration to persons recommended by the remaining members of the task force.

The character of the Balch Creek Task Force is advisory. Members of the task force are not officials or employees of the City of Portland and shall not receive any salary, wage, stipend, or honorarium. Nor shall the members receive reimbursement of any expenses related to the work of the task force.

Any member of the Balch Creek Task Force who would realize a substantial material gain or who has a spouse or near relation by blood or by marriage who would realize a substantial material gain from a recommendation of the task force shall declare the circumstances of this gain during an announced meeting of the task force.

All meetings of the Balch Creek Task Force shall be announced, shall be open to all persons without regard to race, creed, color, gender, sexual persuasion, or national origin, and shall be accessible to persons with disabilities. The task force shall schedule its own meetings and establish its own agendas. Schedules of meeting dates shall be provided to interested persons as these schedules are adopted and revised. Meetings of less than six members of the task force need not be announced.

The Balch Creek Task Force shall keep and approve minutes of its meetings. These minutes shall be not be verbatim records, but shall chronicle in summary fashion all decisions made and conflicts of interest declared. The meetings of the task force may be tape recorded by any member or attender, but these tapes will not constitute an official record of proceedings and shall not be maintained by the Department of Public Works.

The Department of Public Works Bureau of Environmental Services and Bureau of Planning shall assist the the Balch Creek Task Force in scheduling, announcing, facilitating, and recording its meetings. All agendas, minutes, written testimony, reports, correspondence, procedural rules, and recommendations received or adopted by the task force shall be public records and shall be maintained by the Department of Public Works. The final recommendation of the task force will be published, maintained, and distributed by the Department of Public Works.

## **APPENDIX I**

### **Glossary of Habitat Terms**

## **Balch Creek Watershed, Appendix I**

|                             |   |
|-----------------------------|---|
| <b>BANK</b>                 | The rising ground surrounding a lake, river, or other water body.   |
| <b>CHANNEL</b>              | The bed where a stream of water runs.   |
| <b>COVER</b>                | Vegetation that serves to protect animals from excessive sunlight, drying, or predators.  |
| <b>DOMINANT EDGE EFFECT</b> | The species controlling the environment. The opportunities afforded along the boundary (also ECOTONE) between two plant communities for animals that can feed in one and take shelter in the other. |
| <b>ENHANCE</b>              | To raise to a higher degree; improve quality or available capacity; intensify; magnify.   |
| <b>EMERGENT VEGETATION</b>  | Various aquatic plants usually rooted in shallow water and having most of their vegetative growth above water, such as cattails and bullrushes.   |
| <b>EUTROPHICATION</b>       | The process by which a lake becomes rich in dissolved nutrients and deficient in oxygen.  |
| <b>GALLERY FOREST</b>       | A strip of forest bordering a river or lake where tree growth is supported by water flowing through the soil for a short distance.  |
| <b>GOAL 5</b>               | A portion of the Oregon Land Conservation and Development Commission land use goals, dealing with the protection and conservation of open spaces, scenic and historic areas, and natural resources. |
| <b>HABITAT</b>              | Place where a plant or animal species naturally lives and grows; its immediate surroundings.  |
| <b>HYDRIC SOILS</b>         | Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.  |
| <b>HYDROPHITE</b>           | A vascular plant that grows in water with its buds below the water surface.   |
| <b>INTERSPERSION</b>        | The proximity and interaction of one natural area to other adjacent areas.  |

