

City of North Plains Goal 5 Periodic Review Local Wetlands and Riparian Inventories



Prepared for
City of North Plains, Oregon

Prepared by
Pacific Habitat Services, Inc.
Wilsonville, Oregon

January 31, 2002

APPROVED WETLANDS INVENTORY
Oregon Department of State Lands

Meets Local Wetlands Inventory standards
Date 3/04 Approved by J. Moran



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Goal 5 Periodic Review
Local Wetlands and Riparian Inventories**

Prepared for

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PHS Project Number 2453

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1.0 INTRODUCTION

The City of North Plains (City), through a Periodic Review Grant from the Department of Land Conservation and Development (DLCD), hired Pacific Habitat Services, Inc. (PHS) to address Statewide Planning Goal 5 and Goal 7 periodic review requirements within the City's approximately 697-acre proposed expanded Urban Growth Boundary. The study area is in Washington County (Township 1 North, Range 3 West, Sections 1, 2 and 12 and Township 1 North, Range 2 West, Sections 5, 6 and 7) and includes a portion of McKay Creek and an unnamed tributary of McKay Creek. Figure 1 illustrates the location of the study area.

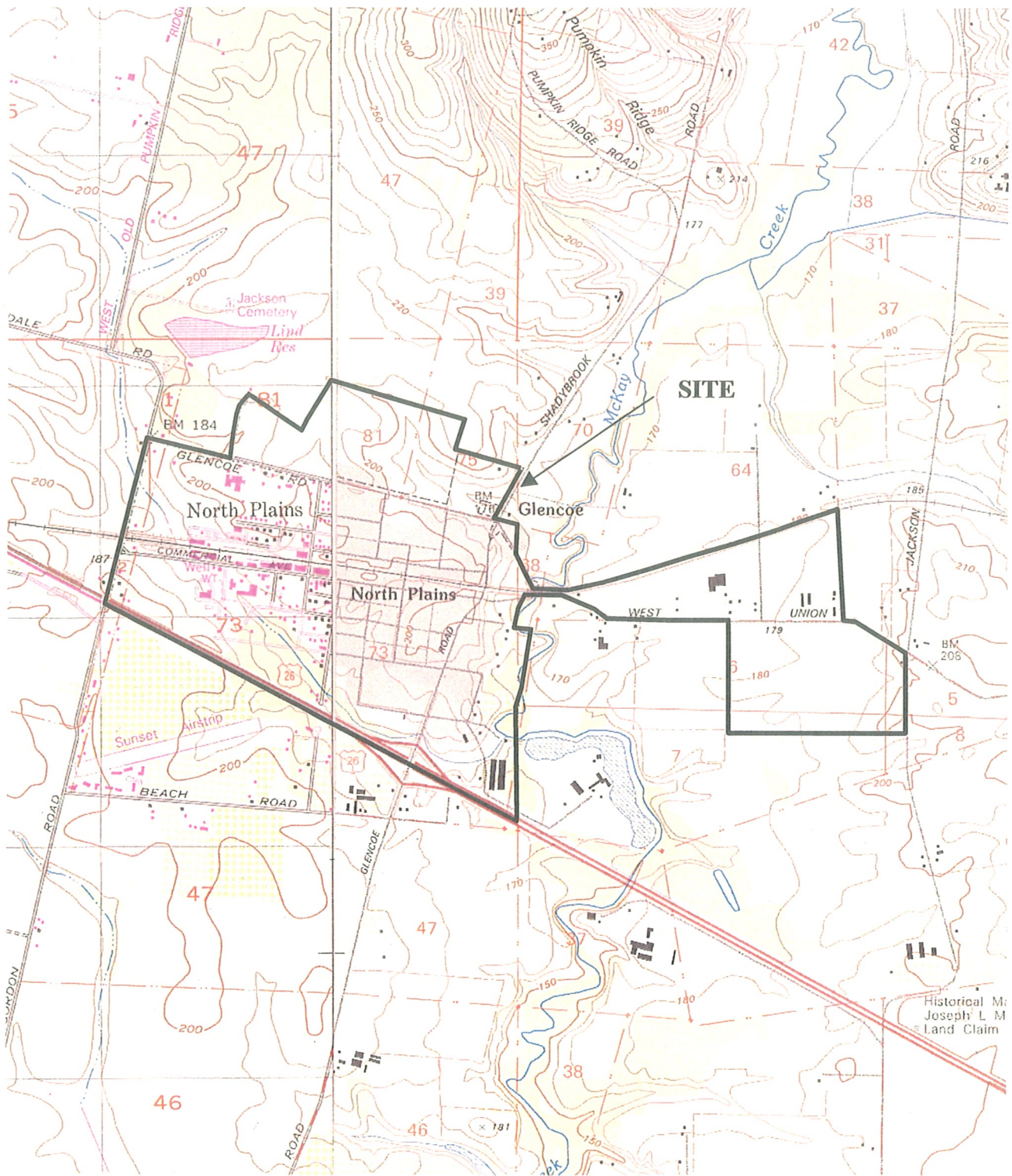
This report addresses Statewide Planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces), and Oregon Administrative Rule (OAR) Section 660, Division 23 requirements as they relate to wetlands and riparian corridors. A discussion of wildlife habitat, a determination of significant natural resources, and a discussion of Goal 7 issues is included in two additional reports (PHS, 2002).

The objective of Goal 5 is to "protect natural resources and conserve scenic, historic and open space resources for present and future generations." Specifically, the City hired PHS to determine the location and extent of wetlands; assess the quality of the wetlands; determine which of these wetlands are significant according to the requirements of Goal 5; conduct a riparian inventory; and assess the quality of the riparian corridors.

This report begins by discussing the definitions used in the report and inventory (Section 2), followed by the methodology used to conduct the field work for the LWI, the riparian inventory, the wetland assessment methodology, and the methodology used to produce the maps for the inventory (Section 3). Cartography for the project is outlined in Section 4; Section 5 outlines staff qualifications of individuals at PHS who worked on the project; Section 6 discusses the study area characteristics, such as the climate, topography, soils and vegetation; Section 7 discusses the Local Wetlands Inventory results, including wetland distribution, acreage, and Cowardin classification, the results of the *Oregon Freshwater Wetland Assessment Methodology*; as well as the determination of significant wetlands according to Goal 5. Section 8 discusses the results of the Riparian Inventory; Section 9 provides a project summary and Section 10 includes references.

There are six appendices to the report. Appendix A contains the wetland characterization sheets for each wetland, organized by wetland code. The characterization sheets note wetland location, tax lots, acreage, Cowardin classification, soil series, wetland vegetation, adjacent upland vegetation, and other notes related to adjacent wetlands or hydrology. This form was completed for each wetland unit, regardless of whether it was an on-site or off-site determination.

Appendix B contains the wetland determination data forms. These forms document the sample points taken for the on-site wetlands. Hydrology, soils, and dominant vegetation are recorded for each sample point in order to determine whether it is wetland or upland.



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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



Appendix C is the *Oregon Freshwater Wetland Assessment Methodology* data and summary for each wetland unit. Each wetland's functions and conditions are assessed according to an established state methodology. The results and rationale are also summarized for each wetland unit. In addition, a determination of significance for each wetland unit is included in Appendix D. Appendix E contains the riparian characterization, riparian width forms, and the riparian assessment. Appendix F contains a non-comprehensive listing of plant species encountered or expected within the project area.

2.0 DEFINITIONS

These terms helped define the methodology used for the City of North Plains Local Wetlands Inventory and may be referred to in this report.

1987 Manual

The Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1.
(Environmental Laboratory 1987)

This manual is used by the Corps and DSL to document the location of wetlands within the State of Oregon. The 1987 manual provides technical criteria, field indicators, and recommended procedures to be used in determining whether an area is a jurisdictional wetland. Undisturbed areas require three criteria for them to be classified as wetland. These criteria are hydric soils, a dominance of hydrophytic vegetation, and wetland hydrology.

Cowardin Wetland Classification

The classification of wetlands as defined by plants, soils and the frequency of flooding is described in "Classification of wetlands and deepwater habitats of the United States." (Cowardin, et. al. 1979) See Palustrine System.

Goal 5

Goal 5 (OAR 660, Division 23) is intended "to protect natural resources, and conserve scenic and historic areas and open spaces." (DLCD, 1995)

Growing Season

"The portion of the year when soil temperatures at 19.7 inches below the soil surface are higher than biological zero (41° Fahrenheit, 5° Celsius)." (COE, 1987)

The growing season for any given site or location is determined from Natural Resource Conservation Service (NRCS, formerly the U.S. Soil Conservation Service SCS) data and information. The length of the season can be approximated from frost-free days, based on air temperature.

Hydric Soils

"Soils which are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions." (USDA, SCS, 1985)

Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, sulfidic material or "rotten egg" smell, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soils usually have a matrix chroma of 2 or less in mottled soils, or a matrix chroma of 1 or less in unmottled soils.

Hydrogeomorphic (HGM) Wetland Classification

A method of assessing wetlands using the physical, chemical, and biological functions of wetlands. It is based on the relationship of geomorphic setting, water source, and hydrodynamics. (Brinson, 1993)

Hydrophytic Vegetation

"Plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content." (National Resource Council, 1995)

The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status," are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL).

Local Wetlands Inventory (LWI)

An inventory of all wetlands greater than 0.5 acres in size within a local jurisdiction using the standards and procedures of OAR 141-86-110 through 141-86-240.

In 1989, the Oregon state legislature authorized 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.

An LWI is conducted using color or color infrared aerial photographs taken within 5 years of the inventory initiation and at a minimum scale of 1 inch = 400 feet (1" = 400'). Wetlands are located using the on-site option where access to property is allowed, or off-site where access is denied. Wetlands can be mapped off-site by using information such as topographic and National Wetlands Inventory maps, aerial photographs, and soils surveys.

The approximate location of wetlands is placed on a parcel-based map. The parcel-based map allows the property owner, the local jurisdiction, and DSL, to know which tax lots may contain wetlands.

The maps and documents produced for the LWI are intended for planning purposes only. Mapped wetland boundaries are accurate to within 25 feet; however, there may be unmapped wetlands that are subject to regulation. In all cases, actual field conditions determine wetland boundaries.

Palustrine System (P)

"All nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens and all such wetlands that occur in tidal areas where salinity is less than 0.5%. This includes areas traditionally called swamps, marshes, fens, as well as shallow, permanent or intermittent water bodies called ponds." (Cowardin et. al. 1979)

- **Aquatic bed (PAB)**

Wetland and deepwater habitats dominated by plants that grow principally on or below the surface of the water.

- **Emergent Wetland (PEM)**

These wetlands have rooted herbaceous vegetation, which stand erect above the water or ground surface.

- **Emergent Wetland, farmed (PEMf)**

These wetlands have rooted herbaceous vegetation; the soil surface has been mechanically or physically altered for the production of crops, but hydrophytes will become reestablished if farming is discontinued.

- **Scrub-shrub Wetland (PSS)**

Wetlands dominated by shrubs and tree saplings that are less than 20 feet high.

- **Forested Wetland (PFO)**

Wetlands dominated by trees that are greater than 20 feet high.

- **Open Water (POW)**

A wetland class consisting of areas of water less than 6.6 feet deep.

Riparian Area

"The area immediately adjacent to a water resource, which affects or is affected by the water resource. Riparian areas do not include the water resource itself." (DSL, 1998)

Riparian Assessment

"Determining the relative quality of a riparian area by assessing its functions." (DSL, 1998)

An evaluation of the ability of the riparian area to provide water quality, flood management, thermal regulation, and wildlife habitat functions. The methodology generally used to determine the relative quality of riparian areas for purposes of an inventory is *The Urban Riparian Inventory and Assessment Guide*.

Riparian Function

A characteristic action or role provided by riparian areas, such as water quality; flood management; thermal regulation; and wildlife habitat. (DSL, 1998)

Riparian Inventory

An inventory of location and extent of riparian areas within the boundaries of the Local Wetlands Inventory using *"The Urban Riparian Inventory and Assessment Guide."*

Water Resource

"An intermittent or perennial stream, pond, river, lake and including their adjacent wetlands." (DSL, 1998)

Waters of the State

Natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and nonnavigable. Natural waterways are defined as: waterways created naturally by geological and hydrological processes, and waterways that would be natural but for human-caused disturbances (e.g. channelized or culverted streams, impounded waters, partially drained wetlands or ponds created in wetlands). (ORS 196.800-196.990, 1995)

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 generally include swamps, marshes, bogs, and similar areas." (Federal Register 1982).

Wetland Assessment

Determining the relative quality of a wetland by assessing its functions and conditions. The methodology generally used to determine the relative quality of wetlands for purposes of an LWI is the Oregon Freshwater Wetland Assessment Methodology. (Roth, et. al. 1996)

Wetland Classification

The classification of wetlands as defined by plants, soils and the frequency of flooding is described in "Classification of wetlands and deepwater habitats of the United States." (Cowardin, et. al. 1979) See Palustrine System.

Wetland Condition

"The integrity of a wetland's physical and biological structure. This determines the ability of the wetland to perform specific functions, as well as its resilience and enhancement opportunities." (Roth et al., 1996)

Wetland Function

"A characteristic action or behavior associated with a wetland that contributes to a larger ecological condition such as wildlife habitat, water quality and/or flood control." (Roth, et. al. 1996)

Wetland Hydrology

"Permanent or periodic inundation or prolonged soil saturation sufficient to create anaerobic conditions in the upper soil profile." (COE, 1987)

Wetlands Regulation

The Division of State Lands (DSL) regulates wetlands in Oregon under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (Corps) through Section 404 of the Clean Water Act.

3.0 PROJECT METHODOLOGY

3.1 Public Involvement

Prior to beginning the inventory, the City of North Plains mailed letters to landowners who had areas of mapped hydric soils, soils with hydric inclusions, National Wetlands Inventory mapped wetlands, or suspected wetland areas on their property. The letter was a notice requesting permission for site access.

Landowners were requested to grant site access, deny site access, or grant access by appointment. A parcel-based map of the Urban Growth Boundary of North Plains was prepared showing those parcels where access was approved, denied or an appointment was requested. These property boundaries were transferred to an aerial photo base map by PHS staff for use during the inventory.

A public meeting was held on April 4, 2001, to introduce the project to the residents of North Plains. This meeting was held prior to the date required for return of the access request letters to answer any questions affected landowners may have had for representatives of the City of North Plains, PHS, or DSL.

A second public meeting was held on January 16, 2002, to present the draft results of the wetland inventory to the residents of North Plains. On January 22, 2002, the draft results were presented to the North Plains City Council.

3.2 Local Wetlands Inventory Methodology

3.2.1 Routine Off-site Determination

Prior to beginning field work, off-site mapping was conducted to determine the approximate location of wetland boundaries based on available information. This information included the USGS topographic quadrangles, the Soil Survey of Washington County, Oregon (SCS, 1982), the National Wetlands Inventory maps and a June 2000 color aerial photographs at a scale of 1" = 400'.

If access to land was allowed, wetland boundaries were verified in the field (see Section 3.2.2). If access was not granted, boundaries were based on the mapping conducted in the office, and on observation of wetland boundaries from adjacent roads or properties.

3.2.2 Routine On-site Determination

Where property access permission had been granted, on-site observation and inspection of soils, vegetation, and hydrology were made using the Routine On-site method of the 1987 manual. Soil pits were excavated up to a depth of approximately 18-inches in selected locations. The soil profiles were examined for hydric soils and wetland hydrology field indicators. A visual percent-cover estimate of the dominant species of the plant community for

a maximum 30-foot radius was conducted at each sampling location. Sampling locations were chosen to document a change in the wetland boundary and a particular plant community visible on an aerial photograph. Data was recorded in the field and transferred to computer-generated wetland delineation data sheets in the office.

Field work for the inventory was conducted between November 2001 and January 2002. No wetland boundaries were staked or flagged in the field.

3.3 Wetland Quality Assessment

3.3.1 The Oregon Freshwater Wetland Assessment Methodology

The quality of wetlands in the study area were assessed using 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. Copies of the methodology are available from DSL for a fee. 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. A description of each of the functions and conditions is included below.

Wetland Functions

Wildlife habitat: Evaluates the habitat diversity for species usually associated with wetlands, without emphasizing one particular species. Wetlands assessed by OFWAM can provide diverse habitat for wildlife, habitat for some wildlife species, or does not provide habitat.

Fish habitat: Evaluates how a wetland contributes to fish habitat in streams, ponds or lakes associated with a wetland. The questions are suitable for both warmwater and coldwater fish and no particular species is emphasized. Wetlands assessed by OFWAM can have fish habitat function intact, impacted or degraded, or lost or not present.

Water Quality: Evaluates the potential of a wetland to reduce the impacts of excess nutrients in storm water runoff on downstream waters. A wetland's water quality function can be assessed by OFWAM as intact, impacted or degraded, or lost or not present.

Hydrologic control: Evaluates the effectiveness of a wetland to reduce downstream flood peaks and store floodwaters. A wetland's hydrologic control functions can be assessed by OFWAM as intact, impacted or degraded, or lost or not present.

Education: Evaluates the suitability of a wetland to provide educational opportunity and act as an "outdoor classroom." A wetland assessed by OFWAM can have educational uses, have the potential to provide, or not be appropriate for educational uses.

Recreation: Evaluates the suitability of a wetland and associated watercourses for non-powered boating, fishing, and similar recreational activities. Wetlands assessed by OFWAM can provide, have the potential to provide, or not provide recreational opportunities.

Wetland Conditions

Sensitivity to Future Impacts: Evaluates the wetlands ability to sustain itself and its ability to recover from future impacts. It is an indication of risk to the wetland because of future changes in the watershed and surrounding land. A wetland can be assessed by OFWAM as sensitive to future impacts, potentially sensitive to future impacts, or not sensitive to future impacts. An undisturbed forested wetland is more sensitive to future impact than a wetland that has already been disturbed, such as agricultural wetland.

Enhancement Potential: Evaluates the suitability of a degraded wetland for enhancement. A wetland providing this condition does not provide one or more of the functions assessed by OFWAM. A wetland fulfilling this condition, therefore, would be of lower overall quality than a wetland providing wildlife habitat, fish habitat, etc. Wetlands that provide diverse wildlife habitat were not assessed in this section, as per the revised OFWAM. Wetlands are assessed as either high enhancement potential, moderate enhancement potential, or little enhancement potential.

Aesthetic quality: Evaluates the visual and aesthetic quality of the wetland. Wetlands can be considered pleasing, moderately pleasing, or not pleasing.

3.3.2 Wetlands of Special Interest for Protection

The first filter in OFWAM is to determine whether the wetland is in a management plan, is protected by regulatory rules or statutes, or is uncommon in Oregon. Ten questions are answered for each wetland and a "yes" answer to any of the questions puts the wetland into the "special interest for protection" category. If the wetland falls into this category, it is noted on the wetland characterization sheet.

3.3.3 Field Methodology

During the process of determining the boundaries for the LWI, data were also collected for the process of determining its relative quality. Data collected for this purpose are explained in the Wetland Characterization section of OFWAM. Data collected in the field included the Cowardin classes, the types of disturbance (if any) in the wetland area, the hydrology of the wetland area (e.g. the location of constrictions), the presence of fish, large woody debris, the degree of vegetative cover, and other information necessary to complete the assessment of the wetland in the office.

If the wetland determination was off-site, the OFWAM section and wetland characterization was based on review of the aerial photographs and knowledge of other similar or adjacent wetlands.

3.3.4 Office Assessment

Subsequent to the field work, the data collected for each wetland were used to answer questions for each function and condition. Additional information on the wetlands, the

landscape and the general area were gathered in the office. The answers within each function and condition section of the methodology were entered into a computer spreadsheet, which automatically displays the results of the assessment methodology.

Certain criteria were established for the OFWAM assessment prior to beginning. The following is a list of certain standards or assumptions used in answering the assessment questions:

Water Quality: None of the streams or waterbodies in the study area are listed as water quality limited on the Oregon Department of Environmental Quality 303(d) list (ODEQ, 1998). This information was used in the following questions in OFWAM: Wildlife, question 7; Fish Habitat, question 4; Water Quality, question 6; and Sensitivity to Future Impacts, question 3.

Fish Habitat: The DSL Essential Salmonid Habitat (ESH – 2001 Designation) map of the North Plains area identifies McKay Creek as essential salmon habitat. The unnamed tributary was also assumed to be essential habitat, due to the connectivity between the creeks. *Oregon Guideline for Timing of In-water Work to Protect Fish and Wildlife Resources* (Oregon Department of Fish and Wildlife (ODFW), 2000) identifies cutthroat trout (including sea run), steelhead (winter), coho salmon, and various warm water game fish as potentially present in Tualatin River tributaries, such as McKay Creek. These listed fish were assumed to be potentially present in the creeks of North Plains. This information was used to answer questions under Fish Habitat.

Floodplains: Both McKay and the unnamed tributary, and their floodplains, are included on Federal Emergency Management Agency (FEMA) 100-year floodplain maps. Question 1 in Hydrologic Control was answered using this information.

Land Use: The City provided a zoning map of properties within city limits, for the study area. Therefore, questions 6 and 7 in Hydrologic Control and question 5 in Sensitivity to Future Impacts were answered based on this information.

Enhancement Potential: The enhancement potential section was not required if the wetland was assessed with "diverse wildlife habitat", as per OFWAM directive. In addition, question 3 was specifically directed towards wetlands whose primary source of hydrology was surface water. If this was not the case, question 3 was not answered.

3.4 Riparian Inventory Methodology

3.4.1 Urban Riparian Inventory and Assessment Guide

The *Urban Riparian Inventory and Assessment Guide (Riparian Guide)* was used for the North Plains Riparian Inventory. The Riparian Guide depends on a combination of best available knowledge, field observations, and best professional judgment. 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.

The guide was designed to work in conjunction with the LWI and relies on the same aerial photograph or base map. In addition, coding of the riparian areas is based on hydrologic basins, reflecting the coding system established for the LWI. The inventory portion of the Guide depends on the completion of a 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. Most of the form was completed on-site, provided access was allowed. However, some portions, such as the mapped soil series, were completed in the office. The questions are answered separately for the riparian areas on both sides of a stream.

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 potential 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 potential 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.

Although the riparian width will never exceed the PTH, it may be less than the PTH if impervious surfaces or permanent structures (e.g. buildings or roads) are inventoried within the riparian area. Therefore, on the Riparian Width Determination Form, the first width represents the PTH and the second width represents the actual width as determined in the field and during review of aerial photographs. Completion of the Riparian Width Determination Form also requires drawing a typical cross section through the riparian area.

3.4.2 Riparian Assessment

Riparian areas provide numerous and complex functions that affect both aquatic and terrestrial systems. Many ecological functions of riparian areas are also provided by wetlands, floodplains, and vegetated upland areas.

The Riparian Function Assessment evaluates the ability of the riparian area to provide water quality, flood management, thermal regulation, and wildlife habitat functions. The results indicate whether the functions of each reach are intact, degraded, or severely impacted. The assessment is completed by answering a series of questions. Most of the questions are intended to be answered using data from the Riparian Characterization Form.

Because certain elements or characteristics of a riparian area are more critical to its function, the answers are "weighted." The points are then totaled for each side and for each function. Based on the score, the riparian function will be assessed as high, medium or low. The results of the Riparian Function Assessment for all of the riparian areas within the inventory study area are then transferred to a Riparian Function Assessment Summary Table.

3.4.3 Riparian Functions

Water Quality

Riparian areas can enhance water quality in many ways. Undisturbed, densely vegetated riparian areas trap sediments, inhibit erosion and filter runoff originating from impervious surfaces, lawns, golf courses, etc.

Sedimentation and erosion, although natural processes, are accelerated in urban areas by increased impervious surfaces. Impervious surfaces also inhibit infiltration. Sediment within a riparian area can be from erosion of poorly vegetated uplands, runoff from impervious surfaces, or floods from an adjacent water resource. Sediments often carry nutrients (e.g. phosphates and nitrates) and pollutants (e.g. heavy metals, hydrocarbons) to water resources, altering water chemistry, burying spawning gravels and impacting fish and wildlife habitat. Excessive concentration of nutrients in the water can trigger algal blooms, depleting the water of oxygen required by fish and other aquatic organisms.

The ability of a riparian area to resist erosion is related to slope, soil type, type of vegetation, vegetation cover, landscape position, and degree of human disturbance.

Flood Management

Riparian areas and associated wetlands and floodplains provide a valuable flood management function by reducing the force and volume of floodwaters. Floodwaters flowing into a vegetated flood prone riparian area can be slowed or temporarily stored, reducing peak flows and flooding downstream. Woody vegetation, in particular, resists floodwaters and reduces its velocity. Topographic features, such as swales and depressions, can enhance a riparian area's ability to manage flood flows. Reducing the velocity of floodwaters in the riparian area allows infiltration of water into the soil. Water entering the soil is slowly released into the main channel, delaying its movement downstream.

Thermal Regulation

Water temperature affects the ability of a stream to support viable populations of certain aquatic organisms. Riparian shade, especially forest canopy, moderates temperature within and adjacent to a water resource. Although stream temperatures are important throughout the year, summer temperature is generally more critical for fish species such as salmonids. High water temperatures and sunlight are factors that can promote algal blooms, reducing dissolved oxygen required by anadromous fish and other cold-water dependent organisms. The aspect or orientation of the water resource and the height of the adjacent riparian vegetation play important roles in how effective riparian vegetation is in providing shade.

Wildlife Habitat

Riparian areas provide valuable habitat for wildlife and influence fish habitat. The highest quality wildlife habitat in urban areas has a variety of plant species and layers, a perennial water source, and some degree of protection or buffering from disturbance.

Riparian areas are particularly important migration corridors between upland and aquatic systems for a wide variety of species. It has been reported that the majority of Oregon's major wildlife species, including amphibians and reptiles, use wetlands or riparian areas during some portion of their life cycle.

4.0 CARTOGRAPHY

Color aerial photographs were obtained for use in the field. These photos are 2000 true color, with a scale of approximately 1 inch = 400 feet. Clear acetate was overlaid and permanently registered on the photographs and preliminary wetland boundaries and data point locations were drawn directly on the acetate in the field. In addition, areas within the project area where permission to enter was denied were drawn on the acetate overlays. The wetland boundaries were then transferred into a digital format and inserted into a computer-based tax lot map of North Plains, developed in AutoCAD. Additional layers added to the AutoCAD base map included streams, wetland codes, riparian codes, wildlife habitat and sample point locations.

Each wetland was assigned a code beginning with the two-letter watershed designation and a wetland number (e.g. MK-1 for McKay Creek). Wetlands that were hydrologically connected but separated by roads or culverts were labeled with a code modifier (e.g. MK-1A, 1B). In addition, wetlands were assigned a code modifier if they differed in character. For instance, if one section of the wetland was agricultural and another section was forested, each section was assigned a code modifier. Agricultural wetlands also received another modifier, a lower case "f" (e.g. MK-1Bf). This was done in order to provide a more accurate acreage of agricultural wetlands within the study area, and to allow a separate OFWAM assessment for each different type of wetland. Tax lots with no access (i.e. off-site determinations) were marked differently on the maps.

In addition to the base map, PHS generated a series of maps including the project boundary (Figure 1), soils (Figure 2), and the National Wetlands Inventory map (Figure 3).

5.0 STAFF QUALIFICATIONS

John van Staveren: President; Professional Wetland Scientist

Project Role: Project Manager

Project Responsibility: Contract negotiations, monthly billing
Wetland and riparian inventory field work and assessment
Public presentations
Quality control
Project coordination

John van Staveren has managed over 800 wetlands-related projects, including 24 large-scale wetland inventories; conducted over 750 wetland delineations; testified at numerous public hearings; and provided expert witness testimony. He served as technical advisor to two Citizen Advisory Committees responsible for establishing criteria for the determination of significant wetlands for purposes of Goal 5 and the determination of significant natural resources for purposes of Goal 17.

John van Staveren served on two Oregon Division of State Land's Technical Advisory Committees (TACs) responsible for developing statewide policy on wetlands. These TACs are to establish statewide criteria for determining locally significant wetlands for Goal 5 and to establish a payment option for wetland mitigation. He was a Wetlands Expert team member providing analysis of the OFWAM, and was a reviewer for the latest revision to the methodology.

Patricia Farrell: Wetland Scientist

Project Role: Assistant Project Manager
Project Responsibility: Quality control and editing

Patricia Farrell has a bachelor's degree in biology and a master's in landscape architecture. Patricia has played a major role in fourteen Local Wetlands Inventories, conducted Goal 5 and Goal 17 natural resource surveys, conducted riparian inventories, and applied the *Oregon Freshwater Assessment Methodology* to hundreds of wetlands. She has also assisted in the development of local ordinances related to protection of significant Goal 5 natural resources and in the development of the *Urban Riparian Inventory and Assessment Guide*.

Shawn Eisner: Wetland Scientist

Project Role: Wetland Scientist
Project Responsibility: Wetland and riparian inventory field work and assessment
Quality control and editing
Report writing
Data input

Shawn has Bachelor's degrees in Earth and Environmental Sciences. Shawn provides specialized support pertaining to wetland delineations, determinations, and monitoring; stream and natural resource assessments and environmental permit processing. He conducts field work and data collection for Local Wetland Inventories and is involved in report preparation and wetland/riparian assessments.

Fred Small: Wetland Scientist, Botanist

Project Role: Botanist, Wetland Scientist
Project Responsibility: Wetland and riparian inventory field work and assessment
Plant identification and cataloging
Report writing

Fred Small has a bachelor's degree in biology with strong emphasis in botany. Fred has delineated over 100 wetlands; played a role in several large scale local wetland inventories; conducted rare, threatened, endangered plant surveys for sites in the Oregon Cascades, Willamette Valley, and Oregon Coast.

Tom Rodgers: AutoCAD and Arc-Info Specialist

Project Role: Cartographer

Project Responsibility: Mapping
Graphics

Tom Rodgers is a computer graphics specialist, with experience in the production of Local Wetlands Inventories. He is proficient with AutoCAD Map, Arc-View and Arc-Info programs. He has prepared the maps for several LWIs and coordinated with Planning Departments and Council of Governments to ensure that map products and digital information is compatible with local operating systems.

Jane Le Blanc: Technical Editor

Project Role: Technical Editor

Project Responsibility: Graphics
Report editing, formatting and layout
Data input

Jane Le Blanc is a technical editor and provides permitting support for PHS. Her duties include formatting and editing wetland reports, proposals, and letters as well as data input.

6.0 STUDY AREA CHARACTERISTICS

6.1 Setting

The study area includes the City of North Plains Urban Growth Boundary (UGB) and UGB expansion area. The area is mostly residential/rural residential, with small areas devoted to public facilities (e.g. parks, schools), commercial, agricultural and industrial.

6.2 Topography

The City of North Plains is located in the Tualatin Valley, a broad alluvial valley between the Coast Range and the West Hills of Portland. The City of North Plains lies within the McKay Creek watershed. The eastern portion of North Plains drains towards McKay Creek, which in turn, flows into the Tualatin River. The Tualatin River is located in the northwest region of the Willamette Valley. The study area also includes an unnamed tributary of McKay Creek, which flows through North Plains from the west. The west and northwest portions of North Plains drain into this small tributary.

Elevations range from approximately 210 feet NGVD on the north end of the project area, down to approximately 150 feet NGVD near McKay Creek, along the east side of the urban growth boundary.

6.3 Hydrology

6.3.1 Hydrologic Features of the North Plains Study Area

The main hydrologic feature of the North Plains area is McKay Creek. The entire study area is located within the McKay Creek watershed, a perennial tributary of the Tualatin River. The eastern portion of the study area drains towards the mainstem of McKay Creek, while the west side of North Plains drains towards an unnamed tributary, which flows into McKay Creek east of NW 307th Avenue, just west of the UGB.

6.3.2 Watershed Designation

The entire study is located within a single watershed: McKay Creek. The watershed was determined based on topography and observations of drainage patterns in the field. The portion of the McKay Creek watershed within the North Plains project area is approximately 697 acres.

6.3.3 Hydrologic Indicators

Direct indicators of hydrology observed during the inventory included soils saturated at or near the surface, inundation, wetland drainage patterns and/or a shallow water table. Indirect indicators included oxidized rhizospheres and wetland drainage patterns.

6.4 Soils

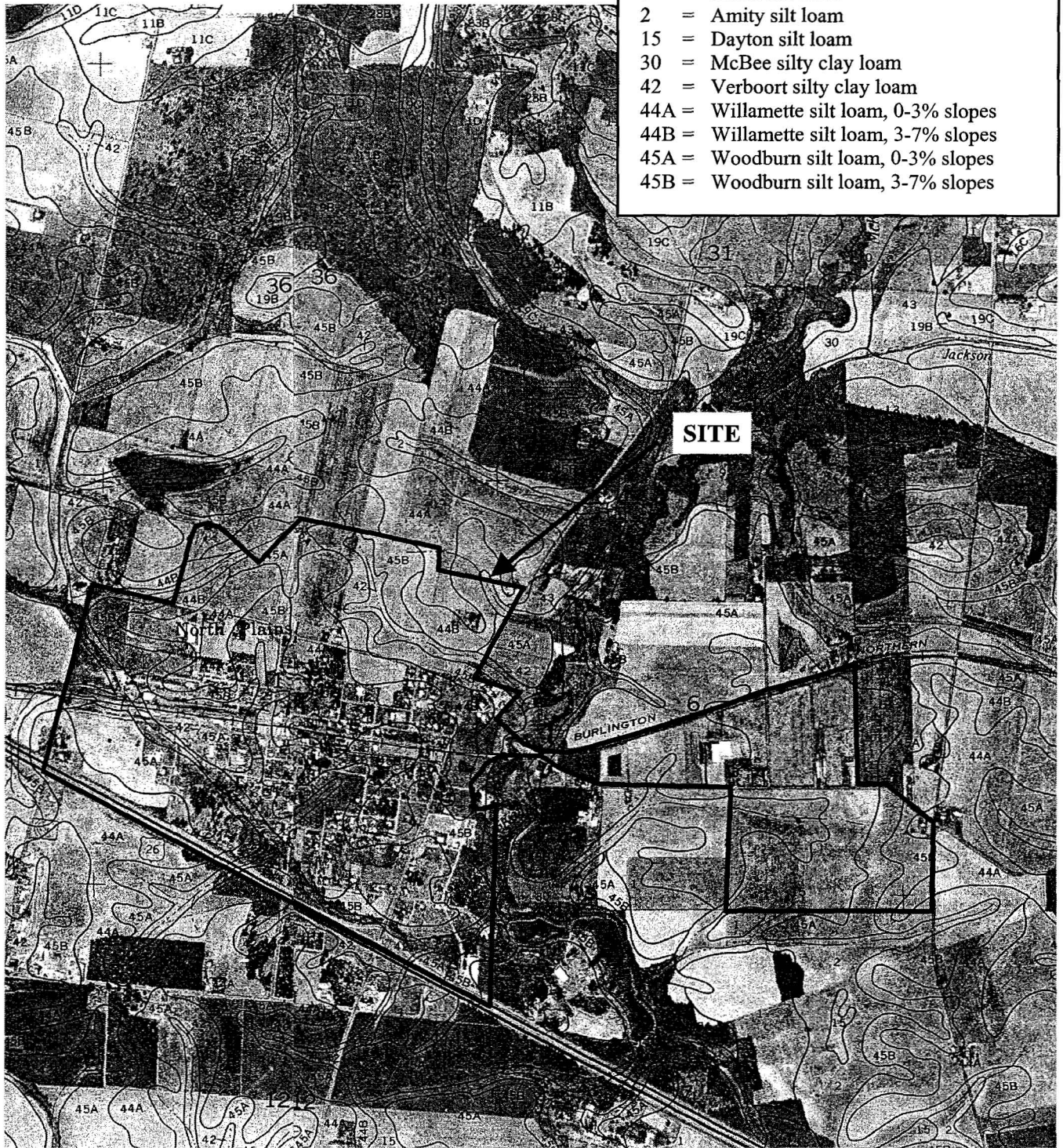
Table 1 lists the soils that have been mapped by the Natural Resources Conservation Service (formerly the Soil Conservation Service) within the study area. Figure 2 is a soils map of the project area.

Table 1. Soil units and their Hydric Soils Status for the North Plains LWI

Soil Series #	Soil Name	Hydric Status
1	Aloha silt loam	Non-Hydric
2	Amity silt loam	Non-Hydric
15	Dayton silt loam	Hydric
30	McBee silty clay loam	Non-Hydric
42	Verboort silty clay loam	Hydric
44A	Willamette silt loam, 0 to 3% slopes	Non-Hydric
44B	Willamette silt loam, 3 to 7% slopes	Non-Hydric
45A	Woodburn silt loam, 0 to 3% slopes	Non-Hydric
45B	Woodburn silt loam, 3 to 7% slopes	Non-Hydric

SOIL MAP UNITS

- 1 = Aloha silt loam
- 2 = Amity silt loam
- 15 = Dayton silt loam
- 30 = McBee silty clay 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

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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. —

Aloha silt loam is a deep somewhat poorly drained soil. It is found on broad terraces of the Willamette Valley and formed in stratified glaciolacustrine deposits. The slope is 0 to 3 percent. Typically the surface layer is a very dark grayish brown silt loam about 8 inches thick. The upper 27 inches of the subsoil is dark brown, dark grayish brown and yellowish brown silt loam, and the lower 16 inches is dark grayish brown and dark brown loam. The upper 9 inches of the substratum is dark brown loam. Below this are dark grayish brown, stratified very fine sandy loam and silt loam. The lower part of the subsoil and upper part of the substratum in places are slightly brittle and weakly cemented. It is classified as a *fine-silty, mixed, mesic Aquic Xerochrepts*.

