

AGENDA ITEM #S-A

SUBTASK 3-4

**Report to the City of North Plains
City Council
Goal 5 and Goal 7 Periodic Review**

**Prepared for
City of North Plains
North Plains, Oregon**

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1.0 INTRODUCTION

Pacific Habitat Services, Inc. (PHS) was hired by the City of North Plains, under a grant from the Department of Land Conservation and Development (DLCD), to address Statewide Planning Goal 5 and Goal 7 periodic review requirements.

Goal 5 (OAR 660-015-0000(7)) is intended "to protect natural resources, and conserve scenic and historic areas and open spaces." As stated in the Goal, "Local governments shall adopt programs that will protect natural resources and conserve scenic, historic and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability."(LCDC 1996). Under Goal 5, local governments are required to inventory resources listed under the Goal. Once the inventory of natural resources is complete, it must be determined whether the inventoried resources are significant. Once the significant resources have been determined, Goal 5 requires local governments to adopt a Program to Achieve Goal 5. A "program" is a plan or course of proceedings and action either to prohibit, limit, or allow uses that conflict with significant Goal 5 resources.

As described above, PHS has conducted an inventory of three resources listed under the Goal: riparian corridors, wetlands, and wildlife habitat. PHS has also determined the quality of these resources and determined which ones can be deemed significant. Following the Goal 5 requirements, PHS has prepared a program to achieve Goal 5 for the significant resources. To assist in the preparation of the program, PHS reviewed the present level of protection afforded by the City's Comprehensive Plan and Zoning Ordinance.

Goal 7: *Areas subject to natural disasters and hazards* (OAR 660-015-0000(7)) is intended to "protect life and property from natural disasters and hazards." Areas of natural disasters and hazards include areas of stream flooding, ocean flooding, ground water, erosion and deposition, landslides, earthquakes, weak foundation soils and other hazards unique to local or regional areas. Local governments are required to evaluate areas subject to natural hazards to determine the degree of hazard present within their communities. Once the degree of hazard is determined, local governments are required to limit development in hazard areas to meet the intent of the Goal.

To ensure that the City complies with Goal 7, PHS reviewed the current limitations to development within the 100-year floodplain (Flood Plain Overlay District), which is the primary natural disaster and hazard within the study area. PHS also looked at the threat posed by earthquakes within the study area.

The study area includes all lands within the City's proposed 2020 Urban Growth Boundary (UGB) expansion area. This approximately 728-acre area is illustrated in Figures 1, 2 and 3. It is bounded by Highway 26 to the south, Gordon Road to the west, and includes agricultural fields to the north of Glencoe Road and properties to the south and north of West Union Road at the study area's eastern end. Current major land use within the expanded UGB area includes urban/industrial (61%) and agricultural (39%). The study area includes two creeks. McKay Creek flows to the south and is located near the eastern edge of the study area. This creek is a

perennial tributary of Dairy Creek, which eventually flows into the Tualatin River. An unnamed tributary of McKay Creek flows to the east near the southern boundary of the project site. This perennial creek is a tributary of McKay Creek.

Section 2.0 of this report is a discussion of the methodology used to identify the location and the quality of wetlands, riparian corridors and wildlife habitat. Section 3.0 is a summary of the results. A complete discussion of the methodology and the results is being prepared under separate cover. Section 4.0 is a discussion of the current inventory and protection of Goal 5 resources in the City's Comprehensive Plan and Zoning Ordinance. This Section also includes a discussion of the level of protection afforded to Goal 5 resources by Clean Water Services, the Oregon Division of State Lands and the US Army Corps of Engineers. Section 5.0 presents proposed revisions to the Comprehensive Plan and Zoning Ordinance. Finally, Section 6.0 includes a discussion on natural hazards (Goal 7) within the City's UGB and a review of the current floodplain ordinance that limits development within the 100-year floodplain.

2.0 GOAL 5 INVENTORY METHODOLOGY

Within the study area, PHS inventoried the location and quality of wetlands, riparian corridors, and wildlife habitat.

2.1 Wetlands

In 1989, the Oregon State legislature authorized the Oregon Division of State Lands (DSL) to develop a statewide wetlands inventory for planning and regulatory purposes. Accordingly, DSL established Local Wetlands Inventory (LWI) standards and guidelines under ORS 196.674. An approved LWI replaces the National Wetlands Inventory maps and is incorporated into the statewide wetlands inventory. Under Goal 5, local jurisdictions must conduct an LWI using the standards and procedures of OAR 141-86-110 through 141-86-240 and adopt the LWI as part of the comprehensive plan or as a land use regulation.

PHS conducted an LWI within the study area using a 2000 color aerial photograph at a scale of 1 inch = 400 feet. Access to property throughout the study area was sought by direct mailings. Where possible, PHS gained access to inventory the location of wetlands. Where access was denied, wetland locations were mapped off-site using information such as topographic and National Wetlands Inventory maps, the aerial photograph, the soils survey, and observations from adjacent properties.

Once the location of wetlands was established, the quality of the wetlands was determined by applying the *Oregon Freshwater Wetland, Assessment Methodology* (OFWAM) (Roth et al. 1996). OFWAM was developed by an interagency committee to assess the relative quality of wetlands primarily for planning and educational purposes. OFWAM does not assign a numeric ranking to the wetlands, but does determine the relative quality of six functions and three conditions for each of the wetlands. These functions and conditions include wildlife habitat, fish habitat, hydrologic control, water quality, education, recreation, sensitivity to future impacts, enhancement potential, and aesthetic quality.

To determine the significance of each of the wetlands, PHS used the criteria adopted by DSL (ORS 197.279(3)(b)). This criteria identifies *Locally Significant Wetlands*. The significance criteria are divided into three sections, as described below. The mandatory Locally Significant Wetlands Criteria are based on the OFWAM results.

Table 1. Criteria for Determining Locally Significant Wetlands

<p>Exclusions: A wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".</p>
<p>1 Is this wetland artificially created entirely from upland and:</p> <ul style="list-style-type: none"> a. created for the purpose of controlling, storing, or maintaining storm water b. is used for active surface mining or as a log pond c. is a ditch without a free and open connection to natural waters of the state d. is less than 1 acre and created unintentionally from irrigation or construction e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard <p>2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)</p>
<p>Mandatory Locally Significant Wetland Criteria: A wetland is locally Significant if "Yes" is the answer to any of the criteria below.</p>
<p>1 Does the wetland provide <i>diverse wildlife habitat</i>?</p> <p>2 Is the wetland's <i>fish habitat function intact</i>?</p> <p>3 Is the wetland's <i>water quality function intact</i>?</p> <p>4 Is the wetland's <i>hydrologic control function intact</i>?</p> <p>5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i>?</p> <p>6 Does the wetland contain a rare plant community?</p> <p>7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?</p> <p>8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i>?</p>
<p>Optional Locally Significant Wetland Criteria: local governments may Identify a wetland as significant if "Yes" is the answer to the criteria below</p>
<p>1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has an <i>intact, or impacted or degraded hydrologic control function</i>.</p> <p>2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i>?</p>

A complete discussion of the LWI and the determination of significance is included in the LWI report to be submitted to DLCD and DSL. A summary of the results is included in Section 3.0 below.

2.2 Riparian Corridors

For riparian corridors, local jurisdictions are given a choice of implementing the “standard” Goal 5 inventory process, or the “safe harbor” process, or a combination of the two.

2.2.1 Standard Inventory of Resource

The standard inventory process consists of inventorying the resource, identifying land uses which conflict with protection of wetland and riparian corridors, and adopting a program to achieve Goal 5 (i.e. policies, zoning, land use ordinances or other mechanisms). The first step is to conduct an inventory of the resource. The standard Goal 5 inventory, as contained in OAR 660-23-040, consists of:

- (a) Collect information about Goal 5 resource sites (e.g. wetlands, riparian areas, fish habitat);
- (b) Determine the adequacy of the information;
- (c) Determine the significance of resource sites;
- (d) Adopt a list of significant resource sites.

For riparian corridors, DSL developed the Urban Riparian Inventory and Assessment Guide (Riparian Guide) (PHS 1998) to use in the standard inventory process. The Riparian Guide depends on a combination of knowledge of the resource, field observations, and best professional judgment. The guide was designed to work in conjunction with the LWI and relies on the same aerial photograph.

The methodology is comprised of the riparian inventory and the riparian assessment. The riparian inventory involves gathering and assimilating information pertinent to the project site, developing a base map, and completing the Riparian Characterization Form and Riparian Width Determination Form. A completed Riparian Characterization Form provides information on the physical and biological characteristics of the riparian area, such as vegetation, slope, adjacent land uses, and degree of disturbance. The riparian width is measured from the edge of the water resource, typically either the top of a streambank or the outer edge of a wetland, lake, or pond. Riparian areas on both sides of a stream channel are assigned separate widths. Right and left widths are not combined and do not include the channel. The riparian width is based on the dominant riparian tree species within 100 feet of the water resource. The height of the dominant tree species at maturity will be used as a distance to define the outer riparian boundary. The height of this tree species at maturity is called the potential tree height (PTH). PTH is used as the riparian width because it represents a distance in which a tree can still affect the water resource (e.g. shade, organic material).

Where riparian area trees have been eliminated by land-use activities or natural causes, such as development, land slides, or logging, it may be necessary to extrapolate tree heights from a reference site. The reference site should be similar in character and landscape position and should be located as close as possible to the riparian reach. If a reference site is used, it is noted on the Width Determination Form. If a reference site cannot be located, field observations and reference materials must be used to establish PTH.

The riparian assessment portion of the Riparian Guide evaluates four functions of riparian areas: water quality, flood management, thermal regulation, and wildlife habitat. Each of these functions receives a score based on a number of questions about the riparian corridor conditions. Based on the score, the riparian function is assessed as high, medium or low.

2.2.2 Safe Harbor

The safe harbor process uses criteria already established by Goal 5 to determine boundaries of significant riparian corridors using a standard setback distance from all fish bearing streams and lakes (OAR 660-23-090(5)).

These setback distances are as follows:

- (a) Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank.
- (b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank.
- (c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-23-100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.
- (d) In areas where the top of each bank is not clearly defined, or where the predominant terrain consists of steep cliffs, local governments shall apply OAR 660-23-030 rather than apply the safe harbor provisions of this section.

The safe harbor process and the standard inventory process using the Riparian Guide were conducted within the study area.

2.3 Wildlife Habitat

As with riparian corridors, Goal 5 allows local governments to conduct a “standard” Goal 5 inventory process, as contained in OAR 660-23-040, or a “safe harbor” process, but not a combination of the two. The safe harbor process in Goal 5 is as follows:

- (4) Local governments may determine wildlife habitat significance under OAR 660-23-040, or apply the safe harbor criteria in this section. Under the safe harbor, local governments may determine that "wildlife" does not include fish, and that significant wildlife habitat is only those sites where one or more of the following conditions exist:
- (a) The habitat has been documented to perform a life support function for a wildlife species listed by the federal government as a threatened or endangered species, or by the state of Oregon as threatened, endangered, or sensitive species;
 - (b) The habitat has documented occurrences of more than incidental use by a species described in subsection (a) of this section;
 - (c) The habitat has been documented as a sensitive bird nesting, roosting, or watering resource site for osprey or great blue herons pursuant to OAR 527.710 (Oregon Forest Practices Act) and OAR 629-24-700 (Forest Practices Rules);
 - (d) The habitat has been documented to be essential to achieving policies or population objectives specified in a wildlife species management plan adopted by the Oregon Fish and Wildlife Commission pursuant to ORS Chapter 496;
 - (e) The area is identified and mapped by ODFW as habitat for a wildlife species of concern and/or as habitat of concern (e.g. big game winter range and migration corridors, golden eagle and prairie falcon nest sites, or pigeon springs).