## Balch Creek Watershed, Appendix I

|            |  |
|------------|--|
| INUNDATE   | To flood; overspread with water; overflow.   |
| LACUSTRINE | Related to or within lakes.  |
| LITTORAL   | Relating to, situated in or near a shoreline.  |
| LIMNIC     | Relating to or inhabiting a marshy lake.   |
| MESIC      | Of or pertaining to, or adapted to an environment having a balanced supply of moisture; being neither extremely wet nor dry.   |
| MITIGATE   | To make less severe. "Mitigation" includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; compensating for the impact by providing substitute resources or environments. |
| PALUSTRINE | Wetlands dominated by trees, shrubs, persistent emergent herbs, emergent mosses or lichens.  |
| PASSERINE  | Birds of the Order Passeriformes, comprising more than half of all bird species, and typically having feet adapted for perching (sparrows, warblers, etc.).  |
| RAPTORS    | Birds of the families Accipitridae, Falconidae, Tytonidae, and Strigidae; birds of prey equipped with long hooked bills and strong talons (hawks, eagles, falcons, and owls).  |
| RIPARIAN   | Relating to, living, or located on the bank of a natural water course (stream, river, etc.).   |
| RIVERINE   | Related to, formed by, or resembling a river.  |
| SATURATED  | Soaked, impregnated, or imbued thoroughly (soils).   |

## Balch Creek Watershed, Appendix I

|                      |   |
|----------------------|---|
| SERIAL STAGE         | A characteristic association of plants and animals during succession and before climax.   |
| SHOREBIRD            | Birds of the Families Charadriidae and Scolopacidae that are generally mud feeders and shore inhabiting.  |
| SLOUGH               | Usually a channel containing water which may or may not be moving, and often alluvial in nature.  |
| SMALL MAMMALS        | Fur covered animals that bear their young alive and nurse, those of the Orders Rodentia and Insectivora (mice, voles, shrews, etc.).  |
| STRUCTURAL.DIVERSITY | Different habitat types within a Natural Area (i.e., grasslands, forest, open water, etc.).   |
| WATERFOWL            | Birds of the Family Anatidae. Aquatic, web-footed, gregarious birds ranging from small ducks to large swans, including geese.   |
| WETLANDS             | Lands transitional between terrestrial and aquatic where the water table is usually at or near the surface or the land is covered by shallow water. Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. |
| XERIC                | Of, pertaining to, or adapted to a dry environment.   |

## **APPENDIX J**

### **Bibliography**

## **Balch Creek Watershed, Appendix J**

City of Eugene v. State Forester (Case 16-90-03217).

City of Portland, Oregon, *The Balch Creek Task Force Report on Cost Effective Facilities for Royal Highlands: A Preliminary Report to Commissioner Earl Blumenauer and the Portland Planning Commission* (Portland, Oregon: 1990).

Franklin Jerry F., and Tawny Blinn, *Natural Vegetation of Oregon and Washington* (Corvallis: Oregon State University Press for the United States Forest Service, 1987).

Marcy Cottrell Houle, *One City's Wilderness, Portland's Forest Park*, (Portland, Oregon: Oregon Historical Society Press, 1987).

Murray Smith and Associates for the Portland Bureau of Environmental Services, *Draft Royal Highlands Interceptor Sewer Facilities Plan* (Portland, Oregon: 1988).

Murray, Smith and Associates, Inc.; Oman/Jerrick Associates; and CENTRAC for the Portland Bureau of Environmental Services, *Royal Highlands: Interceptor Sewer Facilities Plan* (Portland, Oregon: 1990).

Olds, Peggy A., "Site Investigation: Forest Park Neighborhood Association, Erosion Problems Impacting Balch Creek, Report of the Multnomah County Soil Conservationist, Soil Conservation Service, United States Department of Agriculture" (Portland, Oregon: March 29, 1989).

Opinion of Melinda L. Bruce, Assistant Attorney General (Salem: Oregon Department of Justice File Number 629-420-G0025-87, 1988).

*Oregon Administrative Rules*, Chapter 660, Division 16.

*Oregon Revised Statutes*, Chapter 197, Section 640.

Portland Audubon Society v. Archdiocese of Portland in Oregon.

Portland Bureau of Planning, *Addendum to Mineral and Aggregate Resource Inventory* (Portland, Oregon: 1989).