Amity silt loam is a deep somewhat poorly drained soil. It is found in slightly concave areas on broad terraces of the Willamette Valley and formed in silty alluvium derived from mixed sources. The slope is 0 to 3 percent. Typically the surface layer is very dark grayish brown silt loam about 16 inches thick. The subsurface layer is dark gray, faintly mottled silt loam about 6 inches thick. The upper 6 inches of the subsoil is grayish brown, mottled silty clay loam, and the lower 7 inches is light olive brown, mottled silty clay loam. The substratum to a depth of 72 inches or more is olive brown, mottled silt loam. In some areas of similar included soils, the substratum is silty clay loam or silty clay averaging more than 35 percent clay. It is classified as a *fine-silty, mixed, mesic Argiaquic Xeric Argialbolls*.

Dayton silt loam is a deep, poorly drained soil. It is found on broad terraces and is formed in stratified glaciolacustrine deposits. Slope is 0 to 2 percent. Typically the surface layer is very dark grayish brown and brown silt loam and silty clay loam about 15 inches thick. The subsurface layer is light brownish gray silty clay loam about 6 inches thick. The subsoil is dark grayish brown clay about 24 inches thick. The substratum to a depth of 60 inches or more is dark brown clay. Depth to the clay ranges from 12 to 24 inches. It is classified as a *fine, montmorillonitic, mesic Typic Albaqualfs*.

McBee silty clay loam is a moderately well drained soil that formed in alluvium on floodplains. In a representative profile, the surface layer is dark brown silty clay loam about 11 inches thick. The subsoil is silty clay loam about 34 inches thick, and is dark brown with common to many, fine, dark yellowish-brown, gray, and dark grayish-brown mottles. The substratum is dark gray clay loam about 20 inches thick. Permeability is moderate. This soil is classified as a *fine-silty, mixed, mesic Ultic Haploxeralf*.

Verboort silty clay loam consists of poorly drained, nearly level soils in narrow, irregularly shaped concave areas along drainageways. It formed in stratified, moderately fine textured and fine textured alluvium on bottomlands. In a typical profile, the surface layer is very dark brown silty clay loam about 12 inches thick. The subsurface layer is very dark gray, mottled silty clay loam about 7 inches thick. The subsoil is very dark gray (N 3/) and dark grayish brown light clay and silty clay about 14 inches thick. Permeability is very slow and runoff is slow. This soil is classified as a *fine, mixed, mesic Typic Argialboll*.

Willamette silt loam is a well drained soil that formed in old alluvium on broad valley terraces. Slope is 0 to 20 percent. In a typical profile the surface layer is a very dark grayish brown to brown silt loam and silty clay loam about 28 inches thick. The substratum is brown silty clay loam about 17 inches thick. Permeability is moderate and runoff is medium. This soil is classified as a *fine silty, mixed, mesic Pachic Ultic Argixerolls*.

Woodburn silt loam is a deep, moderately well drained soil on broad valley terraces. It formed in stratified glaciolacustrine deposits. Slope is 3 to 8 percent. Typically, the surface layer is very dark brown and dark brown silt loam about 16 inches thick. The upper 22 inches of the subsoil is dark yellowish brown and dark brown silty clay loam. Permeability is moderate to a depth of 38 inches, and slow below this depth, and runoff is slow. This soil is classified as a *fine silty, mixed, mesic, Aquultic Argixerolls*.

A variety of soil types were sampled during field visits to the study area; surface features are described on data sheets in Appendix B. Hydric soil indicators observed during the survey included low chroma soils both with and without mottling, many with an aquic moisture regime.

6.5 Vegetation

6.5.1 Overview

Vegetation communities in the Tualatin Valley, like the rest of the Willamette Valley, have been shaped by human activities for centuries. Native Americans were known to use fire to aid their hunting and gathering activities by favoring the growth of certain groups of plants. Euro-American settlement in the mid-19th century rapidly changed the composition of plant communities throughout the area, with urban areas, farmland, and other developments dominating the landscape. Areas that now appear to retain natural vegetation have nevertheless been subject to fire suppression, clearing, logging, and grazing activities over the years.

The Tualatin Valley now consists of a mosaic of oak woodlands, coniferous forests, grasslands, shrub communities, and riparian forests broken up by development. Climax communities are generally considered to be forest types dominated by Douglas fir (*Pseudotsuga menziesii*) and Oregon white oak (*Quercus garryana*), or by Oregon ash (*Fraxinus latifolia*) in wetter sites. Further discussion of plant communities within the interior valleys of western Oregon can be found in *Natural Vegetation of Oregon and Washington* (Franklin and Dyrness 1973).

6.5.2 Vegetation Communities

Plant communities encountered within the North Plains study area include riparian forest, agricultural/pastureland, disturbed/urban, and wetland. Wetland communities can be further distinguished as palustrine/open water, palustrine/emergent, palustrine/scrub-shrub, and palustrine/forested, following the Cowardin classification system developed for the US Fish and Wildlife Service (Cowardin, et al. 1979). Each of the above communities is described in the sections below.

Upland Mixed Conifer/Deciduous Forest

This community is present as scattered patches within the study area, due to fragmentation by urbanization, farming, and historic logging and clearing activities. The dominant species in the overstory are Douglas fir, western red cedar (*Thuja plicata*), or Oregon white oak.

Understory shrub and groundcover species vary greatly with the density of the tree canopy. Typical understory shrubs include, Oregon grape (*Berberis* spp.), snowberry (*Symphoricarpos albus*), ornamental hawthorn (*Crataegus monogyna*) and beaked hazelnut (*Corylus cornuta*). Typical groundcover species include sword fern (*Polystichum munitum*), Himalayan blackberry (*Rubus discolor*), California dewberry (*Rubus ursinus*) and English ivy (*Hedera helix*).

Riparian Forest

Riparian forests are often similar to upland mixed evergreen-deciduous forests. This community borders the creeks or edges of the broad floodplains. Oregon ash and black cottonwood (*Populus trichocarpa*) may co-dominate with Oregon white oak and Douglas fir.

Agricultural/Pastureland

Portions of the study area remain in agricultural use and are primarily fields of tall fescue (*Festuca arundinacea*) for the production of grass seed or hay production.

Developed-Urban

Plant communities throughout the study area have been influenced by human activities since before the turn of the century, most profoundly in areas undergoing recent development. Businesses, residences, parking lots, roads, parks, and sidewalks all represent unvegetated or landscaped areas. Vegetation is often of horticultural origin or weedy in these areas. Unpaved areas subject to frequent disturbance generally remain as open spaces dominated by weedy grasses and forbs.

Wetland

Wetland areas are generally transitional between upland and truly aquatic areas, which have permanent open water. The wetland may occupy a position where the groundwater table remains at or near the surface for an extended period during the growing season, however, surface inundation may or may not be present. Many of the wetlands in the study area are seasonally saturated or inundated. Vegetation varies depending on the extent of disturbance.

Agricultural wetlands have been influenced by farming or grazing activities, and likely are dominated by grasses and forbs. Wetlands that have not been farmed or logged are usually dominated by Oregon ash and other hydrophytic trees and shrubs.

Palustrine forested wetlands in the area are dominated by Oregon ash, although red alder (*Alnus rubra*), black cottonwood and western red cedar were also present. Palustrine scrub/shrub wetlands often include saplings of the above species, along with such shrubs as clustered rose (*Rosa pisocarpa*), red osier dogwood (*Cornus stolonifera*), Douglas' spiraea (*Spiraea douglasii*), and willows (*Salix* spp.).

Palustrine emergent wetlands in the North Plains area are commonly dominated by reed canarygrass (*Phalaris arundinacea*). Other observed emergent species include, rushes (*Juncus* spp.), creeping buttercup (*Ranunculus repens*), and wetland grasses, such as meadow foxtail (*Alopecurus pratensis*), colonial bentgrass (*Agrostis tenuis*) and spreading bentgrass (*Agrostis stolonifera*).

6.5.3 Wetland and Upland Indicator Species

Species lists of commonly encountered plants, along with their status as indicators of wetland conditions, have been prepared for all regions of the country by the USFWS (1988). The status of a particular plant, as discussed in Section 2.0, is the probability of that plant occurring in a wetland. Many plants, however, are found in transitional areas between wetlands and uplands. These areas are usually characterized by flat to gradually sloping terrain where the species composition may not reflect true wetland boundaries. In such areas, a species with a status of FACU may extend into the wetland areas, just as FACW species may also be present in upland areas. Table 2 summarizes the wetland indicator codes.

Table 2. Wetland Indicator Codes and Status

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
FACW	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
FACU	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland.

A non-comprehensive listing of plant species encountered or expected within the project area, and their wetland indicator status is included in Appendix G.

7.0 LWI DISCUSSION AND CONCLUSIONS

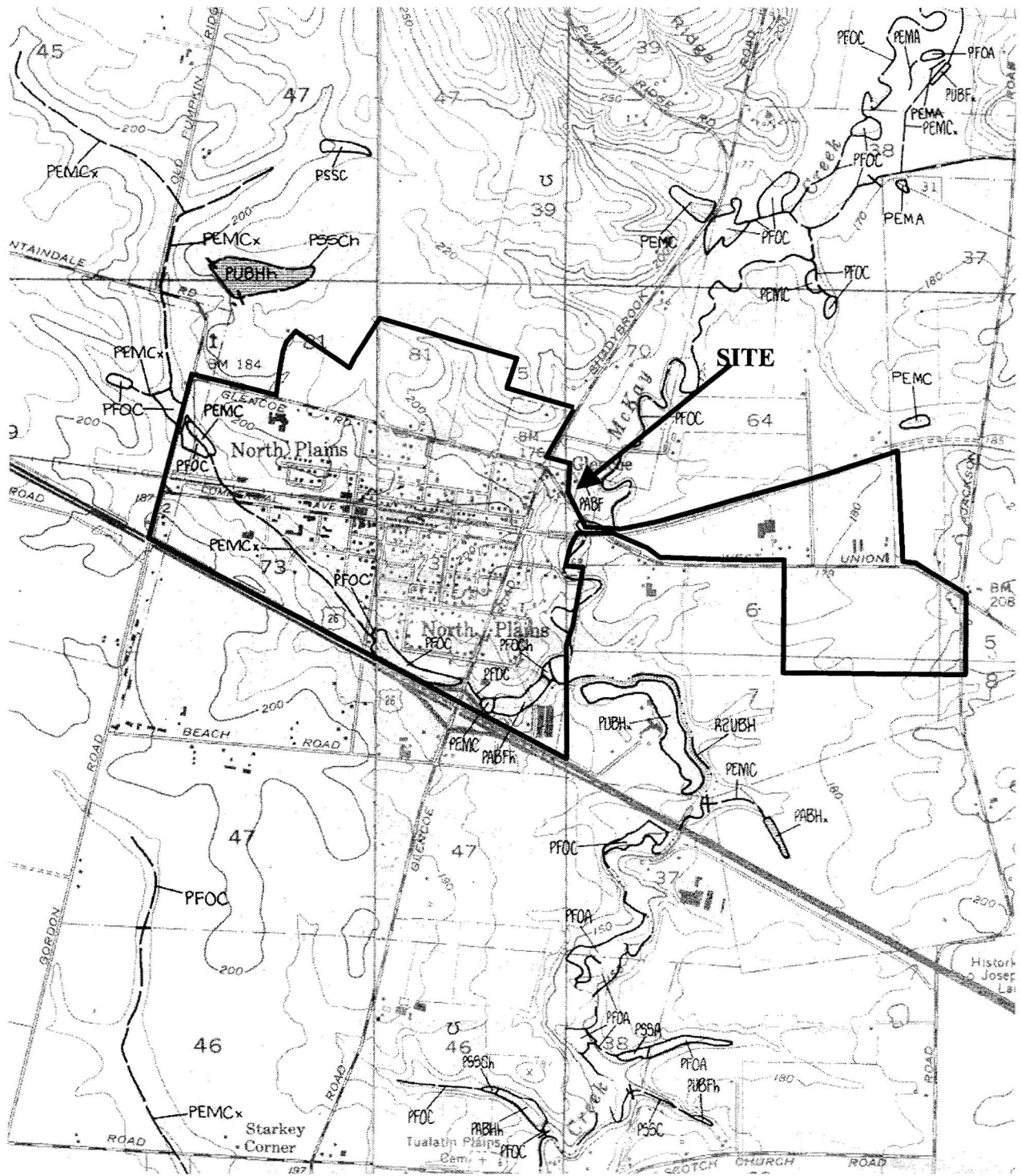
7.1 U.S. Fish & Wildlife Service National Wetland Inventory

The U.S. Fish and Wildlife Service, as part of the National Wetlands Inventory (NWI) program, has mapped wetland in the study area (Figure 3). The NWI maps are generated primarily on the basis of interpretation of relatively small-scale color infrared aerial photographs (e.g., scale of 1:58,000) with limited "ground truthing" conducted to confirm the interpretations.

7.2 Local Wetlands Inventory Results

7.2.1 Wetland Acreage and Distribution

A total of 14 wetland units were identified, during the LWI, with a total acreage of approximately 65.54 acres (Figure 4).



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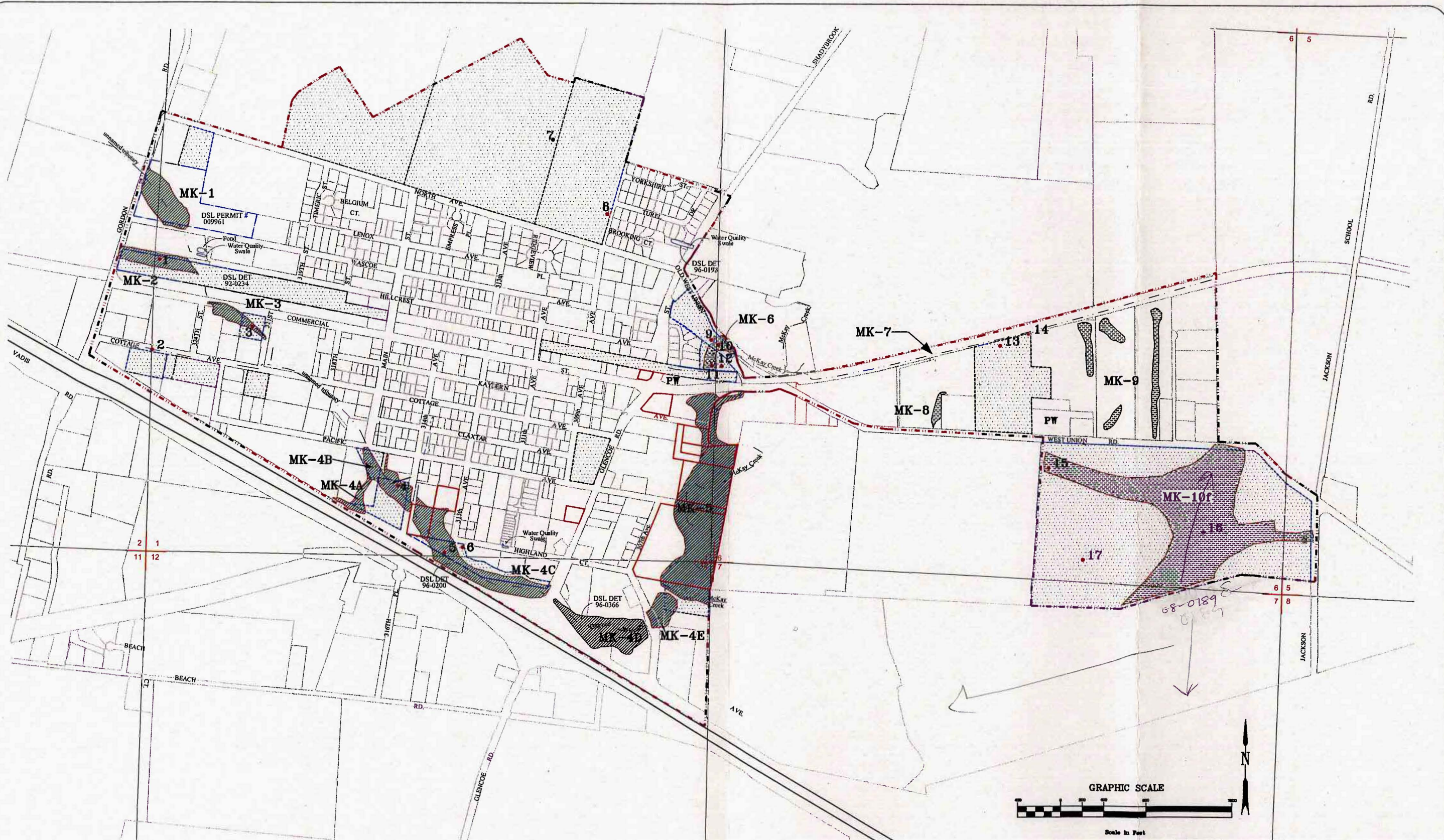
2453

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. —



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

DATE: January, 2002
 BASE MAP INFO: Supplied by Metro
 JOB NO.: 2453

North Plains Local Wetlands Inventory

Pacific Habitat Services, Inc.
 9450 SW Commerce Circle, Suite 180
 Wilsonville, Oregon 97070
 Phone: (503) 570-0800

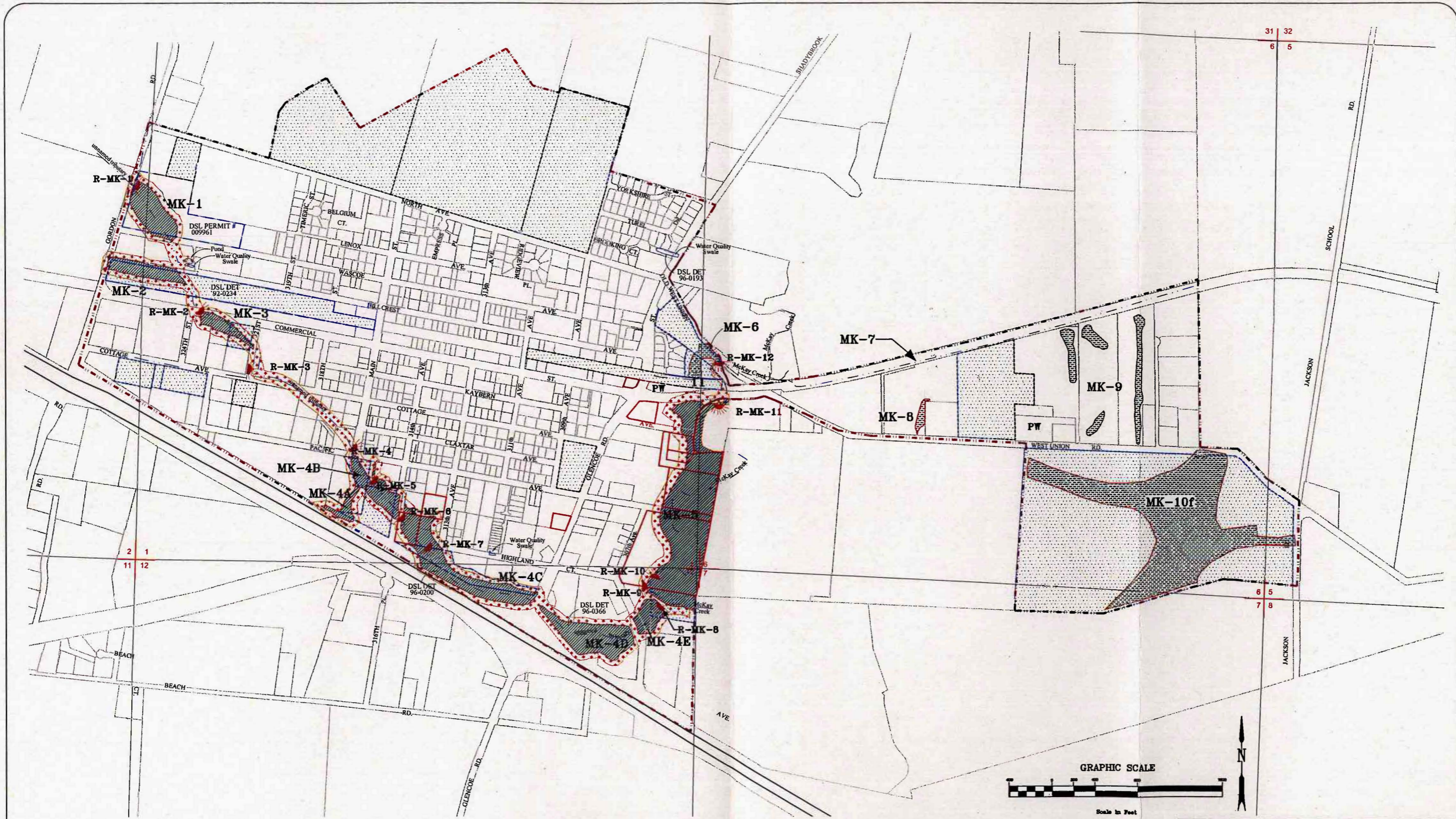


THIS MAP IS FOR PLANNING PURPOSES ONLY
 WETLAND BOUNDARIES ARE APPROXIMATE
 AND SUBJECT TO CHANGE

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 Oregon Division of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

Division of State Lands Determination	Significant Wetlands
Project Boundary	Wetlands
Creeks/Drainages	Permission Denied
Wetland Code	Permission Granted
Sample Point	Possible Wetlands PW

FIGURE
4



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

DATE: January, 2002
 BASE MAP INFO: Supplied by Metro
 JOB NO.: 2453

North Plains Riparian Inventory

Pacific Habitat Services, Inc.
 9450 NW Commerce Circle, Suite 100
 Wilsonville, Oregon 97070
 Phone: (503) 670-0900



THIS MAP IS FOR PLANNING PURPOSES ONLY
 WETLAND BOUNDARIES ARE APPROXIMATE
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Division of State Lands Determination	--- --	Significant Wetland	
Project Boundary	— · — ·	Wetland	
Creeks/Drainages	— · — ·	Riparian Area	
Wetland Code	MK-1	Permission Denied	
Riparian Code	R-MK-9	Permission Granted	
Riparian Observation Point		Possible Wetlands	PW

FIGURE
5

7.2.2 Wetland Classification

Each wetland was classified according to the Cowardin system. Palustrine wetlands, farmed (PEMf) is the most abundant wetland type (40%), by acreage, in the study area. This wetland type is limited to a single, large field that is currently in the production of a grass crop. Palustrine forested wetlands (PFO)(27%) and palustrine emergent wetlands (PEM)(26%) combine for the majority of the remaining wetland areas. Most of the emergent wetland areas in North Plains are located in floodplain areas adjacent to McKay Creek or the unnamed tributary. Though much of the floodplain areas are dominated by herbaceous species, the natural plant community in many appears to have been altered from an Oregon ash or black cottonwood forested system, as a result of agriculture or urban development. Palustrine open water (POW)(4%) and palustrine scrub-shrub wetlands (PSS)(3%) make up small portions of the total wetland area.

Table 3 is a summary of wetland classifications for the North Plains LWI study area. Table 4 is a classification table listing each wetland. Appendix A includes a wetland characterization sheet for each inventoried wetland that summarizes the plant communities, hydrology, location, and any general notes about adjacent upland areas.

Table 3. Wetland Classifications found within the North Plains LWI

Wetland Classification	Area (acres)	Percent
Palustrine emergent, farmed (PEMf)	26.27	40%
Palustrine forested (PFO)	17.71	27%
Palustrine emergent (PEM)	17.24	26%
Palustrine open water (POW)	2.71	4%
Palustrine scrub-shrub (PSS)	1.61	3%
Total	65.54	100%

Table 4. Cowardin classification of wetlands identified in the North Plains LWI

Wetland Code	USFWS Wetland Classification					Total
	PFO	PSS	PEM	PEMf	POW	Acreage
MK-1	1.81		0.45		0.80	3.06
MK-2	0.51		1.44			1.95
MK-3		0.30	0.81			1.11
MK-4A	0.73					0.73
MK-4B		1.31	0.94			2.25
MK-4C	2.79		3.4			6.19
MK-4D			3.38		1.00	4.38
MK-4E			0.52		0.91	1.43
MK-5	11.87		1.71			13.58
MK-6			0.94			0.94
MK-7						N/A
MK-8			0.40			0.40
MK-9			3.25			3.25
MK-10f				26.27		26.27

7.2.3 Potential Wetland Mitigation or Restoration Sites

No potential wetland mitigation or restoration areas were identified in the project area. Though portions of the UGB expansion area include areas of relict (dewatered) hydric soils, these areas are actively farmed, and are not vacant. These areas have apparently been tiled, but it is uncertain whether removing the field tiles would fully restore former hydrology. Hydric soils are also mapped on the east end of the North Plains industrial area. This portion of the industrial area was not accessible for field verification, though surface ponding and vegetation did indicate the presence of wetland. This area is not dewatered, though it may also be tiled.

7.3 Oregon Freshwater Wetland Assessment Methodology Results

7.3.1 Wetlands of Special Interest for Protection

Each of the wetlands was assessed according to the ten questions in this section of OFWAM. These questions are regarding the presence of federal or state listed threatened, endangered or sensitive species, existing management plans, conservation plans, protected mitigation areas, critical habitat, wetland reserve areas and the presence of uncommon wetland plant communities in Oregon. These questions were answered "no" for all the wetlands, therefore none of the wetlands in the study area qualify as "wetlands of special interest for protection".

7.3.2 Wetland Quality Assessment

An assessment of the quality for each of the wetlands identified through the inventory was conducted using the *Oregon Freshwater Assessment Methodology* (OFWAM) (Roth et al, April 1996). OFWAM assesses 6 functions and 3 conditions, as described in Section 3.3.1.

Appendix C contains all of the results for each of the wetlands assessed by the methodology along with summary sheets of the functions and conditions assessed by the methodology and the rationale for the results.

Although OFWAM provides qualitative information on the relative value of wetlands and does not have a numerical ranking, numbers were assigned to the assessment criteria to easily compare the results. Table 5 (page 23) is a key to the numbers assigned to the assessment criteria for each of the functions and conditions. A number 1 was assigned to wetlands receiving the highest function or condition result (e.g. intact, diverse), a number 3 was assigned to the wetlands receiving the lowest result (lost or not present, not appropriate), and a number 2 was assigned to the results which do not fit the other criteria (potential, impacted or degraded). Table 6 (page 24) shows the results of the quality assessment conducted on all of the wetlands identified through the inventory. Some functions or conditions were not applicable to certain wetlands. For instance the methodology states that if a wetland receives an assessment of "diverse wildlife habitat" then the enhancement potential assessment is not applicable. In addition, if there was no likelihood of fish habitat in the wetlands the fish habitat assessment was not applicable.

Table 5. Key to the Oregon Freshwater Wetland Assessment Methodology Numerical Ranking

Wildlife Habitat	<ol style="list-style-type: none"> 1. <i>Wetland provides diverse wildlife habitat</i> 2. <i>Wetland provides habitat for some wildlife species</i> 3. <i>Wetland does not provide wildlife habitat</i>
Fish Habitat	<ol style="list-style-type: none"> 1. <i>Wetland's fish habitat function is intact</i> 2. <i>Wetland's fish habitat function is impacted or degraded</i> 3. <i>Wetland's fish habitat function is lost or not present</i>
Water Quality	<ol style="list-style-type: none"> 1. <i>Wetland's water-quality function is intact</i> 2. <i>Wetland's water-quality function is impacted or degraded</i> 3. <i>Wetland's water-quality function is lost or not present</i>
Hydrologic Control	<ol style="list-style-type: none"> 1. <i>Wetland's hydrologic control function is intact</i> 2. <i>Wetland's hydrologic control function is impacted or degraded</i> 3. <i>Wetland's hydrologic control function is lost or not present</i>
Sensitivity to Impact	<ol style="list-style-type: none"> 1. <i>Wetland is sensitive to future impacts</i> 2. <i>Wetland is potentially sensitive to future impacts</i> 3. <i>Wetland is not sensitive to future impacts</i>
Enhancement Potential	<ol style="list-style-type: none"> 1. <i>Wetland has high enhancement potential</i> 2. <i>Wetland has moderate potential for enhancement</i> 3. <i>Wetland has little enhancement potential</i>
Education	<ol style="list-style-type: none"> 1. <i>Wetland has educational uses</i> 2. <i>Wetland has potential for educational use</i> 3. <i>Wetland is not appropriate for educational use</i>
Recreation	<ol style="list-style-type: none"> 1. <i>Wetland provides recreational opportunities</i> 2. <i>Wetland has the potential to provide recreational activities</i> 3. <i>Wetland is not appropriate for or does not provide recreational opportunities</i>
Aesthetic Quality	<ol style="list-style-type: none"> 1. <i>Wetland is considered to be pleasing</i> 2. <i>Wetland is considered to be moderately pleasing</i> 3. <i>Wetland is not pleasing</i>

Table 6. Oregon Freshwater Wetland Assessment Methodology Numerical Ranking Results for the North Plains Local Wetlands Inventory

Wetland Code	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Sensitivity to Impact	Enhancement Potential	Education	Recreation	Aesthetic Quality	Size (acres)
MK-1	2	1	2	2	2	1	3	3	2	3.06
MK-2	2	2	2	2	2	1	2	2	2	1.95
MK-3	2	2	2	2	2	2	2	2	3	1.11
MK-4A	2	n/a	2	1	2	1	3	3	2	0.73
MK-4B	2	2	2	2	2	2	2	1	3	2.25
MK-4C	2	1	2	2	2	2	2	3	3	6.19
MK-4D	2	2	2	2	2	2	3	3	3	4.38
MK-4E	2	2	2	2	2	2	3	3	3	1.43
MK-5	2	1	2	2	2	2	3	3	3	13.58
MK-6	2	n/a	2	2	2	1	2	2	2	0.94
MK-7	2	n/a	2	2	2	2	3	3	3	n/a
MK-8	2	n/a	2	2	2	2	3	3	3	0.40
MK-9	2	n/a	2	2	2	2	3	3	3	3.25
MK-10F	2	n/a	2	2	2	2	3	3	3	26.27

All wetlands provided wildlife habitat for some species, however, no diverse wetland wildlife habitats were identified. This is likely due to encroachment by residential and commercial development that confines wetlands in North Plains to the remaining floodplain areas associated with McKay Creek or its tributary.

Fish habitat function was assessed for over half of the wetlands (57%). Of the 8 wetlands which were assessed for fish habitat, 3 (38%) were determined to have intact fish habitat due to perennial surface water, large woody debris, shade, and natural, unmodified channels. The other 5 wetlands (62%) assessed for this function were determined to be impacted or degraded.

The water quality function was assessed as impacted or degraded in all of the assessed wetlands. Though many of the wetlands have hydrology derived from surface water, the diversity of vegetation and the related ability to remove pollutants is limited. The degree of development adjacent to the creek floodplains can also degrade water quality, as increased impervious area increases the rate at which stormwater enters the creek. This decreases water retention time and the ability of submerged vegetation to remove pollutants.

Hydrologic control was generally assessed as impacted or degraded (93%) due to unrestricted outflow, dominance of emergent vegetation, and surrounding agricultural lands or downstream development. Only one (1) of the 14 assessed wetlands (7%) had the hydrologic control function intact. This wetland (MK-4A) is forested and has retained good native understory and overstory.

Recreational and educational functions were generally considered not appropriate in a majority of the wetlands due to the lack of public access and safety concerns associated with public access and handicap access. Wetland MK-4B was identified as appropriate for recreation solely due to the fact that a portion of the wetland is located on City park property, making the wetland accessible for public viewing. In addition, the aesthetic quality of many of the wetlands was impaired by the presence of major roads and their proximity to recent and historically developed areas.

7.4 Significant Wetlands Determination

7.4.1 Locally Significant Wetlands Criteria

On September 1, 1996, the Land Conservation and Development Commission adopted a revised Statewide Planning Goal 5. Goal 5 is the planning goal for natural resources, scenic and historic areas, and open spaces. Its purpose is to "protect natural resources, and conserve scenic and historic areas and open spaces". The goal requires local jurisdictions to inventory the natural resources covered under the goal, determine the significance of these resources, and develop plans to achieve the goal. In other words, local jurisdictions must adopt land use ordinances regulating development in and around significant areas.

Local jurisdictions determining significant wetlands must use the criteria recently adopted by the Oregon Division of State Lands (ORS 197.279(3)(b)). This criteria identifies Locally Significant Wetlands. The significance criteria are divided into three sections, as described in Table 7.

Table 7. Criteria for Determining Goal 5 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 a <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>

7.4.2 Applying Significant Wetland Criteria to the LWI Study Area

The locally significant wetlands criteria were applied to the 14 wetlands within the study area. Nine (9) wetlands satisfied the criteria for significant wetlands (Table 8). The results of applying the criteria are included in Appendix D.

Table 8. Locally Significant Wetlands in the North Plains LWI

MK-1	MK-2	MK-3
MK-4A	MK-4B	MK-4C
MK-4D	MK-4E	MK-5

All wetlands which met the criteria for significance were hydrologically connected to a creek. McKay Creek is identified as essential salmonid habitat and the unnamed tributary was assumed to be as well. This direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids satisfies criteria for significant local wetland classification. Many areas contained a variety of plant species and which were hydrologically connected to waters of the state, such as McKay Creek and the unnamed tributary. In addition to a direct hydrologic to essential habitat, MK-1, MK-4A and MK-5 still have an intact fish habitat function.

Although other wetlands within the study area are valuable for some functions, they do not satisfy the mandatory significant wetlands criteria. Only MK-4A met criteria of significance for a function unrelated to fish habitat. Though MK-4A is hydrologically connected to the unnamed tributary, it has no potential for fish habitat. The water quality function of this wetland remains intact, due to a diverse vegetated understory in a forested wetland.

8.0 RIPARIAN INVENTORY RESULTS

8.1 Location, Width and Quality of Riparian Areas

The *Urban Riparian Inventory and Assessment Guide* (Riparian Guide) (DSL 1998) was used to identify the width of riparian areas within the project area. The Riparian Guide is a method of determining the width of riparian areas adjacent to wetlands, creeks, and lakes (water resources). The Riparian Guide includes a riparian function assessment, which evaluates the ability of the riparian area to provide water quality, flood management, thermal regulation, and wildlife habitat functions. The results indicate whether the functional integrity of each reach is high, medium, or low. The widths, lengths and acreage of the riparian areas are listed in Table 9 (page 28).

8.2 Riparian Acreage and Distribution

Twenty-four (24) riparian assessments were conducted in the project area associated with McKay Creek. Each riparian area was assigned a code and a modifier for right or left side, and a watershed code (e.g. R-MK-2L, R-MK-2R). A data sheet was compiled which documents the existing riparian characteristics and establishes the riparian width based on potential tree height (PTH) and actual site conditions (Appendix E). The majority of the assessments were on-site observation. Off-site assessments were based on observation from an off-site vantage point or review of maps and aerial photos.

Potential tree heights were based primarily on Oregon ash (75-foot PTH), the dominant tree in the stream side riparian areas in North Plains. However, four (4) of the assessment areas were based on black cottonwood (*Populus trichocarpa*) and two (2) on Douglas fir (*Pseudotsuga menziesii*). Riparian areas were generally gently sloping and forested or potentially forested. Figure 5 shows the location of the riparian assessments, the riparian reaches, and the width of the riparian areas. The following table summarizes the riparian area widths, lengths and potential tree heights.

Table 9. Riparian Corridors and Their Widths for the North Plains Riparian Inventory

RIPARIAN AREA CODE	Potential Tree Height (PTH) (ft)	Actual Riparian width (ft)	Riparian Area 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	10-25	620
R-MK-3R	120	10-120	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	75	75	475
R-MK-9R	120	20-75	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

As the table shows, the majority of riparian widths are based on the PTH of Oregon ash. In addition, many existing riparian areas are narrower than the PTH, indicating that development has encroached on many of the areas.

8.3 Riparian Assessment Results

An assessment of four riparian functions, water quality, flood management, thermal regulation, and wildlife habitat, was conducted for each of the riparian areas. The questions and answer sheets for the riparian assessment are included in Appendix E. The riparian functions are described in Section 3.4.3.

The riparian assessment is completed by answering a series of questions relating to the riparian functions. Each answer is assigned a score that reflects its overall importance to the function. Questions that were answered “a” received a higher score than “c” answers. After the score was totaled for each function, it was assigned a rating of high (H), medium (M), or low (L) according to the results. Table 10 summarizes the results of the riparian functional assessment.

Table 10. Summary of North Plains’ Riparian Functional Assessments

Riparian Code	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
R-MK-1L	H	M	H	H
R-MK-1R	H	H	H	H
R-MK-2 L	M	L	M	M
R-MK-2 R	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	H
R-MK-6R	H	H	H	H
R-MK-7L	H	M	M	H
R-MK-7R	H	M	M	H
R-MK-8L	H	L	M	M
R-MK-8R	M	L	L	M
R-MK-9L	H	H	H	H
R-MK-9R	H	L	H	M
R-MK-10L	H	H	H	H
R-MK-10R	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 majority of the riparian areas (88%) received a high assessment for at least one of the four functions. The majority (79%) provide a high water quality function due to a dominance of woody trees and shrubs in the riparian areas. Broad, undeveloped floodplains are also good for water quality. Thermal regulation was assessed with a high functional integrity in 62% (16) of the riparian assessment areas. Though floodplain is typically wide and undeveloped, backwater flooding has reduced the former native tree canopy to ash snags standing in frequently flooded areas. The reed canarygrass that now dominates these areas leaves the creek and associated flooded areas open to the thermal influences of the sun. The flood management function was generally ranked as medium (46%) to low (25%) due to historic residential and agricultural encroachment that has eliminated or decreased the functionality of creek-side floodplain areas, thereby limiting the potential for flooding. Only those locations with a forested tree canopy were ranked as having a high flood management function.