In addition to the reviewing the safe harbor criteria, PHS also conducted a standard inventory of wildlife habitat throughout the study area. To facilitate the inventory a review of the *Final Report of the Oregon GAP Analysis Project* (Kagan et al. 1999) was conducted to gain a perspective on historical and current habitat conditions in the area. A search of the Oregon Natural Heritage database was requested to determine the presence of rare, threatened or endangered species within the area. Aerial photographs of North Plains were reviewed to document existing conditions and to identify areas of potential habitat within the proposed Urban Growth Boundary. The focus of the search was to locate areas that appeared to have a canopy cover of native vegetation.

Once areas with native canopy cover were identified, they were divided into polygons. Obvious physiographic features (streets, bridges, field edges, etc.) were used to delineate polygon boundaries. Ground visits determined the extent and composition of native vegetation within each polygon. Wildlife Habitat Assessment Forms similar to those adopted by other municipalities during their Goal 5 Inventories were utilized to determine the quality of the habitat within each polygon. The Habitat Assessment Forms generate a numerical score that can be used as an indication of habitat quality. Various aspects of the three primary habitat components, food, water and cover are scored in terms of quality, diversity and availability. These scores are then totaled for an existing habitat score. Habitat scores range from a possible high of 108 to a low of zero. Copies of the forms will be available in the LWI report to be submitted to DLCD.

3.0 SUMMARY OF INVENTORY RESULTS

As described above, a Local Wetlands Inventory, a riparian corridor inventory, and an assessment of the quality of wildlife habitat within the study area was conducted. This section summarizes the results of the three inventories. A complete description of the results will be included in the final LWI report.

Wetlands

An LWI was conducted to identify the approximate wetland boundaries within the study area. Where on-site access was possible, PHS personnel were able to examine the soils, vegetation and hydrology of each wetland. Where access was denied, approximate wetlands boundaries were based on observations from adjacent properties, aerial photographs, and other supporting material including the soils survey and the National Wetlands Inventory.

The LWI determined that 14 distinct wetlands are within the study area. The location of the wetlands are illustrated on Figure 4. Once the location of the wetlands was determined, the quality of the wetlands was assessed using the *Oregon Freshwater Wetlands Assessment Methodology* (Roth et al 1996). The wetland assessment results were subsequently used to determine significance, as listed in Table 2. A full explanation of each of the wetlands will be included in the LWI report.

Table 2. Inventoried wetlands within the City of North Plains study area and the determination of their significance.

Wetland Code	Significant?
MK-1 Sunset terran	Yes
MK-2 Oregon Canadian	Yes
MK-3 Frank Wing park	Yes
MK-4A 314th	Yes
MK-4B Pacific Purple	Yes
MK-4C Galloway park	Yes
MK-4D 000T	Yes
MK-4E Van Dyke	Yes
MK-5 Pacific terminus	Yes
MK-6 old west Union	No
MK-7A OSP	No
MK-7Bf	No
MK-8 OSP	No
MK-9f 289th	No
MK-10f Sunset bridge	No
MK-11f	No

Nine out of the 16 wetlands satisfied the State's significance criteria. These wetlands are associated with the main stem of McKay Creek and the unnamed tributary of McKay Creek. A large non-significant wetland is located at the east end of the study area in an agricultural field.

Riparian Corridors

Riparian corridors are located along the unnamed tributary of McKay Creek and McKay Creek and several small tributaries. The two main creeks contain year-round flowing water, portions of forested riparian areas, and adjacent wetlands. Over the past several decades, the riparian areas of both creeks have been impacted by urban development, however encroachment into the unnamed tributary of McKay Creek's riparian area has been far greater than McKay Creek.

An inventory to determine the current and the potential width of riparian areas using the methodology described above was conducted within the study area. The results of the inventory are illustrated on Figure 5 in Appendix A.

The inventory found 23 separate riparian reaches exist within the study area. The dominant vegetation within the riparian areas ranged from black cottonwood (*Populus trichocarpa*) with a potential tree height of 120 feet to Oregon ash (*Fraxinus latifolia*), with a potential tree height of 75 feet. The actual riparian width along the unnamed tributary of McKay Creek was often less due to past clearing of vegetation and residential and commercial development. The results of the riparian inventory are included in Table 3.

Table 3. Results of the inventory of Riparian Corridors within the City of North Plains study area.

RIPARIAN CORRIDOR CODE	Potential Tree Height (PTH) (ft)	Actual Riparian width (ft)	Riparian Reach length (ft)
R-MK-1L	75	20-40	700
R-MK-1R	75	10-75	700
R-MK-2L	120	5-10	750
R-MK-2R	120	10-75	750
R-MK-3L	120	50-100	620
R-MK-3R	120	25-100	620
R-MK-4L	75	10	280
R-MK-4R	75	10-20	280
R-MK-5L	75	10-20	750
R-MK-5R	75	75	750
R-MK-6L	75	25-50	590
R-MK-6R	75	25-75	590
R-MK-7L	75	15-50	1640
R-MK-7R	75	15-30	1640
R-MK-8L	120	20-75	675
R-MK-8R	75	75	675
R-MK-9L	120	75	475
R-MK-9R	75	50-75	475
R-MK-10L/R	75	75	550
R-MK-11L	75	50-75	1400
R-MK-11R	75	50-75	1400
R-MK-12L	75	75	300
R-MK-12R	75	75	300

An assessment of the quality of the riparian areas was conducted using the *Urban Riparian Inventory and Assessment Guide*. The results of the riparian quality assessment are included in Table 4.

Table 4. Results of the riparian corridor assessment within the City of North Plains study area.

Riparian Code	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
R-MK-1L	H	M	H	M
R-MK-1R	H	H	H	H
R-MK-2L	M	L	M	M
R-MK-2R	M	M	M	M
R-MK-3L	H	L	H	M
R-MK-3R	H	L	H	M
R-MK-4L	H	M	L	L
R-MK-4R	H	M	L	M
R-MK-5L	M	M	H	M
R-MK-5R	M	M	H	M
R-MK-6L	H	H	H	M
R-MK-6R	H	H	H	H
R-MK-7L	H	M	M	M
R-MK-7R	H	M	M	M
R-MK-8L	H	L	M	M
R-MK-8R	M	L	L	L
R-MK-9L	H	H	H	H
R-MK-9R	H	L	H	M
R-MK-10L/R	H	H	H	H
R-MK-11L	H	M	H	M
R-MK-11R	H	H	H	H
R-MK-12L	H	M	H	M
R-MK-12R	H	M	H	M

H = High M = Medium L = Low

The results of the assessment determined that the quality of the riparian areas was greatest where mature trees surrounded the creeks. This is especially true of McKay Creek and the upper portion of the unnamed tributary of McKay Creek, where trees line the top of the bank. Degraded riparian areas were found on sections of the creek with the greatest urban encroachment.

Once the location and the quality of the riparian corridors was established, we determined the significance of each resource. As described in Section 2.0, the City can adopt the safe harbor widths of 50 feet or the standard inventory widths established by use of potential tree height. Based on the general quality and the existing width of riparian areas along the unnamed tributary of McKay Creek, it was determined that adopting the safe harbor 50-foot setback from the top of bank or the edge of the significant wetland is appropriate. Adopting the 50-foot setback will ensure that protection of the existing vegetation is achieved. This width is also the same width as the vegetated corridor regulated by Clean Water Services.

As the quality and the width of the riparian areas is greater along McKay Creek, it was decided to adopt the standard inventory width of 75 feet and to determine whether the riparian corridor is significant. The significance of the riparian areas along McKay Creek was based on meeting the following criteria:

1. At least one function (water quality, flood management, thermal regulation, wildlife habitat) is rated as high; and
2. The creek is listed as essential indigenous anadromous salmonid habitat; and
3. The riparian area is immediately adjacent to a Locally Significant Wetland.

Based on the above criteria, all of the riparian areas along McKay Creek are significant and all have the standard inventory width of 75 feet.

Wildlife Habitat

Ten separate polygons were identified from aerial photos that appeared to have a canopy cover of native vegetation. The approximate location of the polygons is illustrated in Figure 6. For analysis purposes, the polygons were numbered from west to east. All but two of the polygons are associated with either the unnamed tributary of McKay Creek or McKay Creek.

Polygons ranged in size from 0.6 acres to 12.5 acres. Wildlife Habitat Assessment Forms were filled out for polygons that appeared relatively undisturbed and in their natural condition. Polygons that supported little native vegetation or were heavily interspersed with housing or commercial development were not assessed for wildlife habitat. Copies of the Wildlife Habitat Assessment Forms will be available in the LWI report.

At one time, the City of North Plains was dominated by a mixed coniferous forest that provided habitat for a variety of wildlife. Beyond a few scattered fir trees, none of this habitat now exists within the study area. The only identifiable wildlife habitat currently within the study area is located along segments of the unnamed tributary of McKay Creek and McKay Creek. The wildlife habitat found along these creeks does not appear to extend beyond the riparian zone boundary for these waterways.

Within the study area, the majority of the unnamed tributary of McKay Creek has been highly impacted by urbanization. The creek has been confined to manmade channels with little native vegetation along the banks. Some of the polygons represent remnants of the original riparian area and support canopies of native vegetation. However, these areas have also been impacted by development. This was evident at the west end of the creek where piles of dirt have been recently placed into the riparian area's south side.

One reason for poor wildlife habitat along the unnamed tributary of McKay Creek is the limited connectivity to other areas of habitat. No undisturbed areas of upland habitat remain in proximity to the unnamed tributary of McKay Creek. Terrestrial species that could be expected to use the habitat along the creek would have to travel across large expanses of non-habitat to get there. Usually creek channels and riparian corridors act as travel corridors for wildlife. Because the majority of the unnamed tributary of McKay Creek is either channelized or underground, it provides little opportunity or cover for traveling wildlife.

The habitat along McKay Creek received the highest score from the Wildlife Habitat Assessment Form. This high ranking is due in a large part to the high degree of structural diversity and variety in cover component, quality and seasonality and proximity to cover of the water component, and the proximity to cover in the food component. This area also has relatively good connectivity to other habitats, at least along the stream corridor. McKay Creek does not appear to have been channelized and flows on the surface through its entire length.

