Local Wetland and Riparian Area Inventories and Assessments
Report of Findings

City of Coburg
Oregon
Final Report March 2000

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Table of Contents

Summary of Findings Page 1

1. Introduction Page 2
- 1.1. Layout Of This Document
- 1.2. Preparers

2. Methodology Page 2
- 2.1. Public Involvement
- 2.2. Local Wetlands Inventory
  - 2.2.1. Routine Off-Site Determinations
  - 2.2.2. Routine On-Site Determinations
- 2.3. Wetland Quality Assessment
  - 2.3.1. The Oregon Freshwater Assessment Methodology
  - 2.3.2. Wetlands of Special Interest for Protection
  - 2.3.3. Determination of Locally Significant Wetlands
  - 2.3.4. Field Methodology
  - 2.3.5. Overall Assessment
- 2.4. Riparian Areas Inventory
- 2.5. Riparian Areas Quality Assessment
- 2.6. Cartography

3. Study Area Information Page 5
- 3.1. Overview
- 3.2. Previous Delineations in the Study Area

4. LWI Findings and Discussion Page 12
- 4.1. Summary
- 4.2. Local Wetlands Inventory Results
  - 4.2.1. Wetland Acreage and Distribution
  - 4.2.2. Wetland Classification
- 4.3. Wetland Quality Assessment
  - 4.3.1. The Oregon Freshwater Assessment Methodology
  - 4.3.2. Wetlands of Special Interest for Protection
  - 4.3.3. Determination of Locally Significant Wetlands
- 4.4. Aerial photographs and maps

5. Riparian Findings Page 23
- 5.1. Summary
- 5.2. Riparian Inventory Results
- 5.3. Riparian Quality Assessment Results
- 5.4. Aerial photographs and maps

6. Glossary Page 33

7. References Page 37

8. Appendices
8.1. Wetland Function and Condition Summary Table
8.2. Wetland Areas by Drainage System and Wetland Unit
8.2.1. Mill Slough System
8.2.2. Muddy Creek Irrigation Canal North
8.2.3. Muddy Creek Irrigation Canal South
8.3. Riparian Area Function Summary Table
8.4. Riparian Areas by Drainage System and Reach
8.4.1. Mill Slough System
8.4.2. Muddy Creek Irrigation Canal North
8.4.3. Muddy Creek Irrigation Canal South
8.5. Project Team Qualifications

Figures
1: Vicinity Map Page 6
2: USGS Map Page 7
3: Soil Survey for Lane County Map Page 9
4: NWI Map Page 11
5: Drainage Basins of Coburg Map Page 14
6: FEMA Zone Designations Page 15
7: Watershed Summaries Pages 16 - 18
8: Wetlands of Special Interest for Protection Pages 19 - 20
9: Locally Significant Wetlands Page 22
10: Aerial Photographs Pages 24 - 31

Summary of findings

The City of Coburg is located approximately four miles north of Eugene in the southern Willamette Valley. Nestled between the foothills of the Cascade Mountains and the Coast Range Mountains, Coburg is sited on the broad valley terrace just north of the confluence of the McKenzie and Willamette Rivers.

The Local Wetland and Riparian Areas Inventory and Assessment was begun in June 1999. Inventory field work included a combination of Off-site and On-site methodologies, dependent upon permission to enter the properties involved. Within the approximately 700 acres of the Coburg Local Wetland Inventory Study Area, only 19.4 acres of jurisdictional wetlands were identified and classified as shown in the Table below. This figure is not unexpected, given the permeability of soils and the intensity of agricultural management of this landscape. Waterways in particular have been filled, disconnected, diked, piped, rerouted and removed from some of the historic locations. Wetlands have therefore become more isolated from historic hydrology sources. As a result of this hydrologic manipulation, in combination with management of vegetation throughout the area, very little remains of the historic wetland resources within the Study Area.

Wetland Number	**Cowardin Classification**	**Wetland Acreage**
MS-W1	60% Palustrine Emergent, 40% Palustrine Scrub-Shrub	0.8 PEM / 0.5 PSS
MCN-W1	98% Palustrine Emergent, 2% Palustrine Scrub-Shrub	2.9 PEM / 0.1 PSS
MCN-W2	99% Palustrine Emergent, 1% Palustrine Scrub-Shrub	10.1 PEM / 0.1 PSS
MCN-W3	100% Palustrine Emergent	3.7 PEM
MCS-W1	99% Palustrine Emergent, 1% Palustrine Scrub Shrub	0.2 PEM
MCS-W2	100% Palustrine Emergent	0.6 PEM
MCS-W3	100% Palustrine Emergent	1.1 PEM
Total Wetland Area	**Palustrine Emergent (PEM)** **Palustrine Scrub-Shrub (PSS)**	**19.4 acres** **0.7 acres**
		20.1 acres

The Oregon Freshwater Wetland Assessment began with a characterization of the watershed sub-basins as identified for the Study Area: the Mill Slough (MS) and the Muddy Creek Irrigation Canal North (MCN) and South (MCS). Results of the Assessment show that, in general, all wetlands in the Study Area provide some habitat but are degraded; water quality is degraded; hydrologic control is degraded; and results are varied for: sensitivity to future impacts, potential for enhancement activities, recreational opportunities and aesthetic quality. Only two wetlands marginally meet criteria as Wetlands of Special Interest for Protection.