Wildlife habitat was usually either medium or high for the riparian areas due to the presence of perennial surface water, well vegetated areas, and lack of impervious surfaces in the vicinity of the resource. Only R-MK-4L had a low functional assessment for wildlife habitat. This area is located in a residential area of mowed lawn and poor tree cover.

In general the riparian areas of North Plains are in relatively good condition, with the exception of reaches through agricultural fields or pasture areas. In these areas grazing and planting occur right up to the edge of the resource, degrading the riparian zone and its functionality.

9.0 PROJECT SUMMARY

- The City of North Plains hired Pacific Habitat Services, Inc. (PHS) to address Goal 5 and Goal 7 periodic review requirements within the City's expanded Urban Growth Boundary.
- The project area is approximately 697 acres, including sections of McKay Creek and an unnamed tributary.
- Field work was conducted between November 2001 and January 2002. Each wetland unit was assigned an unique code based on the watershed. A wetland characterization and wetland assessment was completed for each wetland unit. The wetland assessment was based on the *Oregon Freshwater Wetland Assessment Methodology*.
- In addition to the determination and wetland assessment, Locally Significant Wetlands were identified based on Oregon Administrative Rules.
- A total of 14 wetland units were identified in the project area, with a total acreage of approximately 65.54 acres.
- The most abundant wetland type, by acreage, is palustrine emergent, farmed (40%), followed by palustrine forested (27%), palustrine emergent (26%), palustrine open water (4%), and palustrine scrub-shrub (3%).
- None of the wetlands met the criteria for "wetlands of special interest for protection".

- Nine (9) of the 14 wetlands met the criteria for Locally Significant Wetlands. Eight to the nine wetlands are hydrologically connected to waters mapped as habitat for indigenous anadromous salmonid habitat. One location retained intact water quality function and three had intact fish habitat.
- The riparian inventory assessed 24 areas associated with McKay Creek or the unnamed tributary.
- Riparian widths in the project area range from 10 to 120 feet, based on actual site conditions and potential tree height.
- Eighty-eight percent (88%) of the riparian areas were assessed with at least one function (water quality, flood management, thermal regulation, wildlife habitat) as having high functional integrity.

10.0 REFERENCES

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- U.S.F.W.S. *National Wetlands Inventory* map, 1992. *Hillsboro, Oregon* quadrangle. Color infrared aerial photography in August, 1981; 1:58,000.
- U.S. Geological Survey. 1956, Photorevised 1992. *Forest Grove, Oregon* topographical quadrangle, 1:24,000.
- U.S. Geological Survey. 1990. *Hillsboro, Oregon* topographical quadrangle, 1:24,000.

Appendix A

Wetland Characterization Sheets



Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-1
Date(s) of field work:	OFFSITE	Size (acres):	3.06
Data Sheet Numbers:	N/A	Cowardin Class(es):	PEM, POW, PFO
Investigator(s):	SE/FS	HGM Class(es):	RFT, DCP, F

Location --	Legal:	T. 1N, R. 3W, Section 1 and 2
	Other:	East of NW Gordon Road, south of North Avenue.
	Tax Lots:	1N301BC00200
	Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam, Woodburn silt loam	
Hydrologic Source:	Surface flow, groundwater	

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Rubus discolor</i>	Himalayan Blackberry
<i>Rosa pisocarpa</i>	Clustered Wild Rose	<i>Phalaris arundinacea</i>	Reed Canary Grass

Comments: **Locally Significant Wetland**
 OFFSITE. PFO adjacent to unnamed tributary. There is a man-made wetland pond north of the creek. Zoned multi-family residential. Adjacent land use is commercial and open space. Adjacent riparian buffers are poor due to development and encroachment.

Adjacent Upland Species: *Rubus discolor*, *Rubus ursinus*, *Festuca arundinacea*, *Cirsium arvense*, *Phalaris arundinacea*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-2
Date(s) of field work:	11/29/01	Size (acres):	1.95
Data Sheet Numbers:	1	Cowardin Class(es):	PEM, PFO
Investigator(s):	SE/FS	HGM Class(es):	F

Location --	Legal:	T. 1N, R. 3W, Section 1 and 2
	Other:	East of NW Gordon Road, north of the railroad tracks.
	Tax Lots:	1N2010003700
	Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam	
Hydrologic Source:	Surface flow, precipitation	

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Spiraea douglasii</i>	Douglas' Spiraea	<i>Cirsium vulgare</i>	Bull Thistle
<i>Populus trichocarpa</i>	Black Cottonwood		

Comments: **Locally Significant Wetland**
 Somewhat disturbed area adjacent to railroad tracks. Water flows onsite into a poorly defined, shallow ditch from agricultural fields to the west. Shallow inundation across much of the site with slow overland flow towards the east. Water flows into a long culverted section of the unnamed tributary (under this lot and railroad tracks). Zoned general industrial. Adjacent land use commercial/industrial.
 Adjacent Upland Species: *Quercus garryana*, *Rubus discolor*, *Phalaris arundinacea*, *Cytisus scoparius*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-3
Date(s) of field work:	11/29/01	Size (acres):	1.11
Data Sheet Numbers:	3	Cowardin Class(es):	PEM, PSS
Investigator(s):	SE/FS	HGM Class(es):	RFT, F

Location -- Legal:	T. 1N, R. 3W, Section 1
Other:	West of NW 324th Avenue, south of NW Commercial Street.
Tax Lots:	1N301CA02600, 1N301CB00200, 1N301CB00301
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam
Hydrologic Source:	Surface flow, precipitation

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Populus trichocarpa</i>	Black Cottonwood	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Salix spp.</i>	Willows	<i>Agrostis stolonifera</i>	Spreading Bentgrass
<i>Crataegus douglasii</i>	Douglas' Hawthorn	<i>Rubus discolor</i>	Himalayan Blackberry
<i>Spiraea douglasii</i>	Douglas' Spiraea		
<i>Rosa pisocarpa</i>	Clustered Wild Rose		
<i>Fraxinus latifolia</i>	Oregon Ash		

Comments: **Locally Significant Wetland**
 Floodplain wetland south of unnamed tributary. Eastern end of wetland is infrequently mowed. Scrub shrub area is located on west end. The wetland is somewhat disturbed by past hydrologic control activities that have left piles of side cast adjacent to the south side of the creek. Up and downstream sections of creek have been modified and flow through numerous culverts. Zoning and land use is general industrial.
 Adjacent Upland Species: *Rubus discolor*, *Cirsium vulgare*, *Cirsium arvense*, *Daucus carota*, *Rumex crispus*, *Festuca arundinacea*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-4A
Date(s) of field work:	OFFSITE	Size (acres):	0.73
Data Sheet Numbers:	N/A	Cowardin Class(es):	PFO
Investigator(s):	SE/FS	HGM Class(es):	DO

Location --	Legal:	T. 1N, R. 3W, Section 1
	Other:	North of Hwy 26, south of city park.
	Tax Lots:	1N301CD02000, 1N301CD02200
	Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam, Woodburn silt loam	
Hydrologic Source:	Surface water, precipitation	

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Carex sp.</i>	Sedge
<i>Salix babylonica</i>	Weeping Willow	<i>Phalaris arundinacea</i>	Reed Canary Grass
		<i>Typha latifolia</i>	Common Cattail
		<i>Juncus effusus</i>	Soft Rush

Comments: **Locally Significant Wetland**
 OFFSITE. Swale of ash trees adjacent to Hwy 26. Shallow drainage flows in from south side, the result of stormwater runoff from the highway. Zoned multi-family residential. Adjacent land use is residential. Hydrologically connected to MK-4B.

 Adjacent Upland Species: *Quercus garryana*, *Symphoricarpos albus*, *Rubus discolor*, *Rubus ursinus*, *Festuca arundinacea*, *Phalaris arundinacea*, *Taraxacum officinale*, *Daucus carota*, *Cirsium vulgare*, *Rumex crispus*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-4B
Date(s) of field work:	11/29/01	Size (acres):	2.25
Data Sheet Numbers:	4	Cowardin Class(es):	PEM, PSS
Investigator(s):	SE/FS	HGM Class(es):	RFT, VS

Location -- Legal:	T. 1N, R. 3W, Section 1
Other:	Adjacent to McKay Creek, Pacific Street to 314th Avenue.
Tax Lots:	1N301CD01900, 1N301CD02000, 1N301CD02001, 1N301CD02200
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam, Woodburn silt loam
Hydrologic Source:	Surface water

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Salix lasiandra</i>	Pacific Willow	<i>Dipsacus sylvestris</i>	Teasel
<i>Alnus rubra</i>	Red Alder	<i>Rubus discolor</i>	Himalayan Blackberry
<i>Rosa pisocarpa</i>	Clustered Wild Rose	<i>Solanum dulcamara</i>	Bittersweet Nightshade
<i>Salix piperi</i>	Piper's Willow	<i>Lemna minor</i>	Lesser Duckweed

Comments: **Locally Significant Wetland**
 Wetland in horse pasture, adjacent to unnamed tributary. Also includes overbank areas adjacent to city park. Zoned multi-family residential. Adjacent land use is residential and undeveloped/open space. Hydrologically connected to MK-4A and MK-4C.

 Adjacent Upland Species: *Pseudotsuga menziesii*, *Quercus garryana*, *Crataegus monogyna*, *Rubus discolor*, *Festuca arundinacea*, *Cirsium vulgare*, *Populus nigra*, *Phalaris arundinacea*, *Hypericum perforatum*, *Equisetum arvense*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-4C
Date(s) of field work:	11/29/01	Size (acres):	6.19
Data Sheet Numbers:	5, 6	Cowardin Class(es):	PEM, PFO
Investigator(s):	SE/FS	HGM Class(es):	RFT, RI, VS

Location -- Legal:	T. 1N, R. 3W , Sections 1 and 12
Other:	Adjacent to McKay Creek, from 314th Ave to Glencoe Road.
Tax Lots:	1N301DC04101, 04200, 04300, 04400, 04401, 1N312AB00300
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam, Woodburn silt loam
Hydrologic Source:	Surface water, precipitation

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Spiraea douglasii</i>	Douglas' Spiraea	<i>Rubus discolor</i>	Himalayan Blackberry
<i>Populus trichocarpa</i>	Black Cottonwood		

Comments: **Locally Significant Wetland**
 Wetland adjacent to unnamed tributary. Location of creek is difficult to identify in the reed canarygrass monoculture. Wide shallow floodplain prone to frequent flooding as a result of backwatering upstream of culvert under Glencoe Road. Zoned commercial and unzoned. Adjacent land use is commercial and highway right-of-way. Hydrologically connected, via culvert, to MK-4B (upstream) and MK-4D (downstream).
 Adjacent Upland Species: *Quercus garryana*, *Fraxinus latifolia*, *Rubus discolor*, lawn (mixed grasses), *Phalaris arundinacea*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-4D
Date(s) of field work:	OFFSITE	Size (acres):	4.38
Data Sheet Numbers:	N/A	Cowardin Class(es):	PEM, POW
Investigator(s):	SE/FS	HGM Class(es):	RI, VS

Location -- Legal:	T. 1N, R. 3W, Section 12
Other:	Adjacent to McKay Creek, from Glencoe Road, east to South Avenue.
Tax Lots:	1N3120000102, 1N3120001400
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam, Woodburn silt loam
Hydrologic Source:	Surface water

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Salix lasiandra</i>	Pacific Willow	<i>Spiraea douglasii</i>	Douglas' Spiraea

Comments: **Locally Significant Wetland**
 OFFSITE. Backwater area of unnamed tributary upstream from confluence with McKay Creek. Actual location of creek through wetland is unknown due to deep water. Herbaceous vegetation was hard to identify, as a result. Zoned light industrial and unzoned. Adjacent land use undeveloped and industrial/commercial. Connected, via culvert, to MK-4C (upstream) and MK-4E (downstream).
 Adjacent Upland Species: *Pseudotsuga menziesii*, *Rubus discolor*, *Festuca arundinacea*, *Polystichum munitum*, *Cirsium vulgare*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-4E
Date(s) of field work:	12/7/01	Size (acres):	1.43
Data Sheet Numbers:	N/A	Cowardin Class(es):	PEM, POW
Investigator(s):	SE/FS	HGM Class(es):	RI, VS

Location -- Legal:	T. 1N, R. 3W, Section 12
Other:	Adjacent to McKay Creek, north of Hwy 26, east of South Avenue.
Tax Lots:	1N3120000100, 1N3120000103, 1N3120000104
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Verboort silty clay loam, Woodburn silt loam
Hydrologic Source:	Surface water

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Spiraea douglasii</i>	Douglas' Spiraea		
<i>Salix lasiandra</i>	Pacific Willow		
<i>Populus trichocarpa</i>	Black Cottonwood		
<i>Alnus rubra</i>	Red Alder		

Comments: **Locally Significant Wetland**
 Backwater area of unnamed tributary upstream from confluence with McKay Creek. Actual location of creek through wetland is unknown due to deep water. Zoned multi-family residential. Adjacent land use is residential and industrial. Upstream; hydrologically connected to MK-4D, via culvert under South Avenue. Downstream; beyond bridge on southeast side of wetland is McKay Creek and MK-5.
 Adjacent Upland Species: *Pseudotsuga menziesii*, *Alnus rubra*, *Rhododendron* sp., *Juniper* sp. *Betula pendula*, *Rosa pisocarpa*, *Rubus discolor*, *Rubus ursinus*, *Polystichum munitum*, *Equisetum arvense*, *Hedera helix*, *Phalaris arundinacea*, *Cirsium vulgare*, *Matricaria matricarioides*, *Solanum dulcamara*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA = Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-5
Date(s) of field work:	OFFSITE	Size (acres):	13.58
Data Sheet Numbers:	N/A	Cowardin Class(es):	PFO, PEM
Investigator(s):	SE/FS	HGM Class(es):	RFT, VS, DO

Location -- Legal:	T. 1N, R. 3W , Sec 1 & 12; T. 1N, R. 2W, Sec 6 & 7.
Other:	South of NW West Union Road to south of NW Highland Court.
Tax Lots:	1N301DA04800, 1N301DD00102, 00103, 00105, 00106, 01601, 1N3120000103
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	McBee silty clay loam, Woodburn silt loam
Hydrologic Source:	Surface water, groundwater, precipitation

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Alnus rubra</i>	Red Alder	<i>Athyrium filix-femina</i>	Subarctic Lady Fern
<i>Cornus stolonifera</i>	Red-Osier Dogwood	<i>Rubus ursinus</i>	California Dewberry
<i>Rosa pisocarpa</i>	Clustered Wild Rose	<i>Rubus discolor</i>	Himalayan Blackberry
<i>Physocarpus capitatus</i>	Pacific Ninebark	<i>Cirsium arvense</i>	Creeping Thistle
<i>Symphoricarpos albus</i>	Snowberry	<i>Pteridium aquilinum</i>	Bracken Fern
<i>Salix lasiandra</i>	Pacific Willow	<i>Solanum dulcamara</i>	Bittersweet Nightshade
		<i>Berberis aquifolium</i>	Oregon Grape

Comments: **Locally Significant Wetland**
 OFFSITE. Forested wetland adjacent to McKay Creek. Entire wetland is located within FEMA floodplain. There may be upland areas within the floodplain, but lack of access prevented further investigation. Zoned multi-family residential. Local land use is residential and undeveloped. East of the UGB, land use is agriculture.

 Adjacent Upland Species: *Pseudotsuga menziesii*, *Acer macrophyllum*, *Corylus cornuta*, *Symphoricarpos albus*, *Rubus discolor*, *Rubus ursinus*, *Hedera helix*, *Cirsium arvense*, *Festuca arundinacea*, *Daucus carota*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-6
Date(s) of field work:	12/4/01	Size (acres):	0.94
Data Sheet Numbers:	9, 10, 11, 12	Cowardin Class(es):	PEM
Investigator(s):	SE/FS	HGM Class(es):	VS, RI

Location -- Legal:	T. 1N, R. 3W, Section 1
Other:	North of railroad tracks, east of McKay Creek Court.
Tax Lots:	1N301DA06400
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	McBee silty clay loam, Woodburn silt loam
Hydrologic Source:	Precipitation, surface water

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
		<i>Phalaris arundinacea</i>	Reed Canary Grass
		<i>Alopecurus pratensis</i>	Meadow Foxtail
		<i>Ranunculus repens</i>	Creeping Butter-Cup

Comments:
 Adjacent to McKay Creek, this area will flood during high water stages. Wetland is located on undeveloped City property and part of a horse pasture. Zoned single family residential. Adjacent land use is agriculture and residential.

Adjacent Upland Species: *Fraxinus latifolia*, *Symphoricarpos albus*, *Physocarpus capitatus*, *Quercus garryana*, *Rosa pisocarpa*, *Ilex aquifolium*, *Polystichum munitum*, *Rubus discolor*, *Agrostis tenuis*, *Alopecurus pratensis*, *Festuca arundinacea*, *Festuca rubra*, *Taraxacum officinale*, *Dactylis glomerata*, *Rumex crispus*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-7
Date(s) of field work:	12/7/01	Size (acres):	N/A
Data Sheet Numbers:	13, 14	Cowardin Class(es):	PEM, PSS
Investigator(s):	SE/FS	HGM Class(es):	DO

Location -- Legal:	T. 1N, R. 2W, Section 6
Other:	Ditch line adjacent to railroad tracks, east of McKay Creek.
Tax Lots:	1N2010003700
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Woodburn silt loam, Dayton silt loam
Hydrologic Source:	Precipitation, surface water

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Juncus patens</i>	Spreading Rush
<i>Quercus garryana</i>	Oregon White Oak	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Cornus stolonifera</i>	Red-Osier Dogwood	<i>Cirsium vulgare</i>	Bull Thistle
<i>Crataegus douglasii</i>	Douglas' Hawthorn	<i>Rubus discolor</i>	Himalayan Blackberry
<i>Corylus cornuta</i>	Beaked Hazel-Nut	<i>Rubus ursinus</i>	California Dewberry
<i>Salix scouleriana</i>	Scouler Willow		
<i>Rosa pisocarpa</i>	Clustered Wild Rose		
<i>Spiraea douglasii</i>	Douglas' Spiraea		

Comments:
 OFFSITE and ONSITE. Shallow swale or ditch adjacent to railroad tracks. There appear to be a number of culverts under the tracks. The ditch may not be continuous on both sides of the tracks. Evidence of seasonal ponding. Zoned general industrial. Adjacent land use is commercial/industrial and agriculture. Apparent connection to McKay Creek, at the west end of the drainage.
 Adjacent Upland Species: *Symphoricarpos albus*, *Festuca arundinacea*, *Holcus lanatus*, *Cirsium vulgare*, *Daucus carota*, *Rumex salicifolius*, *Hypericum perforatum*, *Plantago lanceolata*, *Chrysanthemum leucanthemum*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-8
Date(s) of field work:	OFFSITE	Size (acres):	0.40
Data Sheet Numbers:	N/A	Cowardin Class(es):	PEM
Investigator(s):	SE	HGM Class(es):	DCNP

Location -- Legal:	T. 1N, R. 2W, Section 6
Other:	North of NW West Union Road.
Tax Lots:	1N2060002800
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Amity silt loam, Woodburn silt loam
Hydrologic Source:	Precipitation, overland flow

Dominant Wetland Vegetation			
TREES	SHRUBS	VINES	HERBS
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Epilobium watsonii</i>	Watson's Willow-Herb
		<i>Phalaris arundinacea</i>	Reed Canary Grass
		<i>Rumex crispus</i>	Curly Dock
		<i>Dipsacus sylvestris</i>	Teasel

Comments:
 OFFSITE. Small swale that drains into road side ditch. Evidence of seasonal ponding. Zoned general industrial. Adjacent land use is industrial and agriculture.

Adjacent Upland Species: *Rubus discolor*, *Festuca arundinacea*, *Dactylis glomerata*, *Cirsium vulgare*, *Daucus carota*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-9
Date(s) of field work:	OFFSITE	Size (acres):	3.25
Data Sheet Numbers:	N/A	Cowardin Class(es):	PEM
Investigator(s):	SE/FS	HGM Class(es):	DCNP

Location -- Legal:	T. 1N, R. 2W, Section 6
Other:	North of NW West Union Road, west of 289th Place.
Tax Lots:	1N2060001303, 1N2060001305, 1N2060001401, 1N2060001500
Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Dayton silt loam
Hydrologic Source:	Precipitation, overland flow

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Salix sp.</i>	Willow	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Rosa nutkana</i>	Nootka Rose	<i>Epilobium watsonii</i>	Watson's Willow-Herb
		<i>Rumex crispus</i>	Curly Dock

Comments:
 OFFSITE. Number of small depressional areas that show evidence of seasonal ponding. Zoned general industrial. Adjacent land use is commercial/industrial and agriculture. Potential connections between depressions or to other wetlands or drainages is unknown.

Adjacent Upland Species: *Rubus discolor*, *Rubus ursinus*, *Festuca arundinacea*, *Cirsium arvense*, *Daucus carota*, *Hypericum perforatum*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: North Plains LWI

		Wetland Code:	MK-10f
Date(s) of field work:	12/04/01, 1/10/02	Size (acres):	26.27
Data Sheet Numbers:	15, 16, 17	Cowardin Class(es):	PEMf
Investigator(s):	SE/FS	HGM Class(es):	LFH

Location --	Legal:	T. 1N, R. 2W, Section 5, 6, 7
	Other:	South of NW West Union Road, west of Jackson School Road.
	Tax Lots:	1N2070000100
	Hydrologic basin:	McKay Creek
Soil -- Mapped series:	Amity silt loam, Dayton silt loam, Woodburn silt loam	
Hydrologic Source:	Precipitation, overland flow	

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
		<i>Festuca arundinacea</i>	Tall Fescue

Comments:
 Farmed wetland area. Shallow water table and saturated soils during the winter. Presently zoned agriculture, but is within urban growth expansion area. Adjacent land use is primarily agricultural. Gentle swales connect this area to downslope wetlands and McKay Creek.

Adjacent Upland Species: *Festuca arundinacea*, *Triticum* sp, (wheat)

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
HS = Headwater Slope	VS = Valley Slope	FL = Flats	

Appendix B

Wetland Determination Data Forms





Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-2-1			
Applicant: City of North Plains		County: Washington		Date: 11/29/01			
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1			
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No					
Is this an Atypical Situation? No							
HYDROLOGY		Primary Indicators		Secondary Indicators			
		Inundated		Ox. rhizospheres yes			
		Sat. in Upper 12" yes		H2O-stained leaves			
Depth of Surf. H2O Inches		Water Marks		Local Soil Survey			
Depth to Free H2O 1 Inches		Drift Lines		FAC Neutral Test			
Depth to Saturation 0 Inches		Sediment Deposits		Other _____			
		Drainage patterns		Criteria Met: Yes			
SOILS		Mapped Series: Verboort silty clay loam		Hydric Soil?: Yes			
		Classification: Typic Argialbolls		Drainage Class: poorly drained			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments	
			Color	abundance/size/contrast			
0-6	10YR 3/2	SL					
6-14	10YR 3/1	SL	10YR 3/4	common/medium/distinct			
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						Criteria Met: Yes	
VEGETATION							
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (85%)		Status	% Cover
				<i>Phalaris arundinacea</i> *		FACW	99
				<i>Cirsium vulgare</i>		FACU	1
Shrub Stratum (15%)		Status	% Cover				
<i>Fraxinus latifolia</i> *		FACW	5				
<i>Spiraea douglasii</i> *		FACW	95	Woody Vine Stratum (0%)		Status	% Cover
*Percent of dominant species FAC, FACW, or OBL: 100%						Criteria Met: Yes	
Comments:							
						Determination: Wetland	



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI	Number: 2453	Sample Site: MK-Ø-2
Applicant: City of North Plains	County: Washington	Date: 11/29/01
Investigators: SE/FS	Township: 1N Range: 3W	Section: 1
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No
Is this an Atypical Situation? No		

HYDROLOGY	Primary Indicators	Secondary Indicators
Depth of Surf. H2O Inches	Inundated	Ox. rhizospheres
Depth to Free H2O >16 Inches	Sat. in Upper 12" yes	H2O-stained leaves
Depth to Saturation 0" to 4" Inches	Water Marks	Local Soil Survey
	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other _____
	Drainage patterns	Criteria Met: Yes

SOILS		Mapped Series: Willamette silt loam	Hydric Soil?: No		
		Classification: Pachic Ultic Argixerolls	Drainage Class: well drained		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations	Other Hydric Soil Field Indicators	Comments
			Color abundance/size/contrast		
0-16	2.5/Y 3/2	SL			

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

	Criteria Met: No
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VEGETATION							
Tree Stratum	(0%)	Status	% Cover	Herbaceous Stratum	(100%)	Status	% Cover
				<i>Daucus carota</i>		UPL	15
				<i>Hypericum perforatum</i>		UPL	15
				<i>Holcus lanatus*</i>		FAC	50
				<i>Cirsium vulgare</i>		FACU	15
				<i>Vicia sativa</i>		UPL	5
Shrub Stratum	(0%)	Status	% Cover	Woody Vine Stratum	(0%)	Status	% Cover

*Percent of dominant species FAC, FACW, or OBL: 100%	Criteria Met: Yes
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Comments: Pit in bottom of excavated ditch. Saturated to a depth of 4 inches but not below. Source of water is apparently recent rains. Some sections of this drainage are not ponded or saturated.

Upland pit, not associated with any wetland.

	Determination: Upland
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Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-3-3		
Applicant: City of North Plains		County: Washington		Date: 11/29/01		
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1		
Do Normal Circumstances exist on this site?		Yes		Is the area a potential Problem Area? No		
Is this an Atypical Situation?		No				
HYDROLOGY			Primary Indicators		Secondary Indicators	
			Inundated		Ox. rhizospheres yes	
			Sat. in Upper 12" yes		H2O-stained leaves	
Depth of Surf. H2O Inches			Water Marks		Local Soil Survey	
Depth to Free H2O 0 Inches			Drift Lines		FAC Neutral Test	
Depth to Saturation 0 Inches			Sediment Deposits		Other	
			Drainage patterns		Criteria Met: Yes	
SOILS		Mapped Series: Verboort silty clay loam		Hydric Soil?: Yes		
		Classification: Typic Argialbolls		Drainage Class: poorly drained		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-16	10YR 3/1	SL	5YR 4/6	few/medium/prominent		
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						
						Criteria Met: Yes
VEGETATION						
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)		Status % Cover
				<i>Phalaris arundinacea*</i>		FACW 95
				<i>Agrostis stolonifera</i>		FAC 5
Shrub Stratum (0%)		Status	% Cover	Woody Vine Stratum (0%)		Status % Cover
*Percent of dominant species FAC, FACW, or OBL: 100%				Criteria Met: Yes		
Comments:						
						Determination: Wetland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-4B-4	
Applicant: City of North Plains		County: Washington		Date: 11/29/01	
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1	
Do Normal Circumstances exist on this site?		Yes		Is the area a potential Problem Area? No	
Is this an Atypical Situation?		No			
HYDROLOGY			Primary Indicators		Secondary Indicators
			Inundated		Ox. rhizospheres yes
			Sat. in Upper 12" yes		H2O-stained leaves
Depth of Surf. H2O Inches			Water Marks		Local Soil Survey
Depth to Free H2O 0 Inches			Drift Lines		FAC Neutral Test
Depth to Saturation 0 Inches			Sediment Deposits		Other
			Drainage patterns yes		Criteria Met: Yes
SOILS		Mapped Series: Verboort silty clay loam		Hydric Soil?: Yes	
		Classification: Typic Argialbolls		Drainage Class: poorly drained	
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators
			Color	abundance/size/contrast	Comments
0-7	10YR 3/1	SL	10YR 3/3	few/fine/faint	compact loose, friable
7-12	10YR 3/1	SL			
12-16+	10YR 3/1	SCL	10YR 3/4	common/coarse/distinct	
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay					
Criteria Met: Yes					
VEGETATION					
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (85%)	
				<i>Phalaris arundinacea</i> *	
				FACW 100	
Shrub Stratum (15%)		Status	% Cover		
<i>Fraxinus latifolia</i> *		FACW	100		
				Woody Vine Stratum (0%)	
				Status % Cover	
*Percent of dominant species FAC, FACW, or OBL: 100%					
Criteria Met: Yes					
Comments:					
Determination: Wetland					



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-4C-5			
Applicant: City of North Plains		County: Washington		Date: 11/29/01			
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1			
Do Normal Circumstances exist on this site?		Yes		Is the area a potential Problem Area? No			
Is this an Atypical Situation?		No					
HYDROLOGY			Primary Indicators		Secondary Indicators		
			Inundated		Ox. rhizospheres yes		
Depth of Surf. H2O Inches			Sat. in Upper 12" yes		H2O-stained leaves		
Depth to Free H2O 3 Inches			Water Marks		Local Soil Survey		
Depth to Saturation 0 Inches			Drift Lines		FAC Neutral Test		
			Sediment Deposits		Other _____		
			Drainage patterns		Criteria Met: Yes		
SOILS		Mapped Series: Verboort silty clay loam		Hydric Soil?: Yes			
		Classification: Typic Argialbolls		Drainage Class: poorly drained			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments	
			Color	abundance/size/contrast			
0-8	10YR 3/2	SL					
8-14	10YR 3/1	SL	5YR 3/4	common/medium/distinct			
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						Criteria Met: Yes	
VEGETATION							
Tree Stratum (25%)		Status	% Cover	Herbaceous Stratum (60%)		Status	% Cover
<i>Fraxinus latifolia</i> *		FACW	100	<i>Phalaris arundinacea</i> *		FACW	100
Shrub Stratum (10%)		Status	% Cover	Woody Vine Stratum (5%)		Status	% Cover
<i>Spiraea douglasii</i> *		FACW	100	<i>Rubus discolor</i> *		FACU	100
*Percent of dominant species FAC, FACW, or OBL: 75%						Criteria Met: Yes	
Comments:							
						Determination: Wetland	



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI	Number: 2453	Sample Site: MK-4C-6
Applicant: City of North Plains	County: Washington	Date: 11/29/01
Investigators: SE/FS	Township: 1N Range: 3W Section: 1	

Do Normal Circumstances exist on this site? **Yes** Is the area a potential Problem Area? **No**
 Is this an Atypical Situation? **No**

HYDROLOGY	Primary Indicators	Secondary Indicators
Depth of Surf. H2O Inches	Inundated	Ox. rhizospheres
Depth to Free H2O >12 Inches	Sat. in Upper 12"	H2O-stained leaves
Depth to Saturation >12 Inches	Water Marks	Local Soil Survey
	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other
	Drainage patterns	Criteria Met: No

SOILS Mapped Series: Woodburn silt loam Hydric Soil?: **No**
 Classification: Aquultic Argixerolls Drainage Class: moderately well drained

Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-8	10YR 3/2	SL				some gravel
8-10	10YR 3.5/3	SL				
8-10	10YR 2/2	SL				mixed silt loams
10-12	10YR 2/2	SL				

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: **No**

VEGETATION

Tree Stratum (15%)	Status	% Cover	Herbaceous Stratum (85%)	Status	% Cover
<i>Quercus garryana</i> *	UPL	100	<i>Festuca arundinacea</i> *	FAC-	50
			<i>Vicia tetrasperma</i>	UPL	15
			<i>Phalaris arundinacea</i>	FACW	5
			<i>Dactylis glomerata</i>	FACU	15
			<i>Taraxacum officinale</i>	FACU	5
			<i>Holcus lanatus</i>	FAC	5
Shrub Stratum (0%)	Status	% Cover	<i>Geranium molle</i>	UPL	5
			Woody Vine Stratum (0%)	Status	% Cover

*Percent of dominant species FAC, FACW, or OBL: **0%**

Criteria Met: **No**

Comments:

Determination: **Upland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-Ø-7		
Applicant: City of North Plains		County: Washington		Date: 11/29/01		
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1		
Do Normal Circumstances exist on this site?		Yes		Is the area a potential Problem Area?		
Is this an Atypical Situation?		No		No		
HYDROLOGY		Primary Indicators		Secondary Indicators		
		Inundated Sat. in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage patterns		Ox. rhizospheres H2O-stained leaves Local Soil Survey FAC Neutral Test Other		
Depth of Surf. H2O	Inches			Criteria Met:		
Depth to Free H2O	>14 Inches			No		
Depth to Saturation	>14 Inches					
SOILS		Mapped Series: Verboort silty clay loam		Hydric Soil?: Yes		
		Classification: Typic Argialbolls		Drainage Class: poorly drained		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-14	10YR 3/1	SL				
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						
Criteria Met:						
Yes						
VEGETATION						
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)		Status % Cover
				<i>Festuca arundinacea*</i>		FAC- 100
Shrub Stratum (0%)		Status	% Cover	Woody Vine Stratum (0%)		Status % Cover
*Percent of dominant species FAC, FACW, or OBL: 0%						Criteria Met:
						No
Comments: Grass seed field. Field has been tilled in the past, at least in vicinity of natural drainage swales. This is an upland pit, not associated with any wetland.						
Determination:						Upland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-Ø-8	
Applicant: City of North Plains		County: Washington		Date: 11/29/01	
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1	
Do Normal Circumstances exist on this site?		Yes		Is the area a potential Problem Area?	
Is this an Atypical Situation?		No		No	
HYDROLOGY		Primary Indicators		Secondary Indicators	
		Inundated yes Sat. in Upper 12" yes Water Marks Drift Lines Sediment Deposits Drainage patterns		Ox. rhizospheres H2O-stained leaves Local Soil Survey FAC Neutral Test Other	
Depth of Surf. H2O 2 Inches Depth to Free H2O >16 Inches Depth to Saturation 0" to 6" Inches				Criteria Met: Yes	
SOILS		Mapped Series: Verboort silty clay loam		Hydric Soil?: Yes	
		Classification: Typic Argialbolls		Drainage Class: poorly drained	
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators
			Color	abundance/size/contrast	Comments
0-16	10YR 3/1.5	SL			loose, tilled
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay					
					Criteria Met: No
VEGETATION					
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)	
				<i>Festuca arundinacea*</i>	
				FAC-	
				100	
Shrub Stratum (0%)		Status	% Cover	Woody Vine Stratum (0%)	
*Percent of dominant species FAC, FACW, or OBL:				0%	
					Criteria Met: No
Comments: Ponding along the edge of grass field. Soils below 6 inches are not saturated. Ponding is the result of poor grading near a stormwater inlet culvert. This is an upland pit, not associated with any wetland.					
					Determination: Upland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-6-9		
Applicant: City of North Plains		County: Washington		Date: 12/4/01		
Investigators: SE/FS		Township: 1N Range: 3W		Section: 1		
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No				
Is this an Atypical Situation? No						
HYDROLOGY		Primary Indicators		Secondary Indicators		
		Inundated		Ox. rhizospheres		
		Sat. in Upper 12"		H2O-stained leaves		
Depth of Surf. H2O Inches		Water Marks		Local Soil Survey		
Depth to Free H2O >14 Inches		Drift Lines		FAC Neutral Test		
Depth to Saturation >14 Inches		Sediment Deposits		Other _____		
		Drainage patterns		Criteria Met: No		
SOILS		Mapped Series: Woodburn silt loam		Hydric Soil?: #N/A		
		Classification: #N/A		Drainage Class: #N/A		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-14	10YR 2/2	SL				
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						
Criteria Met: No						
VEGETATION						
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (95%)		Status % Cover
				<i>Agrostis tenuis</i> *		FAC 20
				<i>Alopecurus pratensis</i>		FACW 10
				<i>Festuca arundinacea</i> *		FAC- 30
				<i>Festuca rubra</i> *		FAC+ 20
				<i>Taraxacum officinale</i>		FACU 3
				<i>Dactylis glomerata</i>		FACU 10
Shrub Stratum (0%)		Status	% Cover	<i>Rumex crispus</i>		FAC+ 5
				Woody Vine Stratum (5%)		Status % Cover
				<i>Rubus discolor</i> *		FACU 100
*Percent of dominant species FAC, FACW, or OBL: 50% - 66%						Criteria Met: No
Comments:						
						Determination: Upland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-6-10	
Applicant: City of North Plains		County: Washington		Date: 12/4/01	
Investigators: SE/FS		Township: 1N Range: 2W		Section: 6	
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No			
Is this an Atypical Situation? No					
HYDROLOGY		Primary Indicators		Secondary Indicators	
		Inundated yes		Ox. rhizospheres yes	
		Sat. in Upper 12" yes		H2O-stained leaves	
Depth of Surf. H2O	2 Inches	Water Marks		Local Soil Survey	
Depth to Free H2O	0 Inches	Drift Lines		FAC Neutral Test	
Depth to Saturation	0 Inches	Sediment Deposits		Other	
		Drainage patterns		Criteria Met: Yes	
SOILS		Mapped Series: McBee silty clay loam		Hydric Soil?: No	
		Classification: Cumulic Ultic Haploxerolls		Drainage Class: moderately well drained	
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators
			Color	abundance/size/contrast	Comments
0-3	10YR 3/2	SL			
3-7	10YR 3/2	SL	10YR 3/4	few/fine/faint	
7-14	10YR 3/1	SL	10YR 3/4	common/medium/distinct	
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay					
					Criteria Met: Yes
VEGETATION					
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)	
				<i>Phalaris arundinacea*</i>	
				<i>Alopecurus pratensis*</i>	
Shrub Stratum (0%)		Status	% Cover		
				Woody Vine Stratum (0%)	
				Status	
				% Cover	
*Percent of dominant species FAC, FACW, or OBL: 100%				Criteria Met: Yes	
Comments:					
					Determination: Wetland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-6-11	
Applicant: City of North Plains		County: Washington		Date: 12/4/01	
Investigators: SE/FS		Township: 1N		Range: 3W Section: 1	
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No			
Is this an Atypical Situation? No					
HYDROLOGY		Primary Indicators		Secondary Indicators	
		Inundated yes		Ox. rhizospheres yes	
Depth of Surf. H2O 6 Inches		Sat. in Upper 12" yes		H2O-stained leaves	
Depth to Free H2O 0 Inches		Water Marks		Local Soil Survey	
Depth to Saturation 0 Inches		Drift Lines		FAC Neutral Test	
		Sediment Deposits		Other _____	
		Drainage patterns		Criteria Met: Yes	
SOILS		Mapped Series: Woodburn silt loam		Hydric Soil?: No	
		Classification: Aquultic Argixerolls		Drainage Class: moderately well drained	
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators
			Color	abundance/size/contrast	Comments
0-7	10YR 3/2	SL			
7-12	10YR 3/1	SL	10YR 3/6	few/medium/distinct	
7-12	10YR 3/1	SL	7.5YR 3/4	common/fine/faint	mixed mottles
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay					
					Criteria Met: Yes
VEGETATION					
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)	
				<i>Phalaris arundinacea*</i>	
				FACW 100	
Shrub Stratum (0%)		Status	% Cover	Woody Vine Stratum (0%)	
				Status % Cover	
*Percent of dominant species FAC, FACW, or OBL: 100%				Criteria Met: Yes	
Comments:					
					Determination: Wetland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI	Number: 2453	Sample Site: MK-6-12
Applicant: City of North Plains	County: Washington	Date: 12/4/01
Investigators: SE/FS	Township: 1N Range: 2W Section: 6	
Do Normal Circumstances exist on this site?	Yes	Is the area a potential Problem Area? No
Is this an Atypical Situation?	No	