A search of the Oregon Natural Heritage Program database returned three sensitive species that have been found near the City. These species include winter steelhead (*Oncorhynchus mykiss*), northwestern pond turtle (*Clemmys marmorata marmorata*) and shaggy horkelia (*Horkelia congesta*). The data base search included all records within a two-mile radius of the proposed Urban Growth Boundary. Steelhead, a federally threatened species, has been found in the Tualatin River and its tributaries. The record for the northwestern pond turtle, a federal species of concern, was located near Hillsboro. The shaggy horkelia, a federal species of concern was located in the town of Forest Grove.

Although the quality of the wildlife habitat along McKay Creek is much higher than the quality of the habitat along the unnamed tributary of McKay Creek, it was not determined to be significant. The fact that the wildlife habitat along McKay Creek is synonymous with the riparian area will provide sufficient regulatory protection of the resource. Instead, it was determined that the safe harbor criteria for significant wildlife habitat is used. When this criteria is used, none of the polygons surveyed within the study area can be deemed significant.

Significant Natural Resources

To ensure that significant natural resources, such as significant wetlands and riparian corridors are protected, PHS prepared a program to achieve Goal 5. This program is in the form of a safe harbor ordinance that protects significant natural resources within the City. This ordinance, Chapter 16.16.005 Significant Natural Resource Overlay District, is included in Appendix C. The limits of the Significant Natural Resource Overlay Zone District are illustrated in Figure 7. This overlay includes all of the significant wetlands, a 50-foot width along the unnamed tributary of McKay Creek and a 75-foot width along McKay Creek. This area also encompasses the higher quality wildlife habitat along McKay Creek.

4.0 CURRENT PROTECTION OF GOAL 5 RESOURCES

DLCD requires the City to inventory the quantity and quality of Goal 5 resources within its UGB. Three of these resources are riparian corridors, wetlands and wildlife habitat. As described above, PHS has conducted an inventory of these resources, determined their quality and which resources are significant. Once a resource is determined to be significant, the City is required to enact a "program to achieve the goal." In other words, the City must ensure these resources are protected.

Riparian Corridors

The Comprehensive Plan currently contains no inventory of riparian corridors. As such, this resource is not protected by the City's zoning code. However, riparian areas are already protected as *vegetated corridors* by Clean Water Services (CWS) under their Design and Construction Standards - Resolution and Order 00-7. Vegetated corridors are adjacent to all *Water Quality Sensitive Areas*. Water Quality Sensitive Areas in the City include McKay Creek, the unnamed tributary of McKay Creek, connecting tributaries, adjacent wetlands and any isolated wetlands. The width of the vegetated corridors in the City varies between 25 feet for isolated wetlands less than 0.5 acre in size to 50 feet from the top of bank of the two creeks or from the edge of any adjacent wetlands greater than 0.5 acre in size. Setbacks can measure up to 200 feet if adjacent slopes are greater than 25%. Given the relatively flat topography of the study area, we assume that slopes are less than 25%.

Chapter 3 of CWS' Design and Construction Standards includes specific requirements for inventorying the location of Water Quality Sensitive Areas (e.g. wetlands, creeks) and the adjacent vegetated corridors within a lot proposed for development. The regulations also require applicants to avoid and minimize impacts to the water quality sensitive areas and vegetated corridors. CWS requires applicants to mitigate for unavoidable impacts.

In Oregon, riparian corridors are protected at the local level and are not protected by state and federal laws (i.e. DSL, US Army Corps of Engineers).

Wetlands

As with riparian corridors, the City of North Plains has not adopted an inventory of wetlands and has no means to protect wetlands within its current Comprehensive Plan. However, as described above, riparian corridors and wetlands are protected by CWS under Section 3.00 of their *Storm and Surface Water Rules* (CWS, 2000) as vegetated corridors and water quality sensitive areas, respectively.

Unlike riparian corridors, wetlands and other water resources are protected by the DSL and the COE. DSL regulates wetlands and water resources in Oregon under the Removal-Fill Law (ORS 196.800-196.990) and the COE through Section 404 of the Clean Water Act. Both of these agencies issue permits before wetlands can be impacted. They also continue to regulate wetlands and other water resources regardless of whether they are determined by a local government to be significant.

Wildlife Habitat

Wildlife habitat is also not currently inventoried or protected by the City. However, protection of wetlands and buffer areas by CWS also protects wildlife habitat.

5.0 PROPOSED REVISIONS TO COMPREHENSIVE PLAN AND ZONING ORDINANCE

Several changes have been made to the City's Comprehensive Plan and Zoning Ordinance. Appendix B contains **Chapter 15.02 North Plains Comprehensive Plan Elements**. Changes to this chapter are written in red ink. Appendix C contains **Chapter 16.16 How Land May Be Used And Developed Zoning District (SNR)**. This is a new ordinance protecting the significant wetlands and riparian corridors identified through the inventory process.

6.0 SUMMARY OF NATURAL HAZARDS

Statewide Planning Goal 7: *Areas subject to natural disasters and hazards*, requires that proposed developments not be located in known areas of natural disasters and hazards without appropriate safeguards. These natural disasters and hazards include areas prone to flooding, erosion, landslides, earthquakes, weak foundation soils or other hazards, which may be unique to local or regional areas.

100-Year Floodplain

In the City of North Plains, the primary natural hazard of concern is flooding. Lands adjacent to McKay Creek and the unnamed tributary of McKay Creek are within the 100-year floodplain. The location of the 100-year floodplain in the City is illustrated in Figure 6. The 100-year floodplain is also called the "base flood" and is defined as a flood having a one percent chance of occurring in any one year. The floodplain includes the floodway, which is defined as the channel and adjacent land areas, which are the minimum needed for the passage of floodwaters so that upstream flood elevations are not increased. Floodplain management includes preserving an adequate floodway to discharge the waters of a base flood without increasing the water surface elevation by more than one foot.

Recognizing that flooding was a major issue, the City adopted *Chapter 16.14.005 Flood Plain Overlay District (FP)*. The purpose of the FP is to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas. The ordinance is basically the Model Ordinance recommended for adoption by DLCD. We have reviewed this ordinance and found it to be adequate, however, we have added a requirement to balance the cut and fill in a floodplain. Below is an excerpt from the floodplain ordinance. The proposed language change is in red ink below.

16.14.060 Specific Standards

In all areas of special flood hazards where base flood elevations data has been provided as set forth in **Chapter 16.14.030 (B) or 16.14.040 (C)(2)**, the following provisions are required:

A. All Development

All development within the boundaries of the 100-year Flood Plain shall conform to the following cut and fill standards:

1. No net fill in the floodplain is allowed. All fill placed in a floodplain shall be balanced with at least an equal amount of soil material removal;
2. Excavation areas shall not exceed fill areas by more than 50 percent of the area;
3. Any excavation below the bankfull stage of the unnamed tributary of McKay Creek or McKay Creek shall not compensate for fill;
4. Excavation to balance a fill shall be located on the same parcel as the fill unless it is not reasonable or practicable to do so. In such cases, the excavation shall be located in the same drainage basin and as close as possible to the fill site, so long as the proposed excavation and fill will not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis;
5. New culverts, stream crossings and transportation projects shall be designed as balanced cut and fill projects or designed not to significantly raise the design flood elevation. Such projects shall be designed to minimize the area of fill in the Flood Plain Overlay District and to minimize erosive velocities. Stream crossings shall be as close to perpendicular to stream flow as practicable. Bridges shall be used instead of culverts wherever practicable.

B. Residential Construction

New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot above base flood elevations. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited. Parking, crawl spaces and storage is allowed below the lowest floor provided the area is designed to permit the entry and exit of flood waters.

C. Nonresidential Construction

New construction and substantial improvement of any commercial, industrial or other nonresidential structure located within number A zones (as defined by the Federal Emergency Management Agency) shall either have the lowest floor, including basement, elevated to one foot above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be flood proofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
3. Be certified by a registered professional engineer or architect that the design and methods of construction in accordance with accepted standards of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in **Chapter 16.14.040 (B)(3)**.
4. Nonresidential structures that are elevated, not flood proofed, must meet the same standards for space below the lowest floor as described in **Chapter 16.14.060 (A)**.
5. Applicants flood proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood proofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).

D. Manufactured Home

All manufactured homes to be placed or substantially improved within Zones AI-30, AH, and AE (as defined by the Federal Emergency Management Agency) shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of **Chapter 16.14.050(A)**.

E. Flood Ways

Located within areas of special flood hazard established in **Chapter 16.14.030 (A)** are areas designated as flood ways. Since the flood way is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provisions apply:

1. Prohibit encroachments, including fill, new construction, substantial improvements, and other development within Zones A1 and A2 (as defined by the Federal Emergency Management Agency) unless certification by registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
2. If **Chapter 16.14.060(D)(1)** is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of **Chapter 16.14.060**.
3. Prohibit the placement of any mobile homes, except in an existing mobile home park or existing mobile home subdivision.

Earthquakes

Infrequent earthquake hazards occur throughout the Pacific Northwest and every community is at some level of risk. To determine the relative risk in the City of North Plains, we reviewed the sediment thickness mapping for the Hillsboro quadrangle by Ian Madin 1990 and earthquake hazard mapping by Madin et al. for nearby areas within the Metro boundary.