Waterways in the Study Area have also been filled, disconnected, diked, piped, rerouted and moved from some of the historic locations, with a resulting loss of vegetative connectivity, channel structure and channel / habitat complexity. Two major stream systems were identified in the study area: the Mill Slough and the Muddy Creek Irrigation Canal. The Mill Slough system was subsequently divided into 4 reaches; the Muddy Creek Irrigation Canal was divided into 8 northern reaches and 10 southern reaches.

In general, the Mill Slough Riparian reaches rated consistently high for functions of water quality and thermal regulation, and medium for flood management and wildlife habitat. The Muddy Creek Irrigation Canal North reaches generally rated medium to high for water quality functions, low to medium for thermal regulation, flood management and wildlife habitat. The Muddy Creek Irrigation Canal South Reaches rated similarly for water quality functions, but consistently medium for flood management and low for thermal regulation. Results were varied for the provision of wildlife habitat along the Muddy Creek Irrigation Canal South Reaches.

1. INTRODUCTION

1.1. Layout of This Document

This document is organized in a manner intended to best facilitate understanding of the data, analysis and conclusions being presented. Discussion of the results of the inventory and analysis is presented in an integrative fashion, providing an overview and context for further understanding of this local landscape. Information is compiled and presented in the Appendices regarding each individual Wetland Unit and individual Riparian Reach, including all field information, data forms, assessment forms, maps, aerial photos and site photos.

1.2. List of Preparers

Many people have contributed to the research, analysis and documentation for the Coburg Local Wetland Inventory. These include:

Staff	Firm	Assigned Project Responsibilities
Michael W. Shippey	Satre Associates, PC 132 East Broadway, Suite 536 Eugene, Or. 97401	Project Team Leader, Project Management, Field Inventory and Assessment Team Member, Documentation Development, Public Meeting Presentations
Nancy Holzhauser	Environmental Solutions 2540 Pierce Street Eugene, Or 97405	Field Inventory and Assessment Team Member and Coordinator, Documentation Review, Public Meeting Presentations
Ethen Perkins	Ethen Perkins Consulting 2410 Monroe Eugene, Or 97405	Field Inventory and Assessment Team Member
Greta Murdoff, Jessie Minniti-Shippey	Satre Associates, PC	Field Team Assistance, Documentation Production
Ron Funke, Greta Murdoff, Mark Stevens, David Davies, Mark Rust	Satre Associate, PC	GIS Team Members

Please see Appendix 8.5 for Project Team Qualifications.

2. METHODOLOGY

2.1. Public Involvement

Many efforts have been made to keep the involved community informed as this project has progressed. Initially, all citizens of the City of Coburg were notified that the project had been authorized and would begin in the summer of 1999. On June 22, 1999, a total of 75 notices were sent to property owners anticipated to be affected by the Inventory process, along with requests for authorization to enter properties for on-site investigations. Property owners were also notified that Public Meeting #1 would be held on July 7, 1999. Approximately 6 favorable responses were returned with signatures authorizing the requested Permits of Entry for the field work.

Public Meeting #1 was held as planned, and those citizens in attendance were provided the opportunity to discuss the project and the process for the Local Wetland Inventory. General information was presented related to wetland definition, the Local Wetland Inventory process, and the regulatory / land use planning context which had initiated the project. This meeting had very limited attendance by the community.

Public Meeting # 2 was held on January 13, 2000, in order to apprise the Coburg community of the draft findings from the Local Wetland and Riparian Areas inventories.

2.2. Local Wetlands Inventory

All work conducted during the Wetland Inventory phase of this project conforms with standards identified in Oregon Administrative Rules 141-086-0180 through 141-086-0240. The "*Guidance for Mapping Agricultural Sites"* issued by the Division of State Lands, dated July 10, 1998, has also been followed.

2.2.1. Routine Off-site Determination

Off-site Determinations were conducted to determine the approximate location of wetland boundaries where access was not permitted by the property owner. The methodology followed for Off-Site Determinations included review of all available information, generally followed by field verification from nearby lands. The available information included the USGS topographic quadrangles, the *Soil Survey of Lane County Area Oregon* (NRCS 1982), the National Wetland Inventory maps, Natural Resources Conservation Service maps and records, and historic aerial photographs at a variety of scales.

2.2.2. Routine On-site Determination

Where access to the wetland areas was granted, observations and sampling techniques for wetland determination included inspection of vegetation, hydrology, and soils using the techniques outlined by the Routine Onsite Determination Method of the 1987 Corps of Engineers Wetland Delineation Manual. Sampling points were established in pairs which defined the boundary between upland and wetland.

If a prior wetland study had been conducted on the property and approved by regulatory personnel, the determination was considered to be a Prior On-site Determination.

Field work was conducted between July 26, 1999 and September 28, 1999 as follows:

TABLE I FIELD VISITS

Area	Date
MS	7/26, 7/28, 8/23,8/24, 9/28
MCS	7/28, 7/29
MCN	7/28, 7/29

2.3. Wetland Quality Assessment

The wetlands identified within the Project Study Area were assessed for general function and condition, as well as for any unique attributes which might suggest or require special protection.