HYDROLOGY	Primary Indicators	Secondary Indicators
Depth of Surf. H2O _____ Inches	Inundated	Ox. rhizospheres
Depth to Free H2O >12 Inches	Sat. in Upper 12"	H2O-stained leaves
Depth to Saturation >12 Inches	Water Marks	Local Soil Survey
	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other _____
	Drainage patterns	Criteria Met: No

SOILS	Mapped Series: McBee silty clay loam	Hydric Soil?: No			
	Classification: Cumulic Ultic Haploxerolls	Drainage Class: moderately well drained			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations	Other Hydric Soil Field Indicators	Comments
0-12	10YR 3/2	SL	Color	abundance/size/contrast	

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: **No**

VEGETATION							
Tree Stratum (0%)	Status	% Cover	Herbaceous Stratum (95%)	Status	% Cover		
			<i>Festuca arundinacea</i> *	FAC-	90		
			<i>Agrostis tenuis</i>	FAC	8		
			<i>Daucus carota</i>	UPL	2		
Shrub Stratum (5%)	Status	% Cover					
<i>Crataegus monogyna</i> *	FACU+	100					
Woody Vine Stratum (0%)	Status	% Cover					

*Percent of dominant species FAC, FACW, or OBL: **0%**

Criteria Met: **No**

Comments:

Determination: **Upland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-7-13	
Applicant: City of North Plains		County: Washington		Date: 12/7/01	
Investigators: SE/FS		Township: 1N Range: 2W		Section: 6	
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No			
Is this an Atypical Situation? No					
HYDROLOGY		Primary Indicators		Secondary Indicators	
		Inundated		Ox. rhizospheres	
		Sat. in Upper 12"		H2O-stained leaves	
Depth of Surf. H2O Inches				Local Soil Survey	
Depth to Free H2O >14 Inches		Water Marks		FAC Neutral Test	
Depth to Saturation 0" to 4" Inches		Drift Lines		Other	
		Sediment Deposits			
		Drainage patterns		Criteria Met: Yes	
SOILS		Mapped Series: Woodburn silt loam		Hydric Soil?: No	
		Classification: Aquultic Argixerolls		Drainage Class: moderately well drained	
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators
			Color	abundance/size/contrast	Comments
0-14	10YR 3/1	SL			compacted/massive
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay					
					Criteria Met: Yes
VEGETATION					
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)	
				<i>Festuca arundinacea*</i> FAC- 20	
				<i>Daucus carota*</i> UPL 40	
				<i>Rumex salicifolius</i> FACW 5	
				<i>Cirsium vulgare</i> FACU 2	
				<i>Hypericum perforatum</i> UPL 15	
				<i>Holcus lanatus</i> FAC 5	
Shrub Stratum (0%)		Status	% Cover	<i>Plantago lanceolata</i> FAC 5	
				<i>Chrysanthemum leucanthemum</i> UPL 7	
				Woody Vine Stratum (0%)	
*Percent of dominant species FAC, FACW, or OBL: 0%				Criteria Met: No	
Comments: Grass field in industrial area. Area may have been scraped. Shallow ponding in vicinity may be perched. There is no saturation below 4 inches. Additional herbaceous: <i>Centaurium umbellatum</i> , FAC, 1%.					
					Determination: Upland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-7-14			
Applicant: City of North Plains		County: Washington		Date: 12/7/01			
Investigators: SE/FS		Township: 1N Range: 2W		Section: 6			
Do Normal Circumstances exist on this site?		Yes		Is the area a potential Problem Area? No			
Is this an Atypical Situation?		No					
HYDROLOGY			Primary Indicators		Secondary Indicators		
			Inundated		Ox. rhizospheres		
			Sat. in Upper 12" yes		H2O-stained leaves		
Depth of Surf. H2O Inches			Water Marks		Local Soil Survey		
Depth to Free H2O 0 Inches			Drift Lines		FAC Neutral Test		
Depth to Saturation 0 Inches			Sediment Deposits		Other _____		
			Drainage patterns		Criteria Met: Yes		
SOILS		Mapped Series: Dayton silt loam		Hydric Soil?: Yes			
		Classification: Typic Albaqualfs		Drainage Class: poorly drained			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments	
			Color	abundance/size/contrast			
0-10	10YR 3/1	SCL / C	10YR 3/4	few/fine/distinct		mixed C and SCL	
10-14	10YR 3/1	C	10YR 4/4	common/medium/distinct			
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						Criteria Met: Yes	
VEGETATION							
Tree Stratum (10%)		Status	% Cover	Herbaceous Stratum (20%)		Status	% Cover
<i>Fraxinus latifolia</i> *		FACW	100	<i>Juncus patens</i> *		FACW	35
				<i>Phalaris arundinacea</i> *		FACW	50
				<i>Cirsium vulgare</i>		FACU	15
Shrub Stratum (45%)		Status	% Cover	Woody Vine Stratum (25%)		Status	% Cover
<i>Quercus garryana</i>		UPL	5	<i>Rubus discolor</i> *		FACU	75
<i>Cornus stolonifera</i> *		FACW	75				
<i>Crataegus douglasii</i>		FAC	10				
<i>Corylus cornuta</i>		FACU	10					Rubus ursinus*		FACU	25
*Percent of dominant species FAC, FACW, or OBL: 67%						Criteria Met: Yes	
Comments:							
						Determination: Wetland	



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI	Number: 2453	Sample Site: MK-10F-15
Applicant: City of North Plains	County: Washington	Date: 12/4/01
Investigators: SE/FS	Township: 1N Range: 2W Section: 6	
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No
Is this an Atypical Situation? No		

HYDROLOGY	Primary Indicators	Secondary Indicators
Depth of Surf. H2O Inches	Inundated	Ox. rhizospheres
Depth to Free H2O 2 Inches	Sat. in Upper 12" yes	H2O-stained leaves
Depth to Saturation 0 Inches	Water Marks	Local Soil Survey
	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other _____
	Drainage patterns	Criteria Met: Yes

SOILS	Mapped Series: Amity silt loam	Hydric Soil?: No			
	Classification: Argiaquic Xeric Argialbolls	Drainage Class: somewhat poorly drained			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations Color abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-10	10YR 3/1	SL	10YR 3/4	common/fine/distinct	
10-14	10YR 3/1	SL			

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

	Criteria Met: Yes
--	---

VEGETATION							
Tree Stratum	(0%)	Status	% Cover	Herbaceous Stratum	(100%)	Status	% Cover
				<i>Festuca arundinacea</i> *		FAC-	100
Shrub Stratum	(0%)	Status	% Cover	Woody Vine Stratum	(0%)	Status	% Cover

*Percent of dominant species FAC, FACW, or OBL: 0%	Criteria Met: No
---	--

Comments: Near center of large grass field in broad, shallow swale.	Determination: Upland
--	---



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI	Number: 2453	Sample Site: MK-10F-16
Applicant: City of North Plains	County: Washington	Date: 12/4/01
Investigators: SE/FS	Township: 1N Range: 2W Section: 6	
Do Normal Circumstances exist on this site? Is this an Atypical Situation?	Yes No	Is the area a potential Problem Area? No

HYDROLOGY	Primary Indicators	Secondary Indicators
Depth of Surf. H2O Inches	Inundated	Ox. rhizospheres
Depth to Free H2O 0 Inches	Sat. in Upper 12" yes	H2O-stained leaves
Depth to Saturation 0 Inches	Water Marks	Local Soil Survey
	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other _____
	Drainage patterns	Criteria Met: Yes

SOILS		Mapped Series: Dayton silt loam		Hydric Soil?: Yes		
		Classification: Typic Albaqualfs		Drainage Class: poorly drained		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-10	10YR 3/2	SL				
10-14	10YR 3/1	SL	10YR 3/4	common/medium/distinct		

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

	Criteria Met: Yes
--	---

VEGETATION						
Tree Stratum	(0%)	Status	% Cover	Herbaceous Stratum	(100%)	Status
				<i>Festuca arundinacea</i> *		FAC-
						100
Shrub Stratum	(0%)	Status	% Cover	Woody Vine Stratum	(0%)	Status
						% Cover

*Percent of dominant species FAC, FACW, or OBL: 0%	Criteria Met: No
---	--

Comments: In large grass field at the east end of a broad, shallow swale.	Determination: Upland
---	---



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: North Plains LWI		Number: 2453		Sample Site: MK-10f-17			
Applicant: City of North Plains		County: Washington		Date: 12/4/01			
Investigators: SE/FS		Township: 1N Range: 2W		Section: 6			
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No					
Is this an Atypical Situation? No							
HYDROLOGY		Primary Indicators		Secondary Indicators			
		Inundated		Ox. rhizospheres			
		Sat. in Upper 12"		H2O-stained leaves			
Depth of Surf. H2O Inches		Water Marks		Local Soil Survey			
Depth to Free H2O >15 Inches		Drift Lines		FAC Neutral Test			
Depth to Saturation >15 Inches		Sediment Deposits		Other _____			
		Drainage patterns		Criteria Met: No			
SOILS		Mapped Series: Aloha silt loam		Hydric Soil?: No			
		Classification: Aquic Xerochrepts		Drainage Class: somewhat poorly drained			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments	
			Color	abundance/size/contrast			
0-9	10YR 3/1.5	SCL				till layer	
9-15	10YR 4/1	SCL	10YR 4/6	common/fine/prominent			
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						Criteria Met: Yes	
VEGETATION							
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (100%)		Status	% Cover
				<i>Festuca arundinacea</i> * <i>Triticum aestivum</i> *		FAC-	70
						UPL	30
Shrub Stratum (0%)		Status	% Cover	Woody Vine Stratum (0%)		Status	% Cover
*Percent of dominant species FAC, FACW, or OBL: 0%				Criteria Met: No			
Comments: In large grass field at the east end of a broad, shallow swale.							
						Determination: Upland	

Appendix C

OFWAM Data and Summary Sheets



WETLAND CHARACTERIZATION- WATERSHED SETTING
QUESTIONS 1-14*
OFWAM

Name of Drainage Basin: Lower Willamette

Watershed Name	Square Miles	Average Slope	Stream Flow Modified	Active Diking Upstream	Dominant Land Use (Upstream)	Streams/Water Quality Limited
Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7
McKay Creek	1.1	0-3%	A. tributaries	No	C. agriculture	B. none

Non-Point Sources	Fisheries	S/T/E Fish Species	Wildlife Species	S/T/E Plant or Wildlife Species	Natural Corridor /Fish & Wildlife	Landscape Features/ Both Ends Corridor
Q.8	Q.9	Q.10	Q.11	Q.12	Q.13	Q.14
A. no data available	A, B, C, D, E	Steelhead Trout / <i>Oncorhynchus mykiss</i>	A. migratory birds C. nesting birds	Northwestern pond turtle/ <i>Clemmys marmorata marmorata</i>	A. contiguous natural areas for fish and wildlife	A. large natural habitat areas at both ends

* Except for questions that specifically request information beyond the assessment area, all questions were assessed for those portions of the watershed located within the City of North Plains Urban Growth Boundary.

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Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-1
Project Location:	Washington County	Wetland Type(s):	PEM, POW, PFO
Date(s) of field work:	OFFSITE	Approx. Area (acres):	3.06
Onsite Assessment?:	No	Investigator(s):	SE/FS
Wetland Location:	East of NW Gordon Road, south of North Avenue.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	A	Q-1	A	Q-1	B
Q-2	A	Q-2	A	Q-2	B	Q-2	B	Q-2	B
Q-3	B	Q-3	C	Q-3	B	Q-3	B	Q-3	C
Q-4	C	Q-4	A	Q-4	B	Q-4	C	Q-4	B
Q-5	A	Q-5	B	Q-5	B	Q-5	A	Q-5	A
Q-6	A	Q-6	0	Q-6	C	Q-6	A	Q-6	A
Q-7	A					Q-7	B		
Q-8	B								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	B
Q-2	A	Q-2	A	Q-2	C	Q-2	B
Q-3	A	Q-3	A	Q-3	C	Q-3	C
Q-4	B	Q-4	C	Q-4	B	Q-4	B
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-1
Location:	Washington County	Approx. Area (acres):	3.06
Date:	OFFSITE	Wetland Types(s):	PEM, POW, PFO
Result:	Wetland provides habitat for some wildlife species		
Rationale:	More than one Cowardin class	No adjacent Water Quality limited streams	
	Dominated by woody vegetation	Adjacent land use is primarily agriculture	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is intact		
Rationale:	50% or more of stream is shaded	No adjacent Water Quality Limited streams	
	Stream is in a natural channel	Adjacent land use is primarily agriculture	
	<10% of stream has instream structures	Stream does not contain fish	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is surface flow	Surface water connection to other wetlands	
	Can't determine if wetland floods or ponds	Adjacent land use is primarily agriculture	
	Moderate vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is within 100 year floodplain	Dominated by woody vegetation	
	Can't determine if wetland floods or ponds	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Agriculture upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream not modified	Adjacent land use is primarily agriculture	
	Water not taken out	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Dominated by woody vegetation	
Result:	Wetland has high enhancement potential		
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres	
	Primary water source is surface flow	Wetland buffer is less than 10%	
	Flow into wetland is not restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	No visible hazards to public	Wetland is not limited mobility accessible	
	No access or observation of other habitats		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is considered to be moderately pleasing		
Rationale:	Two Cowardin classes visible	Wetland surrounded by landscaped areas	
	25 - 50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-2
Project Location:	Washington County	Wetland Type(s):	PEM, PFO
Date(s) of field work:	11/29/01	Approx. Area (acres):	1.95
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	East of NW Gordon Road, north of the railroad tracks.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	2	Q-1	B	Q-1	A	Q-1	A	Q-1	A
Q-2	C	Q-2	B	Q-2	B	Q-2	B	Q-2	B
Q-3	C	Q-3	B	Q-3	A	Q-3	B	Q-3	C
Q-4	C	Q-4	A	Q-4	B	Q-4	B	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	A	Q-6	C	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	B		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	B
Q-2	A	Q-2	B	Q-2	C	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	C	Q-4	B	Q-4	B
Q-5B	C	Q-5	B	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-2
Location:	Washington County	Approx. Area (acres):	1.95
Date:	11/29/01	Wetland Types(s):	PEM, PFO
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is impacted or degraded		
Rationale:	25-50% of stream is shaded	No adjacent Water Quality Limited streams	
	Only portions of stream are modified	Adjacent land is mostly developed	
	10-25% of stream has instream structures	Stream does not contain fish	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is surface flow	Surface water connection to other wetlands	
	Can't determine if wetland floods or ponds	Adjacent land is mostly developed	
	High wetland vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is within 100 year floodplain	Herbaceous vegetation, no ponding	
	Can't determine if wetland floods or ponds	Development downslope of wetland	
	Minor restrictions slow down the water	Agriculture upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water not taken out	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has high enhancement potential		
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres	
	Primary water source is surface flow	Wetland buffer is less than 10%	
	Flow into wetland is not restricted	Potentially sensitive to future impacts	
Result:	Wetland has potential for educational use		
Rationale:	Wetland access by landowner permission	Unmaintained public access within 250 feet	
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible	
	No access or observation of other habitats		
Result:	Wetland has the potential to provide recreational activities		
Rationale:	Unmaintained public access within 250 feet	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is considered to be moderately pleasing		
Rationale:	Two Cowardin classes visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-3
Project Location:	Washington County	Wetland Type(s):	PEM, PSS
Date(s) of field work:	11/29/01	Approx. Area (acres):	1.11
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	West of NW 324th Avenue, south of NW Commercial Street.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	C	Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2	B	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	C	Q-3	C	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	C	Q-4	C	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	A	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	B	Q-4	B
Q-5B	C	Q-5	A	Q-5	B	Q-5	A
Q-6	B	Q-6	A	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-3
Location:	Washington County	Approx. Area (acres):	1.11
Date:	11/29/01	Wetland Types(s):	PEM, PSS
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is impacted or degraded		
Rationale:	Less than 25% of stream is shaded	No adjacent Water Quality Limited streams	
	Only portions of stream are modified	Adjacent land is mostly developed	
	<10% of stream has instream structures	Salmon and/or trout present in stream	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland has potential for educational use		
Rationale:	Wetland access by landowner permission	Maintained public access within 250 feet	
	No visible hazards to public	Wetland is limited mobility accessible	
	Public access to other habitats exist		
Result:	Wetland has the potential to provide recreational activities		
Rationale:	Maintained public access within 250 feet	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-4A
Project Location:	Washington County	Wetland Type(s):	PFO
Date(s) of field work:	OFFSITE	Approx. Area (acres):	0.73
Onsite Assessment?:	No	Investigator(s):	SE/FS
Wetland Location:	North of Hwy 26, south of city park.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1		Q-1	A	Q-1	A	Q-1	A
Q-2	A	Q-2		Q-2	B	Q-2	B	Q-2	B
Q-3	C	Q-3		Q-3	B	Q-3	B	Q-3	C
Q-4	C	Q-4		Q-4	B	Q-4	C	Q-4	A
Q-5	A	Q-5		Q-5	A	Q-5	A	Q-5	A
Q-6	A	Q-6		Q-6	C	Q-6	A	Q-6	A
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Fish habitat was not assessed for this wetland
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	B
Q-2	A	Q-2	A	Q-2	C	Q-2	B
Q-3	C	Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	C	Q-4	B	Q-4	B
Q-5B	B	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI		Wetland:	MK-4A
Location:	Washington County	Approx. Area (acres):	0.73	
Date:	OFFSITE	Wetland Types(s):	PFO	
Result:	Wetland provides habitat for some wildlife species			
Rationale:	More than one Cowardin class		No adjacent Water Quality limited streams	
	Dominated by woody vegetation		Adjacent land is mostly developed	
	Less than 0.5 acres of open water		Wetland buffer is between 10% and 40%	
Result:	Fish habitat was not assessed for this wetland			
Rationale:				
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is surface flow		Surface water connection to other wetlands	
	Can't determine if wetland floods or ponds		Adjacent land is mostly developed	
	Moderate vegetation cover		No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control function is intact			
Rationale:	Wetland is within 100 year floodplain		Dominated by woody vegetation	
	Can't determine if wetland floods or ponds		Development downslope of wetland	
	Water has unrestricted flow out of wetland		Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream modified or isolated wetland		Adjacent land is mostly developed	
	Water not taken out		Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams		Dominated by woody vegetation	
Result:	Wetland has high enhancement potential			
Rationale:	Wetland functions are impacted or degraded		Wetland is between 0.5 and 5 acres	
	Primary water source is surface flow		Wetland buffer is between 10% and 40%	
	Water flow is permanently restricted		Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use			
Rationale:	No access allowed to wetland		No access point to wetland exists	
	No visible hazards to public		Wetland is not limited mobility accessible	
	No access or observation of other habitats			
Result:	Wetland is not appropriate or does not provide rec. opportunities			
Rationale:	No access point to wetland exists		Wetland provides habitat for some wildlife	
	No boat launching can be developed		No fishing is allowed	
	No trails or viewing areas exist		No hunting is allowed	
Result:	Wetland is considered to be moderately pleasing			
Rationale:	Two Cowardin classes visible		Wetland surrounded by landscaped areas	
	25 - 50% of wetland can be seen		Natural odors present at wetland	
	Visual detractors present, can't be removed		Continuous traffic and natural noises occur	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-4B
Project Location:	Washington County	Wetland Type(s):	PEM, PSS
Date(s) of field work:	11/29/01	Approx. Area (acres):	2.25
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	Adjacent to McKay Creek, Pacific Street to 314th Avenue.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	C	Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2	B	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	C	Q-3	C	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	C	Q-4	C	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	A	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	A	Q-3	C
Q-4	C	Q-4	A	Q-4	B	Q-4	B
Q-5B	C	Q-5	A	Q-5	B	Q-5	A
Q-6	B	Q-6	A	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland has potential for educational use
Recreation	Wetland provides recreational opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-4B
Location:	Washington County	Approx. Area (acres):	2.25
Date:	11/29/01	Wetland Types(s):	PEM, PSS
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is impacted or degraded		
Rationale:	Less than 25% of stream is shaded	No adjacent Water Quality Limited streams	
	Only portions of stream are modified	Adjacent land is mostly developed	
	<10% of stream has instream structures	Salmon and/or trout present in stream	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland has potential for educational use		
Rationale:	Wetland access by landowner permission	Maintained public access within 250 feet	
	No visible hazards to public	Wetland is limited mobility accessible	
	Public access to other habitats exist		
Result:	Wetland provides recreational opportunities		
Rationale:	Maintained public access within 250 feet	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	Maintained trails, viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-4C
Project Location:	Washington County	Wetland Type(s):	PEM, PFO
Date(s) of field work:	11/29/01	Approx. Area (acres):	6.19
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	Adjacent to McKay Creek, from 314th Ave to Glencoe Road.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	B	Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	B	Q-3	C	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	C	Q-4	C	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	C	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	A	Q-3	C	Q-3	C
Q-4	C	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	A	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland has potential for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-4C
Location:	Washington County	Approx. Area (acres):	6.19
Date:	11/29/01	Wetland Types(s):	PEM, PFO
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is intact		
Rationale:	25-50% of stream is shaded	No adjacent Water Quality Limited streams	
	Stream is in a natural channel	Adjacent land is mostly developed	
	10-25% of stream has instream structures	Salmon and/or trout present in stream	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland has potential for educational use		
Rationale:	Wetland access by landowner permission	No access point to wetland exists	
	No visible hazards to public	Wetland is limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-4D
Project Location:	Washington County	Wetland Type(s):	PEM, POW
Date(s) of field work:	OFFSITE	Approx. Area (acres):	4.38
Onsite Assessment?:	No	Investigator(s):	SE/FS
Wetland Location:	Adjacent to McKay Creek, from Glencoe Road, east to South Avenue.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	C	Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	B	Q-3	C	Q-3	C	Q-3	C
Q-4	B	Q-4	A	Q-4	C	Q-4	C	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	A	Q-3	C
Q-4	C	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	A	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-4D
Location:	Washington County	Approx. Area (acres):	4.38
Date:	OFFSITE	Wetland Types(s):	PEM, POW
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Between 0.5 - 1 acre of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is impacted or degraded		
Rationale:	Less than 25% of stream is shaded	No adjacent Water Quality Limited streams	
	Stream is in a natural channel	Adjacent land is mostly developed	
	10-25% of stream has instream structures	Salmon and/or trout present in stream	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	No visible hazards to public	Wetland is limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	Maintained trails, viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

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Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-4E
Project Location:	Washington County	Wetland Type(s):	PEM, POW
Date(s) of field work:	12/7/01	Approx. Area (acres):	1.43
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	Adjacent to McKay Creek, north of Hwy 26, east of South Avenue.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	C	Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2	B	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	B	Q-3	C	Q-3	C	Q-3	C
Q-4	B	Q-4	A	Q-4	C	Q-4	C	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	A	Q-3	C
Q-4	C	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	A	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-4E
Location:	Washington County	Approx. Area (acres):	1.43
Date:	12/7/01	Wetland Types(s):	PEM, POW
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Between 0.5 - 1 acre of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is impacted or degraded		
Rationale:	Less than 25% of stream is shaded	No adjacent Water Quality Limited streams	
	Only portions of stream are modified	Adjacent land is mostly developed	
	10-25% of stream has instream structures	Salmon and/or trout present in stream	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	No visible hazards to public	Wetland is limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	Maintained trails, viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

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Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-5
Project Location:	Washington County	Wetland Type(s):	PFO, PEM
Date(s) of field work:	OFFSITE	Approx. Area (acres):	13.58
Onsite Assessment?:	No	Investigator(s):	SE/FS
Wetland Location:	South of NW West Union Road to south of NW Highland Court.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	A	Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	B	Q-3	C	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	C	Q-4	C	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	A	Q-3	A	Q-3	C
Q-4	C	Q-4	C	Q-4	B	Q-4	B
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	A	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-5
Location:	Washington County	Approx. Area (acres):	13.58
Date:	OFFSITE	Wetland Types(s):	PFO, PEM
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Wetland's fish habitat function is intact		
Rationale:	50% or more of stream is shaded	No adjacent Water Quality Limited streams	
	Stream is in a natural channel	Adjacent land is mostly developed	
	10-25% of stream has instream structures	Salmon and/or trout present in stream	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Development upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	No visible hazards to public	Wetland is limited mobility accessible	
	No access or observation of other habitats		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	Maintained trails, viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-6
Project Location:	Washington County	Wetland Type(s):	PEM
Date(s) of field work:	12/4/01	Approx. Area (acres):	0.94
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	North of railroad tracks, east of McKay Creek Court.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1		Q-1	A	Q-1	A	Q-1	A
Q-2	C	Q-2		Q-2	B	Q-2	B	Q-2	A
Q-3	C	Q-3		Q-3	A	Q-3	B	Q-3	C
Q-4	C	Q-4		Q-4	B	Q-4	A	Q-4	A
Q-5	B	Q-5		Q-5	A	Q-5	C	Q-5	A
Q-6	B	Q-6		Q-6	C	Q-6	C	Q-6	C
Q-7	A					Q-7	B		
Q-8	C								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Fish habitat was not assessed for this wetland
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	A
Q-2	A	Q-2	B	Q-2	C	Q-2	A
Q-3	B	Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	B	Q-4	B	Q-4	B
Q-5B	B	Q-5	B	Q-5	A	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-6
Location:	Washington County	Approx. Area (acres):	0.94
Date:	12/4/01	Wetland Type(s):	PEM
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is between 10% and 40%	
Result:	Fish habitat was not assessed for this wetland		
Rationale:			
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is surface flow	Surface water connection to other wetlands	
	Can't determine if wetland floods or ponds	Adjacent land is mostly developed	
	High wetland vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is within 100 year floodplain	Herbaceous vegetation, no ponding	
	Can't determine if wetland floods or ponds	Open space downslope of development	
	Flow out of wetland is restricted	Agriculture upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has high enhancement potential		
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres	
	Primary water source is surface flow	Wetland buffer is between 10% and 40%	
	Flow is restricted, but can be restored	Potentially sensitive to future impacts	
Result:	Wetland has potential for educational use		
Rationale:	Wetland is open to the public	Unmaintained public access within 250 feet	
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland has the potential to provide recreational activities		
Rationale:	Unmaintained public access within 250 feet	Wetland provides habitat for some wildlife	
	No boat launching can be developed	Fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is considered to be moderately pleasing		
Rationale:	More than two Cowardin classes are visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-7
Project Location:	Washington County	Wetland Type(s):	PEM, PSS
Date(s) of field work:	12/7/01	Approx. Area (acres):	N/A
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	Ditch line adjacent to railroad tracks, east of McKay Creek.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1		Q-1	A	Q-1	B	Q-1	A
Q-2	A	Q-2		Q-2	B	Q-2	B	Q-2	A
Q-3	B	Q-3		Q-3	B	Q-3	B	Q-3	C
Q-4	C	Q-4		Q-4	B	Q-4	C	Q-4	B
Q-5	B	Q-5		Q-5	B	Q-5	A	Q-5	B
Q-6	B	Q-6		Q-6	C	Q-6	B	Q-6	A
Q-7	A					Q-7	B		
Q-8	B								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Fish habitat was not assessed for this wetland
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1		Q-1	C	Q-1	C	Q-1	B
Q-2	A	Q-2	B	Q-2	C	Q-2	C
Q-3		Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	B	Q-4	B	Q-4	B
Q-5B	B	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-7
Location:	Washington County	Approx. Area (acres):	N/A
Date:	12/7/01	Wetland Types(s):	PEM, PSS
Result:	Wetland provides habitat for some wildlife species		
Rationale:	More than one Cowardin class	No adjacent Water Quality limited streams	
	Dominated by woody vegetation	Adjacent land use is primarily agriculture	
	Less than 0.5 acres of open water	Wetland buffer is between 10% and 40%	
Result:	Fish habitat was not assessed for this wetland		
Rationale:			
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is surface flow	Surface water connection to other wetlands	
	Can't determine if wetland floods or ponds	Adjacent land use is primarily agriculture	
	Moderate vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Dominated by woody vegetation	
	Can't determine if wetland floods or ponds	Agriculture downslope of wetland	
	Water has unrestricted flow out of wetland	Agriculture upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land use is primarily agriculture	
	Water is taken out or isolated wetland	Adjacent zoning is primarily agriculture	
	No adjacent Water Quality Limited streams	Dominated by woody vegetation	
Result:	Wetland has moderate potential for enhancement		
Rationale:	One or more functions lost/not present	Wetland is between 0.5 and 5 acres	
	Primary water source is surface flow	Wetland buffer is between 10% and 40%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	Two Cowardin classes visible	Wetland surrounded by landscaped areas	
	Less than 25% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-8
Project Location:	Washington County	Wetland Type(s):	PEM
Date(s) of field work:	OFFSITE	Approx. Area (acres):	0.40
Onsite Assessment?:	No	Investigator(s):	SE
Wetland Location:	North of NW West Union Road.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1		Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2		Q-2	B	Q-2	B	Q-2	A
Q-3	C	Q-3		Q-3	C	Q-3	C	Q-3	C
Q-4	C	Q-4		Q-4	C	Q-4	A	Q-4	B
Q-5	B	Q-5		Q-5	B	Q-5	C	Q-5	A
Q-6	B	Q-6		Q-6	C	Q-6	B	Q-6	C
Q-7	A					Q-7	B		
Q-8	B								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Fish habitat was not assessed for this wetland
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	B	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	C	Q-3	C
Q-4	C	Q-4	B	Q-4	B	Q-4	C
Q-5B	C	Q-5	C	Q-5	B	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-8
Location:	Washington County	Approx. Area (acres):	0.40
Date:	OFFSITE	Wetland Types(s):	PEM
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Cowardin class with > 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land use is primarily agriculture	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Fish habitat was not assessed for this wetland		
Rationale:			
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Isolated from other wetlands	
	Can't determine if wetland floods or ponds	Adjacent land use is primarily agriculture	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Can't determine if wetland floods or ponds	Agriculture downslope of wetland	
	Flow out of wetland is restricted	Agriculture upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land use is primarily agriculture	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by development	
	>50% of wetland can be seen	Unpleasant odors are present sometimes	
	Visual detractors present, can't be removed	Continuous traffic and natural noises occur	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-9
Project Location:	Washington County	Wetland Type(s):	PEM
Date(s) of field work:	OFFSITE	Approx. Area (acres):	3.25
Onsite Assessment?:	No	Investigator(s):	SE/FS
Wetland Location:	North of NW West Union Road, west of 289th Place.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1		Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2		Q-2	B	Q-2	B	Q-2	A
Q-3	C	Q-3		Q-3	C	Q-3	B	Q-3	C
Q-4	C	Q-4		Q-4	B	Q-4	A	Q-4	B
Q-5	B	Q-5		Q-5	B	Q-5	C	Q-5	A
Q-6	B	Q-6		Q-6	C	Q-6	B	Q-6	C
Q-7	A					Q-7	B		
Q-8	B								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Fish habitat was not assessed for this wetland
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI	Wetland:	MK-9
Location:	Washington County	Approx. Area (acres):	3.25
Date:	OFFSITE	Wetland Types(s):	PEM
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding	Adjacent land use is primarily agriculture	
	Less than 0.5 acres of open water	Wetland buffer is less than 10%	
Result:	Fish habitat was not assessed for this wetland		
Rationale:			
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is precipitation	Surface water connection to other wetlands	
	Can't determine if wetland floods or ponds	Adjacent land use is primarily agriculture	
	Low vegetation cover	No adjacent Water Quality Limited streams	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding	
	Can't determine if wetland floods or ponds	Agriculture downslope of wetland	
	Flow out of wetland is restricted	Agriculture upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream modified or isolated wetland	Adjacent land use is primarily agriculture	
	Water is taken out or isolated wetland	Adjacent zoning is primarily development	
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding	
Result:	Wetland has moderate potential for enhancement		
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres	
	Primary water source is precipitation	Wetland buffer is less than 10%	
	Water flow is permanently restricted	Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	No visible hazards to public	Wetland is not limited mobility accessible	
	Other habitats can be observed not accessed		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by landscaped areas	
	>50% of wetland can be seen	Natural odors present at wetland	
	Visual detractors present, can't be removed	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	North Plains LWI	Wetland:	MK-10f
Project Location:	Washington County	Wetland Type(s):	PEMf
Date(s) of field work:	12/04/01, 1/10/02	Approx. Area (acres):	26.27
Onsite Assessment?:	Yes	Investigator(s):	SE/FS
Wetland Location:	South of NW West Union Road, west of Jackson School Road.		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1		Q-1	B	Q-1	B	Q-1	A
Q-2	C	Q-2		Q-2	C	Q-2	C	Q-2	A
Q-3	C	Q-3		Q-3	C	Q-3	A	Q-3	C
Q-4	C	Q-4		Q-4	A	Q-4	C	Q-4	B
Q-5	B	Q-5		Q-5	B	Q-5	C	Q-5	B
Q-6	B	Q-6		Q-6	C	Q-6	B	Q-6	C
Q-7	A					Q-7	B		
Q-8	B								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Fish habitat was not assessed for this wetland
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	A	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	A	Q-4	C	Q-4	B	Q-4	C
Q-5B	C	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	North Plains LWI		Wetland:	MK-10f
Location:	Washington County	Approx. Area (acres):	26.27	
Date:	12/04/01, 1/10/02		Wetland Types(s):	PEMf
Result:	Wetland provides habitat for some wildlife species			
Rationale:	One Class with less than 5 species	No adjacent Water Quality limited streams		
	Herbaceous vegetation, no ponding	Adjacent land use is primarily agriculture		
	Less than 0.5 acres of open water	Wetland buffer is less than 10%		
Result:	Fish habitat was not assessed for this wetland			
Rationale:				
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is precipitation	Wetland is more than 5 acres in size		
	Wetland does not flood or pond	Adjacent land use is primarily agriculture		
	Low vegetation cover	No adjacent Water Quality Limited streams		
Result:	Wetland's hydrologic control is impacted or degraded			
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding		
	Wetland does not flood or pond	Agriculture downslope of wetland		
	Water has unrestricted flow out of wetland	Agriculture upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream modified or isolated wetland	Adjacent land use is primarily agriculture		
	Water is taken out or isolated wetland	Adjacent zoning is primarily agriculture		
	No adjacent Water Quality Limited streams	Herbaceous vegetation, no ponding		
Result:	Wetland has moderate potential for enhancement			
Rationale:	Wetland functions are impacted or degraded	Wetland is greater than 5 acres		
	Primary water source is precipitation	Wetland buffer is less than 10%		
	Water flow is permanently restricted	Potentially sensitive to future impacts		
Result:	Wetland site is not appropriate for educational use			
Rationale:	No access allowed to wetland	No access point to wetland exists		
	No visible hazards to public	Wetland is not limited mobility accessible		
	No access or observation of other habitats			
Result:	Wetland is not appropriate or does not provide rec. opportunities			
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		
Result:	Wetland is not aesthetically pleasing			
Rationale:	One Cowardin class is visible	Wetland surrounded by development		
	>50% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Some traffic and natural noises are present		

Wetland Characterization -- Field For



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-4A

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape		Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-15		Q-21		Q-29	-	Q-36	A	Q-47	C
1	B	1	/	Streams connected to the Wetland		Q-37	B	Q-48	C
2	A	2	/			Q-38	C	Q-49	B
3	A	3	/	Q	A	Q-39	C	Q-50	B
4	C	4	A	Q-30	-	Q-40	A	Aesthetics	
5	A	Q-22	A	Q-31	-	Public Access to Wetland Site			
Q-16	A	Q-23	A	Q-32	-			Q	A
Q-17	B	Q-24	C	Lakes and Ponds		Q	A	Q-51	N/A
Q-18	A	Q-25	N/A			Q-41	C	Q-52	B
Q-19	A	Q-26	B	Q	A	Q-42	A	Q-53	C
Q-20		Q-27	A	Q-33	-	Q-43	A	Q-54	C
1	A	Q-28	C	Q-34	-	Q-44	C	Q-55	A
2	A			Q-35	-	Q-45	B	Q-56	B
3	A					Q-46	C	Q-57	B
4	C							Q-58	B
5	A								

43 Wetland is adjacent to wetland MK-4B (and hydrologically connected). Ask swate that continues on other side of Hwy. 26, outside project boundary.