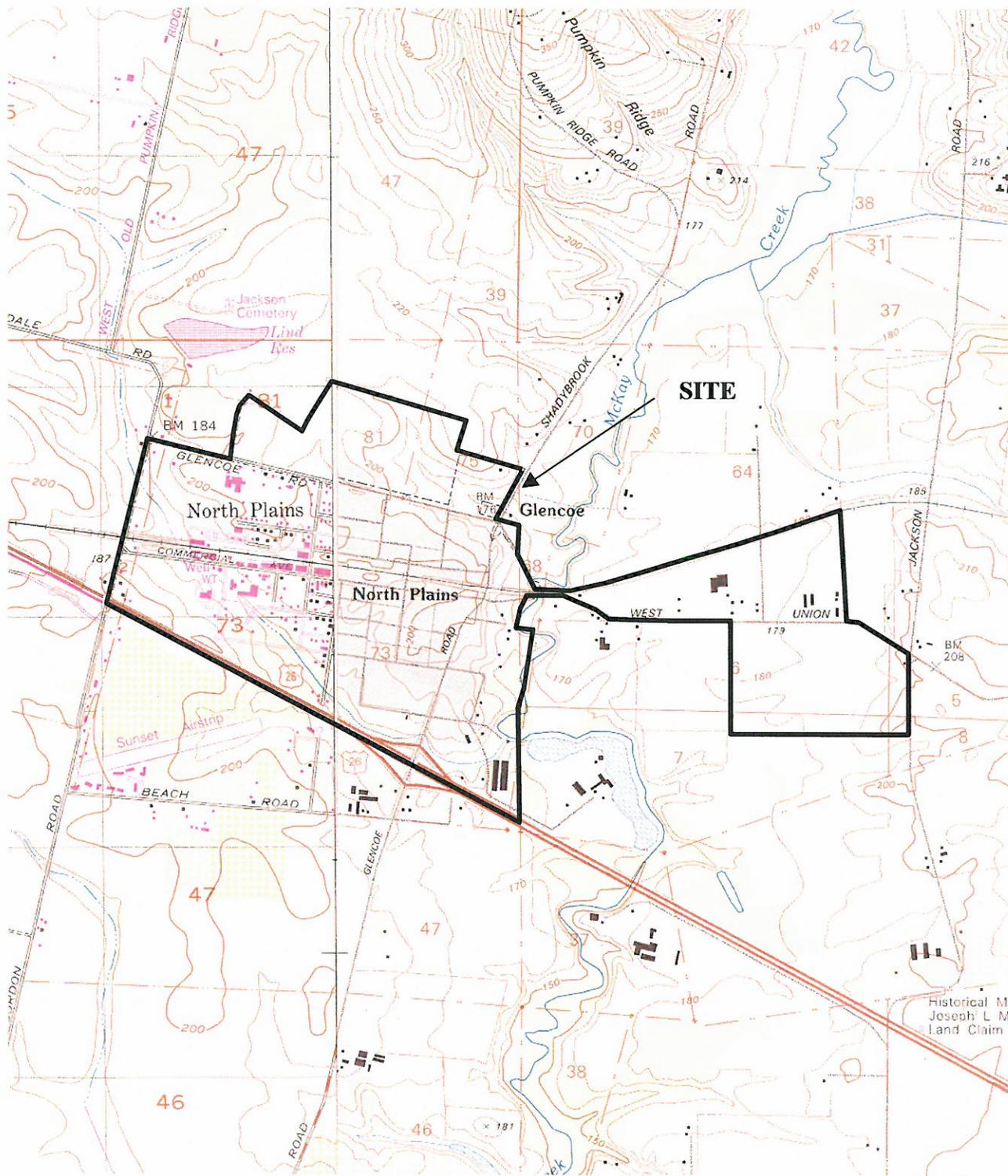
As topographic relief within the City is low, the probability of landslides from earthquakes is small. A deep subduction earthquake, however, may pose a problem due to the hazard of sediment liquefaction from prolonged ground shaking, which is considerable in the fine-grained glacial outburst sediments at the top of the sediment pile underlying the study area. These relatively less consolidated sediments are approximately 60 feet thick through the area. While there exists small local differences within the shallow sediment pile, the principal variation in liquefaction potential across the area is probably the result of varying groundwater conditions. Crosscutting silt dikes are often seen within these sediments, but it is unclear if these are the result of ground shaking or from differential loading during deposition. The late Pleistocene flood outbreak deposits are underlain by 300 – 900 feet of Pliocene and Pleistocene deposits with lower liquefaction potential.

The low relief of the study area and the uniformity of the sediment blanket probably mean that every portion of the study area is nearly equally hazardous during a local shallow earthquake or a deep subduction earthquake. As the threat of earthquakes does not appear more significant for the City than other communities, no special provisions were prepared for the Comprehensive Plan.

Appendix A

Figures





1/7/02

2453

Location and general topography for the North Plains wetland inventory in North Plains, Oregon (USGS, Forest Grove, 1956, revised 1992 and Hillsboro, 1990 quadrangles).

FIGURE

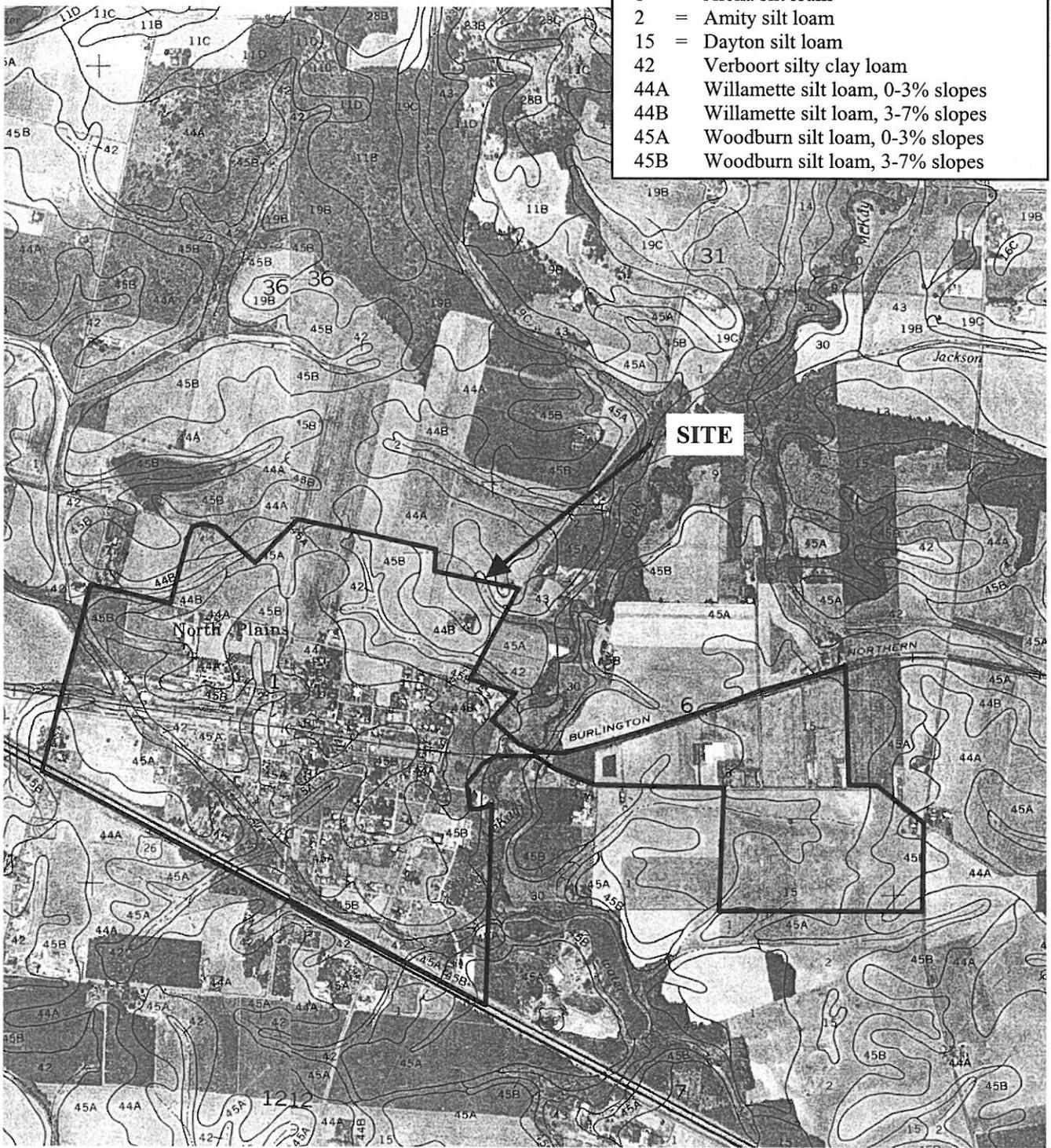
1



— Pacific Habitat Services, Inc. —

SOIL MAP UNITS

- 1 = Aloha silt loam
- 2 = Amity silt loam
- 15 = Dayton silt loam
- 42 = Verboort silty clay loam
- 44A = Willamette silt loam, 0-3% slopes
- 44B = Willamette silt loam, 3-7% slopes
- 45A = Woodburn silt loam, 0-3% slopes
- 45B = Woodburn silt loam, 3-7% slopes



1/7/02

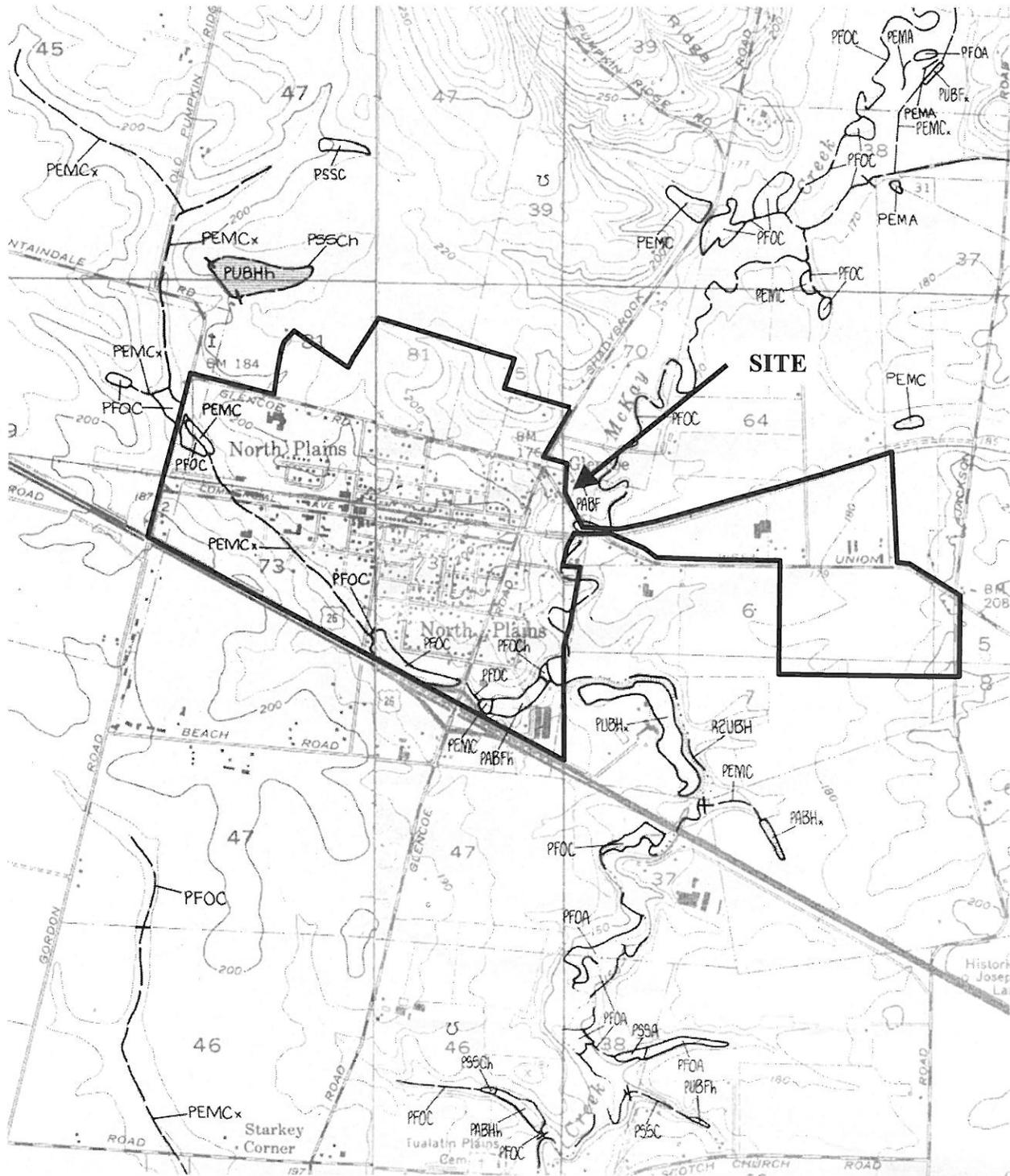
2453

Soil Survey information for the North Plains wetland inventory in North Plains, Oregon (USDA, SCS, Soil Survey of Washington County, Oregon, sheets 20 and 21, 1982).