2.3.1. The Oregon Freshwater Assessment Methodology

The condition and function of identified wetlands in the study area were assessed by use of the *Oregon Freshwater Assessment Methodology* (OFWAM) (Roth et al, 1996). This method assesses the general status and relative quality of wetlands within a given area for planning and educational purposes; it is not intended for detailed, quantitative analysis. It can be a very effective tool in making community decisions, such as assisting in the identification of those areas functioning most optimally or those areas whose functions are least impacted. The relative quality of a wetland is determined by evaluating six wetland functions and three conditions for each of the wetlands. The *Oregon Freshwater Assessment Methodology* is based on field observations at each wetland, and an assessment of the status of performance of the functions of wildlife habitat, fish habitat, water quality, hydrologic control, education, and recreation. The wetland condition

criteria evaluates these same wetlands for their enhancement potential, sensitivity to future impacts, and aesthetic quality. The questionnaires for each wetland unit assessed are included in the Appendices.

2.3.2. Wetlands of Special Interest for Protection
Wetlands that qualify as uncommon in Oregon, are already protected by regulatory rules, or are protected in a recognized management plan are singled out using the ten questions of the OFWAM Wetlands of Special Interest for Protection. An answer of "yes" to any of the questions highlights the wetland as needing special attention for future protection and management plans. The questionnaire is included as Figure 8.

2.3.3. Determination of Locally Significant Wetlands
Criteria for identifying locally significant wetlands is applied by the local government. This determination is based upon OFWAM ranking of wildlife and fish habitat, water quality, hydrological control, as well as presence of rare plant communities and listed species, proximity to a 303(d) listed stream (DEQ water quality limited water body) and surface water connection to a stream containing salmonids. A wetland that was artificially created is not considered a locally significant wetland.

2.3.4. Field Methodology
On-site collection of data included observations of: surface hydrology; connectivity to other wetlands and the surrounding landscape; characterization of vegetative structure including wetland class; physical attributes; and any observable disturbances. These forms are included in the Appendices for each wetland unit.

2.3.5. Overall Assessment
Office research included collection of landscape and topographic information from a variety of sources. The data gathered in the field and in the office were compiled to answer the questions for the assessment of functions and conditions for each wetland.

2.4. Riparian Areas Inventory
All research and assessment work for the Riparian Areas Inventory and Assessment follows the *Urban Riparian Inventory and Assessment Guide* (1998) as developed for the Oregon Division of State Lands.

Riparian areas are those areas adjacent to a water resource which display transitions between terrestrial and aquatic zones. These areas are beneficial to a number of organisms and provide for flood storage and amelioration, erosion control, and bank or slope stabilization. This is the zone where vegetative material is deposited, where significant shading can occur, where humidity is typically higher and temperatures typically cooler.

The inventory of riparian areas began with a review of the existing information, particularly historic aerial photos, the National Wetland Inventory map and other sources. The Study Area was divided into watershed sub-basins based upon hydrology, topography and the built environment. The Field assessment of riparian areas included diagrams of the right and left banks, measurements of riparian area width, estimates of the average slope of the bank and characterization of the vegetation typical for the particular section being studied.

A standardized riparian characterization form was developed for assessing the physical character of each side of the bank. The field data collected characterized existing vegetation, channel width and depth, adjacent land uses, type of substrate within the channel, presence of water and salmonids, percent slope, degree of human disturbance and channel modification (e.g., culverted, channelized), percentage of shade, presence of large woody debris, and percentage of the vegetation cover in the riparian area. Riparian reach length is determined by the character, vegetation, land use and cover of each bank; if the character changes on one bank, a new reach is considered to have begun for both sides of the stream.

2.5. Riparian Quality Assessment

In order to assess the function and condition of the riparian areas, a series of questions were answered regarding the structure of riparian zones on each side of each reach. This characterization allows inferences regarding the ability of a riparian area to perform various functions, such as thermal regulation, erosion control, flood control, water quality, and wildlife habitat within the riparian zone. Each question results in a point score and a qualitative rating for performance of the variety of functions as High, Medium or Low.

2.6. Cartography

Cartography for the Riparian Inventory and Assessment phase of this project closely followed the same pattern and sequence of activity as the Wetland Inventory and Assessment. Base map information was obtained from the Lane Council of Governments, and augmented by drafted layers taken from findings obtained in the field. The map information was managed and manipulated within the ArcView GIS 3.2 program. A variety of symbologies and production sequences were explored before the versions included in this document were selected.