Portland Bureau of Planning, *Historic Resource Inventory* (Portland, Oregon: 1984) 14 loose leaf volumes, inventory number 2-888-03021.

Portland Bureau of Planning, *Northwest Hills Study: Final Policy, Code and Map Actions, Adopted by the City Council November 27, 1985 by Ordinance 158017* (Portland, Oregon: 1985).

Portland Bureau of Planning, *Scenic Views, Sites, and Corridors: Scenic Resources Protection Plan* (Portland, Oregon: 1990) nine parts, multiple volumes.

H.G. Schlicker & Associates, Inc, The Mt. Calvary Mausoleum Landslide (Portland, Oregon, Project 87-303, 1987), p. 8.

“Settler Slays Son-in-law! After Murder, Escape, Balch is First Man to Swing in Stumptown”, *The Neighbor* (Portland, Oregon: John Henderson, January, 1990), p. 4.



## Ordinance No. 163770

Adopt the Balch Creek Watershed Protection Plan Amending Comprehensive Plan Policies, the new Title 33 of the City Code, Comprehensive Plan Map, and City Zone Maps (Ordinance)

The City of Portland Ordains:

The Council finds:

### General Findings

1. The LCDC has determined that existing City zoning designations do not provide the degree of protection required by the Statewide Planning Goal 5 administrative rule for natural resources. The City is therefore engaged in a program to identify and protect significant natural and scenic resources as part of its LCDC Periodic Review Order.
2. The City's Goal 5 update program has identified portions of the Balch Creek Watershed within the City of Portland as significant, and thus worthy of protection pursuant to Statewide Planning Goal 5 and Goal 8 of the Portland Comprehensive Plan.

### State Goal Findings

3. **Compliance with state goals.** State planning statutes require cities to adopt and amend comprehensive plans and land use regulations in compliance with the state land use goals. Because of the limited scope of the Balch Creek Watershed Protection Plan, only a few of the State Goals apply.
4. **Goal 1, Citizen Involvement,** requires that opportunities for citizens to be involved in all phases of the planning process be assured. Individual affected property owners were notified 30 days before the first Planning Commission Hearing. The Planning Commission conducted hearings on June 12, 1990, July 10, 1990, and August 14, 1990. A special presentation of the Planning Commission's recommendation was made to over 200 persons attending the Forest Park Neighborhood Association meeting of October 8, 1990. Notice of the City Council hearing was provide on

November 30, 1990. The above is sufficient and timely notice and opportunity for public participation.

## Balch Creek Watershed

5. **Goals 3 and 4, Agricultural Lands and Forest Lands**, call for preserving and maintaining agricultural and forest lands. The Balch Creek Watershed Protection Plan complies with with these Goals because it does not regulate any forest practices farm practices beyond the urban growth boundary, provides for the orderly transition of farm and forest uses to urban uses within the urban growth boundary, and regulates forest and farm practices within the urban growth boundary only as required by Statewide Planning Goal 5.
6. **Goal 5, Open Space, Scenic and Historic Areas, and Natural Resources**, calls for the conservation of open space and the protection of natural, historical, and scenic resources. The Balch Creek Watershed Protection Plan complies with Statewide Planing Goal 5; the following are the reasons:
  - a. It identifies the location, quantity, and quality of each Goal 5 resource within the Balch Creek Watershed.
  - b. It identifies uses allowed by existing zoning which conflict with the conservation or preservation of identified resources.
  - c. It provides appropriate degrees of protection for the identified resources through application of Environmental Conservation and Environmental Preservation overlay zones and by making necessary base zone and Comprehensive Plan map adjustments.
7. **Goal 6, Air, Water and Land Resources Quality**, calls for the maintenance and improvement of these resources. The Balch Creek Watershed Protection Plan complies with this Goal because it protects forests, streams, and groundwater recharge areas, and because it prevents erosion and excess stormwater runoff. These provisions will maintain air and water quality.
8. **Goal 7, Areas Subject to Natural Disasters and Hazards**, calls for protection of life and property from natural disasters and hazards. The Balch Creek Watershed Protection Plan complies with this Goal because it allows development on stable ridges and prohibits development on unstable slopes and flood prone areas. The vegetation maintenance provisions will also prevent land slides.
9. **Goal 8, Recreational Needs**, calls for fulfilling recreational needs of citizens and visitors. The Balch Creek Watershed Protection Plan complies with this Goal because it preserves existing recreational opportunity on City park land.