FIGURE
2



— Pacific Habitat Services, Inc. —



1/7/02

2453

National Wetlands Inventory information for the North Plains wetland inventory in North Plains, Oregon (National Wetlands Inventory, USFWS, Hillsboro and Forest Grove quadrangles 1992).

FIGURE
3



— Pacific Habitat Services, Inc. —



THIS MAP IS FOR PLANNING PURPOSES ONLY
 WETLAND BOUNDARIES ARE APPROXIMATE
 AND SUBJECT TO CHANGE

Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Division of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

Pacific Habitat Services, Inc.
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 Wilsonville, Oregon 97070
 Phone: (503) 570-0800

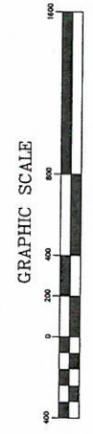


North Plains Local Wetlands Inventory

Sheet: 1

of: 1

Funding for this project was provided by a grant from the Oregon Department of Land Conservation and Development.



Scale in Feet

- Project Boundary
- Significant Wetlands
- Wetlands
- Sample Point
- Wetland Code

DATE: January, 2002
 BASE MAP INFO: Supplied by Metro.

JOB NO.: 2453



THIS MAP IS FOR PLANNING PURPOSES ONLY
 WETLAND BOUNDARIES ARE APPROXIMATE
 AND SUBJECT TO CHANGE

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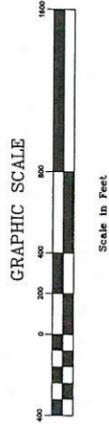


Sheet: 1

of: 1

North Plains Riparian Inventory

Funding for this project was provided by a grant from the Oregon Department of Land Conservation and Development.



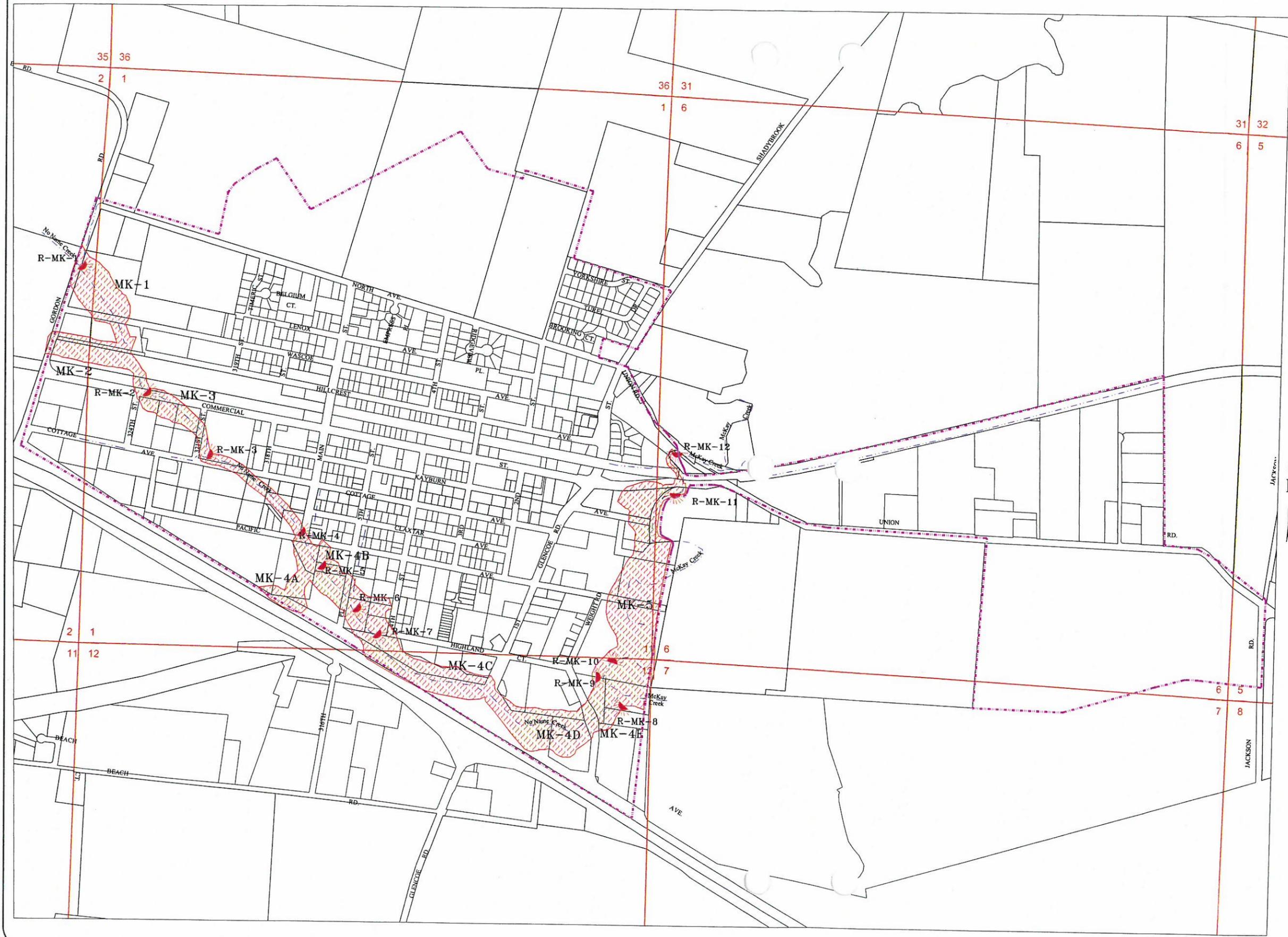
Scale in Feet

- Project Boundary
- Drainage
- Wetland Code
- Riparian Code
- Significant Wetland
- Wetland
- Riparian Area
- Riparian Observation Point

DATE: January, 2002

BASE MAP INFO: Supplied by Metro.

JOB NO.: 2453



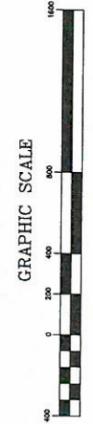
THIS MAP IS FOR PLANNING PURPOSES ONLY
 WETLAND BOUNDARIES ARE APPROXIMATE
 AND SUBJECT TO CHANGE

Information shown on this map is for planning purposes only and wetlands information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Division of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

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Sheet: 1
 of: 1



Scale in Feet
 GRAPHIC SCALE
 Funding for this project was provided by a grant from the Oregon Department of Land Conservation and Development.

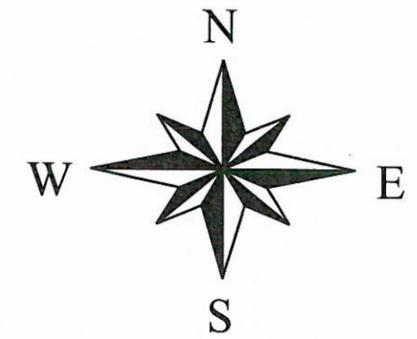
- Project Boundary
- Drainage
- Wetland Code
- Raparian Code
- Significant Natural Resources
- Biparian Observation Point
- MK-1
- R-MK-9

North Plains Significant Natural Resources

DATE: January, 2002
 BASE MAP INFO: Supplied by Metro.

JOB NO.: 2453

City of North Plains



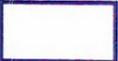
-  **Project Area**
-  **Potential Habitat**
-  **FEMA Floodplain**

Figure 6

Appendix B

Updated Comprehensive Plan



Chapter 15.02 NORTH PLAINS COMPREHENSIVE PLAN ELEMENTS

Sections:

15.02.010	<u>Citizen Involvement</u>
15.02.014	<u>Statewide Planning Goal</u>
15.02.015	<u>City Objectives and Policies</u>
15.02.020	<u>Land Use Planning</u>
15.02.024	<u>Statewide Planning Goal</u>
15.02.025	<u>City Objectives and Policies</u>
15.02.030	<u>Scenic and Historic Areas and Natural Resources</u>
15.02.034	<u>Statewide Planning Goal</u>
15.02.035	<u>City Objectives and Policies</u>
15.02.040	<u>Air, Water and Land Resources</u>
15.02.041	<u>Air Quality</u>
15.02.042	<u>Water Quality</u>
15.02.043	<u>Noise Pollution</u>
15.02.044	<u>Statewide Planning Goal</u>
15.02.045	<u>City Objectives and Policies</u>
15.02.050	<u>Areas Subject to Natural Disasters and Hazards</u>
15.02.051	<u>Flooding</u>
15.02.052	<u>Soil Limitations</u>
15.02.054	<u>Statewide Planning Goal</u>
15.02.055	<u>City Objectives and Policies</u>
15.02.060	<u>Recreation</u>
15.02.064	<u>Statewide Planning Goal</u>
15.02.065	<u>City Objectives and Policies</u>
15.02.070	<u>Economics</u>
15.02.074	<u>Statewide Planning Goal</u>
15.02.075	<u>City Objectives and Policies</u>
15.02.080	<u>Housing</u>
15.02.084	<u>Statewide Planning Goal</u>
15.02.085	<u>City Objectives and Policies</u>
15.02.090	<u>Public Facilities and Services</u>
15.02.094	<u>Statewide Planning Goal</u>
15.02.095	<u>City Objectives and Policies</u>
15.02.096	<u>Municipal Water Policy</u>
15.02.097	<u>Sanitary Sewer System Policy</u>
15.02.098	<u>Storm Water Runoff Policy</u>
15.02.099	<u>Solid Waste Policy</u>
15.02.100	<u>Schools Policy</u>

15.02.101	<u>Transportation</u>
15.02.104	<u>Statewide Planning Goal</u>
15.02.105	<u>City Objectives and Policies</u>
15.02.110	<u>Energy</u>
15.02.114	<u>Statewide Planning Goal</u>
15.02.115	<u>City Objectives and Policies</u>
15.02.120	<u>Urbanization</u>
15.02.121	<u>Population Projection</u>
15.02.122	<u>Rural to Urban Land Conversion Activity</u>
15.02.123	<u>Projected Year 2010 Land Requirements</u>
15.02.124	<u>Land Use Inventory - Table 2-2A</u>
15.02.125	<u>Land Use Inventory - Table 2-2B</u>
15.02.126	<u>Total Residential Capacity w/in City Limits - Table 2-3</u>
15.02.127	<u>Total Year 1993-2010 Residential Land Requirements - Table 2-4</u>
15.02.130	<u>Summary of Land Use Requirements - Table 2-5</u>
15.02.134	<u>Statewide Planning Goal</u>
15.02.135	<u>City Objectives and Policies</u>
15.02.136	<u>Land Use Map</u>

15.02.010 CITIZEN INVOLVEMENT

The opportunity for the active participation of the residents and landowners of an area in the preparation of a community's comprehensive plan is not just mandated by state law, but is also the only realistic means of assuring that the community's planning efforts will be worthwhile and meaningful endeavors.