3. STUDY AREA INFORMATION

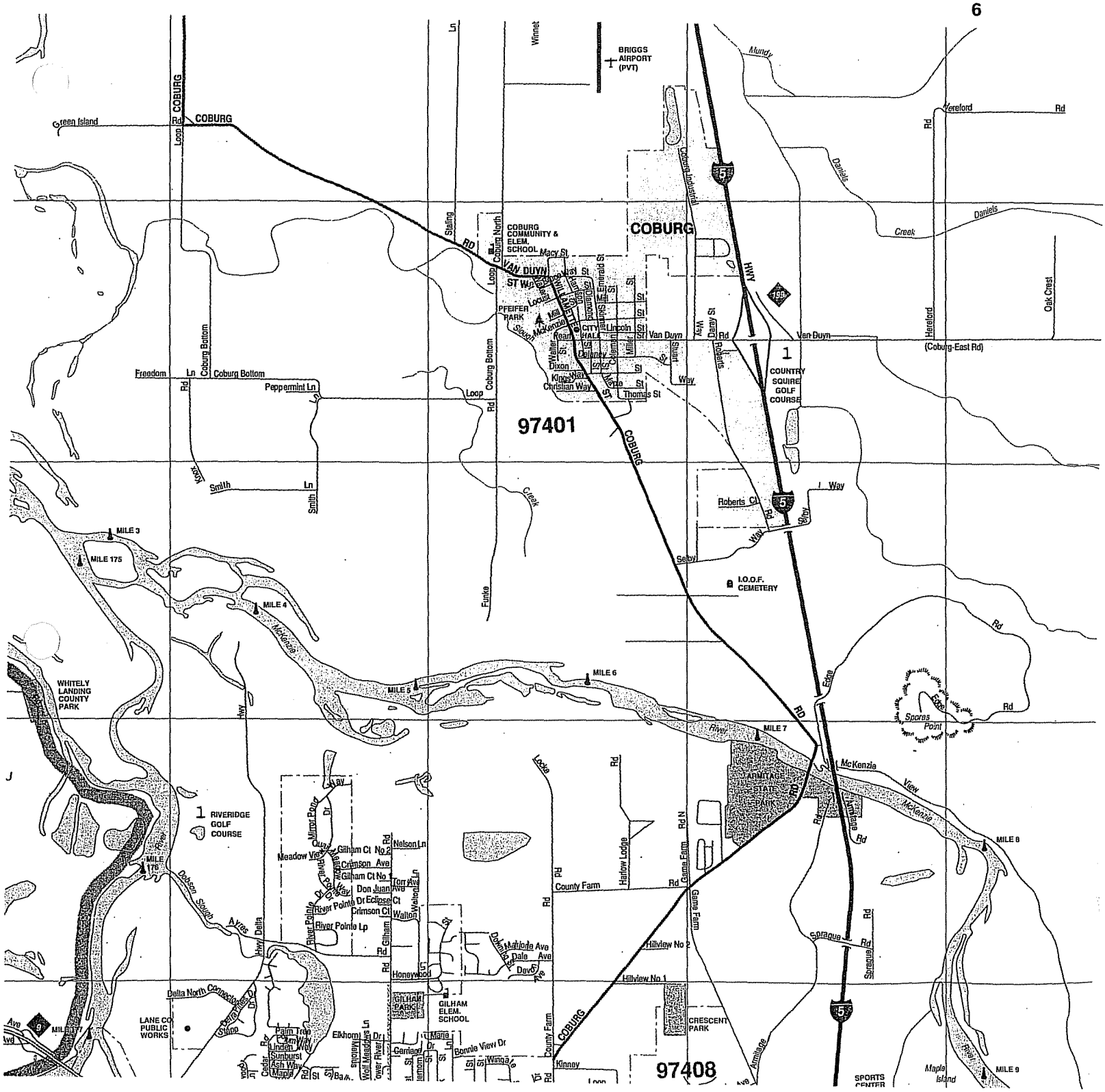
3.1. Overview

The City of Coburg is located approximately four miles north of Eugene in the southern Willamette Valley. Nestled between the foothills of the Cascade Mountains and the Coast Range Mountains, Coburg is sited on the broad valley terrace just north of the confluence of the McKenzie and Willamette Rivers.

Soils on the terraces above the flood plains in the Willamette Valley are typically well drained with undulating bar and channel relief, reflecting a long history of meandering rivers and resulting deposited materials. The *Soil Survey for Lane County Area, Oregon* identifies soils for the area as a mixture of the following series.

TABLE II MAPPED SOIL UNITS

Soil Symbol	Soil Name	Hydric Status
(8)	Bashaw clay	Hydric
(29)	Cloquato silt loam	Non-hydric
(31)	Coburg silty clay loam	Hydric Conser soil inclusions
(33)	Conser silty clay loam	Hydric
(75)	Malabon silty clay loam	Non-hydric
(76)	Malabon-Urban land complex	Non-hydric
(118)	Salem gravely silt loam	Non-hydric



Scale: 1" : 2640'