Wetland Characterization -- Field Form



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-4B

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape	Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation		
	Q	A	Q	A	Q	A	Q	A	
Q-15		Q-21		Q-29	A	Q-36	B	Q-47	C
1	A	1	/	Streams connected to the Wetland		Q-37	A	Q-48	A
2	A	2	C			Q-38	C	Q-49	B
3	A	3	B	Q	A	Q-39	-	Q-50	B
4	C	4	/	Q-30	B	Q-40	A	Aesthetics	
5	A	Q-22	A	Q-31	C	Public Access to Wetland Site			
Q-16	A	Q-23	C	Q-32	C			Q	A
Q-17	C	Q-24	C	Lakes and Ponds		Q-41	B	Q-52	B
Q-18	B	Q-25	N/A			Q-42	A	Q-53	C
Q-19	B	Q-26	C	Q	A	Q-43	A	Q-54	C
Q-20		Q-27	B	Q-33	C	Q-44	A	Q-55	A
1	A	Q-28	C	Q-34	C	Q-45	A	Q-56	A
2	A			Q-35	B	Q-46	A	Q-57	A
3	A							Q-58	C
4	C								
5	A								

43 Connected on north edge to an unnamed tributary. South side abuts partially undeveloped (forested) residential lots.

Wetland Characterization -- Field Form



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-4C

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape		Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-15		Q-21		Q-29	A	Q-36	B	Q-47	C
1	A	1	✓	Streams connected to the Wetland		Q-37	A	Q-48	C
2	B	2	A			Q-38	C	Q-49	B
3	A	3	✓			Q	A	Q-39	-	Q-50	B
4	C	4	D	Q-30	A	Q-40	A	Aesthetics	
5	A	Q-22	B	Q-31	B	Public Access to Wetland Site			
Q-16	4	Q-23	C	Q-32	B			Q	A
Q-17	C	Q-24	C	Lakes and Ponds		Q-41	B	Q-52	B
Q-18	B	Q-25	N/A			Q-42	A	Q-53	C
Q-19	B	Q-26	C	Q	A	Q-43	A	Q-54	C
Q-20		Q-27	B	Q-33	B	Q-44	B	Q-55	A
1	A	Q-28	C	Q-34	B	Q-45	A	Q-56	A
2	A			Q-35	A	Q-46	C	Q-57	A
3	A							Q-58	C
4	C								
5	A								

#43 Western (southwest tip) end of wetland adjacent to undeveloped open space. Hydrologically connected to associated wetlands (MK-4 series).

Wetland Characterization -- Field For



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-4D

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape	Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation		
	Q	A	Q	A	Q	A	Q	A	
Q-15		Q-21		Q-29	A	Q-36	B	Q-47	C
1	B	1	C	Streams connected to the Wetland		Q-37	A	Q-48	A
2	A	2	A		Q-38	C	Q-49	B	
3	A	3	/		Q	A	Q-39	-	Q-50	B
4	C	A	/	Q-30	A	Q-40	A	Aesthetics	
5	A	Q-22	B	Q-31	C	Public Access to Wetland Site			
Q-16	I	Q-23	C	Q-32	B			Q	A
Q-17	C	Q-24	C	Lakes and Ponds		Q-41	C	Q-52	B
Q-18	B	Q-25	N/A			Q-42	A	Q-53	C
Q-19	B	Q-26	C	Q	A	Q-43	A	Q-54	C
Q-20		Q-27	B	Q-33	B	Q-44	B	Q-55	A
1	A	Q-28	B	Q-34	C	Q-45	B	Q-56	A
2	A			Q-35	A	Q-46	B	Q-57	A
3	A							Q-58	C
4	C								
5	A								

#43 Hydrologically connected to associated wetlands via unnamed tributary of McKay Creek. Wetland is backwater area of said tributary.

Wetland Characterization -- Field For



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-4E

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape	Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation		
	Q	A	Q	A	Q	A	Q	A	
Q-15		Q-21		Q-29	A	Q-36	B	Q-47	C
1	C	1	A	Streams connected to the Wetland	Q-37	A	Q-48	A	
2	A	2	D		Q-38	C	Q-49	B	
3	A	3	/	Q	A	Q-39	-	Q-50	B
4	B	4	/	Q-30	B	Q-40	A	Aesthetics	
5	A	Q-22	A	Q-31	C	Public Access to Wetland Site	Q		A
Q-16	I	Q-23	C	Q-32	B			Q-51		N/A
Q-17	C	Q-24	C	Lakes and Ponds	Q	A	Q-52	B	
Q-18	B	Q-25	N/A		Q-41	C	Q-53	C	
Q-19	B	Q-26	C	Q	A	Q-42	A	Q-54	C
Q-20		Q-27	B	Q-33	C	Q-43	A	Q-55	A
1	A	Q-28	B	Q-34	B	Q-44	B	Q-56	A
2	A			Q-35	B	Q-45	A	Q-57	A
3	A					Q-46	C	Q-58	C
4	C								
5	A								

#43 Wetland is backwater area of unnamed tributary. Hydrologically connected to MK-5 by tributary.

Wetland Characterization -- Field Form



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-5

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape		Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-15		Q-21		Q-29	A	Q-36	B	Q-47	C
1	B	1	✓	Streams connected to the Wetland		Q-37	A	Q-48	A
2	B	2	D			Q-38	C	Q-49	B
3	A	3	✓			Q	A	Q-39	-	Q-50	B
4	B	4	A	Q-30	A	Q-40	A	Aesthetics	
5	A	Q-22	A	Q-31	A	Public Access to Wetland Site			
Q-16	I	Q-23	C	Q-32	B			Q	A
Q-17	C	Q-24	C	Lakes and Ponds		Q-41	C	Q-52	B
Q-18	B	Q-25	N/A			Q-42	A	Q-53	C
Q-19	B	Q-26	C	Q	A	Q-43	A	Q-54	C
Q-20		Q-27	B	Q-33	A	Q-44	C	Q-55	A
1	A	Q-28	C	Q-34	B	Q-45	A	Q-56	A
2	A			Q-35	A	Q-46	C	Q-57	A
3	A							Q-58	C
4	C								
5	A								

43 Wetland is riparian area surrounding unnamed tributary of McKay Creek. Surrounded by agriculture on east, southwest edge bordered by open space.

Wetland Characterization -- Field Form



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-6

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape	Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation		
	Q	A	Q	A	Q	A	Q	A	
Q-15		Q-21		Q-29 -	Q-36	A	Q-47	C	
1	B	1	/	Streams connected to the Wetland	Q-37	B	Q-48	C	
2	A	2	A		Q-38	A	Q-49	A	
3	A	3	/		Q	A	Q-50	B	
4	C	4	/	Q-30	-	Q-40	A	Aesthetics	
5	A	Q-22	B	Q-31	-	Public Access to Wetland Site			
Q-16	A	Q-23	C	Q-32	-		Q	A	
Q-17	B	Q-24	C	Lakes and Ponds	Q	A	Q-51	N/A	
Q-18	B	Q-25	N/A		Q-41	A	Q-52	B	
Q-19	A	Q-26	B	Q	A	Q-42	B	Q-53	C
Q-20		Q-27	B	Q-33	-	Q-43	A	Q-54	C
1	A	Q-28	C	Q-34	-	Q-44	B	Q-55	A
2	A			Q-35	-	Q-45	B	Q-56	A
3	A					Q-46	B	Q-57	A
4	C							Q-58	A
5	A								

#43 Eastern edge is connected to unnamed tributary of McKay Creek.

Wetland Characterization -- Field Form



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-7

Watershed Setting: (Questions 1-14)

See Attached Table

Wetland Structure and Relation to Surrounding Landscape		Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-15		Q-21		Q-29	-	Q-36	A	Q-47	C
1	A	1	/	Streams connected to the Wetland		Q-37	B	Q-48	C
2	C	2	B			Q-38	C	Q-49	B
3	A	3	C			Q	A	Q-39	-	Q-50	B
4	A	4	/	Q-30	-	Q-40	A	Aesthetics	
5	A	Q-22		Q-31	-	Public Access to Wetland Site			
Q-16	2	Q-23	A	Q-32	-			Q	A
Q-17	B	Q-24	B	Lakes and Ponds		Q	A	Q-51	N/A
Q-18	B	Q-25	N/A			Q-41	C	Q-52	B
Q-19	B	Q-26	B			Q	A	Q-42	B
Q-20		Q-27	B	Q-33	-	Q-43	A	Q-54	C
1	A	Q-28	C	Q-34	-	Q-44	B	Q-55	A
2	A			Q-35	-	Q-45	B	Q-56	A
3	A					Q-46	C	Q-57	C
4	C							Q-58	B
5	A								

#43 Wetland is drainage ditch that is connected to McKang Creek via culverts

Wetland Characterization -- Field Form



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-8

Watershed Setting: (Questions 1-14)

See Attached Table

Wetland Structure and Relation to Surrounding Landscape	Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation		
	Q	A	Q	A	Q	A	Q	A	
Q-15		Q-21		Q-29	-	Q-36	B	Q-47	C
1	A	1	/	Streams connected to the Wetland		Q-37	B	Q-48	C
2	C	2	A			Q-38	A	Q-49	B
3	A	3	/	Q	A	Q-39	-	Q-50	B
4	B	4	/	Q-30	-	Q-40	A	Aesthetics	
5	A	Q-22	B	Q-31	-	Public Access to Wetland Site			
Q-16	2	Q-23	C	Q-32	-			Q	A
Q-17	C	Q-24	C	Lakes and Ponds		Q	A	Q-52	C
Q-18	B	Q-25	N/A			Q-41	C	Q-53	C
Q-19	B	Q-26	C	Q	A	Q-42	B	Q-54	C
Q-20		Q-27	B	Q-33	-	Q-43	A	Q-55	B
1	A	Q-28	C	Q-34	-	Q-44	B	Q-56	B
2	A			Q-35	-	Q-45	B	Q-57	A
3	A					Q-46	C	Q-58	C
4	C								
5	A								

#43 Surrounded on N, S & W by agricultural areas.

Wetland Characterization -- Field For



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-9

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape		Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-15		Q-21		Q-29	—	Q-36	B	Q-47	C
1	A	1	/	Streams connected to the Wetland		Q-37	B	Q-48	C
2	B	2	A			Q-38	A	Q-49	B
3	A	3	/			Q	A	Q-39	—	Q-50	B
4	C	4	/	Q-30	—	Q-40	A	Asthetics	
5	A	Q-22	B	Q-31	—	Public Access to Wetland Site			
Q-16	A	Q-23	C	Q-32	—			Q	A
Q-17	B	Q-24	C	Lakes and Ponds		Q	A	Q-52	B
Q-18	B	Q-25	N/A			Q-41	C	Q-53	C
Q-19	B	Q-26	C	Q	A	Q-42	A	Q-54	C
Q-20		Q-27	B	Q-33	—	Q-43	A	Q-55	A
1	A	Q-28	C	Q-34	—	Q-44	B	Q-56	A
2	A			Q-35	—	Q-45	B	Q-57	A
3	A					Q-46	C	Q-58	C
4	C								
5	A								

43 Wetlands in center of agricultural (mowed field) area.

Wetland Characterization -- Field For



Project Name: North Plains Local Wetland Inventory

Wetland Code: MK-10F

Watershed Setting: (Questions 1-14) See Attached Table

Wetland Structure and Relation to Surrounding Landscape		Wetland Habitat		Fisheries Habitat		Wetland Hydrology		Recreation	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-15		Q-21		Q-29	-	Q-36	B	Q-47	C
1	A	1	/	Streams connected to the Wetland		Q-37	C	Q-48	C
2	C	2	A			Q-38	C	Q-49	B
3	A	3	/	Q	A	Q-39	-	Q-50	B
4	A	4	/	Q-30	-	Q-40	A	Aesthetics	
5	A	Q-22	C	Q-31	-	Public Access to Wetland Site			
Q-16	2	Q-23	C	Q-32	-			Q	A
Q-17	A	Q-24	C	Lakes and Ponds		Q	A	Q-51	N/A
Q-18	B	Q-25	N/A			Q-41	C	Q-52	C
Q-19	B	Q-26	C	Q	A	Q-42	A	Q-53	A
Q-20		Q-27	B	Q-33	-	Q-43	A	Q-54	A
1	A	Q-28	C	Q-34	-	Q-44	C	Q-55	A
2	A			Q-35	-	Q-45	B	Q-56	A
3	A					Q-46	C	Q-57	A
4	C							Q-58	C
5	A								

#43 Wetlands in the center of large lot of mowed fescue (pasture grass).

Appendix D

Locally Significant Wetland Determination Sheets



Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-1
Project Location:	Washington County	Approx. Area (acres):	3.06
Date:	OFFSITE	Wetland Types(s):	PEM, POW, PFO

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?	Yes	
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-2
Project Location:	Washington County	Approx. Area (acres):	1.95
Date:	11/29/01	Wetland Types(s):	PEM, PFO

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-3
Project Location:	Washington County	Approx. Area (acres):	1.11
Date:	11/29/01	Wetland Types(s):	PEM, PSS

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-4A
Project Location:	Washington County	Approx. Area (acres):	0.73
Date:	OFFSITE	Wetland Types(s):	PFO

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?	Yes	
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-4B
Project Location:	Washington County	Approx. Area (acres):	2.25
Date:	11/29/01	Wetland Types(s):	PEM, PSS

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-4C
Project Location:	Washington County	Approx. Area (acres):	6.19
Date:	11/29/01	Wetland Types(s):	PEM, PFO

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?	Yes	
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-4D
Project Location:	Washington County	Approx. Area (acres):	4.38
Date:	OFFSITE	Wetland Types(s):	PEM, POW

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-4E
Project Location:	Washington County	Approx. Area (acres):	1.43
Date:	12/7/01	Wetland Types(s):	PEM, POW

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-5
Project Location:	Washington County	Approx. Area (acres):	13.58
Date:	OFFSITE	Wetland Types(s):	PFO, PEM

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?	Yes	
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

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Project Name:	North Plains LWI	Wetland:	MK-6
Project Location:	Washington County	Approx. Area (acres):	0.94
Date:	12/4/01	Wetland Types(s):	PEM

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		No

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Does not satisfy the criteria, Not a Locally Significant Wetland

Locally Significant Wetlands Criteria

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Project Name:	North Plains LWI	Wetland:	MK-7
Project Location:	Washington County	Approx. Area (acres):	N/A
Date:	12/7/01	Wetland Types(s):	PEM, PSS

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		No

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Does not satisfy the criteria, Not a Locally Significant Wetland

Locally Significant Wetlands Criteria

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Project Name:	North Plains LWI	Wetland:	MK-8
Project Location:	Washington County	Approx. Area (acres):	0.4
Date:	OFFSITE	Wetland Types(s):	PEM

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		No

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Does not satisfy the criteria, Not a Locally Significant Wetland

Locally Significant Wetlands Criteria

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Project Name:	North Plains LWI	Wetland:	MK-9
Project Location:	Washington County	Approx. Area (acres):	3.25
Date:	OFFSITE	Wetland Types(s):	PEM

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		No

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Does not satisfy the criteria, Not a Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	North Plains LWI	Wetland:	MK-10f
Project Location:	Washington County	Approx. Area (acres):	26.27
Date:	12/04/01, 1/10/02	Wetland Types(s):	PEMf

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
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)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
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> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
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> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		No

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

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 a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Does not satisfy the criteria, Not a Locally Significant Wetland

Appendix E

Riparian Assessment Forms



Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-1L

On-site: Off-Site:

Reach Length: 700

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 10 feet
 Width: feet
 Width: 100 feet

LWI Wetland Code: MK-1

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Rosa nutkana</i>	<i>Rosa nutkana</i>
<i>Fraxinus latifolia</i>	<i>Rubus discolor</i>

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

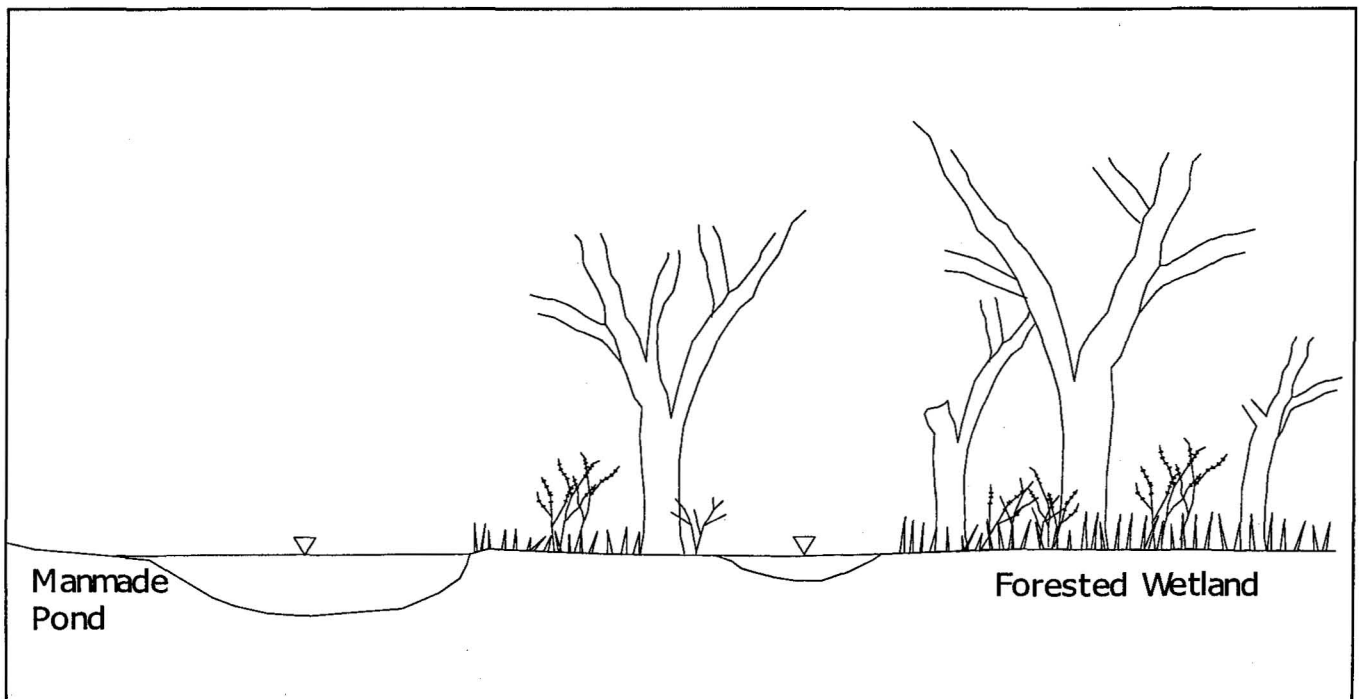
RIPARIAN CODE

R-MK-1L

Date: 12/4/01 Investigators: SE
Dominant tree species: Fraxinus latifolia (see other side for list of species)
Potential tree height (PTH)/Width of riparian area : 75 / 20-40 feet
(Width measured horizontally from edge of water resource)
PTH determined by:
On-site vegetation Reference site Code _____

Comments: East of Gordon Road. Forested wetland that is slowly being encroached upon from the north and south. Creek flows through northern edge of remaining wetland.
There is a landscape nursery and excavated pond north of the creek.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-1L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>13</u>

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE

R-MK-1L

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pts

Score

3

1

3

Total Points:

7

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-1L

THERMAL REGULATION

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- a. Yes 3 pts
- b. No 1 pt

Score

3

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
- b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
- c. Bare ground 1 pt

2

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
- b. No 1 pt

2

Total Points:

7

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-1L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	..... 3 pts	<u>3</u>
b. 2 layers	..... 2 pts	
c. 1 layer, or unvegetated	..... 1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	
c. Bare ground	..... 1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	..... 3 pts	<u>1</u>
b. No	..... 1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	..... 3 pts	<u>3</u>
b. Between 10% and 40%	..... 2 pts	
c. Less than 10%	..... 1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-1L

	Score
17. Is surface water present throughout the year?	
a. Yes 3 pts	
b. No 1 pt	
	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?	
a. Yes 3 pts	
b. No 1 pt	
	<u>3</u>
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?	
a. Less than 25% 3 pts	
b. Between 25% and 75% 2 pts	
c. Greater than 75% 1 pt	
	<u>2</u>
Total Points:	<u>19</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/4/01</u>	Riparian Code:	<u>R-MK-1R</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
		Reach Length:	<u>700</u>
Investigators:	<u>SE</u>	Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>10</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>100</u> feet
LWI Wetland Code:	<u>MK-1</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture:	<input type="checkbox"/>	Roads:	<input checked="" type="checkbox"/>
Commercial/Indus.:	<input checked="" type="checkbox"/>	Undeveloped:	<input type="checkbox"/>
Residential:	<input type="checkbox"/>	Forestry:	<input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Rosa nutkana</i>	<i>Rosa nutkana</i>
<i>Fraxinus latifolia</i>	<i>Rubus discolor</i>

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

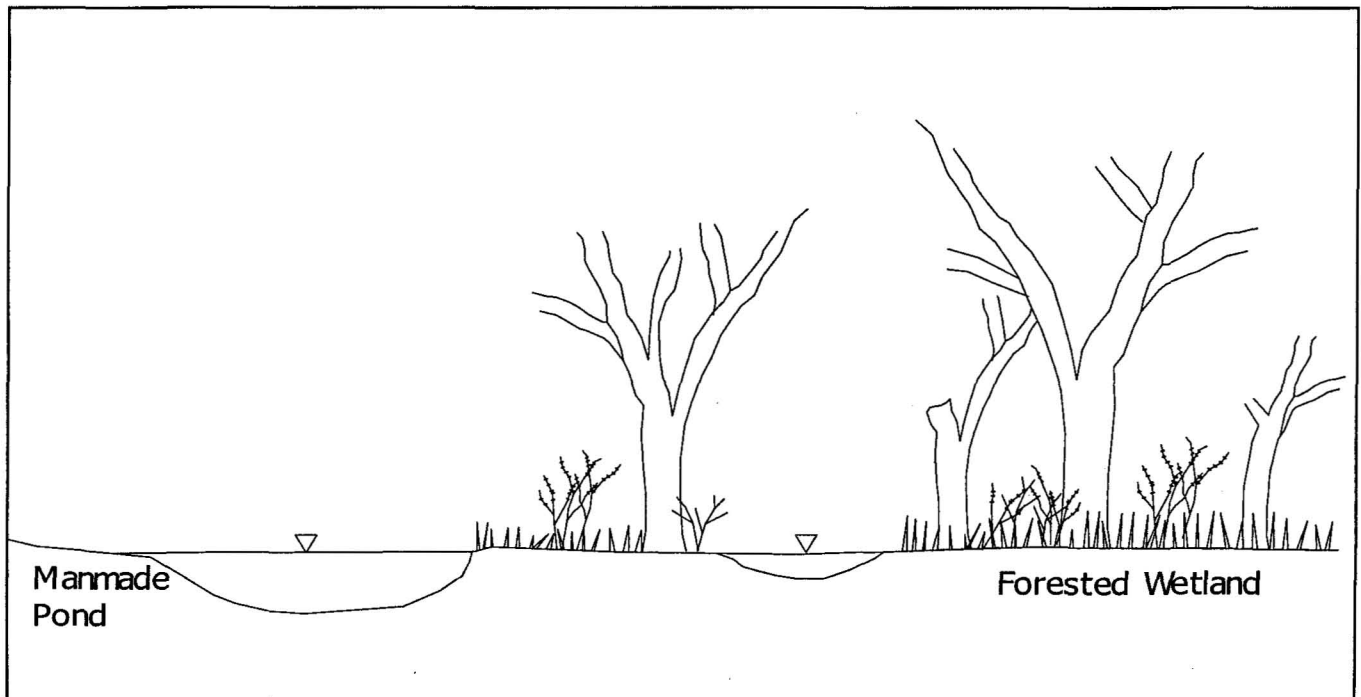
RIPARIAN CODE

R-MK-1R

Date: 12/4/01 Investigators: SE
Dominant tree species: Fraxinus latifolia (see other side for list of species)
Potential tree height (PTH)/Width of riparian area : 75 / 10-75 feet
(Width measured horizontally from edge of water resource)
PTH determined by:
On-site vegetation Reference site Code _____

Comments: East of Gordon Road. Forested wetland that is slowly being encroached upon from the north and south. Creek flows through northern edge of remaining wetland.
There is a landscape nursery and excavated pond north of the creek.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-1R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pt	
Total Points:		<u>14</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-1R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- | | | | | |
|--------|-------|-------|--|---|
| a. Yes | | 3 pts | \| | 3 |
| b. No | | 1 pt | | |

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- | | | | | |
|--------------------------------------|-------|-------|--|---|
| a. Yes | | 3 pts | \| | 3 |
| b. No or no flood prone area present | | 1 pt | | |

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- | | | | | |
|--------|-------|-------|--|---|
| a. No | | 3 pts | \| | 3 |
| b. Yes | | 1 pt | | |

Total Points: 9

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE
R-MK-1R

	Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
10. What is the dominant vegetation layer in the riparian area?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>3</u>
c. Bare ground 1 pt	
11. Does woody vegetation hang over the edge of the water?	
a. Yes 2 pts	<u>2</u>
b. No 1 pts	
Total Points:	<u>8</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-1R

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>3</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-1R

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	
b. No	1 pt	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	
b. Between 25% and 75%	2 pts	<u>3</u>
c. Greater than 75%	1 pt	
Total Points:		<u>21</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-2L

On-site: Off-Site:

Reach Length: 750

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 12 feet
 Width: _____ feet
 Width: _____ feet

LWI Wetland Code: MK-3

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

- Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Salix sp.</i>	<i>Daucus carota</i>
<i>Populus trichocarpa</i>	<i>Cirsium arvense</i>
<i>Fraxinus latifolia</i>	<i>Cirsium vulgare</i>
<i>Rosa pisocarpa</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

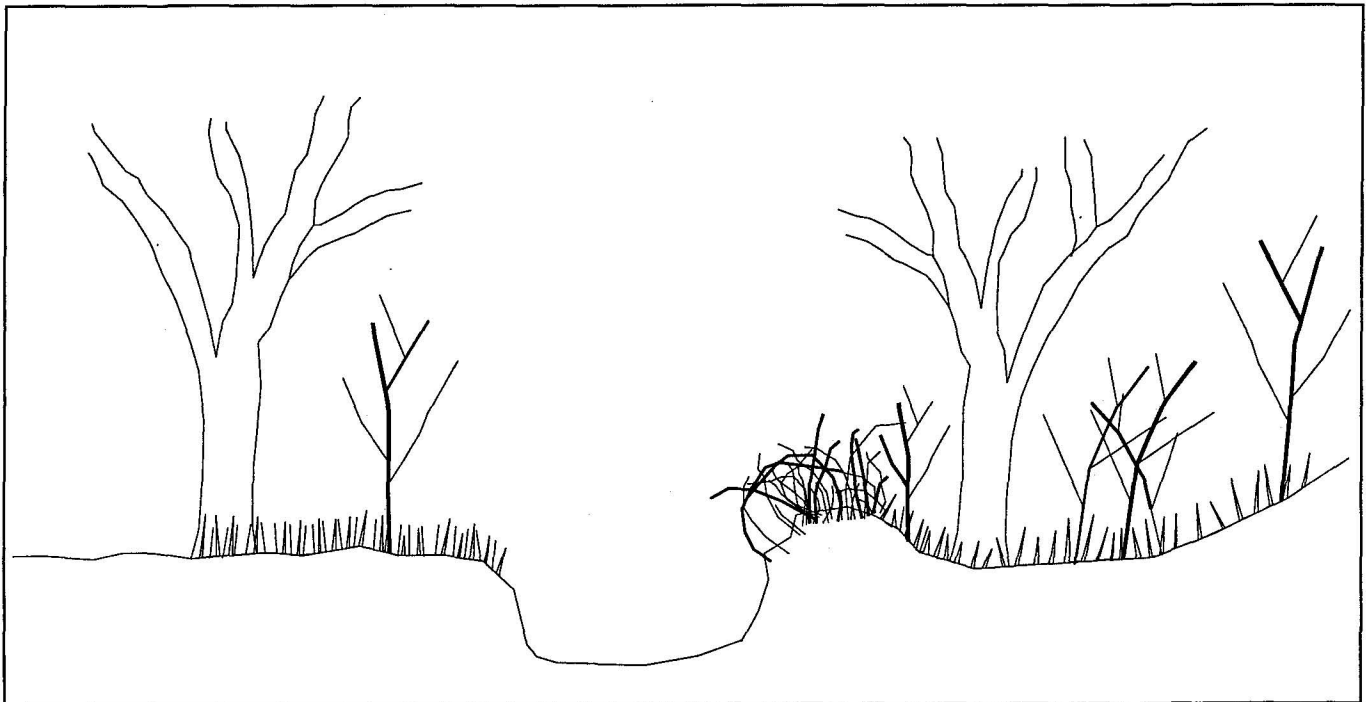
RIPARIAN CODE

R-MK-2L

Date: <u>12/4/01</u>	Investigators: <u>SE</u>
Dominant tree species: <u>Populus trichocarpa</u> (see other side for list of species)	
Potential tree height (PTH)/Width of riparian area : <u>120 / 5-10</u> feet (Width measured horizontally from edge of water resource)	
PTH determined by:	
On-site vegetation <input type="checkbox"/>	Reference site <input checked="" type="checkbox"/> Code <u>R-MK-2R</u>

Comments: Developed on left side right to edge of stream Located south of Commercial Street, creek flows parallel to street for about 150 feet leaving a very narrow riparian area on left side. Riparian forested wetland area located on right side.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-2L

WATER QUALITY

	Score	
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%) 3 pts		
b. Between 10:1 (10%) and 5:1 (20%) 2 pts	<u>3</u>	
c. Greater than 5:1 (20%) 1 pt		
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>2</u>	
c. Bare ground 1 pt		
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>2</u>	
c. Bare ground 1 pt		
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10% 3 pts		
b. Between 10% and 25% 2 pts	<u>2</u>	
c. Greater than 25% 1 pt		
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate 2 pts	<u>2</u>	
b. High, severe, very high 1 pts		
Total Points:	<u>11</u>	

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-2L

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
- b. No 1 pt

Score

1

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
- b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
- b. Yes 1 pt

1

Total Points:

3

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

LOW

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-2L

THERMAL REGULATION

	Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?	
a. Yes 3 pts	<u>1</u>
b. No 1 pt	
10. What is the dominant vegetation layer in the riparian area?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	
c. Bare ground 1 pt	
11. Does woody vegetation hang over the edge of the water?	
a. Yes 2 pts	<u>2</u>
b. No 1 pt	
Total Points:	<u>5</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-2L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>2</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-2L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	<u>2</u>
b. Between 25% and 75%	2 pts	
c. Greater than 75%	1 pt	
Total Points:		<u>16</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/4/01</u>	Riparian Code:	<u>R-MK-2R</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Reach Length:			<u>750</u>
Investigators:	<u>SE</u>	Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>12</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>25 to 100</u> feet
LWI Wetland Code:	<u>MK-3</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Salix sp.</i>	<i>Daucus carota</i>
<i>Populus trichocarpa</i>	<i>Cirsium arvense</i>
<i>Fraxinus latifolia</i>	<i>Cirsium vulgare</i>
<i>Rosa pisocarpa</i>	
<i>Spiraea douglasii</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-2R

Date: 12/4/01 Investigators: SE

Dominant tree species: Populus trichocarpa (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 120 / 10-75 feet

(Width measured horizontally from edge of water resource)

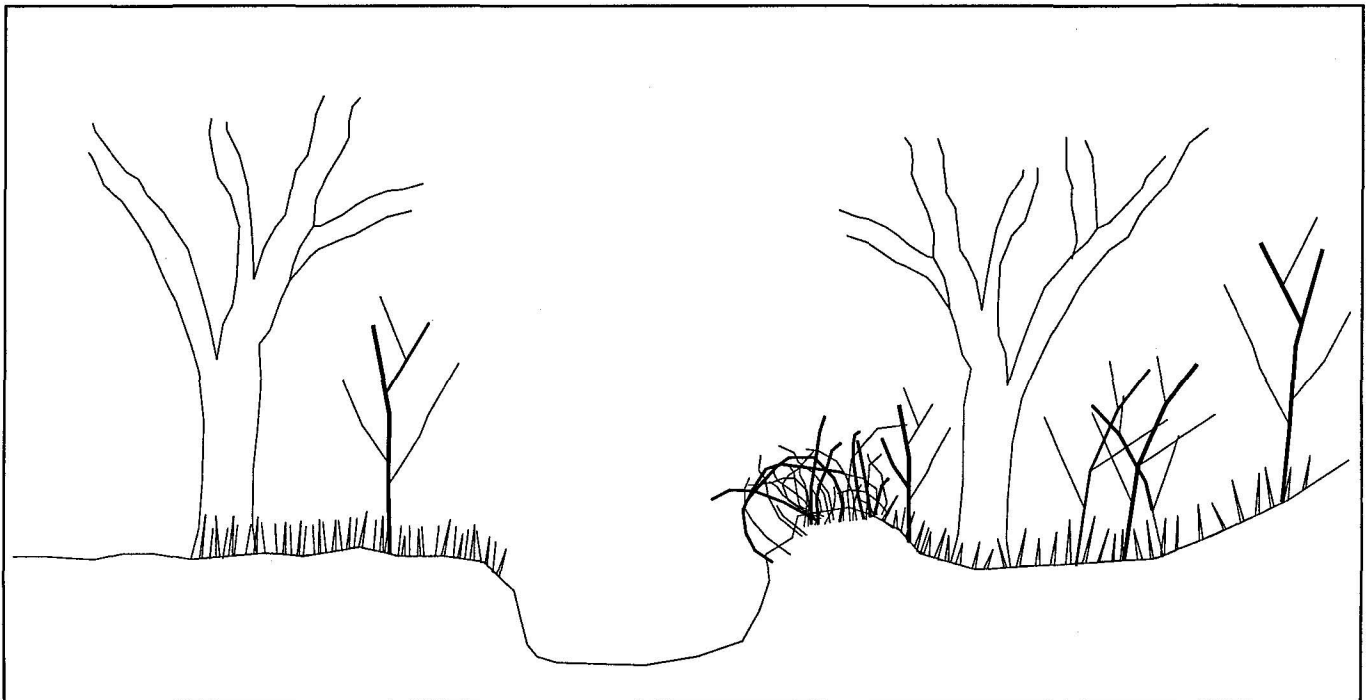
PTH determined by:

On-site vegetation

Reference site Code _____

Comments: Riparian area located on right side. Located south of Commercial Street, creek flows parallel to street for about 150 feet leaving a very narrow riparian area on left side.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-2R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>2</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>11</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-2R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

3

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

1

Total Points:

5

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-2R

THERMAL REGULATION

	Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?	
a. Yes 3 pts	<u>1</u>
b. No 1 pt	
10. What is the dominant vegetation layer in the riparian area?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	
c. Bare ground 1 pt	
11. Does woody vegetation hang over the edge of the water?	
a. Yes 2 pts	<u>2</u>
b. No 1 pt	
Total Points:	<u>5</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-2R

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	..... 3 pts	<u>2</u>
b. 2 layers	..... 2 pts	
c. 1 layer, or unvegetated	..... 1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	
c. Bare ground	..... 1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	..... 3 pts	<u>1</u>
b. No	..... 1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	..... 3 pts	<u>3</u>
b. Between 10% and 40%	..... 2 pts	
c. Less than 10%	..... 1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-2R

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	<u>2</u>
b. Between 25% and 75%	2 pts	
c. Greater than 75%	1 pt	
Total Points:		<u>18</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-3L

On-site: Off-Site:

Reach Length: 620

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 10 feet
 Width: _____ feet
 Width: _____ feet

LWI Wetland Code: N/A

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Salix lasiandra</i>	<i>Daucus carota</i>
	<i>Rubus discolor</i>
	<i>Cirsium vulgare</i>
	<i>Juncus effusus</i>
	<i>Trifolium pratense</i>