A Community's leaders must not only provide the public with a chance to view and respond to the planning documents and studies, but must also affirmatively seek out and request the involvement of the community's citizens. Otherwise, all of the citizen feedback will come during the final hearings on the plan and a great deal of it will then be negative. Small communities such as the City of North Plains do not have the resources to prepare, adopt, and revise plans that have limited support of at least a significant portion of the community's citizens.

Goal 2 of the Statewide Planning Goals also provides that "opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review, and revision of plans and implementation ordinances." Just as the involvement of the community's residents is important to the preparation and review by all of the community's providers of governmental services (the County; school and fire district, etc.), public utilities (telephone, power, gas, etc.), and transportation services (railroad, public transit, etc.) is essential.

The community's businesses and industries (including agricultural businesses) must also be involved since these activities are often not only strongly influenced by the results of a comprehensive planning effort, but are also often, due to their impact on the economic health of the area through payrolls and taxes, an important means by which the goals and objectives of a community may be achieved.

Many of the mechanisms for involvement of the area's residents are also appropriate for the involvement of these other governmental, public utility, and transportation providers as well as businesses and industries.

15.02.014 STATEWIDE PLANNING GOAL

To develop a Citizen Involvement Program that insures the opportunity for citizens to be involved in all phases of the planning process.

15.02.015 CITY OBJECTIVES AND POLICIES

1. **OBJECTIVE:** An effective Citizen Involvement Program requires that an officially recognized body (Committee for Citizen Involvement - C.C.I.) be responsible for overseeing and reviewing the effectiveness and impact of the program.
1. **POLICIES:**
 - (1) The Citizen Involvement Program will be directed by the City's Planning Commission sitting as the Committee for Citizen Involvement.
 - (2) Not less than once every two years, the City Planning Commission shall normally evaluate the City's Citizen Involvement Process and shall report its findings in writing to the City Council along with recommendations as appropriate for improving the program.
 - (3) CPO No. 8 is recognized as a Citizen Planning Advisory Committee.
2. **OBJECTIVE:** The Citizen Involvement Program should recognize the need for a number of different forms of communication.
 - A. **POLICIES:**
 - (4) Information about the City's planning activities and noting upcoming meetings, workshops, etc. shall be included in the City newsletter.
 - (5) News articles on the planning effort shall be prepared each month and be made available to the local newspapers and radio station.
 - (6) Notices of public hearings on the plan shall be mailed to all persons within the affected area, and to all affected agencies.
 - (7) Opportunities to present the planning process before community organizations shall be actively sought.

3. **OBJECTIVE:** Citizens having a reasonable opportunity to be involved in all phases of the planning process shall be actively encouraged.

1. **POLICIES:**

(1) Citizen assistance in the preparation of each phase of the planning process shall be actively encouraged.

4. **OBJECTIVE:** Effective public participation requires that technical information that serves as the foundation of the plan be presented in an understandable form.

A. **POLICIES:**

(2) Information necessary to reach policy decisions shall be available in a simplified form, understandable form.

(10) A copy of all technical information shall be available at the North Plains City Hall. Upon written request, within 10 working days written assistance in interpreting and using technical information shall be provided.

5. **OBJECTIVE:** The City should assure that citizens will receive a response from policy makers.

A. **POLICIES:**

(11) Recommendations resulting from the citizen involvement program shall be retained and made available for public assessment. Citizens who have participated in this program shall receive a response from policy makers. The rationale used to reach land use policy decisions shall be available in the form of a written record.

6. **OBJECTIVE:** Adequate human, financial, and informational resources should be allocated to this Citizen Involvement Program within the planning budget.

A. **POLICIES:**

(12) The level of funding and human resources allocated to the Citizen Involvement Program should be an amount that will make citizen involvement an integral part of the planning process.

15.02.020 LAND USE PLANNING

To insure adequate land for residential, commercial and industrial development, the following categories have been developed for use in the comprehensive plan map, which will provide the basis for the City's zoning map. These categories are defined as follows:

Low Density Residential: Areas primarily suited for development of single family dwellings at a density not to exceed 4.4 dwelling units per net acre (minimum lot size of 10,000 square feet per dwelling). Duplexes permitted as conditional use. Corresponds to R10 on zoning map.

Medium/Low Density Residential: Areas suited primarily for development of single family dwellings and duplexes at a density not to exceed 5.8 dwelling units per net acre (a minimum lot size of 7,500 square feet per single family dwelling). Corresponds to R7.5 on zoning map.

Medium/High Density Residential: Areas suited for development of single dwellings, duplexes, attached two family and manufactured home parks and subdivisions at a density not to exceed 8.7 dwelling units per net acre (a minimum lot size of 5,000 square feet per dwelling unit). Corresponds to R5 zoning map.

High Density Residential: Areas suitable primarily for multi-family dwellings and manufactured home parks and subdivisions although single family dwellings and duplexes are also permitted. In this category, residential densities are not to exceed 17.4 dwellings units per net acre (a minimum lot size of 5,000 square feet and density of one unit for each 2,500 square feet). Corresponds to R2.5 on zoning map.

Commercial: Areas to accommodate retail trade, service, banking, office and related cultural and governmental used. Corresponds to C1, General Commercial, and C2, Highway Commercial, on the zoning map.

Industrial: Areas appropriate for wholesale trade and manufacturing activities. Corresponds to M1, Light Industrial, and M2, General Industrial, categories on the zoning map.

In addition, three overlay zones have been created:

Flood Plain: Denotes areas lying within the 100-year flood plains of McKay Creek and its unnamed tributary (Exhibit Page 10).

Community Service: Identifies public and private facilities which serve community educational, cultural, recreational, social and governmental functions. This designation does not exempt property owners from the requirements of the underlying comprehensive plan/zoning designations.

Historic Resource: Identifies significant historic sites and structures and establishes a public review process for proposed alterations and demolitions.

Significant Natural Resources: Identifies significant natural resources, including significant wetlands and riparian corridors (Exhibit Page 11).

15.02.024 STATEWIDE PLANNING GOAL:

To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual basis for such decisions.

15.02.025 CITY OBJECTIVES AND POLICIES:

1. **OBJECTIVE:** Through the comprehensive plan the City will identify issues, inventories and related data for use in the land use planning and the decision making process.

A. POLICIES:

- (1) The City will maintain a Comprehensive Plan which designates a range of land use areas based on findings with respect to:

- o Natural resource capacity and environmental quality;
- o Projected population and economic growth;
- o Location and capacity of services;
- o Existing land use patterns;
- o Projected land use needs;
- o Community land use needs; and
- o Energy conservation and resources.

- (2) The comprehensive plan and supporting document will be kept on file and available to the public through the City Recorder at the North Plains City Hall.

2. **OBJECTIVE:** Provide opportunities for input from citizens and affected government agencies during the preparation, review and revision of plans and implementing ordinances by the City.

A. POLICIES:

- (3) The City will adopt an "Agency Coordination Program" to identify affected governmental agencies at state, county and local levels. The list will include institutions in the education, public utility, transportation and private sectors.

3. **OBJECTIVE:** The comprehensive plan and implementing ordinances shall be reviewed periodically so that the City may keep the planning process dynamic and the comprehensive plan able to respond to change.

A. POLICIES:

- (4) The City and the Planning Commission will review the Comprehensive Plan and update or amend the plan every five years.
- (5) The City will also review data inventories and projections used in the comprehensive plan as part of the update.

4. OBJECTIVE: The Comprehensive Plan shall be the basis for specific implementation measures which shall be consistent with and adequate to carry out the comprehensive plan.

A. POLICIES:

- (6) Development proposals will be required to conform to the City's Zoning, Subdivision, and Design Review Ordinances.

15.02.030 SCENIC AND HISTORIC AREAS AND NATURAL RESOURCES

Based in the resource inventory (at Section 15.03.014), the City of North Plains contains no:

- o No known rare or endangered species of flora and fauna;
- o Commercially valuable mineral and aggregate resources;
- ~~o Ecologically and scientifically significant areas;~~
- o Outstanding scenic views and sites;
- o Indigenous energy sources;
- o Wilderness areas;
- o Potential and approved Oregon recreation trails; or
- o State/Federally designated wild and scenic waterways.

The McKay Creek flood plain includes other "significant" resources including riparian corridors ~~habitat~~, wetlands, and stream corridors. Development in such areas is restricted ~~prohibited~~ by the City's ~~Significant Natural Resources Overlay Zone~~ and flood plain ordinance. The only allowable alteration of the flood plain is governed by the flood plain ordinance.

The City has groundwater resources upon which it depends for its domestic water supply. Sewerage service is provided by ~~Clean Water Services Unified Sewerage Agency~~ throughout the City. To protect water supplies, the City will evaluate each request for development in terms of its water requirements.

15.02.034 STATEWIDE PLANNING GOAL

To conserve open space and protect natural and scenic resources.

15.02.035 CITY OBJECTIVES AND POLICIES

1. OBJECTIVE: To protect and enhance the open space and natural resources of the area through proper use and development, especially McKay Creek and its tributaries.

A. POLICIES:*

- (1) The City will encourage recreational uses of open space land.

- (2) The City will explore the feasibility of acquiring a future park site within the 100-year flood plain of McKay Creek.
- (3) In reviewing planned unit developments (PUD's), the City will not permit property owners to use the flood plain to calculate total allowed residential densities.
- (4) The City will encourage the siting of all new development to prevent any unnecessary removal of existing trees.
- (5) The City will review an open space system, proposed acquisition of right-of ways, and easements or lands for any city agency, for possible incorporation.
- (6) The City will protect the fish and wildlife habitats in the McKay Creek stream corridor through application of its flood plain ordinance design review, park lands overlay systems, and significant natural resources overlay zone district.

2. **OBJECTIVE:** To continually explore ways to develop and maintain an open-space network.

A. POLICIES:

- (7) The City will initiate and develop a master storm water management plan to encourage preservation of all natural drainage ways.
- (8) The City will provide and preserve green-ways and open space along, creeks, or other water features for recreational purposes and visual aesthetics.

* This constitutes the City's open space plan.

3. **OBJECTIVE:** To identify sites and structures relating to the history of the State and the city that should be identified, protected and enhanced.

A. POLICIES:

- (9) The City shall utilize the Historic Resource Overlay District to identify and protect significant historic sites and structures. The City's list of significant historic sites and structures shall be maintained in the Comprehensive Plan Inventory and affected properties designated on the Comprehensive Plan and Zoning Maps.
- (10) The City will develop a program using public and private resources, to revitalize those older residential structures which have been identified as having some historical or architectural significance.
- (11) The City will investigate the possibilities of receiving funding and tax benefits from the federal, state, and local levels in order to support historic preservation.

- (12) The City will cooperate with the Washington County Museum and the State Historic Preservation Office to identify and protect significant cultural resources.
- (13) The City will recognize and comply with applicable State and Federal Statutes governing the protection of cultural resources.
- (14) The City will seek to protect all archaeological sites found in the city.

4. **OBJECTIVE:** To protect the groundwater supply essential to clean water and natural vegetation.