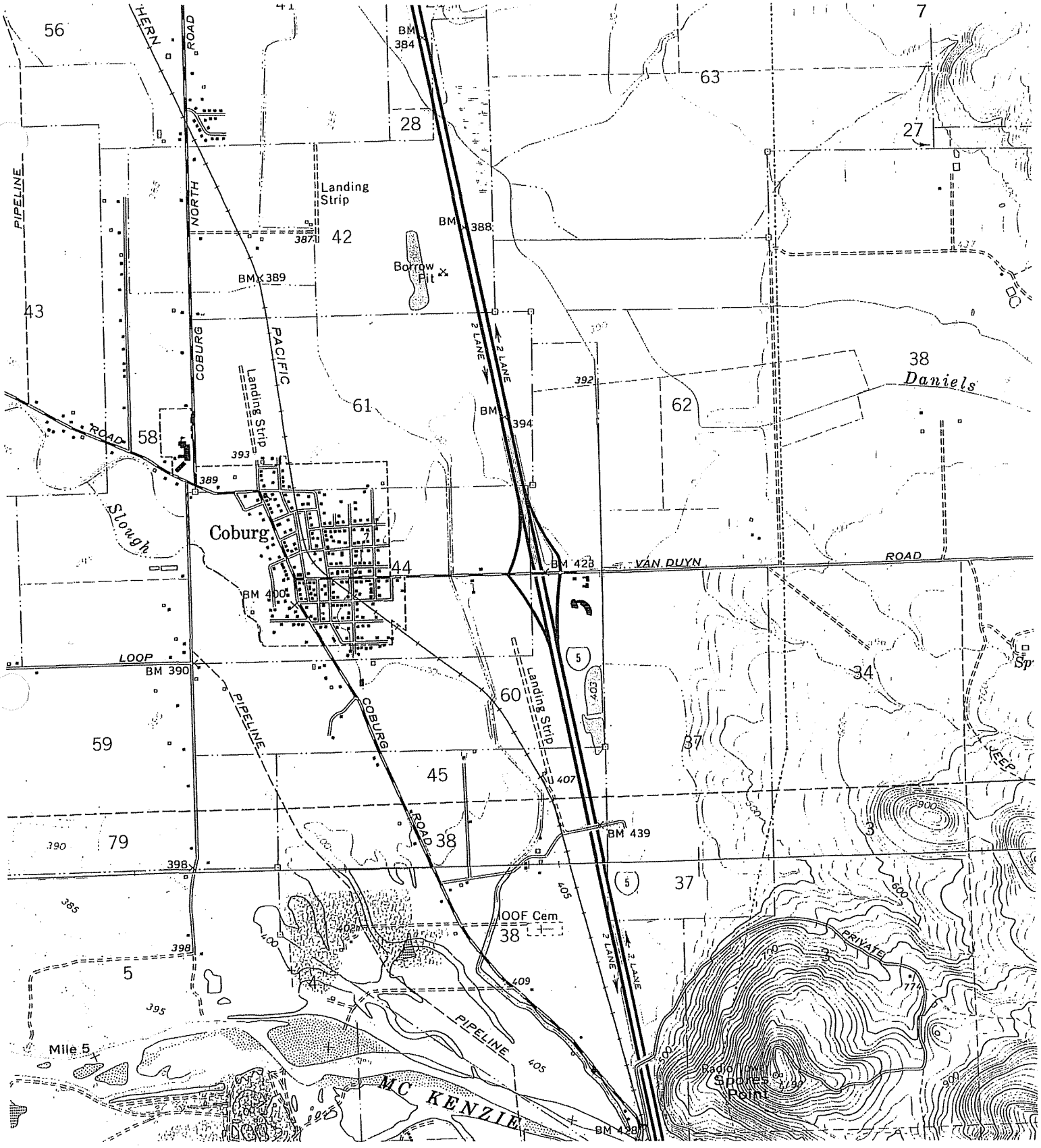
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VICINITY MAP
Coburg LWI
City of Coburg
October, 1999

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Scale: 1" : 2000'

N

USGS TOPOGRAPHY MAP
Coburg Quadrangle
Coburg LWI
City of Coburg
October, 1999

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(8) Bashaw clay. One of two hydric soils present in the project area, Bashaw clay occurs on flood plains, terraces, and fans. This deep, poorly drained soil formed in fine textured alluvium. Slopes are 0-1 percent. The vegetation in areas not cultivated is mainly Oregon ash, hawthorn, and a variety of rushes, sedges, and grasses.

The surface layer is typically very dark gray clay about seven inches thick The next 27 inches are black and very dark gray clay. Included in this unit are small areas of Awbrig, Conser, Courtney, Natroy, and Oxley soils, which make up 15 percent of the total acreage. Permeability of this series is very slow and runoff is very slow to ponded and the hazard of water erosion is slight.

(29) Cloquato silt loam. This series is a deep, well drained non-hydric soil that occurs on flood plains. It formed in recent mixed alluvium. The vegetation is mainly Douglas' fir, black cottonwood, bigleaf maple, Oregon white oak, western swordfern, and creambush oceanspray.

Typically, the surface layer is very dark grayish brown silt loam to about 14 inches. The next layer, about 19 inches thick is very dark grayish brown silt loam. Included in this unit are areas of Chapman, Chehalis, McBee, and Newberg soils, which make up approximately 15 percent of the total acreage. Permeability is moderate, runoff is slow, and the hazard of water erosion is slight. This soil is subject to occasional, brief periods of flooding from November to March.

(31) Coburg silty clay loam. This soil occurs on low stream terraces with 0 to 3 percent slopes. This deep, moderately well drained soil formed in silty and clayey mixed alluvium. The vegetation in areas not cultivated is mainly Oregon ash, Douglas-fir, Oregon white oak, and poison oak.

The typical surface layer is very dark grayish brown silty clay loam about 18 inches thick. Approximately 15 percent of the total acreage includes small areas of Conser (Hydric), Malabon, Salem, and Oxley soils. Permeability of this series is moderately slow and runoff is slow.

(33) Conser silty clay loam This deep, poorly drained soil is in depressional areas along drainageways. It formed in silty and clayey mixed alluvium and is listed as a Hydric Soil. The vegetation is mainly Oregon ash, Oregon white oak, hawthorn, rose, sedges, rushes, and grasses in areas not cultivated.

The surface layer to a depth of about 9 inches is very dark brown silty clay loam. The upper 5 inches of the subsoil is very dark grayish brown silty clay and the next 27 inches are very dark gray and brown, mottled clay and silty clay. Included in this hydric soil are small areas of Awbrig, Bashaw, and Coburg soils, which make up about 15 percent of the total acreage. Permeability and runoff are slow with an available water capacity of approximately 9 to 12 inches.

(75) Malabon silty clay loam This non-hydric soil is found on broad valley terraces and is well drained. The vegetation in areas not cultivated is mainly Douglas-fir, Oregon white oak, poison oak, ponderosa pine, other shrubs, and grasses.

Generally the surface layer is very dark brown and dark brown silty clay loam, about 12 inches thick. The next 30 inches are dark brown and brown silty clay loam and silty clay. Permeability is moderately slow and runoff is slow.