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-3L

Date: 12/4/01 **Investigators:** SE

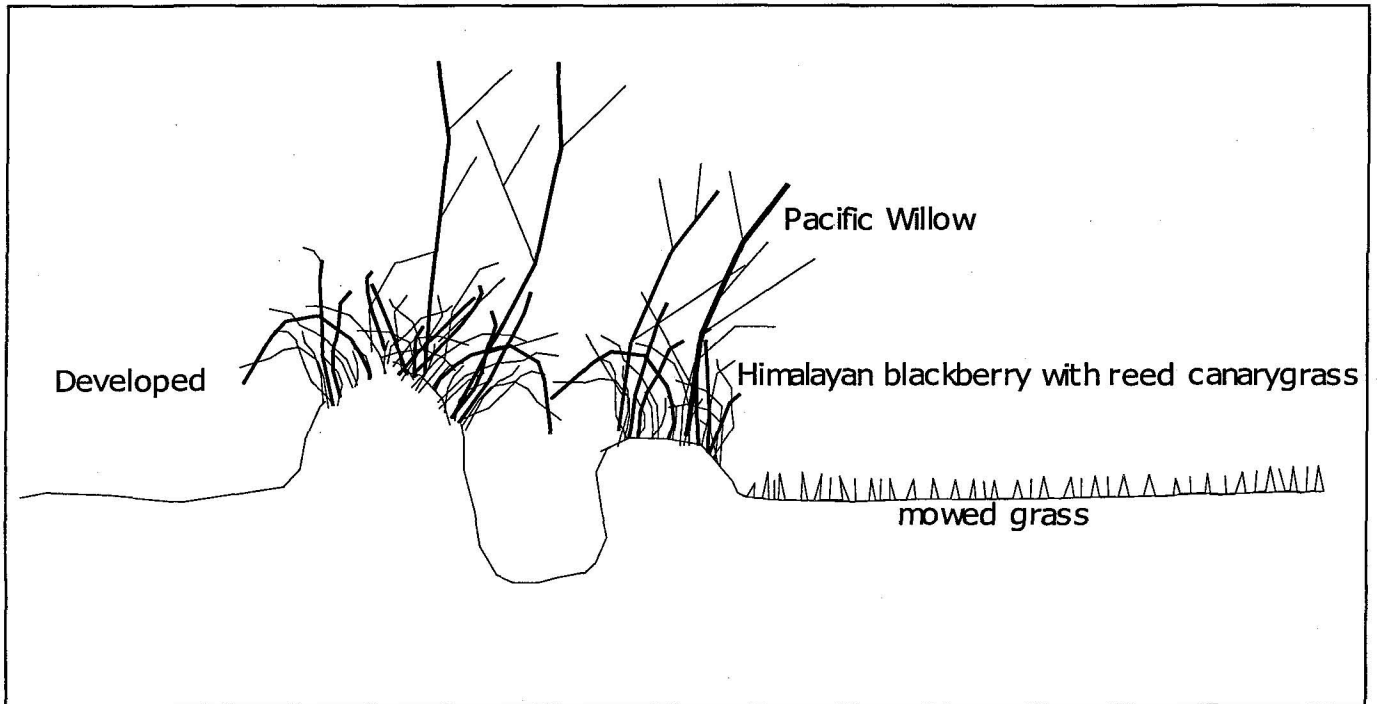
Dominant tree species: Populus trichocarpa (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 120 / 10-25 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code R-MK-2R

Comments: Creek parallels 321st Street upstream from this location, for about 175 to 200 feet, before 90 degree bend to the east. Mound of side cast material is adjacent to left side of creek, road bed on the right.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-3L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	3
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	3
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	2
b. High, severe, very high	1 pts	
Total Points:		14

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-3L

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
- b. No 1 pt

Score

1

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
- b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
- b. Yes 1 pt

1

Total Points:

3

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

LOW

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-3L

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	3 pts	3
b. No	1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	2
b. No	1 pt	
Total Points:		8

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-3L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	..... 3 pts	<u>2</u>
b. 2 layers	..... 2 pts	
c. 1 layer, or unvegetated	..... 1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	
c. Bare ground	..... 1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	..... 3 pts	<u>1</u>
b. No	..... 1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	..... 3 pts	<u>3</u>
b. Between 10% and 40%	..... 2 pts	
c. Less than 10%	..... 1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-3L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	<u>1</u>
b. Between 25% and 75%	2 pts	
c. Greater than 75%	1 pt	
Total Points:		<u>16</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-3R

On-site: Off-Site:

Reach Length: 620

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 10 feet
 Width: _____ feet
 Width: _____ feet

LWI Wetland Code: N/A

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Salix lasiandra</i>	<i>Daucus carota</i>
	<i>Rubus discolor</i>
	<i>Cirsium vulgare</i>
	<i>Juncus effusus</i>
	<i>Trifolium pratense</i>

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-3R

Date: 12/4/01 **Investigators:** SE

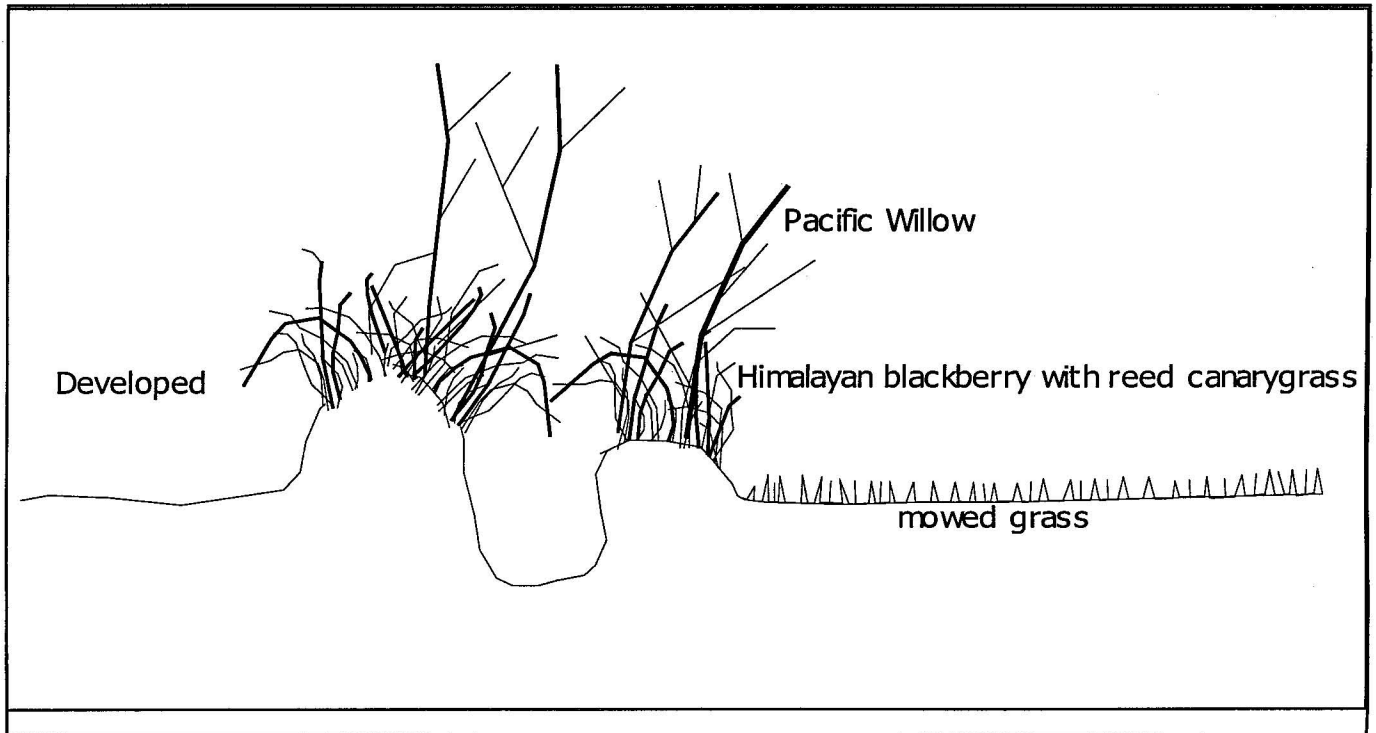
Dominant tree species: Populus trichocarpa (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 120 / 10-120 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code R-MK-2R

Comments: Creek parallels 321st Street upstream from this location, for about 175 to 200 feet, before 90 degree bend to the east. Mound of side cast material is adjacent to left side of creek, road bed on the right.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-3R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pt	
Total Points:		<u>14</u>

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE
R-MK-3R

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

Score

- | | | | | |
|--------|-------|-------|--|---|
| a. Yes | | 3 pts | \| | 1 |
| b. No | | 1 pt | | |

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- | | | | | |
|--------------------------------------|-------|-------|--|---|
| a. Yes | | 3 pts | \| | 1 |
| b. No or no flood prone area present | | 1 pt | | |

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- | | | | | |
|--------|-------|-------|--|---|
| a. No | | 3 pts | \| | 1 |
| b. Yes | | 1 pts | | |

Total Points: 3

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **LOW**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE
R-MK-3R

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	<u>3</u>
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pt	
Total Points:		<u>8</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-3R

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>2</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>2</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-3R

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>1</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>1</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>15</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: MEDIUM

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION	
Date: <u>12/4/01</u>	Riparian Code: <u>R-MK-4L</u>
On-site: <input checked="" type="checkbox"/> Off-Site: <input type="checkbox"/>	Reach Length: <u>280</u>
Investigators: <u>SE</u>	Hydrologic Basin: <u>McKay Creek</u>

WATER RESOURCE INFORMATION	
Water Resource: Stream/River: <input checked="" type="checkbox"/>	Width: <u>25</u> feet
Lake/Pond: <input type="checkbox"/>	Width: _____ feet
Wetland: <input type="checkbox"/>	Width: _____ feet
LWI Wetland Code: <u>MK-4B</u>	
Water present year-round: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are salmonids present in the adjacent water resource? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is the water resource listed for temperature on DEQ's 303(d) list: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: <input type="checkbox"/>	Roads: <input type="checkbox"/>
Commercial/Indus.: <input type="checkbox"/>	Undeveloped: <input checked="" type="checkbox"/>
Residential: <input checked="" type="checkbox"/>	Forestry: <input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Salix lasiandra</i>	<i>Rubus discolor</i>
<i>Salix scouleriana</i>	
<i>Crataegus monogyna</i>	
<i>Salix babylonica</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4L

Date: 12/4/01 **Investigators:** SE

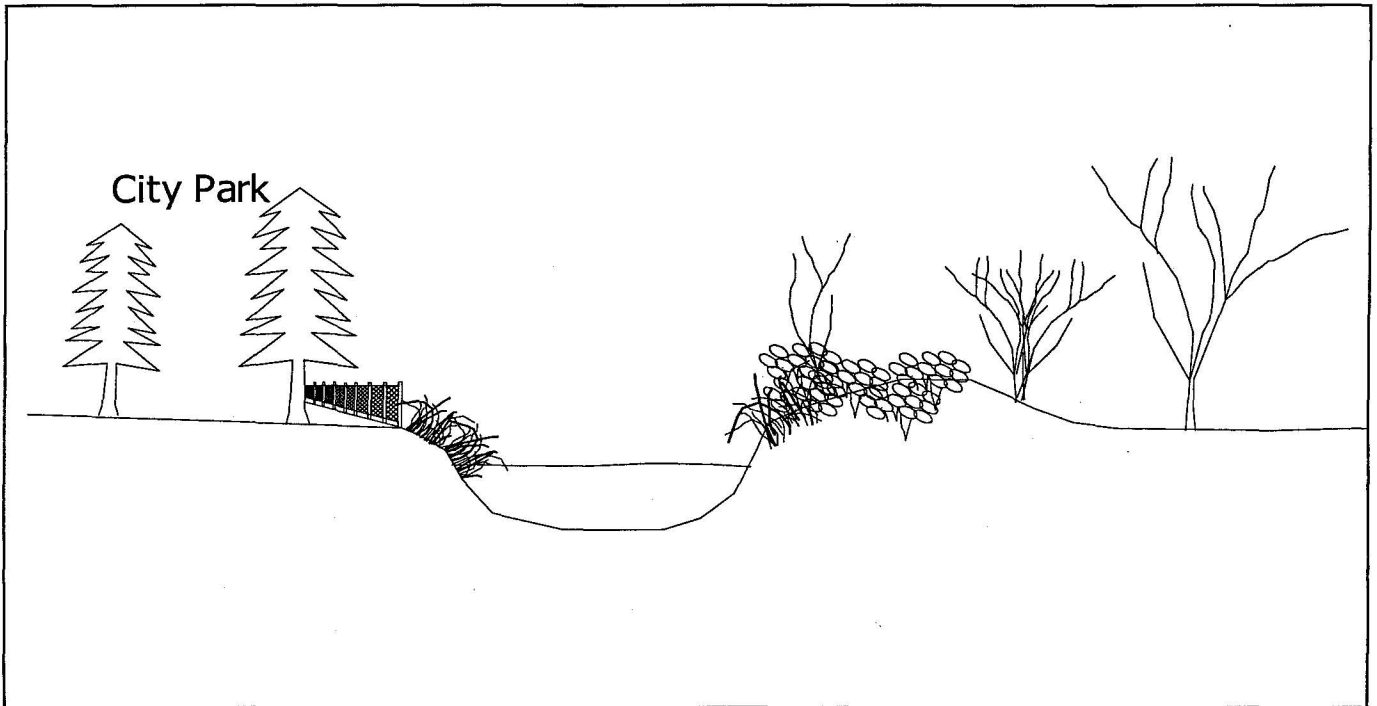
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 10 **feet**
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code R-MK-6R

Comments: South of Pacific Street. Creek flows beside city park. Scattered willow shrubs in reed canary grass and blackberry. There is erosion fabric along the right creek bank.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WATER QUALITY

RIPARIAN CODE
R-MK-4L

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>12</u>

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4L

FLOOD MANAGEMENT

	Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?	
a. Yes 3 pts	<u>1</u>
b. No or no flood prone area present 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?	
a. No 3 pts	<u>3</u>
b. Yes 1 pt	
Total Points:	<u>7</u>

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE
R-MK-4L

	Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?	
a. Yes 3 pts	<u>1</u>
b. No 1 pt	
10. What is the dominant vegetation layer in the riparian area?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>2</u>
c. Bare ground 1 pt	
11. Does woody vegetation hang over the edge of the water?	
a. Yes 2 pts	<u>1</u>
b. No 1 pt	
Total Points:	<u>4</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **LOW**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-4L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>1</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>1</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>1</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	
b. No	1 pt	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	
b. Between 25% and 75%	2 pts	<u>1</u>
c. Greater than 75%	1 pt	
Total Points:		<u>11</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **LOW**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/4/01</u>	Riparian Code:	<u>R-MK-4R</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Reach Length:			<u>280</u>
Investigators:	<u>SE</u>	Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>25</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>50-100</u> feet
LWI Wetland Code:	<u>MK-4B</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

- | | |
|--|--|
| Agriculture: <input type="checkbox"/> | Roads: <input type="checkbox"/> |
| Commercial/Indus.: <input type="checkbox"/> | Undeveloped: <input checked="" type="checkbox"/> |
| Residential: <input checked="" type="checkbox"/> | Forestry: <input type="checkbox"/> |

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Rubus discolor</i>	<i>Phalaris arundinacea</i>
<i>Salix lasiandra</i>	<i>Rubus discolor</i>
<i>Salix scouleriana</i>	
<i>Crataegus monogyna</i>	
<i>Salix babylonica</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4R

Date: 12/4/01 Investigators: SE

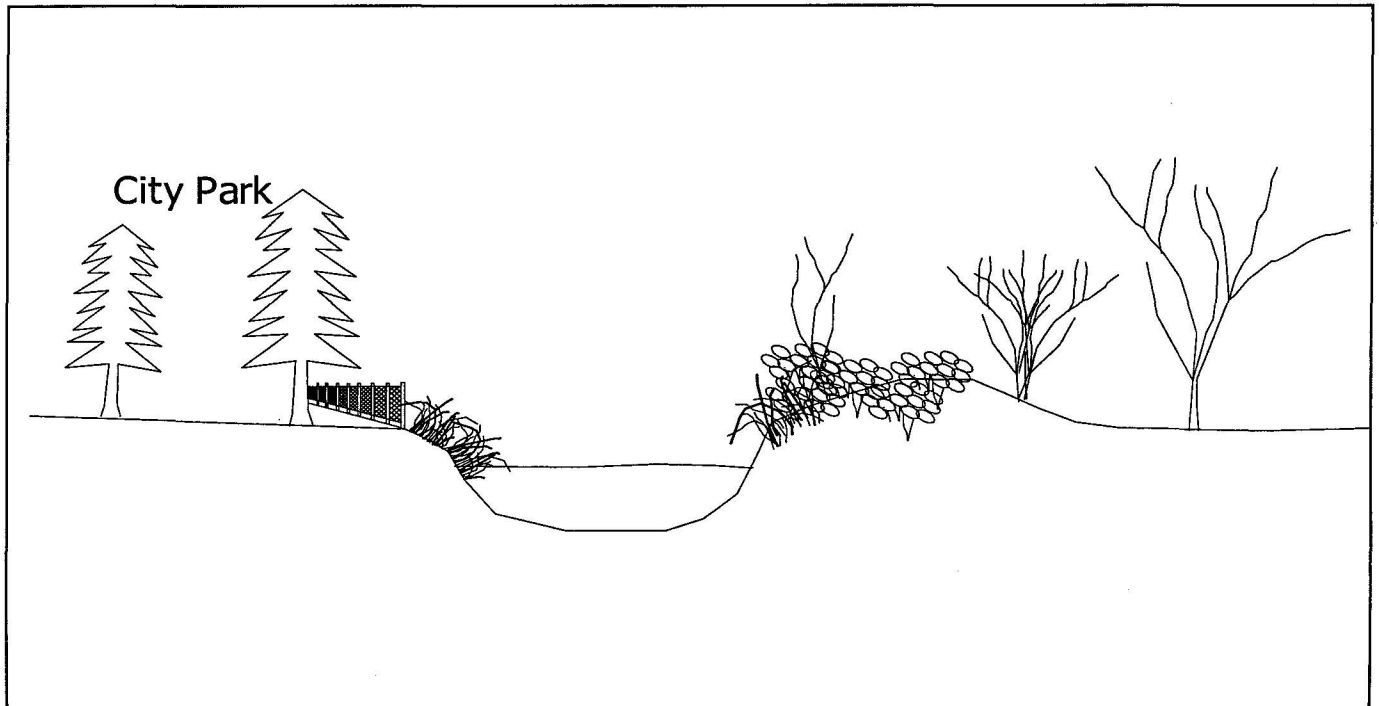
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 10-20 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code R-MK-6R

Comments: South of Pacific Street. Creek flows beside city park. Scattered willow shrubs in reed canary grass and blackberry. There is erosion fabric along the right creek bank.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>12</u>

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

3

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

3

Total Points:

7

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4R

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	3 pts	1
b. No	1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	2
c. Bare ground	1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	1
b. No	1 pts	
Total Points:		4

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **LOW**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-4R

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>2</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>1</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-4R

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	
b. No	..... 1 pt	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	
b. Between 25% and 75%	..... 2 pts	<u>2</u>
c. Greater than 75%	..... 1 pt	
Total Points:		<u>17</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 11/29/01

Riparian Code: R-MK-5L

On-site: Off-Site:

Reach Length: 460

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 25 feet
 Width: feet
 Width: 75 feet

LWI Wetland Code: MK-4B

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Salix lasiandra</i>	<i>Phalaris arundinacea</i>
<i>Rosa pisocarpa</i>	<i>Lemna minor</i>
<i>Solanum dulcamara</i>	<i>Solanum dulcamara</i>
<i>Salix piperi</i>	<i>Rubus discolor</i>
<i>Fraxinus latifolia</i>	<i>Rosa pisocarpa</i>
<i>Rubus discolor</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5L

Date: 11/29/01 **Investigators:** SE

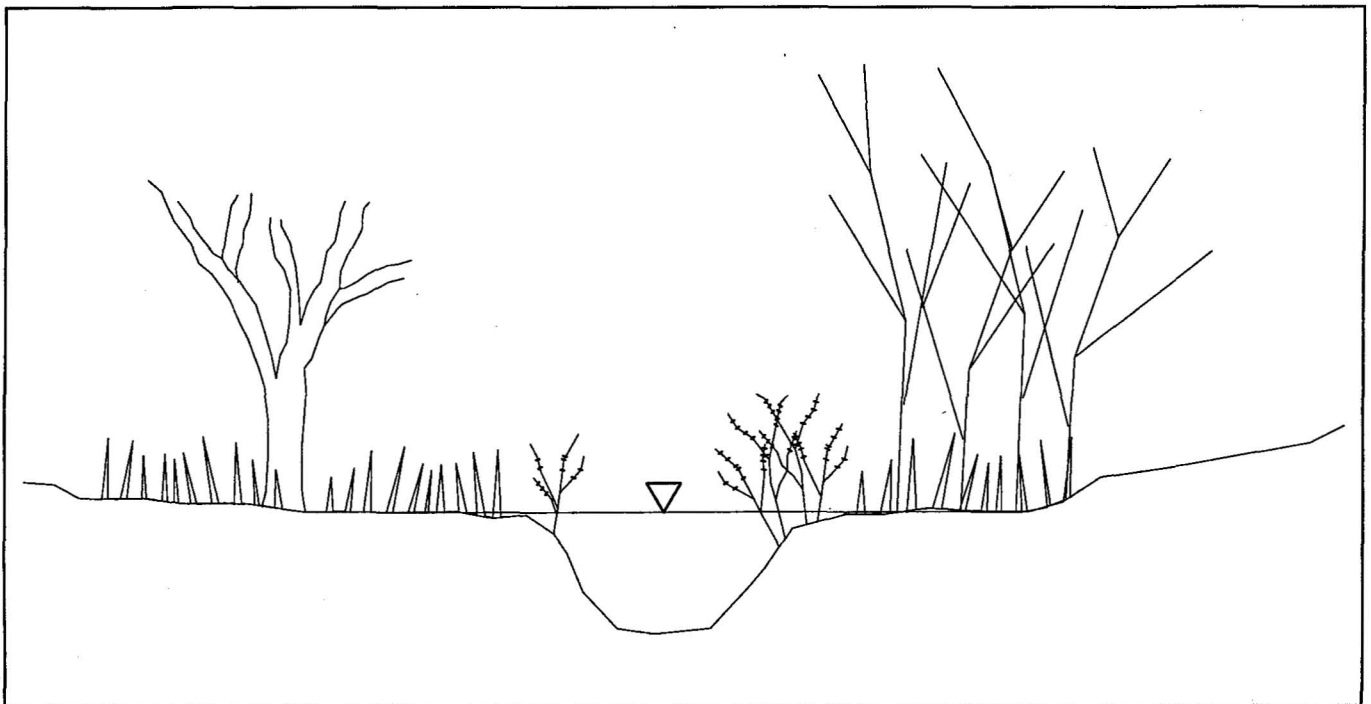
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 10-20 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code R-MK-6L

Comments: Somewhat nice area, active horse pasture however. Creek presently at overbank stage. Actual creek profile is unknown. Left and right sides have the same characteristic.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-5L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>1</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>11</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5L

FLOOD MANAGEMENT

		Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?		
a. Yes	..... 3 pts	<u>1</u>
b. No or no flood prone area present	..... 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?		
a. No	..... 3 pts	<u>3</u>
b. Yes	..... 1 pts	
Total Points:		<u>7</u>

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5L

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pt	
Total Points:		<u>7</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-5L

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>2</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>2</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>18</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: MEDIUM

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	11/29/01	Riparian Code:	R-MK-5R
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Investigators:	SE	Reach Length:	460
		Hydrologic Basin:	McKay Creek

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: 25 feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: 75 feet
LWI Wetland Code:	MK-4B		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture:	<input checked="" type="checkbox"/>	Roads:	<input type="checkbox"/>
Commercial/Indus.:	<input type="checkbox"/>	Undeveloped:	<input type="checkbox"/>
Residential:	<input checked="" type="checkbox"/>	Forestry:	<input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Salix lasiandra</i>	<i>Phalaris arundinacea</i>
<i>Rosa pisocarpa</i>	<i>Lemna minor</i>
<i>Solanum dulcamara</i>	<i>Solanum dulcamara</i>
<i>Salix piperi</i>	<i>Rubus discolor</i>
<i>Fraxinus latifolia</i>	<i>Rosa pisocarpa</i>
<i>Rubus discolor</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5R

Date: 11/29/01 **Investigators:** SE

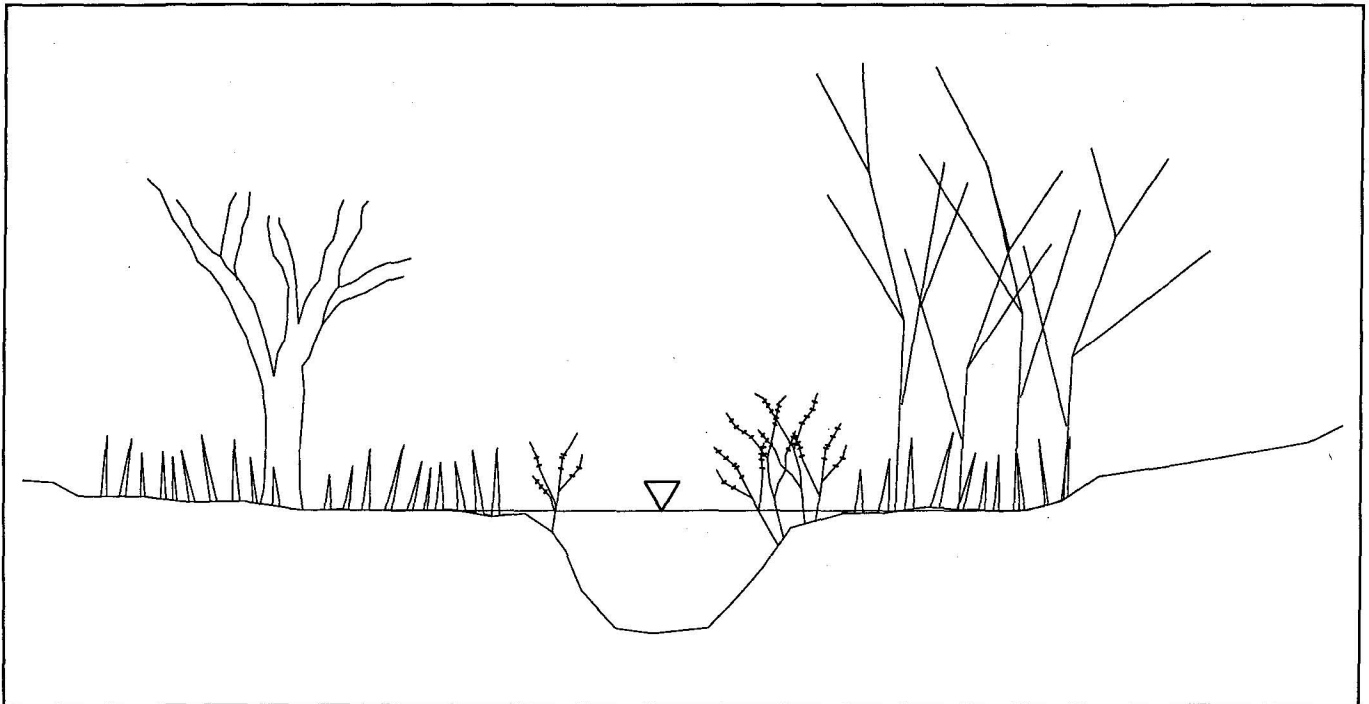
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation **Reference site** **Code** R-MK-6R

Comments: Somewhat nice area, active horse pasture however. Creek presently at overbank stage. Actual creek profile is unknown. Left and right sides have the same characteristic.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5R

WATER QUALITY

	Score	
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%) 3 pts		
b. Between 10:1 (10%) and 5:1 (20%) 2 pts	3	
c. Greater than 5:1 (20%) 1 pt		
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	2	
c. Bare ground 1 pt		
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	3	
c. Bare ground 1 pt		
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10% 3 pts		
b. Between 10% and 25% 2 pts	1	
c. Greater than 25% 1 pt		
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate 2 pts	2	
b. High, severe, very high 1 pt		
Total Points:	11	

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

3

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

3

Total Points:

7

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-5R

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	2
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	2
b. No	..... 1 pt	
Total Points:		7

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE

R-MK-5R

12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?
- a. More than 2 layers 3 pts
 - b. 2 layers 2 pts
 - c. 1 layer, or unvegetated 1 pt
13. What is the dominant vegetation layer in the riparian area?
- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
 - b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
 - c. Bare ground 1 pt
14. Does woody vegetation hang over the edge of the water?
- a. Yes 2 pts
 - b. No 1 pt
15. Is large woody debris present within the riparian area?
- a. Yes 3 pts
 - b. No 1 pt
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?
- a. Greater than 40% 3 pts
 - b. Between 10% and 40% 2 pts
 - c. Less than 10% 1 pt

Score

2

2

2

1

3

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-5R

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>2</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>18</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-6L

On-site: Off-Site:

Reach Length: 590

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 15 feet
 Width: feet
 Width: 125 to 200 feet

LWI Wetland Code: MK-4C

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Salix lasiandra</i>	<i>Rubus discolor</i>
<i>Populus trichocarpa</i>	<i>lawn</i>

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6L

Date: 12/4/01 **Investigators:** SE

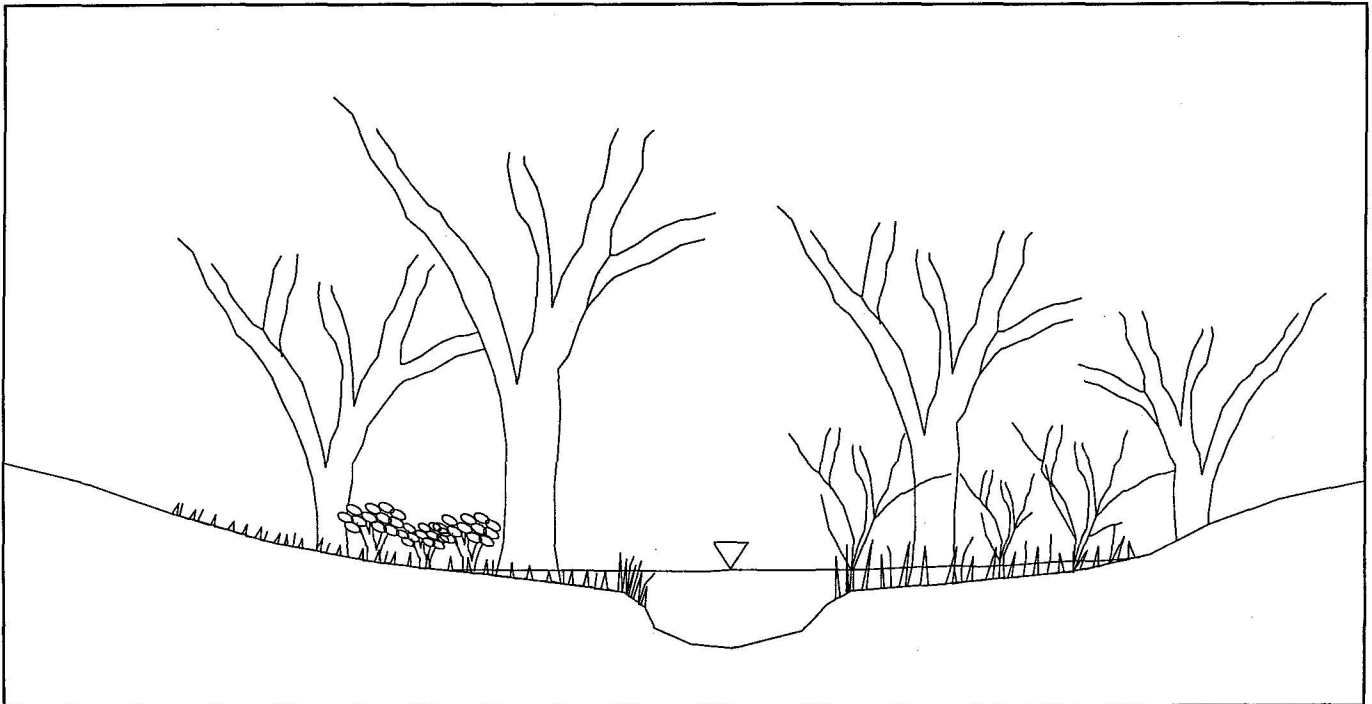
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 25-50 **feet**
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation **Reference site** **Code** _____

Comments: Nice forested wetland east of NW 314th Avenue. West end of left side is in a residential yard and herbaceous cover is primarily mowed lawn.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	3
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	3
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	2
b. High, severe, very high	1 pt	
Total Points:		14

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-6L

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
- b. No 1 pt

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
- b. No or no flood prone area present 1 pt

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
- b. Yes 1 pt

Score

3

3

3

Total Points:

9

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6L

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	<u>3</u>
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pts	
Total Points:		<u>8</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6L

WILDLIFE HABITAT

	Score	
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers 3 pts		
b. 2 layers 2 pts		<u>2</u>
c. 1 layer, or unvegetated 1 pt		
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts		<u>3</u>
c. Bare ground 1 pt		
14. Does woody vegetation hang over the edge of the water?		
a. Yes 2 pts		<u>2</u>
b. No 1 pt		
15. Is large woody debris present within the riparian area?		
a. Yes 3 pts		<u>1</u>
b. No 1 pt		
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40% 3 pts		
b. Between 10% and 40% 2 pts		<u>3</u>
c. Less than 10% 1 pt		

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-6L

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	3
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		20

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	12/4/01	Riparian Code:	R-MK-6R
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Investigators:	SE	Reach Length:	590
		Hydrologic Basin:	McKay Creek

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: 15 feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: 50 to 75 feet
LWI Wetland Code:	MK-4C		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture:	<input type="checkbox"/>	Roads:	<input checked="" type="checkbox"/>
Commercial/Indus.:	<input type="checkbox"/>	Undeveloped:	<input checked="" type="checkbox"/>
Residential:	<input type="checkbox"/>	Forestry:	<input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Salix lasiandra</i>	<i>Rubus discolor</i>
<i>Populus trichocarpa</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6R

Date: 12/4/01 **Investigators:** SE

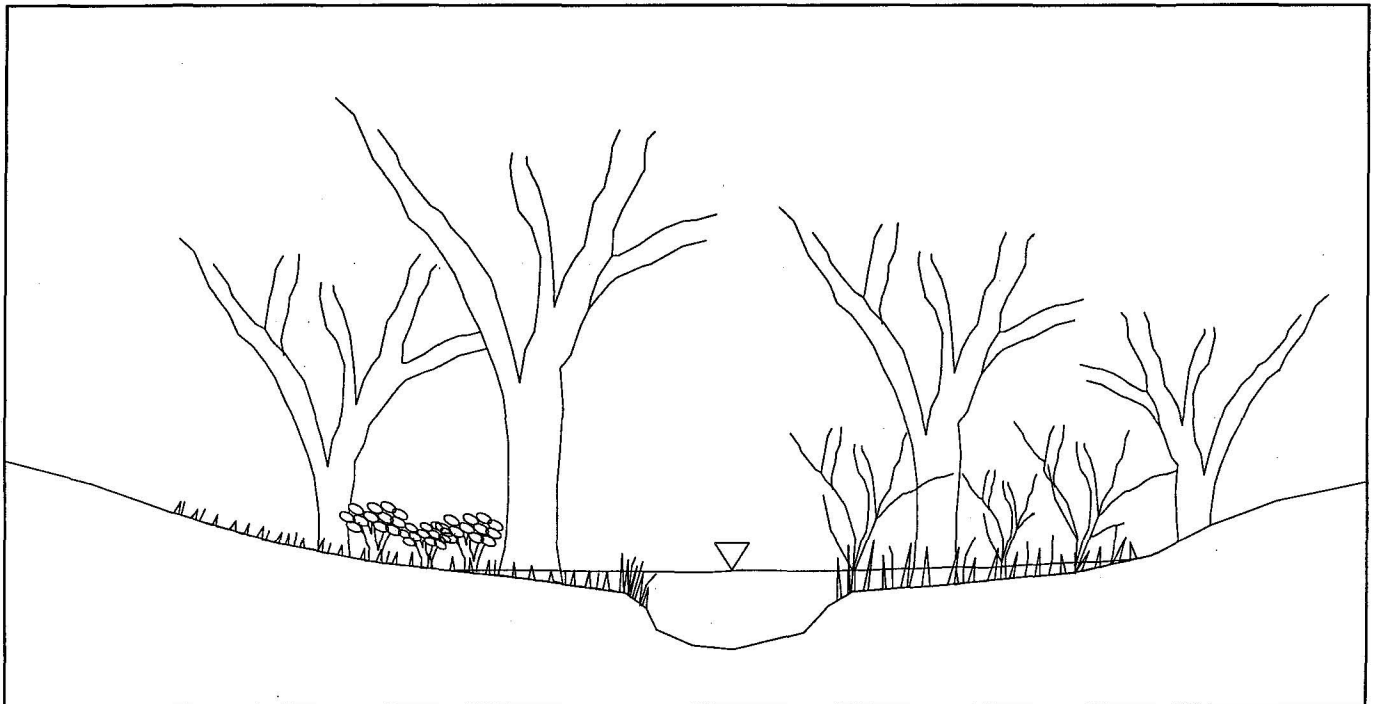
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 25-75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code

Comments: Nice forested wetland east of NW 314th Avenue. West end of left side is in a residential yard and herbaceous cover is primarily mowed lawn.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-6R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>14</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
- b. No 1 pt

Score

3

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
- b. No or no flood prone area present 1 pt

3

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
- b. Yes 1 pt

3

Total Points: 9

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-6R

THERMAL REGULATION

	Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
10. What is the dominant vegetation layer in the riparian area?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	
c. Bare ground 1 pt	
11. Does woody vegetation hang over the edge of the water?	
a. Yes 2 pts	<u>2</u>
b. No 1 pt	
Total Points:	<u>8</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-6R

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>3</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-6R

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	3
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		21

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: HIGH

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-7L

On-site: Off-Site:

Reach Length: 1640

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 15 feet
 Width: feet
 Width: 75 feet

LWI Wetland Code: MK-4C, MK-4D

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Spiraea douglasii</i>	<i>Rubus discolor</i>
<i>Populus trichocarpa</i>	
<i>Rubus discolor</i>	
<i>Quercus garryanna</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