10. **Goal 10, Housing**, calls for meeting the housing needs of citizens. The Balch Creek Watershed Protection Plan complies with this Goal because it preserves existing comprehensive plan housing density.
11. **Goal 14, Urbanization**, calls for an orderly and efficient transition from rural to urban use. The Balch Creek Watershed Protection Plan complies with this Goal because it provides for such a transition, and identifies areas where full urban services cannot be efficiently provided in an environmentally acceptable manner.
12. **Goals 2, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19** do not apply to these amendments.

**Comprehensive Plan Findings:**

13. The city's Comprehensive Plan was adopted by the Portland City Council on October 16, 1980, and was acknowledged as being in conformance with the statewide goals for land use planning by the Land Conservation and Development Commission on May 1, 1981. Because of the limited scope of the amendment in this ordinance, only a few of the Comprehensive Plan's policies apply.
14. **Goal 8, Environment**, calls for maintaining and improving the quality of Portland's air, water and land resources, and protecting neighborhoods and business centers from noise pollution. **Policy 8.10, Drainageways**, calls for the regulation of development within identified drainageways. **Policies 8.14, Natural Resources, 8.15 Wetlands/Riparian/Water Bodies Protection, 8.16 Uplands Protection, and 8.17 Wildlife** call for the conservation of significant natural (including wetlands, riparian areas, water bodies, uplands, and wildlife) and scenic resource sites and values through a combination of programs. The Balch Creek Watershed Protection Plan complies with these policies because it will prevent landslides and soil erosion and because it will protect significant ground water recharge areas, drainages, riparian areas, and fish and wildlife habitats.
15. **Goal 9, Citizen Involvement**, calls for improving the method for citizen involvement in the on-going land use decision-making process and the provision of opportunities for citizen participation in the implementation, review and amendment of the adopted Comprehensive Plan. The Balch Creek Watershed Protection Plan complies with Goal for the reasons stated in Finding 4 above.
16. **Policies 10.2, Interim Plan Review and Amendment and 10.3, Comprehensive Plan Map Amendments**, require that all proposed amendments to the goals, policies and map of the Comprehensive Plan and implementing ordinances be reviewed by the Planning Commission prior to action by the City Council, under the regulations, notification requirements and hearing procedures used for zone change requests. The Balch Creek

## Balch Creek Watershed

Watershed Protection Plan complies with these policies because the Balch Creek Watershed Protection Plan was submitted to the Planning Commission and to the City Council following adopted procedures which comply with State planning statutes.

NOW, THEREFORE, The Council directs:

- a. That Policy 8.11 of the Portland Comprehensive Plan is amended as follows. (Language to be deleted is in ~~strike through~~; new language is in *italics*.)

~~"8.11—Willamette River Greenway~~

~~Protect and preserve the natural and economic qualities of lands along the Willamette River through implementation of the City's Willamette River Greenway Plan."~~

*"8.11 Special Areas Recognize unique land qualities and adopt specific planning objectives for special areas.*

A. *Willamette River Greenway Protect and preserve the natural and economic qualities of lands along the Willamette River through implementation of the City's Willamette River Greenway Plan.*

B. *Balch Creek Watershed Protect and preserve fishery, wildlife, flood control, and other natural resource values of the Balch Creek Watershed through the application of special development standards and approval criteria in the environmental overlay zones."*

- b. That Policy 2.5 of the Portland Comprehensive Plan is amended as follows. (Language to be deleted is in ~~strike through~~; new language is in *italics*.)