(76) Malabon-Urban land complex This non-hydric soil unit is an intricately intermingled 40 percent relatively undisturbed Malabon silty clay loam, 10 percent disturbed Malabon silty clay loam, and 45 percent



(8)	Bashaw clay	(Hydric)
(29)	Cloquato silt loam	(Non-hydric)
(31)	Coburg silty clay loam	(Conser soil inclusions)
(33)	Conser silty clay loam	(Hydric)
(75)	Malabon silty clay loam	(Non-hydric)
(76)	Malabon-Urban land complex	(Non-hydric)
(118)	Salem gravelly silt loam	(Non-hydric)

Scale: 1" : 1667'

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SOIL SURVEY FOR LANE COUNTY MAP
Coburg LWI
City of Coburg
October, 1999

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Urban land. The other 5 percent is made up of Chapman, Coburg, and Salem soils. Other characteristics are similar to Malabon silty clay loam.

(118) Salem gravely silt loam This deep, well drained non-hydric soil is found on stream terraces. The vegetation in areas not cultivated is mainly Douglas-fir, Oregon white oak, ponderosa pine, bigleaf maple, wild rose, and grasses.

The surface layer is generally dark brown gravely silt loam about 7 inches thick. The subsoil is dark brown gravely clay loam and gravely silty clay loam about 19 inches thick. Permeability of this series is moderate and runoff is slow.

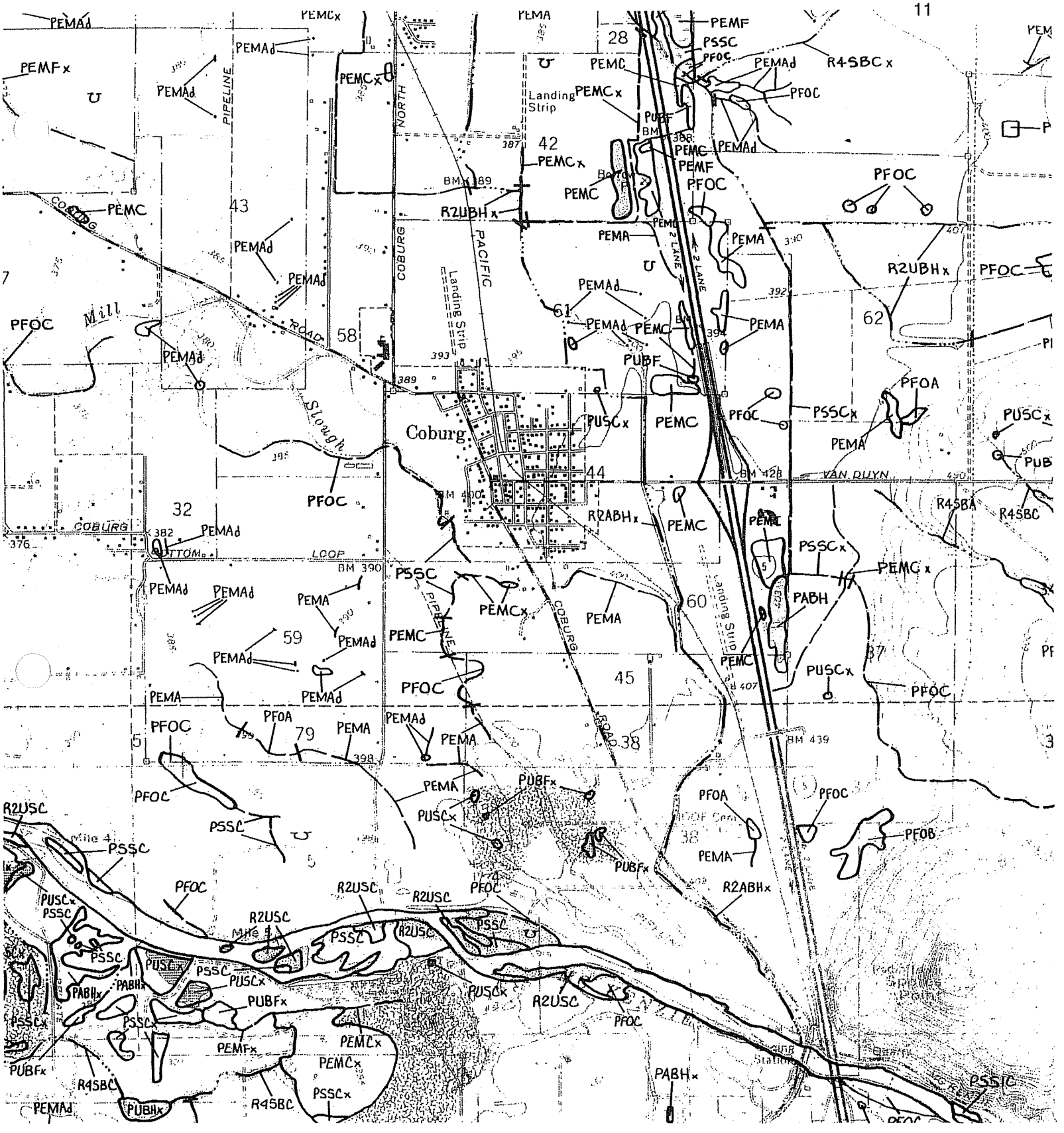
The Coburg area has a long and rich agricultural history, beginning with the village which the Kalapuya Indians had established along the McKenzie River, where their livestock were grazed and fishing was lucrative. In the middle 1800's, the Oregon Trail and promises of fertile fields led European American settlers John Diamond and Jacob Spores to the area, soon to be named Coburg by blacksmith Charles Payne. The recent history of the Coburg community has been dominated by agricultural practices to control and manage this landscape for the production of domestic food, grass and ornamental crops, as well as livestock pasture.