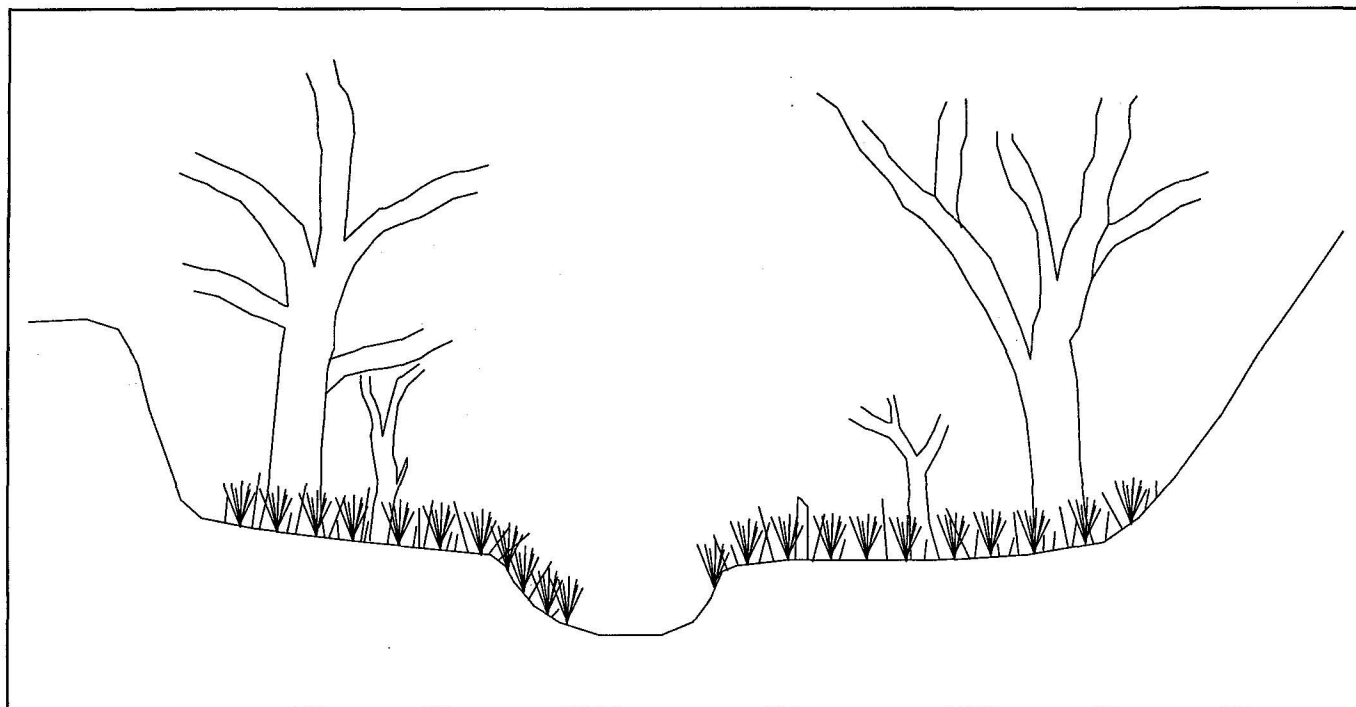
RIPARIAN CODE

R-MK-7L

Date:	<u>12/4/01</u>	Investigators:	<u>SE</u>
Dominant tree species:	<u>Fraxinus latifolia</u> (see other side for list of species)		
Potential tree height (PTH)/Width of riparian area :	<u>75 / 15-50</u>		feet
	(Width measured horizontally from edge of water resource)		
PTH determined by:	On-site vegetation <input checked="" type="checkbox"/> Reference site <input type="checkbox"/> Code _____		

Comments: Outside of riparian area, developed on the left, Hwy 26 on the right.
Riparian reach is dissected by Glencoe Road. Abundant small snags and other dead trees;
apparently flooded out in years past.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WATER QUALITY

RIPARIAN CODE
R-MK-7L

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>12</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE
R-MK-7L

	Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?	
a. Yes 3 pts	<u>1</u>
b. No or no flood prone area present 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?	
a. No 3 pts	<u>1</u>
b. Yes 1 pts	
Total Points:	<u>5</u>

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-7L

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>1</u>
b. No	..... 1 pt	
Total Points:		<u>6</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-7L

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>1</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>1</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-7L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	.....	3 pts
b. No	.....	1 pt
		3
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	.....	3 pts
b. No	.....	1 pt
		3
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	.....	3 pts
b. Between 25% and 75%	.....	2 pts
c. Greater than 75%	.....	1 pt
		3
Total Points:		19

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: HIGH

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-7R

On-site: Off-Site:

Reach Length: 1640

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 15 feet
 Width: feet
 Width: 50 to 75 feet

LWI Wetland Code: MK-4C, MK-4D

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: Verboort silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Spiraea douglasii</i>	<i>Rubus discolor</i>
<i>Populus trichocarpa</i>	
<i>Rubus discolor</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-7R

Date: 12/4/01 **Investigators:** SE

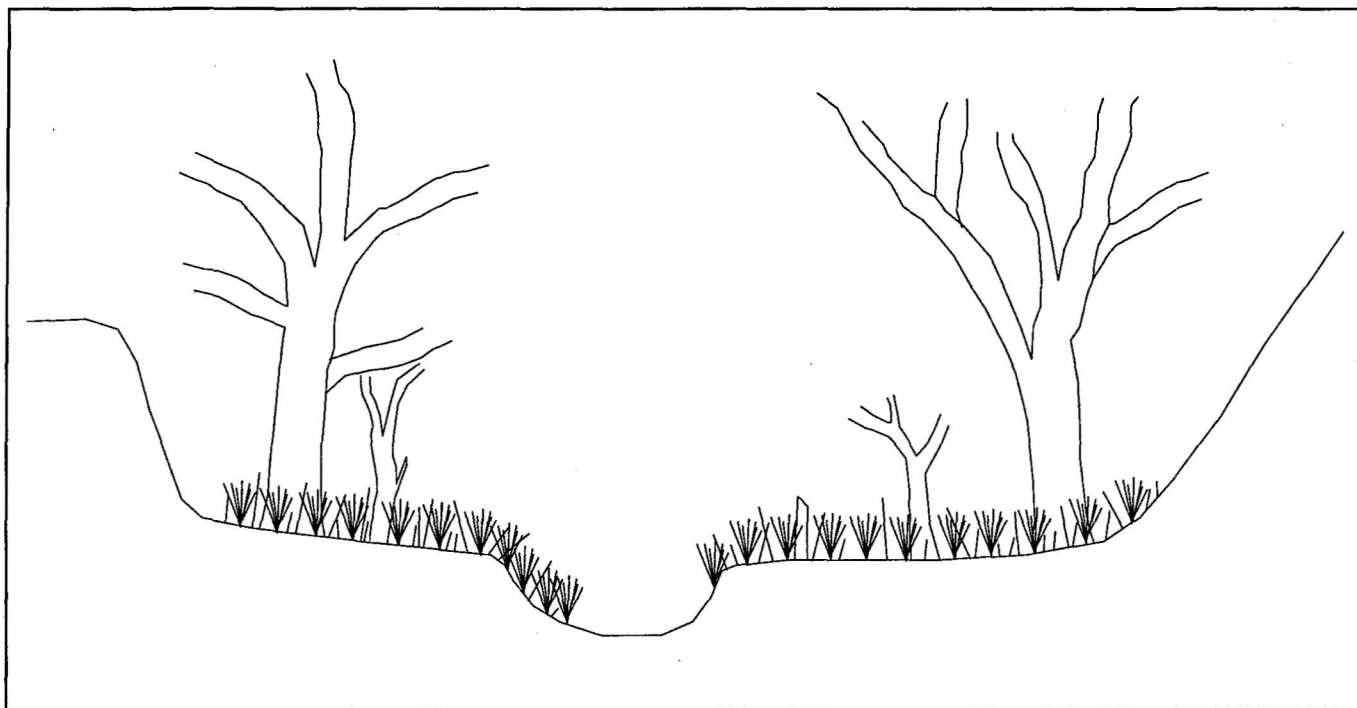
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 15-30 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code

Comments: Outside of riparian area, developed on the left, Hwy 26 on the right.
Riparian reach is dissected by Glencoe Road. Abundant small snags and other dead trees;
apparently flooded out in years past.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-7R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>12</u>

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-7R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

3

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

1

Total Points:

5

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-7R

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	<u>2</u>
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>1</u>
b. No	..... 1 pt	
Total Points:		<u>6</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-7R

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>1</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>1</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-7R

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>3</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>19</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/7/01</u>	Riparian Code:	<u>R-MK-8L</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Reach Length:			<u>675</u>
Investigators:	<u>SE/FS</u>	Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>5 to 10 (?)</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>100 to 125</u> feet
LWI Wetland Code:	<u>MK-4E</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture:	<input type="checkbox"/>	Roads:	<input type="checkbox"/>
Commercial/Indus.:	<input checked="" type="checkbox"/>	Undeveloped:	<input type="checkbox"/>
Residential:	<input checked="" type="checkbox"/>	Forestry:	<input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Pseudotsuga menziesii</i>	<i>Phalaris arundinacea</i>
<i>Fraxinus latifolia</i>	<i>Rubus discolor</i>
<i>Spiraea douglasii</i>	<i>Hedera helix</i>
<i>Juniperus sp. (ornamental shrub)</i>	<i>Rubus ursinus</i>
<i>Rosa pisocarpa</i>	<i>Solanum dulcamara</i>
<i>Populus trichocarpa</i>	<i>Cirsium vulgare</i>
<i>Alnus rubra</i>	<i>Matricaria matricarioides</i>

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-8L

Date: 12/7/01 **Investigators:** SE/FS

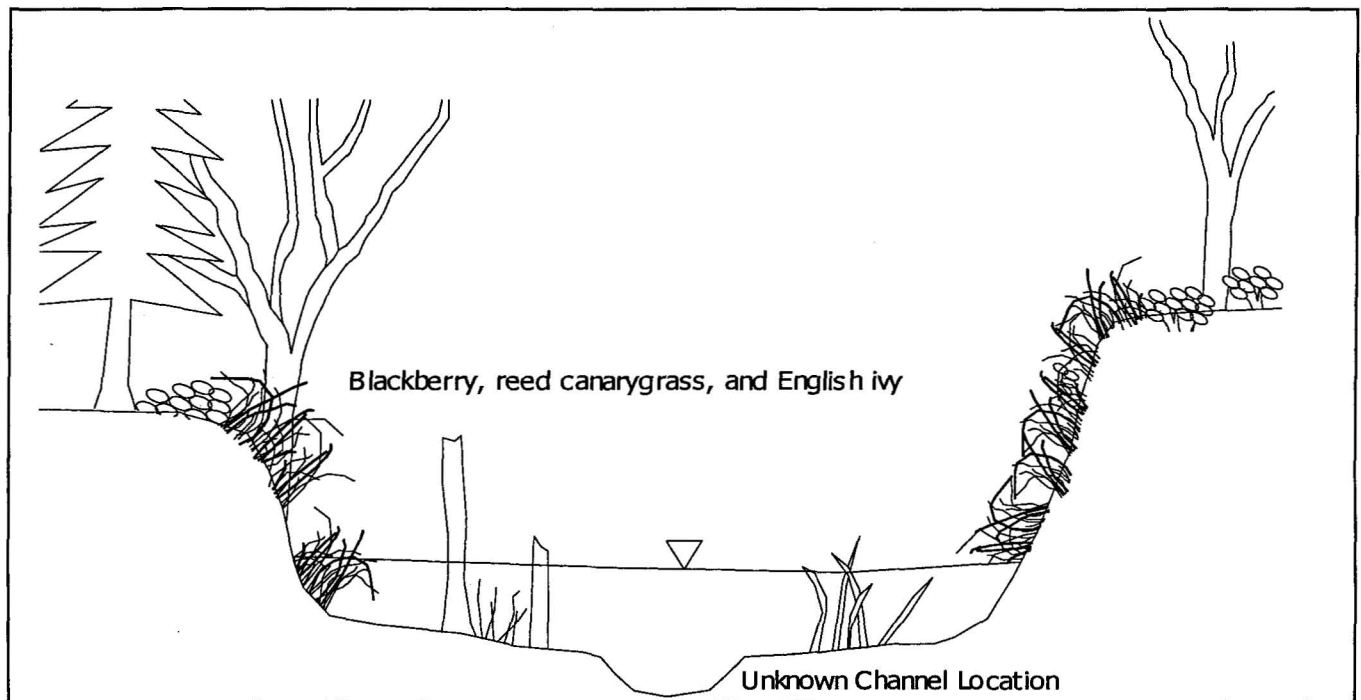
Dominant tree species: *Pseudotsuga menziesii* (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 120 / 75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation **Reference site** **Code** _____

Comments: Upstream from confluence with McKay Creek. Ponded now and apparently much of the year. If the channel is still defined, it is not visible due to high water. Top of bank considered to be hillslope adjacent to ponded area, not the creek channel.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE R-MK-8L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	2
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	2
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	3
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	2
b. High, severe, very high	1 pt	
Total Points:		12

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-8L

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
- b. No 1 pt

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
- b. No or no flood prone area present 1 pt

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
- b. Yes 1 pt

Score

1

1

1

Total Points:

3

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

LOW

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-8L

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>1</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	<u>3</u>
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>1</u>
b. No	..... 1 pt	
Total Points:		<u>5</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-8L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	
b. 2 layers	2 pts	<u>2</u>
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	<u>3</u>
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>1</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	
b. Between 10% and 40%	2 pts	<u>2</u>
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-8L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	
b. No	1 pt	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	
b. Between 25% and 75%	2 pts	<u>1</u>
c. Greater than 75%	1 pt	
Total Points:		<u>16</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: MEDIUM

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-8R

Date: 12/7/01 **Investigators:** SE/FS

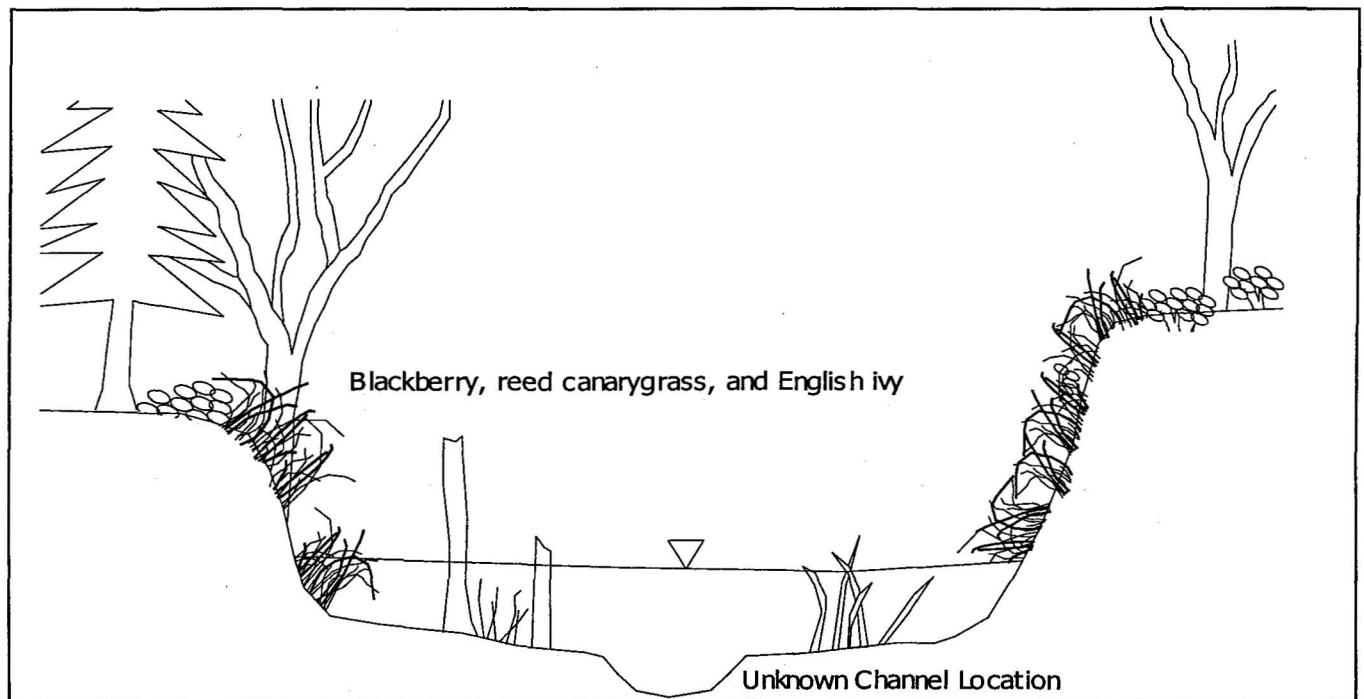
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
 On-site vegetation Reference site **Code** R-MK-07L

Comments: Upstream from confluence with McKay Creek. Ponded now and apparently much of the year. If the channel is still defined, it is not visible due to high water. Top of bank considered to be hillslope adjacent to ponded area, not the creek channel.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WATER QUALITY

RIPARIAN CODE
R-MK-8R

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>2</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pt	
Total Points:		<u>11</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-8R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

1

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

1

Total Points:

3

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

LOW

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE

R-MK-8R

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- a. Yes 3 pts
- b. No 1 pt

Score

1

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
- b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
- c. Bare ground 1 pt

2

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
- b. No 1 pt

1

Total Points:

4

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS:

LOW

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-8R

WILDLIFE HABITAT

	Score	
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers 3 pts		
b. 2 layers 2 pts	<u>2</u>	
c. 1 layer, or unvegetated 1 pt		
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>2</u>	
c. Bare ground 1 pt		
14. Does woody vegetation hang over the edge of the water?		
a. Yes 2 pts		
b. No 1 pt	<u>1</u>	
15. Is large woody debris present within the riparian area?		
a. Yes 3 pts		
b. No 1 pt	<u>1</u>	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40% 3 pts		
b. Between 10% and 40% 2 pts	<u>1</u>	
c. Less than 10% 1 pt		

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-8R

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	<u>1</u>
b. Between 25% and 75%	2 pts	
c. Greater than 75%	1 pt	
Total Points:		<u>14</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/7/01</u>	Riparian Code:	<u>R-MK-9L</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Reach Length:			<u>475</u>
Investigators:	<u>SE/FS</u>	Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>10</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>50-75</u> feet
LWI Wetland Code:	<u>MK-5</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture:	<input type="checkbox"/>	Roads:	<input type="checkbox"/>
Commercial/Indus.:	<input type="checkbox"/>	Undeveloped:	<input checked="" type="checkbox"/>
Residential:	<input type="checkbox"/>	Forestry:	<input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Spiraea douglasii</i>	<i>Rubus discolor</i>
<i>Alnus rubra</i>	<i>Solanum dulcamara</i>
<i>Rubus discolor</i>	
<i>Physocarpus capitatus</i>	
<i>Berberis aquifolium</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-9L

Date: 12/7/01 **Investigators:** SE/FS

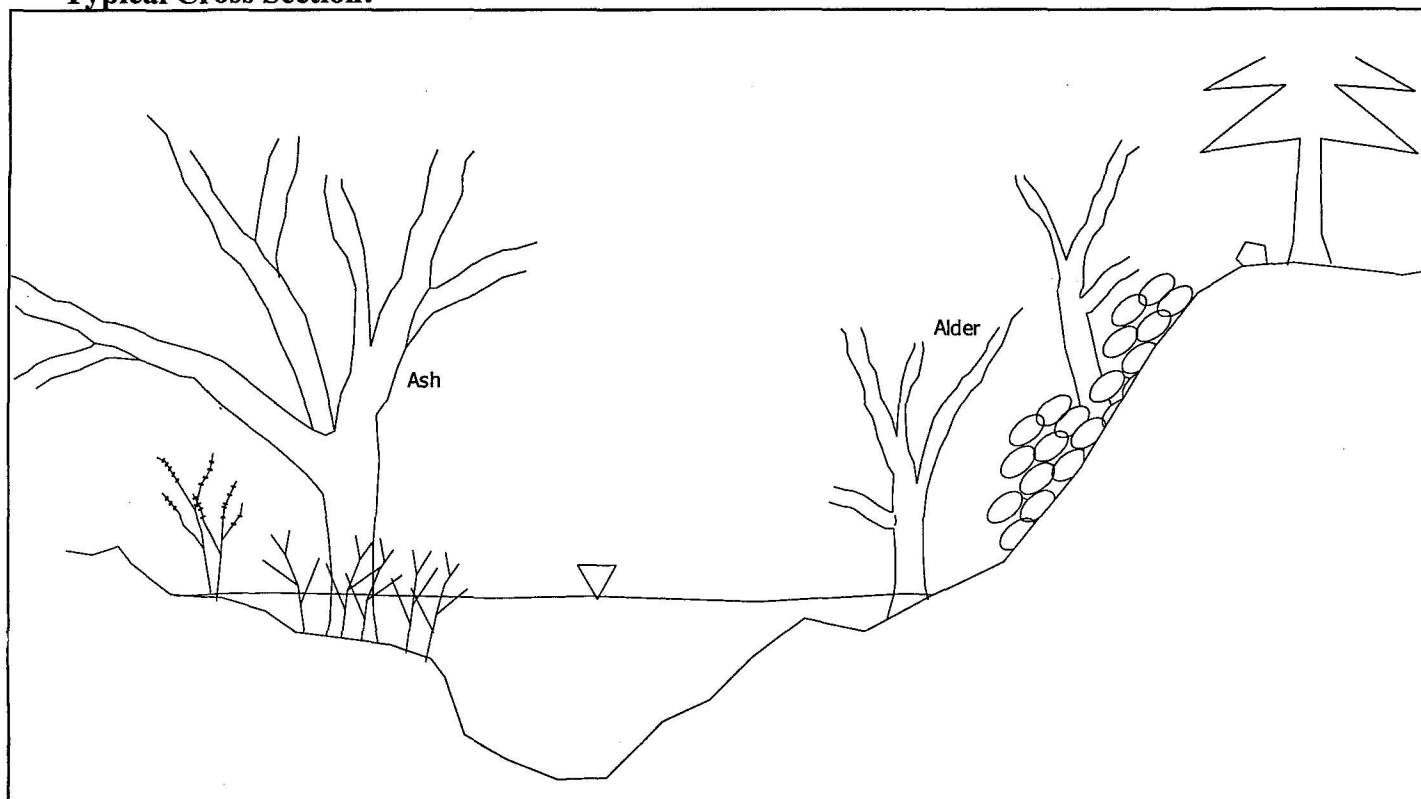
Dominant tree species: *Fraxinus latifolia* (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code

Comments: Confluence with no name creek is in this riparian section. Character on left changes to agricultural beyond UGB.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-9L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pt	
Total Points:		<u>14</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE
R-MK-9L

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

3

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

3

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

3

Total Points:

9

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE
R-MK-9L

	Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer? a. Yes 3 pts b. No 1 pt	<hr/> 3 <hr/>
10. What is the dominant vegetation layer in the riparian area? a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts c. Bare ground 1 pt	<hr/> 3 <hr/>
11. Does woody vegetation hang over the edge of the water? a. Yes 2 pts b. No 1 pt	<hr/> 2 <hr/>
Total Points:	<hr/> 8 <hr/>

Function: **High (7-8 pts)** **Medium (5-6 pts)** **Low (3-4 pts)**

FUNCTION IS: HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-9L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>3</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-9L

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	3
b. No	1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	3
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	3
b. Between 25% and 75%	2 pts	
c. Greater than 75%	1 pt	
Total Points:		23

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: HIGH

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/7/01

Riparian Code: R-MK-9R

On-site: Off-Site:

Reach Length: 475

Investigators: SE/FS

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 10 feet
 Width: feet
 Width: feet

LWI Wetland Code: MK-5

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Pseudotsuga menziesii</i>	<i>Rubus discolor</i>
<i>Alnus rubra</i>	<i>lawn</i>
<i>Rubus discolor</i>	<i>Polystichum munitum</i>
<i>Physocarpus capitatus</i>	<i>Rubus ursinus</i>
<i>Symphoricarpos albus</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

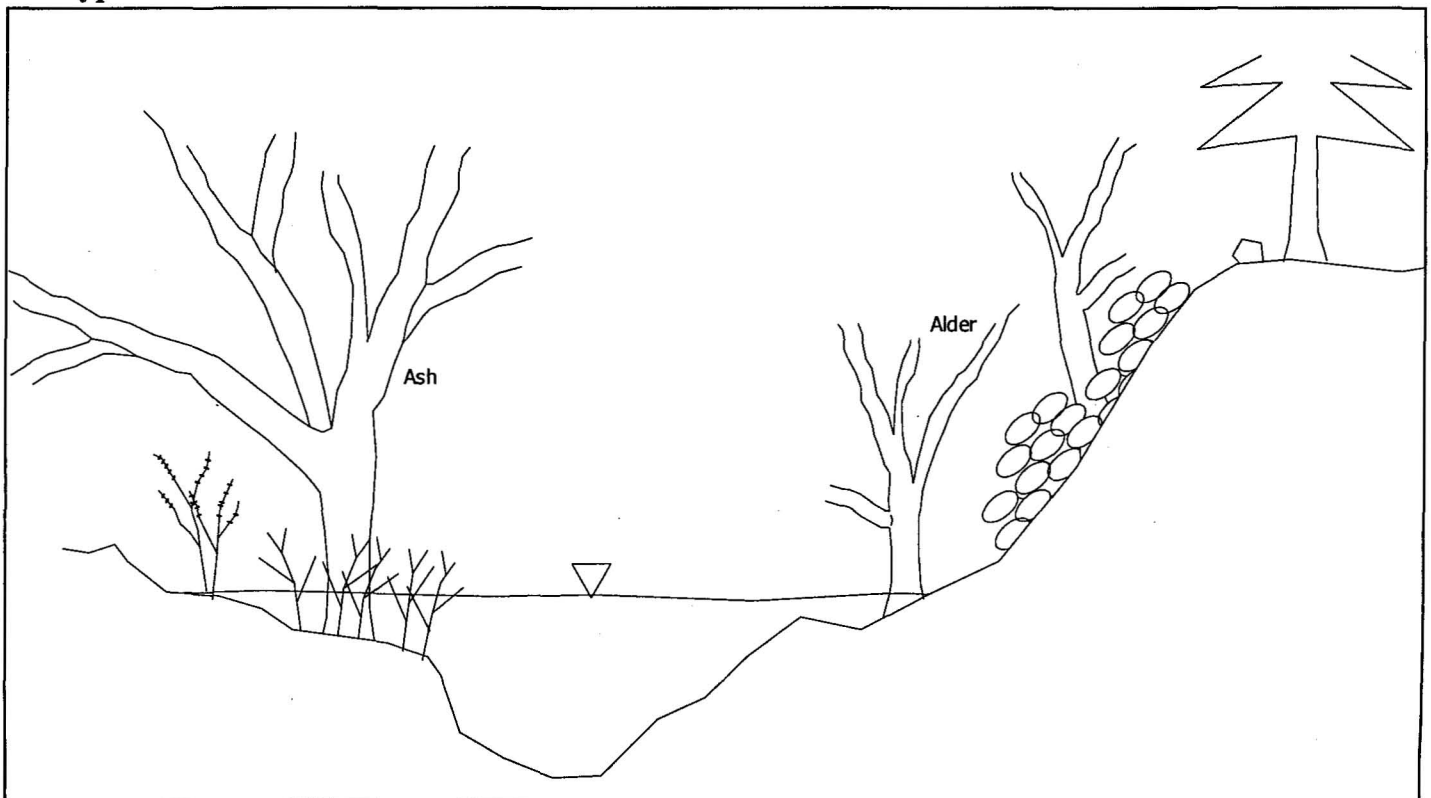
RIPARIAN CODE

R-MK-9R

Date: 12/7/01 Investigators: SE/FS
Dominant tree species: *Pseudotsuga menziesii* (see other side for list of species)
Potential tree height (PTH)/Width of riparian area : 120 / 20-75 feet
(Width measured horizontally from edge of water resource)
PTH determined by:
On-site vegetation Reference site Code _____

Comments: Confluence with no name creek is in this riparian section. Character on right
changes to industrial outside UGB. This side is a residential area.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WATER QUALITY

RIPARIAN CODE
R-MK-9R

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	2
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	2
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	3
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	2
b. High, severe, very high	1 pts	
Total Points:		12

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-9R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

Score

1

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

1

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

1

Total Points:

3

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

LOW

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-9R

THERMAL REGULATION

		Score
9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
10. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	<u>3</u>
c. Bare ground	..... 1 pt	
11. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pts	
Total Points:		<u>8</u>

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-9R

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	..... 3 pts	
b. 2 layers	..... 2 pts	2
c. 1 layer, or unvegetated	..... 1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	3
c. Bare ground	..... 1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	2
b. No	..... 1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	..... 3 pts	
b. Between 10% and 40%	..... 2 pts	2
c. Less than 10%	..... 1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-9R

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	3
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	1
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	2
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		18

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/7/01</u>	Riparian Code:	<u>R-MK-10L</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Investigators:	<u>SE</u>	Reach Length:	<u>550</u>
		Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>12 to 15</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>50 to 100</u> feet
LWI Wetland Code:	<u>MK-5</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)		Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Berberis aquifolium</i>	<i>Phalaris arundinacea</i>
<i>Cornus stolonifera</i>	<i>Corylus cornuta</i>	<i>Rubus discolor</i>
<i>Alnus rubra</i>	<i>Solanum dulcamara</i>	<i>Cornus stolonifera</i>
<i>Rubus discolor</i>		<i>Solanum dulcamara</i>
<i>Physocarpus capitatus</i>		<i>Berberis aquifolium</i>
<i>Symphoricarpos albus</i>		
<i>Rosa pisocarpa</i>		

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-10L

Date: 12/7/01 **Investigators:** SE

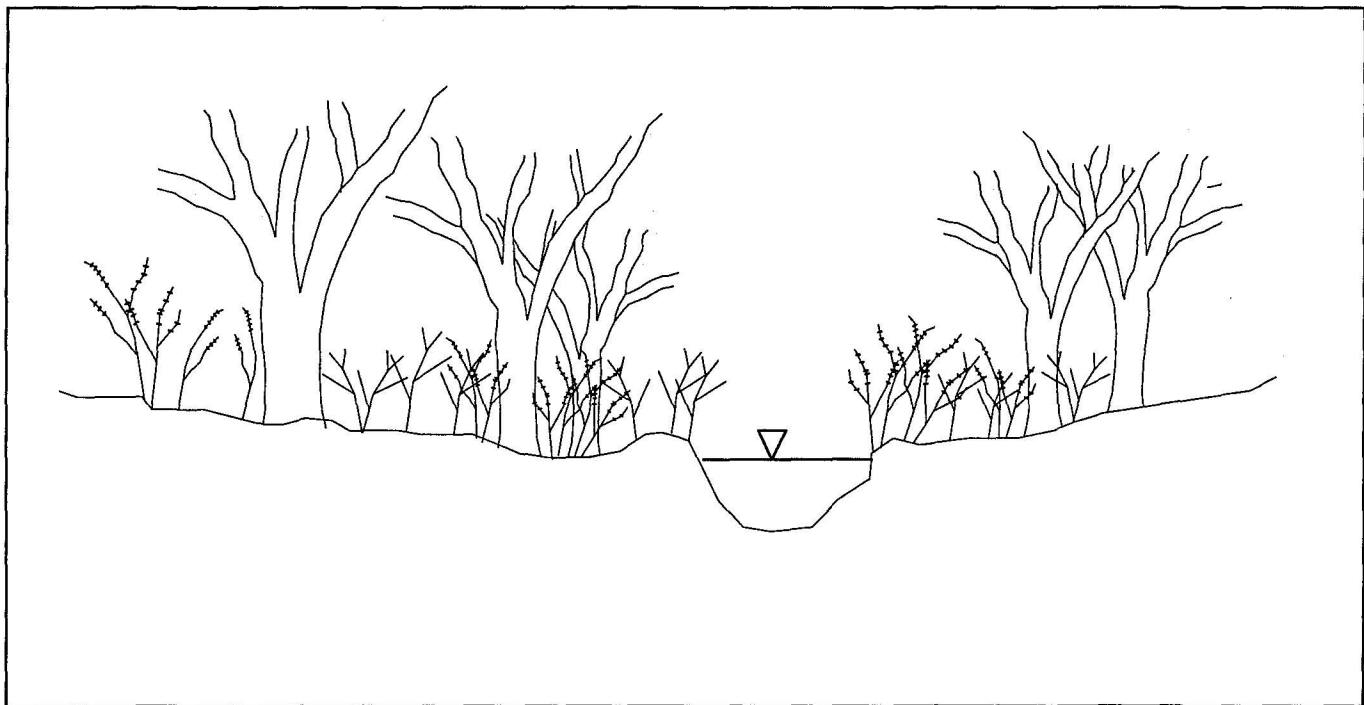
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 **feet**
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation **Reference site** **Code** _____

Comments: Good cover along both sides, thickets of shrubs.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-10L

WATER QUALITY

	Score
1. What is the average slope in the riparian area?	
a. Less than 10:1 (10%) 3 pts	
b. Between 10:1 (10%) and 5:1 (20%) 2 pts	<u>3</u>
c. Greater than 5:1 (20%) 1 pt	
2. What is the dominant vegetation cover in the riparian area?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>3</u>
c. Bare ground 1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?	
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts	<u>3</u>
c. Bare ground 1 pt	
4. What is the extent of impervious surfaces within the riparian area?	
a. Less than 10% 3 pts	
b. Between 10% and 25% 2 pts	<u>3</u>
c. Greater than 25% 1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.	
a. Low, slight, moderate 2 pts	<u>2</u>
b. High, severe, very high 1 pts	
Total Points:	<u>14</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE
R-MK-10L

	Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?	
a. Yes 3 pts	<u>3</u>
b. No or no flood prone area present 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?	
a. No 3 pts	<u>3</u>
b. Yes 1 pt	
Total Points:	<u>9</u>

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-10L

THERMAL REGULATION

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- a. Yes 3 pts
- b. No 1 pt

Score

3

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
- b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
- c. Bare ground 1 pt

3

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
- b. No 1 pt

2

Total Points:

8

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-10L

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	..... 3 pts	<u>3</u>
b. 2 layers	..... 2 pts	
c. 1 layer, or unvegetated	..... 1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	..... 3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	..... 2 pts	
c. Bare ground	..... 1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	..... 2 pts	<u>2</u>
b. No	..... 1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	..... 3 pts	<u>3</u>
b. Between 10% and 40%	..... 2 pts	
c. Less than 10%	..... 1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-10L

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>3</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>23</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION	
Date: <u>12/7/01</u>	Riparian Code: <u>R-MK-10R</u>
On-site: <input checked="" type="checkbox"/> Off-Site: <input type="checkbox"/>	Reach Length: <u>550</u>
Investigators: <u>SE</u>	Hydrologic Basin: <u>McKay Creek</u>

WATER RESOURCE INFORMATION	
Water Resource: Stream/River: <input checked="" type="checkbox"/>	Width: <u>12 to 15</u> feet
Lake/Pond: <input type="checkbox"/>	Width: <u> </u> feet
Wetland: <input checked="" type="checkbox"/>	Width: <u>50 to 100</u> feet
LWI Wetland Code: <u>MK-5</u>	
Water present year-round: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are salmonids present in the adjacent water resource? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is the water resource listed for temperature on DEQ's 303(d) list: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: <input type="checkbox"/>	Roads: <input type="checkbox"/>
Commercial/Indus.: <input type="checkbox"/>	Undeveloped: <input checked="" type="checkbox"/>
Residential: <input type="checkbox"/>	Forestry: <input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Berberis aquifolium</i> <i>Phalaris arundinacea</i>
<i>Cornus stolonifera</i>	<i>Corylus cornuta</i> <i>Rubus discolor</i>
<i>Alnus rubra</i>	<i>Solanum dulcamara</i> <i>Cornus stolonifera</i>
<i>Rubus discolor</i>	<i>Solanum dulcamara</i>
<i>Physocarpus capitatus</i>	<i>Berberis aquifolium</i>
<i>Symphoricarpos albus</i>	
<i>Rosa pisocarpa</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-10R

Date: 12/7/01 **Investigators:** SE

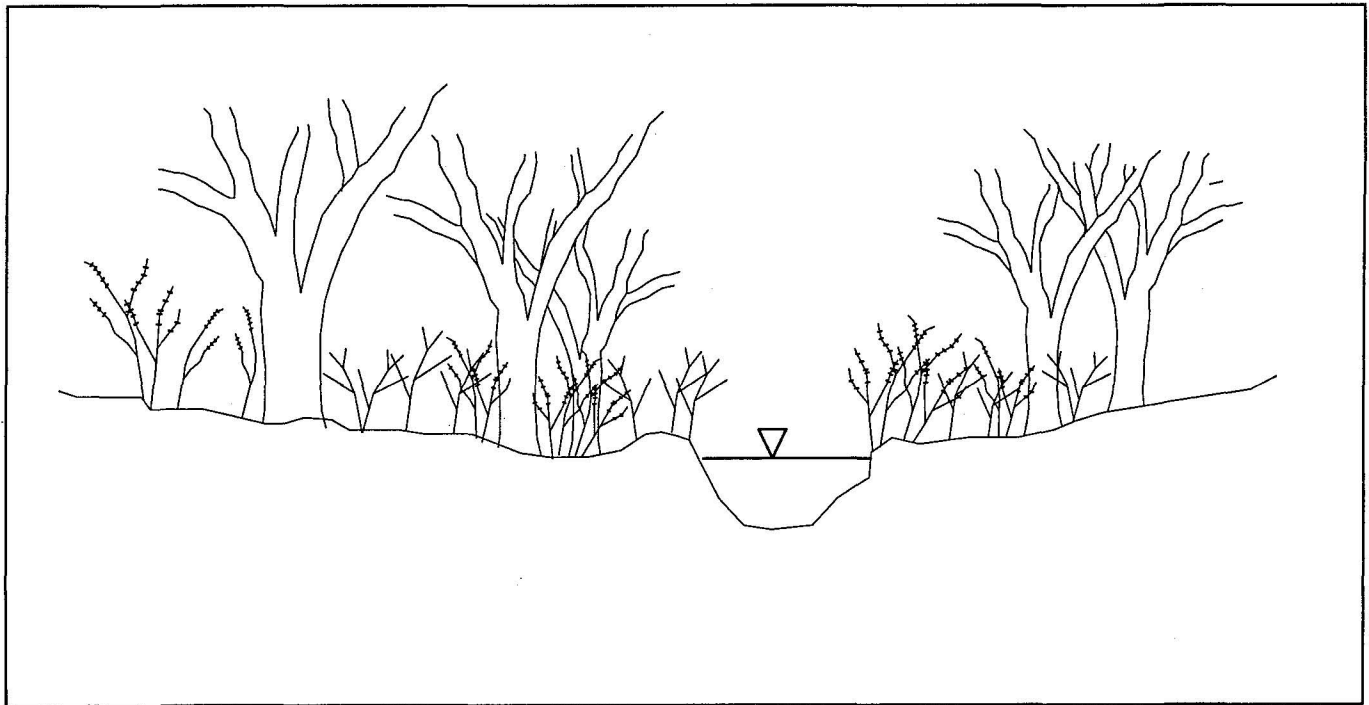
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 **feet**
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation **Reference site** **Code** _____