~~"2.5—Natural Resource Area Limit extension of development-related facilities, except for reasons of public health and safety, in areas designated Natural Resource on the Land Use Framework Map adopted by the Metropolitan Service District."~~

*"2.5 Future Urban Areas Do not extend urban services to areas within the Urban Services Boundary which are designated future urban areas. Provide exceptions only to correct declared health hazards and violations of pollution control laws.*

Objectives:

- A *Future Urban Area Designate, as future urban areas, (1) all areas beyond the Urban Growth Boundary, and (2) areas within the Urban Growth Boundary for which the extension of services would not be cost effective or would not be environmentally acceptable as determined by a detailed facility study.*
  - B *Replacement Areas Identify areas which could replace areas designated pursuant to (A) (2) above, and cooperate with the Metropolitan Service District and interested city and county governments to include these areas within the Urban Service Boundary."*
- c. That Chapter 33.460 of the new City Planning and Zoning Code is repealed and a new Chapter 33.435 is added. (Language to be deleted is in ~~strike through~~; new language is in *italics*.)

~~CHAPTER 33.460~~  
NATURAL RESOURCE ZONE

Sections:

~~33.460.010 Purpose~~

~~33.460.020 Map Symbol~~

~~33.460.030 Applying and Removing the Zone~~

~~33.460.040 Minimum Lot Area 33.460.010 Purpose The Natural Resource overlay zone limits development in the Natural Resource area outside of the Metropolitan Service District's adopted Urban Growth Boundary (UGB). This is achieved by limiting the minimum area of new lots to 20 acres.~~

~~33.460.020 Map Symbol~~

~~The Natural Resource zone is shown on the Official Zoning Maps with an "f" map symbol (for forest).~~

~~33.460.030 Applying and Removing the Zone The Natural Resource zone must be applied to all lands designated "Natural Resource" on the Metro Regional Land Use Framework Map. When the UGB is expanded to include Natural Resource-zoned land, the Natural Resource zone is to be removed from that land following the zoning map amendment procedures in 33.855.080.~~

## Balch Creek Watershed

~~33.460.040 Minimum Lot Area The minimum lot area for the creation of new lots in the Natural Resource zone is 20 acres. Existing lots of less than 20 acres may be developed, but may not be reduced in area."~~

### "CHAPTER 33.435 FUTURE URBAN ZONE

#### Sections:

33.435.010 Purpose

33.435.020 Map Symbol

33.435.030 Applying and Removing the Zone

33.435.040 Minimum Lot Area

*33.435.010 Purpose The Future Urban overlay zone limits development in future urban areas. Future urban areas are, (1) all areas beyond the the Metropolitan Service District's Urban Growth Boundary (UGB), and (2) areas within the UGB to which the extension of full urban services would not be cost effective or would cause unacceptable harm to the environment. The Future Urban overlay zone limits development by prohibiting the creation of new lots with a total area of less than 20 acres.*

*33.435.020 Map Symbol The Future Urban zone is shown on the Official Zoning Maps with an "f" map symbol (for future).*

*33.435.030 Applying and Removing the Zone*

*The Future Urban zone must be applied to all lands designated "Natural Resource" on the Metro Regional Land Use Framework Map. When the UGB is expanded to include Future Urban-zoned land, the Future Urban zone is to be removed from that land following the zoning map amendment procedures in 33.855.080.*

*33.435.040 Minimum Lot Area*

*The minimum lot area for the creation of new lots in the Future Urban zone is 20 acres. The creation of new lots of less than 20 acres is prohibited. Existing lots of less than 20 acres may be developed, but may not be reduced in area."*

- d. That Section 33.430.100 of the new City Planning and Zoning Code is amended as follows. (New language is in *italics*.)