The City of Coburg is currently experiencing a burst of rapid development, particularly residences near the Mill Slough in the northwestern portion of the City and the development of large commercial and industrial lots along the Muddy Creek Irrigation Canal on the City's northern edge.

3.2. Previous Delineations in the Study Area

The National Wetland Inventory Map (1994) identifies numerous features in the Study Area as potential wetlands. Please see the map following. These potential wetlands include:

Feature	**Cowardin Classification**
Mill Slough	Palustrine Scrub - Shrub Seasonally Flooded Palustrine Forested Seasonally Flooded
Muddy Creek Irrigation Canal	Riverine Lower Perennial Aquatic Bed Permanently Flooded excavated Palustrine Emergent Seasonally Flooded excavated
Northeast Wetland Pair	Palustrine Emergent Seasonally Flooded Palustrine Emergent Semipermanently Flooded
Eastern Wetland Complex	Palustrine Emergent Seasonally Flooded Palustrine Unconsolidated Bottom Semipermanently Flooded
Various Small Wetlands	Palustrine Emergent Seasonally Flooded Palustrine Emergent Temporarily Flooded ditched / drained Palustrine Unconsolidated Shore Seasonally Flooded excavated



Scale: 1" : 2000'

N

NWI MAP
Coburg Quadrangle
Coburg LWI
City of Coburg
October, 1999

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On-site Determinations and Delineations have been previously conducted for several parcels within the Study Area. Information and maps for these Previous Delineations are included in the LWI Findings portion of this document where appropriate, and are summarized here:

Tax Lot Number	DSL Determination #	Wetlands Present
16033211-00201	98-0248	Palustrine Forested
	97-0088	Palustrine Forested
16033323-09900	98-0248	No wetlands present
16032800-00606	93-0167	Palustrine Emergent
16032800-00609,	93-0099	No wetlands present
-00610, -00611,		No wetlands present
-00612		Palustrine Emergent
16032800-00613	98-0562	Palustrine Emergent
		Farmed Wetlands
		Prior Converted Croplands
16032800-00614	94-0166	No wetlands present

Investigations were made at the Farm Service Agency and the Natural Resources Conservation Service offices regarding determinations of wetlands present on agricultural lands within the Project Study Area. Although numerous parcels have been investigated within the Study Area, no wetlands have been determined to be present on those parcels studied.

4. LWI FINDINGS

4.1. Summary

Within the approximately 700 acres of the Coburg Local Wetland Inventory Study Area, only seven wetland areas were identified, totaling 20.1 acres. This is not unexpected, given the intensity of agricultural management of this landscape. Waterways in particular have been filled, disconnected, diked, piped, rerouted and removed from some of the historic locations. Wetlands have become therefore more isolated from historic hydrology sources. As a result of this hydrologic manipulation, in combination with management of vegetation throughout the area, very little remains of the historic wetland resources within the Study Area.

4.2. Local Wetlands Inventory

All wetland Data Forms and Characterization Forms are included in the Appendices, organized by Wetland Unit.

4.2.1. Wetland Acreage and Distribution

One large wetland complex is found within the relict Mill Slough (MS-W1), varying in character from a relatively open emergent zone within the lower reaches of the channel, to a broader, densely forested *Populus trichocarpa - Fraxinus latifolia - Rubus discolor - Phalaris arundinacea* community, although somewhat drier than the typical wetland forest. Smaller, isolated wetlands are found in the Muddy Creek Irrigation Canal South (MCS-W1, W2 and W3) sub-basin area. The wetlands present in the Muddy Creek Irrigation Canal North (MCN-W1, W2 and W3) are generally larger, more diverse, and less isolated than the southern wetlands.

These results are displayed in the chart following in Section 4.2.2.

4.2.2. Wetland Classification

As might be expected in a landscape with a long history of agricultural use, very few wetland elements remain which support woody vegetation. Pasturing, cultivation, drainage work and ditching have all resulted in the alteration of wetland elements, particularly vegetation communities one would expect to see in the Coburg area. For example, emergent vegetation communities dominate most wetland areas due to management of these areas for grass seed production and, before that, game habitat and camas harvest by the Kalapuyans.

TABLE III COWARDIN CLASSES

Wetland Number	Cowardin Classification	Wetland Acreage
MS-W1	60% Palustrine Emergent, 40% Palustrine Scrub-Shrub	0.8 PEM / 0.5 PSS
MCN-W1	98% Palustrine Emergent, 2% Palustrine Scrub-Shrub	2.9 PEM / 0.1 PSS
MCN-W2	99% Palustrine Emergent, 1% Palustrine Scrub-Shrub	10.1 PEM / 0.1 PSS
MCN-W3	100% Palustrine Emergent	3.7 PEM
MCS-W1	99% Palustrine Emergent, 1% Palustrine Scrub Shrub	0.2 PEM
MCS-W2	100% Palustrine Emergent	0.6 PEM
MCS-W3	100% Palustrine Emergent	1.1 PEM
Total Wetland Area	**Palustrine Emergent (PEM)** **Palustrine Scrub-Shrub (PSS)**	**19.4 acres** **0.7 acres**
		20.1 acres

4.3. Wetland Quality Assessment

All Wetland Characterization Sheets and Function and Condition Summary Sheets are included in the Appendices, organized by Wetland Unit.