A. POLICIES:

- (15) The City will work to preserve and maintain the quality and availability of ground water for its citizens.
- (16) The City will develop standards to prevent damage to public and private property caused by flooding.
- (17) The City will cooperate with State and regional agencies to determine the nature and future value of the area's groundwater supply.
- (18) The City will prohibit approval of developments which cannot be served by an adequate municipal supply.
- (19.) The City will initiate action to identify and acquire an alternative to groundwater as its primary source of supply.

15.02.040 AIR, WATER, AND LAND RESOURCES

The City of North Plains maintains air and water quality, and noise level standards in accordance with the following federal laws:

- o Clean Air Act (PL-88-206 as amended August, 1977);
- o Federal Water Pollution Control Act (PL-92-5000);
- o Safe Drinking Water Act (P-93-523);
- o Resource Conservation and Recovery Act (PL-94-580);
- o Noise Control Act (PL-92-574);

and state laws:

- o Pollution Control (ORS 486);
- o Sewage Treatment & Disposal System (ORS 454);
- o Solid Waste Control Act (ORS 467); and
- o Noise Control Act (ORS 467)

15.02.041 AIR QUALITY

The City of North Plains is identified by the Department of Environmental Quality (DEQ), State of Oregon, as being within the "Portland Air Quality Maintenance Area". This designation is a requirement of the Clean Air Act Amendments of 1977. The pollutants mentioned are particulates, carbon monoxide and photo chemical oxidants.

It has been determined by using the guidelines in the DEQ publication, "DEQ Handbook for Environmental Quality Elements of Oregon Land Use Plans (air quality section)" and support documentation that the North Plains Comprehensive Plan does appear to cause or contribute to a significant degradation of air quality within the Portland area and Air Quality Maintenance Area.

15.02.042 WATER QUALITY

The City has a Clean Water Services (CWS) ~~United Sewerage Agency (USA)~~ sewage system in place.

15.02.043 NOISE POLLUTION

North Plains experiences varying degrees of noise pollution. The Sunset Highway on the southern city limits and some industrial facilities, and the Portland Hillsboro Airport, vehicle traffic in the city, and the Burlington Northern Railway that runs through the middle of town are the main sources of noise.

15.02.044 STATEWIDE PLANNING GOAL

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

15.02.045 CITY OBJECTIVES AND POLICIES

1. **OBJECTIVE:** All discharges from existing and future development should be within the limits set forth in applicable state or federal environment quality statutes and standards.

A. POLICIES:

- (1) The City will encourage standards that and, enhance the air and water quality and reduce noise pollution; and require that all state and federal standards be met or exceeded with respect to:
 - o Air quality
 - o Water quality
 - o Noise levels
- (2) The City will participate in environmental quality planning efforts on a regional level.

15.02.050 AREAS SUBJECT TO NATURAL DISASTERS AND HAZARDS

Steep slopes pose no significant hazard to development within the City of North Plains. However, there is a potential threat to life and property due to the following:

15.02.051 FLOODING

The City contains nearly 58 acres of land located within the 100-year flood plain of McKay Creek, which lies at the eastern edge of the City, and a tributary, which traverses the City from its northwest to southeast corners. Flooding in the city is due primarily to the undersized culvert at Glencoe Road, 314th Avenue and Pacific, Cottage, Commercial, Hillcrest and Wascoe Streets. The solution to the flooding will be addressed in the master storm water management plan.

15.02.052 SOIL LIMITATIONS

Approximately 14% of the soils in North Plains have "moderate potential" for shrink-swell which affects the stability of building foundations and roadways.

Approximately 13% of the soils in the community are identified as having a seasonable high water table, i.e. within 24 inches of the surface which affects construction and development. Most of these soils are associated with or are in the vicinity of the 100-year flood plains.

15.02.054 STATEWIDE PLANNING GOAL

To protect life and property from natural disasters and hazards.

15.02.055 CITY OBJECTIVES AND POLICIES

1. **OBJECTIVE:** To concentrate urban uses on suitable lands based on research of available information showing the absence of known hazards including but not limited to flooding, unfavorable soil conditions, and seasonally high water table.

A. POLICIES:

- (1) The City will require specific information clearly identifying the degree of hazard present from applicants who seek approval to develop residential, commercial, or industrial uses within known areas of natural disasters and hazards.
- (2) The City will prohibit development or land form alterations in areas with natural development limitations except upon showing that design or engineering techniques can eliminate any public harm or adverse effects to surrounding persons or properties. Consideration shall be given to such natural hazards as:
 - o Severe Soil restrictions;
 - o Areas within the 100-year flood plain; and
 - o Seasonally high water table within 24 inches of the surface.

2. **OBJECTIVE:** To discourage development in flood plains and natural drainage ways.

A. POLICIES:

- (3) The City will permit limited use of certain flood plain lands for recreational and agricultural purposes which do not endanger the public health, safety or welfare.
- (4) Any alteration to a drainage way shall be engineered and constructed in an manner to allow for the least possible change in the natural flow of water which existed prior to the alteration.
- (5) The City will allow no construction or grading which would:
 - o Cause any restriction which could cause backup of water and flood upstream properties;
 - o Cause an increase in flow rate, to downstream properties; or
 - o Cause an increase of flood potential for the property which is undergoing alteration.
- (6) The City will keep flood plain information current, as reported by U.S. Army Corp of Engineers and other sources.
- (7) The City will utilize the flood plain Overlay District to accomplish these policies, which will apply to private land owners, as well as City, County, and State public projects.

3. **OBJECTIVE:** To protect life and property from harm or loss due to construction on weak foundation soils.

A. POLICIES:

- (8) The City will maintain procedures to advise applicants for development permits of the areas known to have a potential for weak foundation soils.
- (9) The City will require a soils report in areas of known weak foundation soils, by a qualified soils engineer or consulting geologist licensed or registered by the State of Oregon.

4. **OBJECTIVE:** To protect life and property from harm or loss due to activity or construction in areas of high groundwater.

A. POLICIES:

- (10) The City will establish land development policies and regulations which take into consideration existing and evolving groundwater conditions.

Appendix C

Updated Zoning Ordinance



Chapter 16.16
HOW LAND MAY BE USED AND DEVELOPED
ZONING DISTRICT (SNR)

Sections:

- 16.16.000 Zoning Districts
- 16.16.005 Significant Natural Resources Overlay District (SNR)
- 16.16.010 Purpose
- 16.16.020 Definitions
- 16.16.030 General Provisions
- 16.16.040 General Development Standards
- 16.16.050 Natural Resource Enhancement and Restoration
- 16.16.060 Variances to Chapter 16.16
- 16.16.070 Mitigation Standards

16.16.005 Significant Natural Resources Overlay District (SNR)

16.16.010 Purpose

The Significant Natural Resources Overlay District provides protection for identified significant natural resources within the City of North Plains as designated under Statewide Planning Goal 5. For the purpose of this overlay zone, significant natural resources are designated as Significant Wetlands and Riparian Corridors. These resources have been inventoried within the City of North Plains according to procedures, standards and definitions established under Goal 5 and are identified on the Significant Natural Resources Map as adopted in the Comprehensive Plan.

The Significant Natural Resources Overlay Zone District is intended to:

- A. Protect valuable natural resources within the City of North Plains' Urban Growth Boundary, while ensuring reasonable economic use of property;
- B. Augment existing regulation of water quality sensitive areas and vegetated corridors by Clean Water Services through the Design and Construction Standards - Resolution and Order 00-7, and the regulation of wetlands and water resources by the Division of State Lands through the Removal-Fill Law (ORS 196.800-196.990) and by

the US Army Corps of Engineers through Section 404 of the Clean Water Act;

- C. Encourage public knowledge, understanding and appreciation of the City's natural resources;
- D. Provide protection of wetlands and riparian corridors to maintain salmonid habitat, water quality, thermal regulation, sediment trapping, hydrologic control of floodwaters; streambank stabilization and other important functions and conditions;
- E. Encourage restoration of wetlands and riparian corridors; and
- F. Carry out the provisions of Statewide Planning Goal 5.

16.16.020 Definitions

For the purposes of this Section, the following definitions apply:

- A. **Alteration**: The addition to, removal of or from, or physical modification of any exterior part or portion of a landmark, or identified building.
- B. **Bankfull Stage**: The elevation at which water overflows the natural banks of the stream.
- C. **Bioengineering**: A method of erosion control and landscape restoration using live plants, such as willows.
- D. **Building Envelope**: The land area, outside of all required setbacks, which is available for construction of a primary structure on a particular property.
- E. **Delineation**: An analysis of a resource by a qualified professional that determines its boundary according to an approved methodology.
- F. **Excavation**: Removal of organic or inorganic material (e.g. soil, sand, sediment, muck) by human action.
- G. **Fill**: Deposition of organic or inorganic material (e.g. soil, sand, sediment, muck, debris) by human action.
- H. **Impervious surface**: Any material (e.g. rooftops, asphalt, concrete) which reduces or prevents absorption of water into soil.

- I. **Lawn**: Grass or similar materials usually maintained as a ground cover of less than 6 inches in height. For purposes of this ordinance, lawn is not considered native vegetation regardless of the species used.
- J. **Mitigation**: A means of compensating for impacts to a Significant Natural Resource or its buffer including: restoration, creation, or enhancement. Some examples of mitigation actions are construction of new wetlands to replace an existing wetland that has been filled, replanting trees, removal of nuisance plants, and restoring streamside vegetation where it is disturbed.
- K. **Native Vegetation**: Plants identified as naturally occurring and historically found within the City of North Plains.
- L. **Natural Resource Enhancement**: A modification of a natural resource to improve its quality.
- M. **Natural Resource Overlay**: Designation given to all Significant Wetlands and Riparian Corridors delineated on the Significant Natural Resources Map.
- N. **Non-conforming**: A structure or use that does not conform to the standards of this ordinance but has been in continuous existence from prior to the date of adoption of this ordinance up to the present. Non-conforming uses are not considered violations and are generally allowed to continue, although expansion, re-construction, or substantial improvements are regulated.
- O. **Qualified professional**: An individual who has proven expertise and vocational experience in a given natural resource field. A qualified professional conducting a wetland delineation must appear on the Oregon Division of State Lands Consultants List.
- P. **Review Authority**: The City of North Plains.
- Q. **Riparian Corridor**: A Goal 5 resource that includes the water areas, fish habitat, riparian areas, and wetlands within the riparian corridor boundary. In the City of North Plains, Riparian Corridor boundaries are measured as follows:
 - (a) The unnamed tributary of McKay Creek: 50 feet from the top of bank or from the edge of a delineated significant wetland, whichever is further landward, and;

(b) McKay Creek: 75 feet from the top of bank or from the edge of a delineated significant wetland, whichever is further landward.