33.430.100 Uses Allowed

- A. Review required. Uses and development allowed by the base zone, overlay zone, and plan district regulations are allowed in the environmental zones if they comply with the development standards and are approved through an environmental review. The amount and placement of development may be restricted to ensure conformance with the regulations of this chapter.
- B. Hazardous substances. Hazardous substances greater than the consumer commodity quantity are prohibited in the environmental zones. See 33.140.120 for descriptions of hazardous material quantities.
- C. *Balch Creek Watershed. In the Balch Creek Watershed, residential development is prohibited in commercial zones.*
- e. That Section 33.430.200 of the new City Planning and Zoning Code is amended as follows. (New language is in *italics*.)

33.430.200 Development Standards The development standards of this section apply to all transition and natural resource areas.

- A. Building placement. This standard is intended to protect adjacent natural resource areas by allowing for solar access and controlling the scale and bulk of buildings near natural resources. A building or structure up to 25 feet in height may be placed up to the boundary of the natural resource area. A setback from the natural resource area boundary of at least 1 foot for every 1 foot in height over 25 feet is required.
- B. Parking and truck areas. These regulations are intended to provide a transition between the natural resource area and development, to assist in controlling runoff, and to protect the visual amenity values of the natural resource.
  - 1. Auto and light truck areas. Parking areas for autos and light trucks must be set back at least 10 feet from natural resource area boundaries. The setback must be landscaped to at least the L2 standard, as stated in Chapter 33.248, Landscaping and Screening.
  - 2. Medium and heavy truck areas. Parking, loading, and maneuvering areas for medium and heavy trucks must be set back at least 10 feet from natural resource area boundaries. The setback must be landscaped to at least the L3 standard.

## Balch Creek Watershed

- C. Exterior work activities. Exterior work activities are prohibited unless in conjunction with a river-related or river-dependent use.
- D. Exterior storage and display. Exterior storage and display areas must be set back at least 10 feet from resource area boundaries. The setback must be landscaped to at least the L3 standard.
- E. Drainage and topography.
  - 1. The site must be contoured, planted, or developed to prevent erosion, pollution, and sedimentation into the adjacent natural resource area.
  - 2. The Bureau of Environmental Services may require water pollution mitigation measures as a condition of approving the discharge of runoff into a natural resource or into a stormwater drainage facility which discharges into a natural resource. Preferred treatment is with natural pollution control systems compatible in character with the natural resource. The type of mitigation measure or facility, will be determined by the Bureau of Environmental Services.
- F. Landscape materials.
  - 1. The first 10 feet of landscaping, measured from the natural resource boundary line, must be planted with plant species native to the Willamette Valley or to the Pacific Northwest. Allowable plant species are described in Section IV.C, Landscaping, of the Willamette Greenway Plan. This requirement applies to all landscaping whether required or optional.
  - 2. The standard in Paragraph 1. above does not apply where the identified natural resource does not include native plant species as a characteristic or value. In these cases, landscaping may be similar in type and character to that in the natural resource area.
- G. Lighting. Exterior and interior lights must be placed so that they do not shine directly into natural resource areas.
- H. Trash collection areas. Outdoor trash collection areas are prohibited.
- I. Noise. Buildings must be placed and constructed to meet the noise standards for nonresidential development adjacent to residential zones. See Title 18, Nuisance Abatement and Noise Control.
- J. Construction management. Construction must be done in a manner which will ensure that the remainder of the site with Environmental zoning will



not be adversely impacted.