Comments: Good cover along both sides, thickets of shrubs.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-10R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>14</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE
R-MK-10R

	Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?	
a. Yes 3 pts	3
b. No 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?	
a. Yes 3 pts	3
b. No or no flood prone area present 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?	
a. No 3 pts	3
b. Yes 1 pt	
Total Points:	9

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE
R-MK-10R

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- a. Yes 3 pts
- b. No 1 pt

Score

3

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
- b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
- c. Bare ground 1 pt

3

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
- b. No 1 pt

2

Total Points:

8

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-10R

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>3</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE

R-MK-10R

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>3</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>23</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION	
Date: <u>12/27/01</u>	Riparian Code: <u>R-MK-11L</u>
On-site: <input checked="" type="checkbox"/> Off-Site: <input type="checkbox"/>	Reach Length: <u>1400</u>
Investigators: <u>SE</u>	Hydrologic Basin: <u>McKay Creek</u>

WATER RESOURCE INFORMATION	
Water Resource: Stream/River: <input checked="" type="checkbox"/>	Width: <u>30</u> feet
Lake/Pond: <input type="checkbox"/>	Width: _____ feet
Wetland: <input checked="" type="checkbox"/>	Width: <u>100</u> feet
LWI Wetland Code: <u>MK-5</u>	
Water present year-round: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are salmonids present in the adjacent water resource? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is the water resource listed for temperature on DEQ's 303(d) list: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:

Commercial/Indus.: Undeveloped:

Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Spiraea douglasii</i>	
<i>Berberis aquifolium</i>	
<i>Rubus discolor</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11L

Date: 12/27/01 Investigators: SE

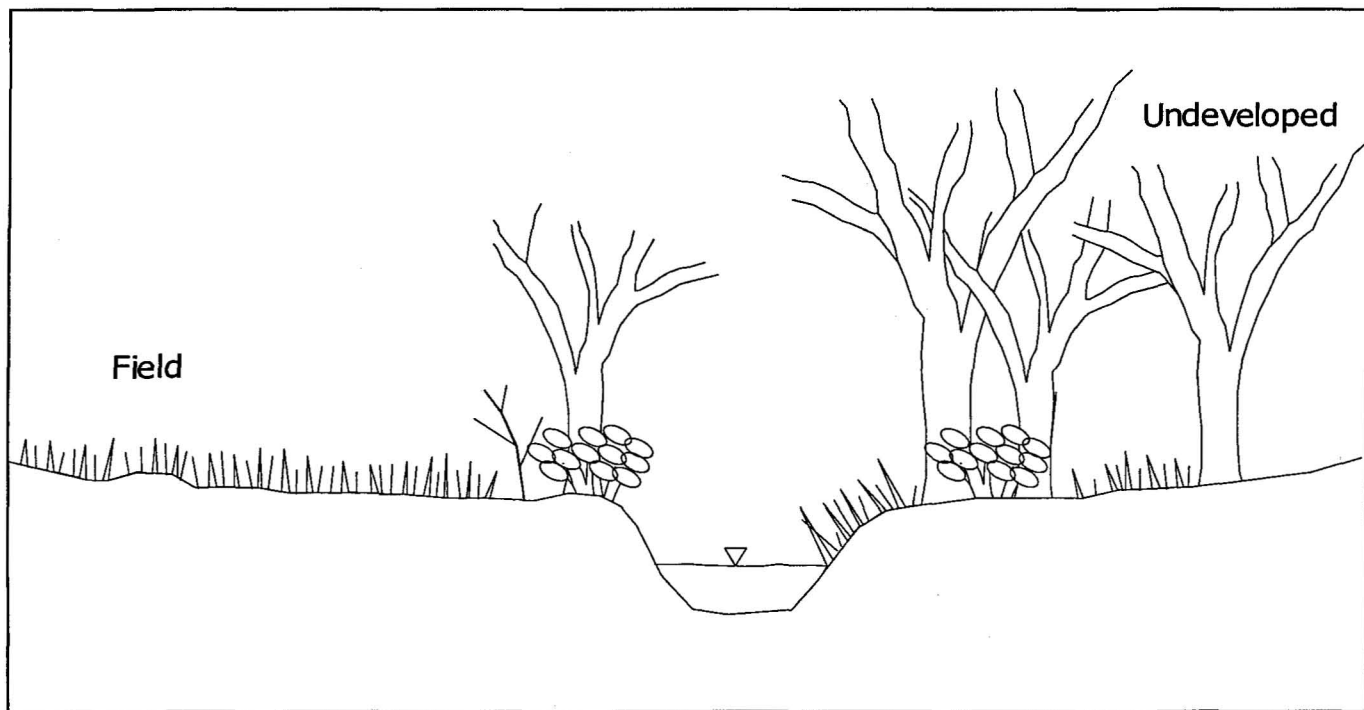
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 50-75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code _____

Comments: North end, south of West Union Road, has an ag field on east side. West side is undeveloped, forested wetland. Rubus discolor and Spiraea douglasii provide 100 percent cover along both banks. Active beaver area.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	<u>3</u>
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	<u>3</u>
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	<u>3</u>
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	
b. Between 10% and 25%	2 pts	<u>3</u>
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>14</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11L

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?
- a. Yes 3 pts
- b. No 1 pt
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?
- a. Yes 3 pts
- b. No or no flood prone area present 1 pt
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?
- a. No 3 pts
- b. Yes 1 pt

Score

3

1

3

Total Points: 7

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE

R-MK-11L

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- a. Yes 3 pts
b. No 1 pt

Score

3

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
c. Bare ground 1 pt

3

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
b. No 1 pt

2

Total Points:

8

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11L

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers 3 pts		
b. 2 layers 2 pts		2
c. 1 layer, or unvegetated 1 pt		
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts		
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts		3
c. Bare ground 1 pt		
14. Does woody vegetation hang over the edge of the water?		
a. Yes 2 pts		2
b. No 1 pt		
15. Is large woody debris present within the riparian area?		
a. Yes 3 pts		1
b. No 1 pt		
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40% 3 pts		
b. Between 10% and 40% 2 pts		2
c. Less than 10% 1 pt		

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE

R-MK-11L

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<hr/> 3 <hr/>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<hr/> 3 <hr/>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<hr/> 2 <hr/>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<hr/> 18 <hr/>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: MEDIUM

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION			
Date:	<u>12/27/01</u>	Riparian Code:	<u>R-MK-11R</u>
On-site:	<input checked="" type="checkbox"/>	Off-Site:	<input type="checkbox"/>
Investigators:	<u>SE</u>	Reach Length:	<u>1400</u>
		Hydrologic Basin:	<u>McKay Creek</u>

WATER RESOURCE INFORMATION			
Water Resource:	Stream/River:	<input checked="" type="checkbox"/>	Width: <u>30</u> feet
	Lake/Pond:	<input type="checkbox"/>	Width: _____ feet
	Wetland:	<input checked="" type="checkbox"/>	Width: <u>100 to 250</u> feet
LWI Wetland Code:	<u>MK-5</u>		
Water present year-round:	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are salmonids present in the adjacent water resource?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the water resource listed for temperature on DEQ's 303(d) list:	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:

Commercial/Indus.: Undeveloped:

Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Fraxinus latifolia</i>	<i>Phalaris arundinacea</i>
<i>Spiraea douglasii</i>	<i>Daucus carota</i>
<i>Berberis aquifolium</i>	<i>Rubus ursinus</i>
<i>Rubus discolor</i>	<i>Athyrium filix-femina</i>
<i>Symphoricarpos albus</i>	<i>Festuca arundinacea</i>
<i>Salix lasiandra</i>	
<i>Cornus stolonifera</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11R

Date: 12/27/01 **Investigators:** SE

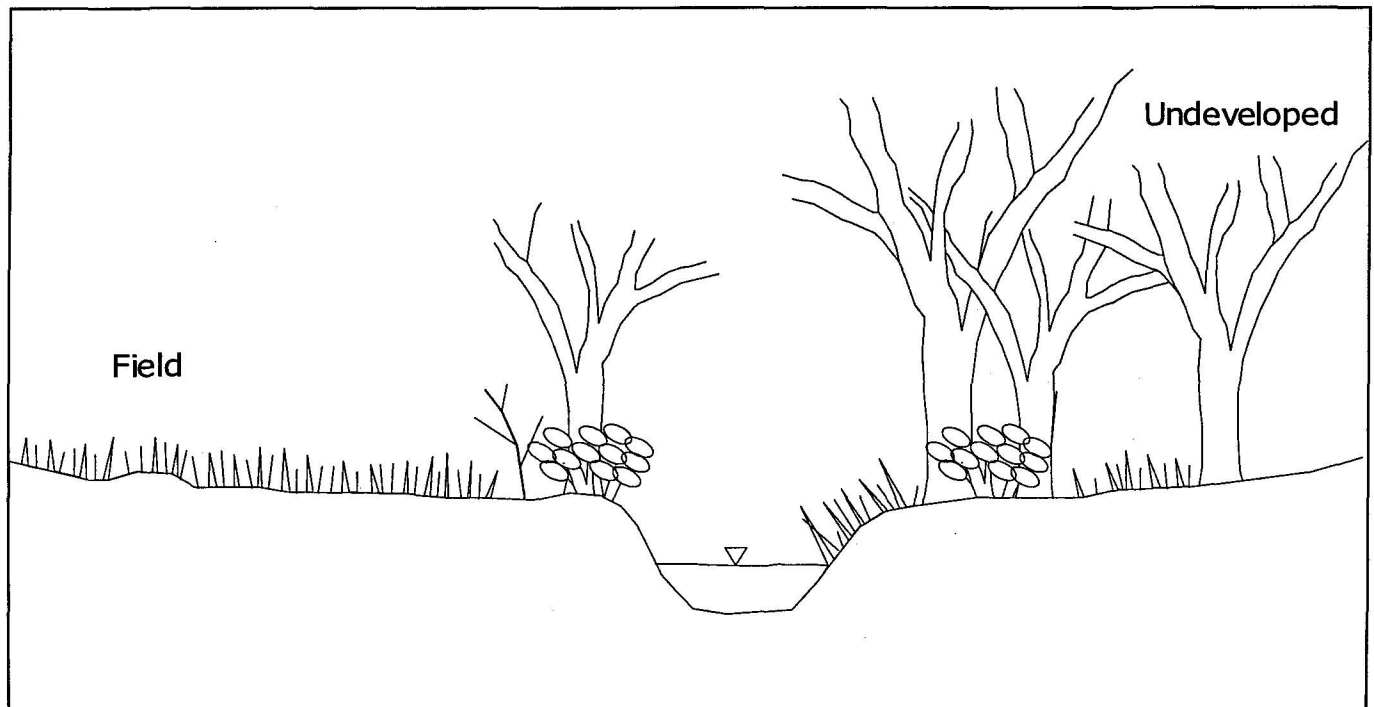
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 50-75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation **Reference site** **Code** _____

Comments: North end, south of West Union Road, has an ag field on east side. West side is undeveloped, forested wetland. Rubus discolor and Spiraea douglasii provide 100 percent cover along both banks. Active beaver area.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11R

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pts	
Total Points:		<u>14</u>

Function: **High (12-14 pts)** **Medium (8-11 pts)** **Low (5-7 pts)**

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-11R

FLOOD MANAGEMENT

	Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?	
a. Yes 3 pts	<u>3</u>
b. No or no flood prone area present 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?	
a. No 3 pts	<u>3</u>
b. Yes 1 pt	
Total Points:	<u>9</u>

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-11R

THERMAL REGULATION

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- a. Yes 3 pts
- b. No 1 pt

Score

3

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
- b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
- c. Bare ground 1 pt

3

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
- b. No 1 pt

2

Total Points:

8

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-11R

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>3</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>1</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>3</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE

R-MK-11R

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	
b. No	1 pt	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	
b. Between 25% and 75%	2 pts	<u>3</u>
c. Greater than 75%	1 pt	
Total Points:		<u>21</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **HIGH**

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION

Date: 12/4/01

Riparian Code: R-MK-12L

On-site: Off-Site:

Reach Length: 300

Investigators: SE

Hydrologic Basin: McKay Creek

WATER RESOURCE INFORMATION

Water Resource: Stream/River:
 Lake/Pond:
 Wetland:

Width: 50 feet
 Width: feet
 Width: feet

LWI Wetland Code: N/A

Water present year-round: Yes No

Are salmonids present in the adjacent water resource? Yes No

Is the water resource listed for temperature on DEQ's 303(d) list: Yes No

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: Roads:
 Commercial/Indus.: Undeveloped:
 Residential: Forestry:

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Symphoricarpos albus</i>	<i>Phalaris arundinacea</i>
<i>Physocarpus capitatus</i>	<i>Veronica americana</i>
<i>Quercus garryana</i>	<i>Ilex aquifolium</i>
<i>Rosa pisocarpa</i>	<i>Rubus discolor</i>
<i>Fraxinus latifolia</i>	<i>Polystichum munitum</i>
<i>Rubus discolor</i>	<i>Rubus ursinus</i>
<i>Spiraea douglasii</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-12L

Date: 12/4/01 **Investigators:** SE

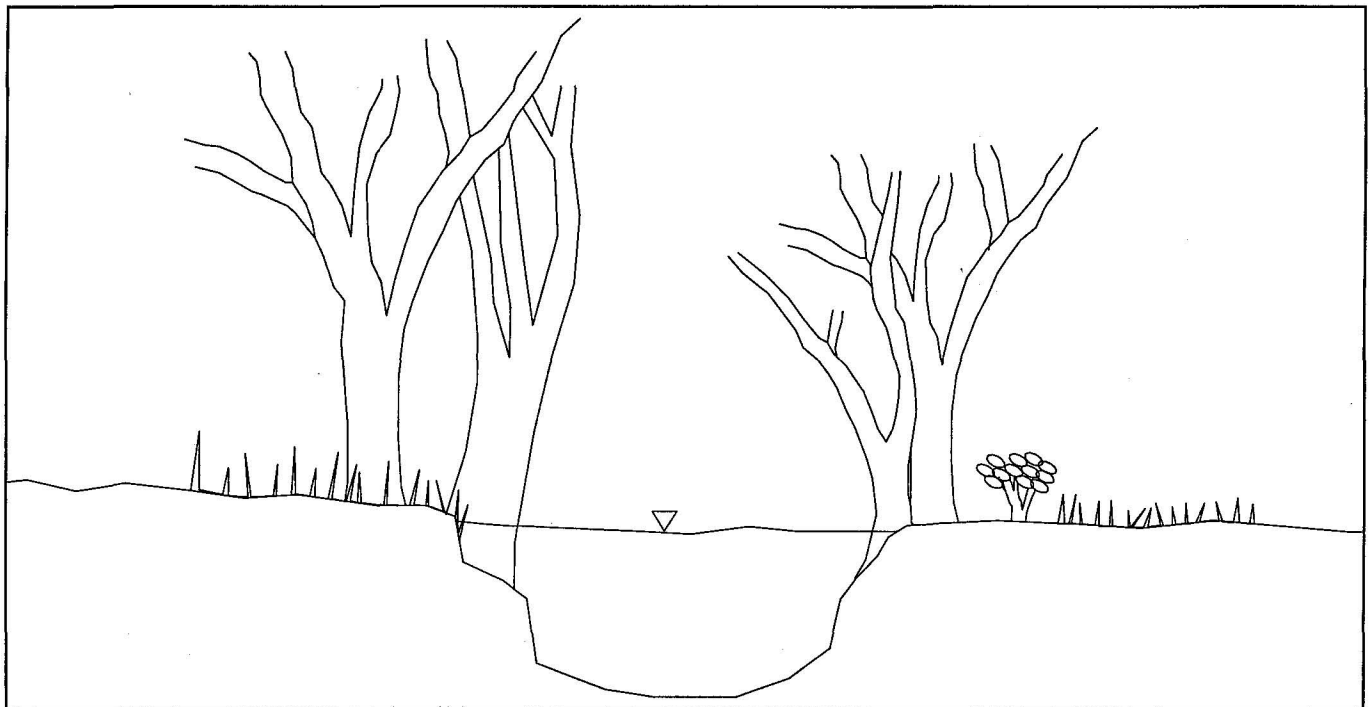
Dominant tree species: Fraxinus latifolia (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code

Comments: Sharp meander in McKay Creek, north of railroad tracks, adjacent to city property. Right side is undeveloped and left side is disturbed. Evidence of beaver activity along the creek.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-12L

WATER QUALITY

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	3
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	2
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	3
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	3
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	2
b. High, severe, very high	1 pt	
Total Points:		13

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

FLOOD MANAGEMENT

RIPARIAN CODE
R-MK-12L

	Score
6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?	
a. Yes 3 pts	<u>3</u>
b. No 1 pt	
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?	
a. Yes 3 pts	<u>1</u>
b. No or no flood prone area present 1 pt	
8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?	
a. No 3 pts	<u>3</u>
b. Yes 1 pt	
Total Points:	<u>7</u>

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS: **MEDIUM**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-12L

THERMAL REGULATION

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

Score

- a. Yes 3 pts
- b. No 1 pt

3

10. What is the dominant vegetation layer in the riparian area?

- a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high 3 pts
- b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high 2 pts
- c. Bare ground 1 pt

2

11. Does woody vegetation hang over the edge of the water?

- a. Yes 2 pts
- b. No 1 pts

2

Total Points:

7

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS:

HIGH

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT

RIPARIAN CODE
R-MK-12L

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<hr style="width: 50px; margin: 0 auto;"/> 2 <hr style="width: 50px; margin: 0 auto;"/>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<hr style="width: 50px; margin: 0 auto;"/> 2 <hr style="width: 50px; margin: 0 auto;"/>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<hr style="width: 50px; margin: 0 auto;"/> 2 <hr style="width: 50px; margin: 0 auto;"/>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<hr style="width: 50px; margin: 0 auto;"/> 1 <hr style="width: 50px; margin: 0 auto;"/>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<hr style="width: 50px; margin: 0 auto;"/> 2 <hr style="width: 50px; margin: 0 auto;"/>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WILDLIFE HABITAT (continued)

RIPARIAN CODE
R-MK-12L

		Score
17. Is surface water present throughout the year?		
a. Yes	3 pts	
b. No	1 pt	<u>3</u>
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	3 pts	
b. No	1 pt	<u>1</u>
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	3 pts	
b. Between 25% and 75%	2 pts	
c. Greater than 75%	1 pt	<u>2</u>
Total Points:		<u>15</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: MEDIUM

Riparian Characterization Form



City of North Plains Riparian Inventory

GENERAL INFORMATION	
Date: <u>12/4/01</u>	Riparian Code: <u>R-MK-12R</u>
On-site: <input checked="" type="checkbox"/> Off-Site: <input type="checkbox"/>	Reach Length: <u>300</u>
Investigators: <u>SE</u>	Hydrologic Basin: <u>McKay Creek</u>

WATER RESOURCE INFORMATION	
Water Resource: Stream/River: <input checked="" type="checkbox"/>	Width: <u>25</u> feet
Lake/Pond: <input type="checkbox"/>	Width: _____ feet
Wetland: <input type="checkbox"/>	Width: _____ feet
LWI Wetland Code: <u>N/A</u>	
Water present year-round: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are salmonids present in the adjacent water resource? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is the water resource listed for temperature on DEQ's 303(d) list: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Within FEMA-mapped 100-year floodplain: Yes No

Mapped soil series: McBee silty clay loam

Adjacent Land Uses? (Check as many as needed)

Agriculture: <input checked="" type="checkbox"/>	Roads: <input type="checkbox"/>
Commercial/Indus.: <input type="checkbox"/>	Undeveloped: <input checked="" type="checkbox"/>
Residential: <input checked="" type="checkbox"/>	Forestry: <input type="checkbox"/>

Woody vegetation (trees, shrubs, vines >1 meter)	Herbaceous vegetation (include trees, shrubs, vines <1 meter)
<i>Symphoricarpos albus</i>	<i>Phalaris arundinacea</i>
<i>Physocarpus capitatus</i>	<i>Veronica americana</i>
<i>Quercus garryana</i>	<i>Ilex aquifolium</i>
<i>Rosa pisocarpa</i>	<i>Rubus discolor</i>
<i>Fraxinus latifolia</i>	<i>Polystichum munitum</i>
<i>Rubus discolor</i>	<i>Rubus ursinus</i>
<i>Spiraea douglasii</i>	

1 meter = 3.2 feet

Average slope in the riparian area: (Question 1)

<10:1 (10%) Between 10:1 (10%) and 5:1 (20%) >5:1 (20%)

Extent of impervious surface within the riparian area. (Question 4)

<10% 10% - 25% >25%

Is the reach constricted by man-made features? (Question 8)

Yes No

Does the orientation of the riparian area allow for shading of the water resource at midday in summer? (Question 9)

Yes No

Dominant vegetation layer within riparian area? (Question 10)

Woody vegetation Herbaceous vegetation Bare ground

Does woody vegetation hang over the edge of the water? (Questions 11 & 14)

Yes No

Large woody debris in riparian area? (Question 15)

Yes No

Percent of water resource bordered by vegetated riparian area at least 30 feet wide? (Question 16)

>40% 10% - 40% <10%

Degree of development or human caused disturbance. (Question 19)

<25% 25% - 75% >75%

How does the NRCS soil survey rank water erosion hazard of the dominant mapped unit in the Riparian Area? (Question 5)

low, slight moderate high, very high, severe

What is the dominant vegetation at the top of bank (if defined) or edge of water resource? (Question 3)

Woody vegetation Herbaceous vegetation Bare ground

Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource? (Question 6)

Yes No

Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

Yes No or no flood prone area present

How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?

More than 2 2 layers 1 layer or unvegetated

Riparian Width Determination



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-12R

Date: 12/4/01 **Investigators:** SE

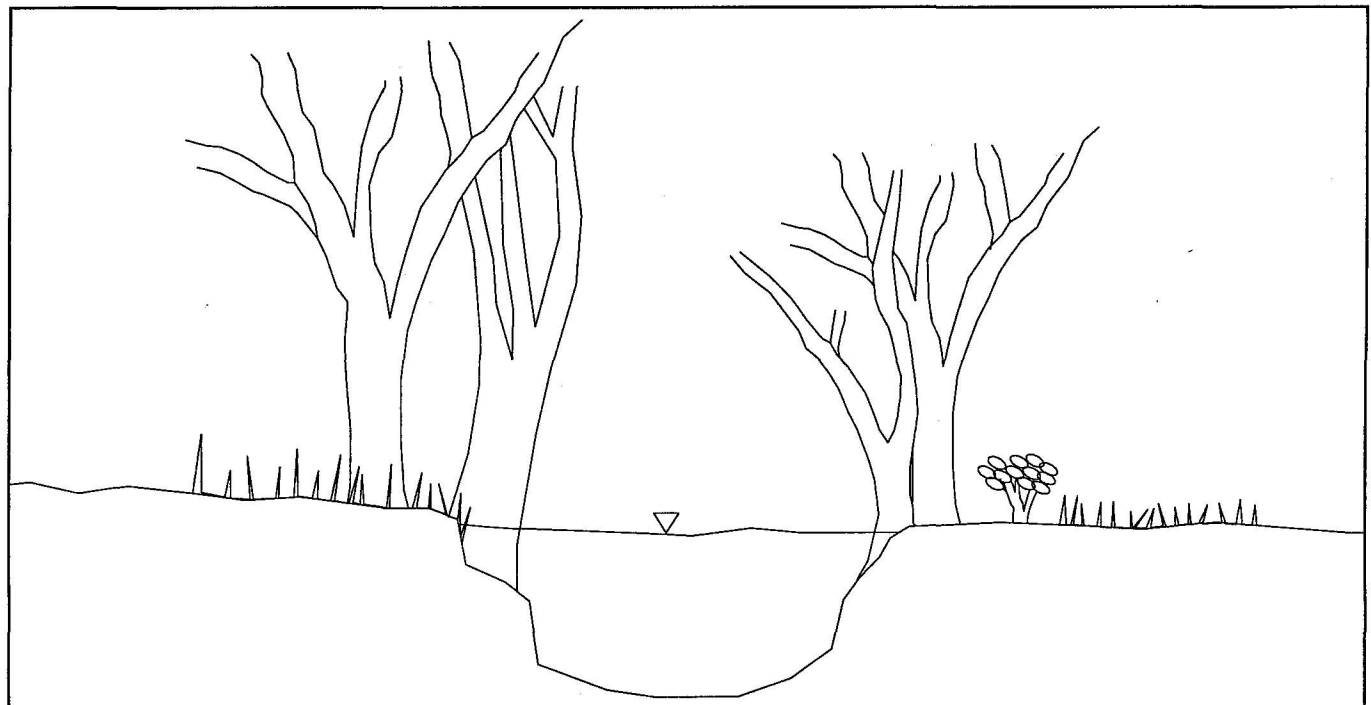
Dominant tree species: *Fraxinus latifolia* (see other side for list of species)

Potential tree height (PTH)/Width of riparian area : 75 / 75 feet
(Width measured horizontally from edge of water resource)

PTH determined by:
On-site vegetation Reference site Code

Comments: Sharp meander in McKay Creek, north of railroad tracks, adjacent to city property. Right side is undeveloped and left side is disturbed. Evidence of beaver activity along the creek.

Typical Cross Section:



Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

WATER QUALITY

RIPARIAN CODE

R-MK-12R

		Score
1. What is the average slope in the riparian area?		
a. Less than 10:1 (10%)	3 pts	<u>3</u>
b. Between 10:1 (10%) and 5:1 (20%)	2 pts	
c. Greater than 5:1 (20%)	1 pt	
2. What is the dominant vegetation cover in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
3. What is the dominant vegetation at the top of bank (if defined) or edge of water resource?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>3</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
4. What is the extent of impervious surfaces within the riparian area?		
a. Less than 10%	3 pts	<u>3</u>
b. Between 10% and 25%	2 pts	
c. Greater than 25%	1 pt	
5. How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.		
a. Low, slight, moderate	2 pts	<u>2</u>
b. High, severe, very high	1 pt	
Total Points:		<u>13</u>

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE

R-MK-12R

FLOOD MANAGEMENT

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?

- a. Yes 3 pts
b. No 1 pt

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?

- a. Yes 3 pts
b. No or no flood prone area present 1 pt

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?

- a. No 3 pts
b. Yes 1 pt

Score

3

1

3

Total Points:

7

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION IS:

MEDIUM

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

THERMAL REGULATION

RIPARIAN CODE
R-MK-12R

9. Does the aspect or orientation of the riparian area allow for shading of water at midday in the summer?

- | | | |
|--------|-------|-------|
| a. Yes | ..... | 3 pts |
| b. No | ..... | 1 pt |

Score

3

10. What is the dominant vegetation layer in the riparian area?

- | | | |
|---|-------|-------|
| a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high | ..... | 3 pts |
| b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high | ..... | 2 pts |
| c. Bare ground | ..... | 1 pt |

2

11. Does woody vegetation hang over the edge of the water?

- | | | |
|--------|-------|-------|
| a. Yes | ..... | 2 pts |
| b. No | ..... | 1 pts |

2

Total Points: 7

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION IS: **HIGH**

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-12R

WILDLIFE HABITAT

		Score
12. How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?		
a. More than 2 layers	3 pts	<u>3</u>
b. 2 layers	2 pts	
c. 1 layer, or unvegetated	1 pt	
13. What is the dominant vegetation layer in the riparian area?		
a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high	3 pts	<u>2</u>
b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high	2 pts	
c. Bare ground	1 pt	
14. Does woody vegetation hang over the edge of the water?		
a. Yes	2 pts	<u>2</u>
b. No	1 pt	
15. Is large woody debris present within the riparian area?		
a. Yes	3 pts	<u>3</u>
b. No	1 pt	
16. What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?		
a. Greater than 40%	3 pts	<u>2</u>
b. Between 10% and 40%	2 pts	
c. Less than 10%	1 pt	

Questions continued on next page

Riparian Functional Assessment Answer Sheet



City of North Plains Riparian Inventory

RIPARIAN CODE
R-MK-12R

WILDLIFE HABITAT (continued)

		Score
17. Is surface water present throughout the year?		
a. Yes	..... 3 pts	<u>3</u>
b. No	..... 1 pt	
18. Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?		
a. Yes	..... 3 pts	<u>1</u>
b. No	..... 1 pt	
19. What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?		
a. Less than 25%	..... 3 pts	<u>2</u>
b. Between 25% and 75%	..... 2 pts	
c. Greater than 75%	..... 1 pt	
Total Points:		<u>18</u>

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION IS: **MEDIUM**

Appendix F

Plant List



Vascular plant species found within the North Plains LWI study area

(Note: list is not comprehensive; absence of many species common in region reflects limited scope of survey and lateness of season, December 2001-January 2002.)

Scientific Name	Common Name	Native? (N/D)*	USFWS
TREES			
<i>Acer macrophyllum</i>	big leaf maple	N	FACU
<i>Alnus rubra</i>	red alder	N	FAC
<i>Betula pendula</i>	European white birch	I	FACW
<i>Fraxinus latifolia</i>	Oregon ash	N	FACW
<i>Populus nigra</i>	Lombardy poplar	I	NOL
<i>Populus trichocarpa</i>	black cottonwood	N	FAC
<i>Prunus avium</i>	sweet cherry	I	UPL
<i>Pseudotsuga menziesii</i>	Douglas fir	N	UPL
<i>Robinia pseudoacacia</i>	black locust	I	UPL
<i>Quercus garryana</i>	Oregon white oak	N	UPL
<i>Salix babylonica</i>	weeping willow	I	FAC+
<i>Salix lasiandra</i>	Pacific willow	N	FACW+
<i>Salix scouleriana</i>	Scouler's willow	N	FAC
<i>Thuja plicata</i>	western red cedar	N	FAC
SHRUBS/ VINES			
<i>Acer circinatum</i>	vine maple	N	FAC-
<i>Amelanchier alnifolia</i>	Saskatoon serviceberry	N	FACU
<i>Berberis aquifolium</i>	tall Oregon grape	N	UPL
<i>Clematis ligusticifolia</i>	western virgins' -bower	N	FAC-
<i>Cornus stolonifera</i>	red osier dogwood	N	FACW
<i>Corylus cornuta</i>	beaked hazel-nut	N	FACU
<i>Crataegus douglasii</i>	Douglas' hawthorn	N	FAC
<i>Crataegus monogyna</i>	ornamental hawthorn	I	FACU+
<i>Cytisus scoparius</i>	Scot's broom	I**	UPL
<i>Hedera helix</i>	English ivy	I**	UPL
<i>Ilex aquifolium</i>	English holly	I**	UPL
<i>Lonicera involucrata</i>	bearberry honeysuckle	N	FAC+
<i>Oemleria cerasiformis</i>	Indian plum	N	FACU
<i>Physocarpus capitatus</i>	Pacific ninebark	N	FACW-
<i>Rhododendron macrophyllum</i>	western rhododendron	N	UPL
<i>Rosa nutkana</i>	Nootka rose	N	FAC
<i>Rosa pisocarpa</i>	clustered rose	N	FAC
<i>Rubus discolor</i>	Himalayan blackberry	I**	FACU
<i>Rubus parviflorus</i>	western thimbleberry	N	FAC-

Scientific Name	Common Name	Native? (N/D)*	USFWS
<i>Rubus ursinus</i>	California dewberry	N	FACU
<i>Salix piperi</i>	Piper's willow	N	FACW
<i>Sambucus racemosa</i>	red elderberry	N	FACU
<i>Spiraea douglasii</i>	Douglas' spiraea	N	FACW
<i>Symphoricarpos albus</i>	snowberry	N	FACU
HERBS			
<i>Agrostis stolonifera</i>	spreading bentgrass	I	FAC
<i>Agrostis tenuis</i>	colonial bentgrass	I	FAC
<i>Alopecurus pratensis</i>	meadow foxtail	I	FACW
<i>Athyrium filix-femina</i>	lady fern		
<i>Avena sativa</i>	common oats	I	UPL
<i>Centaureum umbellatum</i>	common centaury	I	FAC
<i>Cerastium vulgatum</i>	mouse-ear chickweed	I	FACU
<i>Chrysanthemum leucanthemum</i>	oxeye daisy	I	UPL
<i>Cirsium arvense</i>	Canada thistle	I**	FACU+
<i>Cirsium vulgare</i>	bull thistle	I**	FACU
<i>Convolvulus arvensis</i>	field morning-glory	I**	UPL
<i>Dactylis glomerata</i>	orchard grass	I	FACU
<i>Daucus carota</i>	Queen Anne's lace	I	UPL
<i>Dipsacus sylvestris</i>	teasel	I**	FAC
<i>Epilobium watsonii</i>	Watson's willow-herb	N	FACW-
<i>Equisetum arvense</i>	field horsetail	N	FAC
<i>Equisetum hyemale</i>	rough horsetail	N	FACW
<i>Festuca arundinacea</i>	tall fescue	I	FAC-
<i>Festuca rubra</i>	red fescue	I	FAC+
<i>Galium aparine</i>	catchweed bedstraw	N	FACU
<i>Geranium robertianum</i>	Robert's geranium	I	UPL
<i>Geranium molle</i>	doves-foot geranium	I	UPL
<i>Geum macrophyllum</i>	large-leaved avens	N	FACW-
<i>Holcus lanatus</i>	common velvet grass	I	FAC
<i>Hypericum perforatum</i>	common St. John's wort	I	UPL
<i>Hypochaeris radicata</i>	hairy cats-ear	I	UPL
<i>Juncus bufonius</i>	toad rush	I	FACW
<i>Juncus effusus</i>	soft rush	N	FACW
<i>Juncus patens</i>	spreading rush	N	FACW
<i>Juncus tenuis</i>	slender rush	N	FACW-
<i>Lactuca serriola</i>	prickly lettuce	I	FACU
<i>Lemna minor</i>	lesser duckweed	N**	OBL

Scientific Name	Common Name	Native? (N/I)*	USFWS
<i>Lolium multiflorum</i>	annual ryegrass	I	UPL
<i>Lotus corniculatus</i>	birds-foot trefoil	I	FAC
<i>Matricaria matricarioides</i>	pineapple weed	I	FACU
<i>Oenanthe sarmentosa</i>	water-parsley	N	OBL
<i>Phalaris arundinacea</i>	reed canary grass	I**	FACW
<i>Plantago lanceolata</i>	English plantain	I	FAC
<i>Plantago major</i>	common plantain	I	FACU
<i>Polystichum munitum</i>	sword fern	N	FACU
<i>Prunella vulgaris</i>	heal-all	I	FACU+
<i>Pteridium aquilinum</i>	bracken fern	N	FACU
<i>Ranunculus repens</i>	creeping buttercup	I	FACW
<i>Raphanus sativus</i>	radish	I	NI
<i>Rumex crispus</i>	curly dock	I	FAC+
<i>Rumex salicifolius</i>	willow dock	N	FACW
<i>Senecio jacobaea</i>	tansy ragwort	I**	FACU
<i>Solanum dulcamara</i>	climbing nightshade	I	FAC+
<i>Sonchus asper</i>	prickly sowthistle	I	FAC-
<i>Tanacetum vulgare</i>	tansy	I	NI
<i>Taraxacum officinale</i>	common dandelion	I	FACU
<i>Tellima grandiflora</i>	fringecup	N	UPL
<i>Tolmiea menziesii</i>	piggy-back plant	N	FAC
<i>Trifolium pratense</i>	red clover	I	FACU
<i>Trifolium repens</i>	white clover	I	FAC
<i>Triticum aestivum</i>	cultivated wheat	I	UPL
<i>Urtica dioica</i>	stinging nettle	N	FAC
<i>Verbascum thapsus</i>	mullein	I	UPL
<i>Veronica americana</i>	American speedwell	N	OBL
<i>Vicia sativa</i>	common vetch	I	UPL
<i>Vicia tetrasperma</i>	slender vetch	I	UPL

*N/I= Native, or Introduced (from another region or country)

** = noxious weed (typically introduced); may warrant control measures in some situations

Wetland Indicator Codes	
OBL	Obligate Wetland
FACW	Facultative Wetland
FAC	Facultative
FACU	Facultative Upland
UPL	Upland
NI	Not Indicator