- R. **Significant Natural Resource**: Significant Wetlands and Riparian Corridors within the City of North Plains Urban Growth Boundary and designated on the Significant Natural Resources Map.
- S. **Significant Wetland**: A wetland mapped on the City of North Plains *Local Wetlands Inventory* which meets the primary criteria of the Oregon Division of State Lands Administrative Rules for Identifying Significant Wetlands (July, 1996). The final boundary of a significant wetland is established through a wetland delineation using the required methodology and suggested methodologies of the 1987 US Army Corps of Engineers Wetland Delineation Manual;
- T. **State and Federal Natural Resource Agency**: Oregon Division of State Lands, Oregon Department of Fish and Wildlife, U.S. Army Corps of Engineers, U.S. Department of Agriculture Natural Resources Conservation Service, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency.
- U. **Stream**: A channel, such as McKay Creek or the unnamed tributary of McKay Creek, that carries flowing surface water, including perennial streams and intermittent streams with defined channels, and excluding man-made irrigation and drainage channels.
- V. **Structure**: A building or other major improvement that is built, constructed or installed, not including minor improvements, such as fences, utility poles, flagpoles, or irrigation system components that are not customarily regulated through zoning ordinances.
- W. **Substantial Improvement**: Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:
- (c) Before the improvement or repair is started, or
 - (d) If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term does not, however, include either:

- (e) Any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or
 - (f) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.
- X. **Top of Bank**: A distinct break in slope between the stream bottom and the surrounding terrain, which corresponds with the bankfull stage of the stream.
- Y. **Variance**: A grant of relief from the requirements of this ordinance, which permits activity in a manner that would otherwise be prohibited by this ordinance.
- Z. **Wetland**: Those areas that are inundated or saturated by surface or ground water 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 are generally regulated by the Oregon Division of State Lands and the US Army Corps of Engineers.

16.16.030 General Provisions

- A. **Affected Property**: The procedures and requirements of the Significant Natural Resources Overlay Zone District (SNR):
- a. apply to any parcel designated as having a Significant Natural Resource on any portion of the tax lot;
 - b. apply in addition to the standards of the property's underlying zone;
 - c. supercede the property's underlying zone where the underlying zone does not provide the level of Significant Natural Resource protection afforded by the Significant Natural Resources Overlay Zone District.
- B. **Activities Subject to Review**: Activities subject to the review shall include all development on properties outlined in 16.16.030 A and not

specifically exempted from review as outlined in 16.16.030 C, including:

- a. Partitioning and subdividing of land.
- b. New structural development.
- c. Exterior expansion of any building or structure, or increases in impervious surfaces or storage areas.
- d. Site modifications including grading, excavation or fill, installation of new above or below ground utilities, construction of roads, driveways, or paths.
- e. Removal of trees or the clearing of native vegetation within a Significant Natural Resource.

C. Exemptions: Activities exempt from this ordinance include:

- a. The sale of property.
- b. Temporary emergency procedures necessary for the safety or protection of property.
- c. Commercial forest practices regulated by the Oregon Forest Practices Act.
- d. Normal and accepted farming practices other than the construction of buildings, structures, or paved roads.

D. Agency Review: Decisions made by the City of North Plains under this ordinance do not supercede the authority of the state or federal agencies which may regulate or have an interest in the activity in question. It is the responsibility of the applicant to determine which agencies, if any, have regulatory jurisdiction, and make the appropriate contacts.

E. Map as Reference: The Significant Natural Resources Overlay Zone map shall be a reference for identifying areas subject to the provisions of this ordinance. An applicant with any parcel designated as having a Significant Natural Resource on any portion of the tax lot(s) is required to:

- a. Delineate wetland boundaries using the methods described in the 1987 US Army Corps of Engineers Wetland Delineation Manual;
- b. Provide the City with a delineation of the significant natural resources on the subject property as part of their application. An application shall not be complete until this delineation is submitted to the City;
- c. Obtain concurrence of the wetland delineation from the Oregon Division of State Lands.

16.16.040 General Development Standards

A The permanent alteration of the Significant Natural Resource by grading, by excavation or fill, by the placement of structures or impervious surfaces, or by the removal of native vegetation is prohibited, except for the following uses provided they are designed to minimize intrusion into the significant natural resource, and no other options or locations are feasible:

1. Streets, roads, paths, and driveways;

Public or private streets, driveways, or paths may be placed within a Significant Natural Resource to access development activities if it is shown to the satisfaction of the reviewing authority that no other practicable method of access exists. If allowed, the applicant shall comply with the following requirements:

- i. Demonstrate to the reviewing authority that no other practicable access to the buildable area exists or access from an off-site location through the use of easements is not possible;
- ii. Design roads, driveways, and paths to be the minimum width necessary and for the minimum intrusion into the Significant Natural Resource while also allowing for safe passage of vehicles and/or pedestrians;
- iii. Use bridges, arched culverts, or box culverts with a natural bottom for crossing of a Significant Natural Resource if the crossing is found unavoidable. The lower lip of any culvert must meet the channel bed at or below grade. The number of channel crossings shall be minimized through use of

shared access for abutting lots and access through easements for adjacent lots;

- iv. Consider the need for future extensions of shared access, access easements, or private streets to access potential new building sites at the time of this application in order to avoid subsequent encroachments into the Significant Natural Resource;
- v. Prior to construction, the Significant Natural Resource area shall be flagged, fenced or otherwise marked and shall remain undisturbed except as allowed by the provisions of this ordinance. Such markings shall be maintained until construction is complete;
- vi. During construction, no stockpiling of fill materials, parking, or storage of equipment shall be allowed within the Significant Natural Resource;
- vii. Erosion control measures, such as silt fences and biofilter bags, shall be used to reduce the likelihood of sediment and untreated stormwater entering the Significant Natural Resource.
- viii. Permanent alteration of the Significant Natural Resource by the placement of public or private streets, driveways, or paths is subject to the mitigation requirements of Section VII.

2. Utilities and drainage facilities;

Public and private utilities or drainage facilities may be placed within a significant natural resource when it is shown to the satisfaction of the review body that no other practicable alternative location exists. If a utility or drainage facility is allowed within a Significant Natural Resource the following standards shall apply:

- i. Demonstrate to the reviewing authority that no other practicable access exists or access from an off-site location through the use of easements is not possible;
- ii. The corridor necessary to construct utilities shall be the minimum width practical so as to minimize intrusion into the Significant Natural Resource. Removal of trees and native

vegetation shall be avoided unless absolutely necessary. The existing grade of the land shall be restored after construction. Native vegetation shall be used to restore the vegetative character of the construction corridor.

- iii. Prior to construction, the Significant Natural Resource area shall be flagged, fenced or otherwise marked and shall remain undisturbed except as allowed by the provisions of this ordinance. Such markings shall be maintained until construction is complete;
 - iv. During construction, no stockpiling of fill materials, parking, or storage of equipment shall be allowed within the Significant Natural Resource.
 - v. Erosion control measures, such as silt fences and biofilter bags, shall be used to reduce the likelihood of sediment and untreated stormwater entering the Significant Natural Resource.
3. Replacement of existing structures with structures in the same location that do not disturb additional surface area;
 4. Structures or other non-conforming alterations existing fully or partially within the Significant Natural Resource may be expanded provided the expansion occurs outside of the Significant Natural Resource. Substantial improvement of a non-conforming structure in the Significant Natural Resource shall require compliance with the standards of this ordinance.
 5. Existing lawn within the Significant Natural Resource may be maintained, but not expanded within the limits of the Significant Natural Resource. Development activities shall not justify replacement of native vegetation, especially native riparian vegetation, with lawn.
 6. Existing bank stabilization and flood control structures may be maintained. Any expansion of existing structures or development of new structures shall be evaluated by the Planning Department and appropriate state or federal natural resource agency. Such alteration of Significant Natural Resources shall be approved only if less-invasive or non-structural methods, such as bioengineering, will not adequately meet stabilization or flood control needs.

7. The types, sizes, and intensities of lights must be placed so that they do not shine directly into the Significant Natural Resource.
- B. Removal of vegetation from the Significant Natural Resource is prohibited, except for:
1. Removal of non-native vegetation and replacement with native plant species. The replacement vegetation shall cover, at a minimum, the area from which vegetation was removed, shall maintain or exceed the density of the removed vegetation, and shall maintain or improve the shade provided by the vegetation.
 2. Removal of vegetation necessary for the continued maintenance of dikes, drainage ditches, or other stormwater or flood control facilities. Vegetation removal shall be kept to the minimum necessary.
 3. Trees in danger of falling and thereby posing a hazard to life or property may be removed, following consultation from a certified arborist and approval from the Planning Department. If no hazard will be created, the department may require these trees, if felled, to be left in place in the Significant Natural Resource.
 4. The control or removal of nuisance plants should primarily be by mechanical means (e.g. hand-pulling). If mechanical means fail to adequately control nuisance plant populations, a glyphosate-based herbicide is the only type of herbicide that can be used in a significant natural resource area. No pre-emergent herbicides or auxin herbicides that pose a risk of contaminating water should be used. A herbicide application is preferred to be made early in the morning or during windless periods at least 4 hours before probable rainfall.

16.16.050 NATURAL RESOURCE ENHANCEMENT AND RESTORATION

The City strongly encourages the enhancement or restoration of natural resources, such as riparian corridors along the unnamed tributary of McKay Creek and McKay Creek, in-channel habitat improvements, non-native plant control, and similar projects which propose to improve the quality of a Significant Natural Resource. However, no enhancement activity requiring the excavation or filling of material in a wetland shall be allowed unless all applicable State and Federal wetland permits have been granted.

16.16.060 VARIANCES TO CHAPTER 16.16

A variance to the provisions of Chapter 16.16 is permitted only as a last resort and is only considered necessary to allow reasonable economic use of the subject property. The property must be owned by the applicant and not created after the effective date of this Section.

A. A variance shall only apply to:

1. Lots on which the location of a Significant Natural Resource results in a building area depth for a single-family dwelling of 25 feet or less or a building envelope of 800 square feet or less;
2. Lots where strict adherence to the standards and conditions of Section 16.16 would effectively preclude a use of the parcel that could be reasonably expected to occur in the zone, and that the property owner would be precluded a substantial property right enjoyed by the majority of landowners in the vicinity.

B. Permanent alteration of the Significant Natural Resource by an action requiring a variance is subject to the procedures and criteria of Chapter 16.01 and the mitigation requirements of Section 16.16.070.

16.16.070 MITIGATION STANDARDS

When approved impacts to any identified Significant Natural Resource occurs, mitigation will be required. For impacts to Significant Wetlands, the standards and criteria of Section 16.16.070A shall apply. For impacts to Riparian Corridors, the standards and criteria of Section 16.16.070B shall apply.

- A. When mitigation for impacts to a Significant Wetland is proposed, the mitigation plan shall comply with all Oregon Division of State Lands and U.S. Army Corps of Engineers wetland regulations. The City may approve a development but shall not issue a building permit until all applicable State and Federal wetland permit approvals have been granted and copies of those approvals have been submitted to the City.
- B. When mitigation for impacts to a non-wetland riparian area is proposed, a mitigation plan prepared by a qualified professional shall be submitted to the review authority. The mitigation plan shall meet the following criteria:

- a. Mitigation for negative impacts to a Riparian Corridor shall follow all of the requirements of Clean Water Services' *Design and Construction Standards - Resolution and Order 00-7*;
- b. Mitigation shall occur on-site and as close to the impact area as possible. If this is not feasible, mitigation shall occur within the same drainage basin as the impact;
- c. All vegetation planted within the mitigation area shall be native to the region. Species to be planted in the mitigation area shall replace those impacted by the development activity;