K. *Balch Creek Watershed. In the Balch Creek Watershed the following additional development standards apply:*

1. *Development Season. All ground disturbing activities regulated by this chapter must take place between May 1 and September 30 of any year. Any activity which exposes soil to direct contact with stormwater between October 1 and April 30 is prohibited. An exception to this standard allows emergency repair of existing structures during any time of year.*

2. *Prohibited Plants. The propagation of Himalayan Blackberry (Rubis discolor), English Ivy (Hedra helix), Western Clematis (Clematis lingusticiflora), Traveler's-Joy (Clematis vitalba) or any plant identified as a nuisance plant on the Portland Plant List is prohibited.*

f. That Section 33.430.330 of the new City Planning and Zoning Code is amended as follows. (New language is in *italics*.)

33.430.330 Supplemental Application Requirements All of the information listed below must be included with an environmental review application, in addition to the standard application requirements of 33.730.060.

A. Special site plan requirements.

1. The site plan must clearly show the boundaries of the natural resource area and the transition area at a scale of at least 1 inch for every 100 feet. Location of the environmental zone is based upon the maps adopted with the ESEE analysis for the area.

2. Additional site plan requirements. In addition, the site plan must show:

- Proposed site contouring;
- Proposed stormwater management and disposal;
- Existing or proposed, above or below ground utilities;
- Proposed right-of-way dedication;
- All trees greater than six inches in diameter measured at five feet above the ground. As an option to showing all trees greater than 6 inches in wooded areas not being disturbed, the crown cover outline can be shown;
- Other vegetation cover types, general distribution, and identification of vegetation affected by the proposed project;
- Existing floodplains and elevations;
- Proposed sanitary waste disposal systems; and

## Balch Creek Watershed

- Proposed recreational trails, viewpoints, and outdoor recreational spaces.
- *Erosion control features to be employed during construction.*

B. Additional plans and analyses. The following information is required in either a site plan or narrative form, or in a combination of the two:

1. A construction management plan showing enough detail to fully address the concerns described in 33.430.210.J. above. The plan should address the handling of construction equipment, construction materials, excess fill, runoff, erosion, how trees and vegetation will be protected, and similar items;
2. If the development is proposed for a transition area, a detailed description of any proposed on-site or off-site mitigation measures;
3. An impact evaluation if the development is proposed for a natural resource area, See 33.430.350. If the impact evaluation shows that there will be a degradation or loss of functional values, a mitigation plan will also be required. See 33.430.360.

C. *Balch Creek Watershed site plans. In addition to the requirements stated above, site plans in the Balch Creek Watershed must show vegetation to remain, vegetation to be removed during construction, and vegetation to be reestablished.*

- g. That Section 33.430.340 of the new City Planning and Zoning Code is amended as follows. (New language is in *italics*.)

33.430.340 Approval Criteria An environmental review application will be approved if the review body finds that the applicant has shown that all of the applicable approval criteria stated below are met.

A. Recreational trails.

1. Which approval criteria apply. Recreational trails to be located outside of a natural resource area are subject to the approval criterion stated in Paragraph 2. below. Recreational trails to be located in a natural resource area in the EP and EC zones are subject to the approval criteria stated in Subsection E. below.

2. Approval criterion. Trails, rest points, view points, and other facilities constructed for the enjoyment of the natural resource limit and balance significant detrimental environmental impacts with the potential for enjoyment of the natural resource.
- B. Resource enhancement projects. Resource enhancement projects must have adequate mitigation measures to ensure that there will be no net loss of natural resources and functional values and that the objectives of the enhancement project will be achieved.
  - C. Excavations and fills. Excavations and fills are subject to the approval criteria of Subsections D, E, or F below and the approval criteria for excavations and fills stated in Chapter 33.830, Excavations and Fills.
  - D. Development in transition areas.
    1. Development within the the transition area will have no significant detrimental environmental impacts on adjacent natural resource areas due to any change of drainage patterns, erosion, sedimentation, hazardous material spills, litter, or exterior lighting.
    2. Existing trees and other vegetation are retained to the greatest extent possible.
    3. The proposed construction management plan is adequate to protect the adjacent natural resource area.
  - E. Development in natural resource areas in the EC zone.
    1. The proposal has as few significant detrimental environmental impacts on functional values as is practical.
    2. All identified significant detrimental environmental impacts on the functional values will be compensated for through a mitigation plan.
    3. Proposed construction management measures are adequate to protect remaining natural resource areas during the construction period.
  - F. Development in natural resource areas in the EP zone.
    1. There are no alternative sites available within the City that are suitably zoned to allow the proposal and that would have less impact on natural resources.

## Balch Creek Watershed

2. The applicant's analysis of the economic, social, environmental, and energy consequences (ESEE) of the proposal is able to show that the City's prior ESEE analysis for the site is no longer valid due to a change in the factors considered. The applicant's ESEE analysis also clearly demonstrates that there is a public need for the proposal in the natural resource, and that the public benefit resulting from the proposal outweighs the significant detrimental environmental impacts on the natural resource.
  3. All significant detrimental environmental impacts on the functional values will be compensated for through a mitigation plan.
  4. Proposed construction management measures are adequate to protect remaining natural resource areas during the construction period.
- G. *Development in the Balch Creek Watershed. In addition to the approval criteria stated above, the following approval criteria must also be met in resource areas and transition areas in the Balch Creek Watershed:*
1. *Fish. Balch Creek cutthroat trout must be maintained in a range at least as extensive as their range in 1987 and at population of at least 2,000. Opportunities for stream enhancement must also be maintained.*
  2. *Wildlife. The location, quantity, and quality of forest and contiguous forest cover must be sufficient to provide habitat for deer and elk and to provide for the passage of deer and elk between Forest Park and Pittock Acres Park.*
  3. *Stormwater Runoff. The frequency and severity of flooding in Macleay Park and the Northwest industrial area must not increase. Post-development flows must not exceed pre-development flows. Flow calculations must be based on a typical Portland area 25 year, 24 hour storm and be made in accord with the methods described in the United States Department of Agriculture, Soil Conservation Services', Technical Release 55, Urban Hydrology for Small Watersheds. Private stormwater control facilities must have an operation and maintenance plan.*
  4. *Soil Erosion. Erosion control features effective as those described in the City of Portland's and Washington County's joint Erosion Control Plans Technical Guidance Handbook must be employed during all ground disturbing construction. Site clearing must be limited to the minimum necessary for construction. All cleared areas which are not within a building foundation or a graveled entrance way must be covered with mulch, matting, or other effective erosion control features within fifteen days of the initial clearing. Temporary erosion control features must be removed by October first of the same year the development was begun. All permanent vegetation must be seeded or planted by October first of the same year the development was begun, and all soil not covered by buildings or other impervious surfaces must be completely vegetated by December first of the same year the development was begun.*

## Balch Creek Watershed

5. *Forest Cover. Ninety percent of the portion of development sites in environmental zones must be retained or established in closed canopy forest. An exception to this standard allows 3,000 square feet of unforested area for sites less than 30,000 square feet in total area. Planned unit developments, subdivisions, and clustered subdivisions must combine ninety percent of the portion of their plat within environmental zones into forested common open space. The planting of trees and shrubs for forest restoration, forest establishment, or landscaping must be done with native plants, but not with red alder or big-leaf maple. This standard allows the granting of adjustments to allow more than ninety percent of total area to remain unforested for designated park and cemetery, agriculture, or forestry activities provided that approval criteria (1), (2), (3), and (4) above are met.*
- h. That the Balch Creek Watershed Protection Plan, which is attached and make a part of this ordinance, is adopted by this reference.
- i. That the City of Portland's Comprehensive Plan Map and Official Zone Maps are amended in accord with the Balch Creek Watershed Protection Plan.

**Balch Creek Watershed**

**Passed by the Council, JAN 09 1991**

Commissioner Blumenauer Robert E.  
Stacey, Jr:ab December 14, 1990

**Barbara Clark** Auditor of the City  
of Portland

By

Britta Olsen, Deputy