4.3.1. The Oregon Freshwater Assessment Methodology

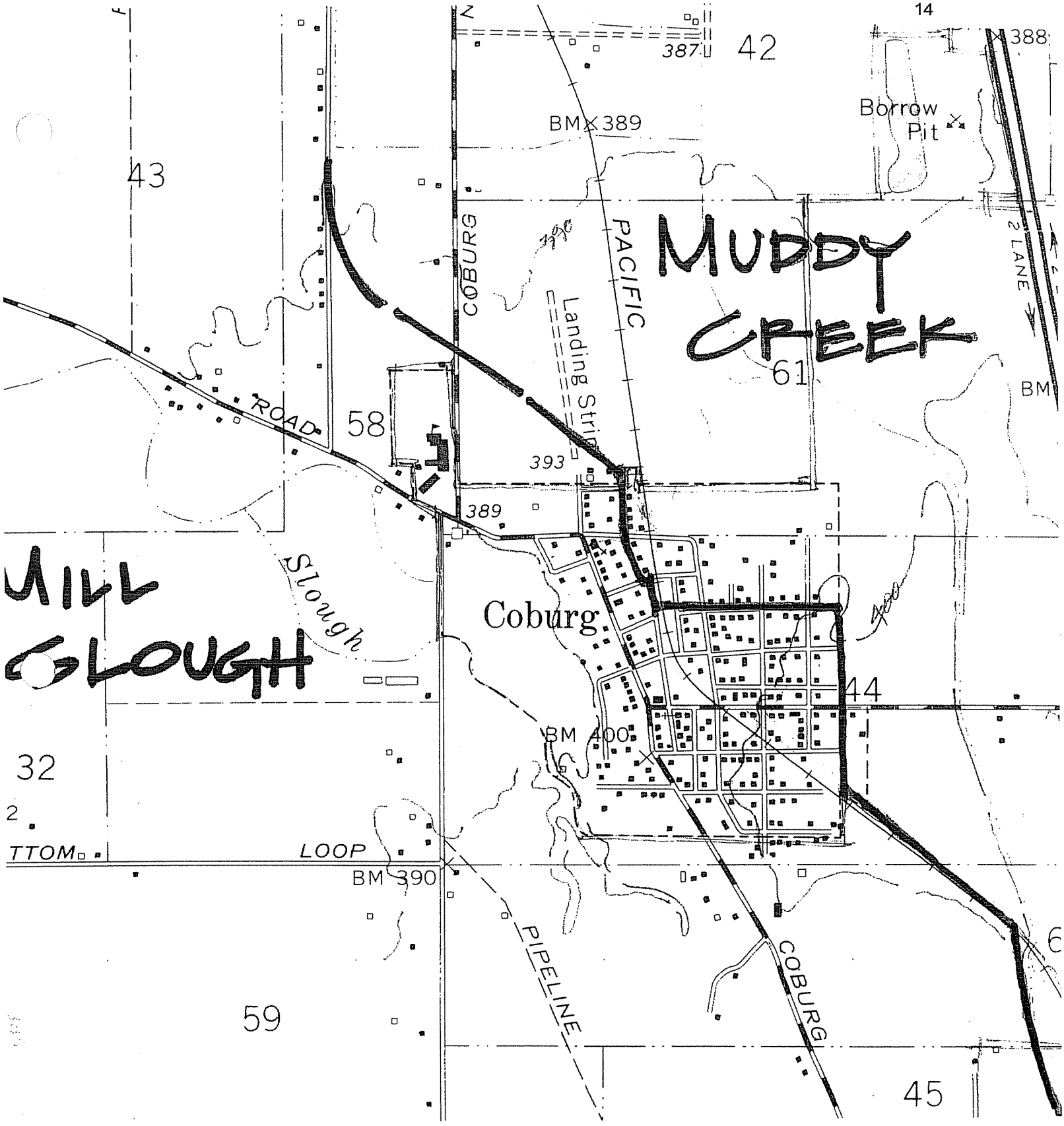
Concurrent with the determination / delineation field work, information was collected regarding characterization of the wetland areas as preparatory for the assessment. The Assessment began with a characterization of the watershed sub-basins as identified for the Study Area: the Mill Slough and the Muddy Creek Irrigation Canal North and South. The Watershed Settings are summarized on the following pages. The three watersheds share many characteristics, including geomorphic history, historic agricultural usage and currently degraded water quality and overall habitat value.

Individual Wetland Units were characterized for their structure, overall connections to the surrounding landscape, wetland habitat provisions, fish and wildlife habitat value, and opportunities for recreation, aesthetic experience and accessibility. The results of the Function and Condition Assessment are summarized in the Table in the Appendices. In general, all wetlands in the Study Area provide some habitat but are degraded (except MCN-W2, which provides diverse habitat); water quality is degraded; hydrologic control is degraded; and results are varied for: sensitivity to future impacts, potential for enhancement activities, recreational opportunities and aesthetic quality. MCN-W2 received the highest ratings of the seven wetlands.

4.3.2. Wetlands of Special Interest for Protection

In order to be considered as a Wetland of Special Interest for Protection, a “yes” answer to any of the several standardized questions needs to be achieved. None of the wetlands in this study qualified as wetlands of special interest, but wetlands MCN-W2 and MS-W1 were marginally answered “yes” to Question 1. This question asks if there are any threatened, endangered or sensitive species of wildlife, plants, invertebrates, or fish.

Please note that only those wetlands not determined to be artificially created were evaluated for this section



Scale: 1" : 1000'

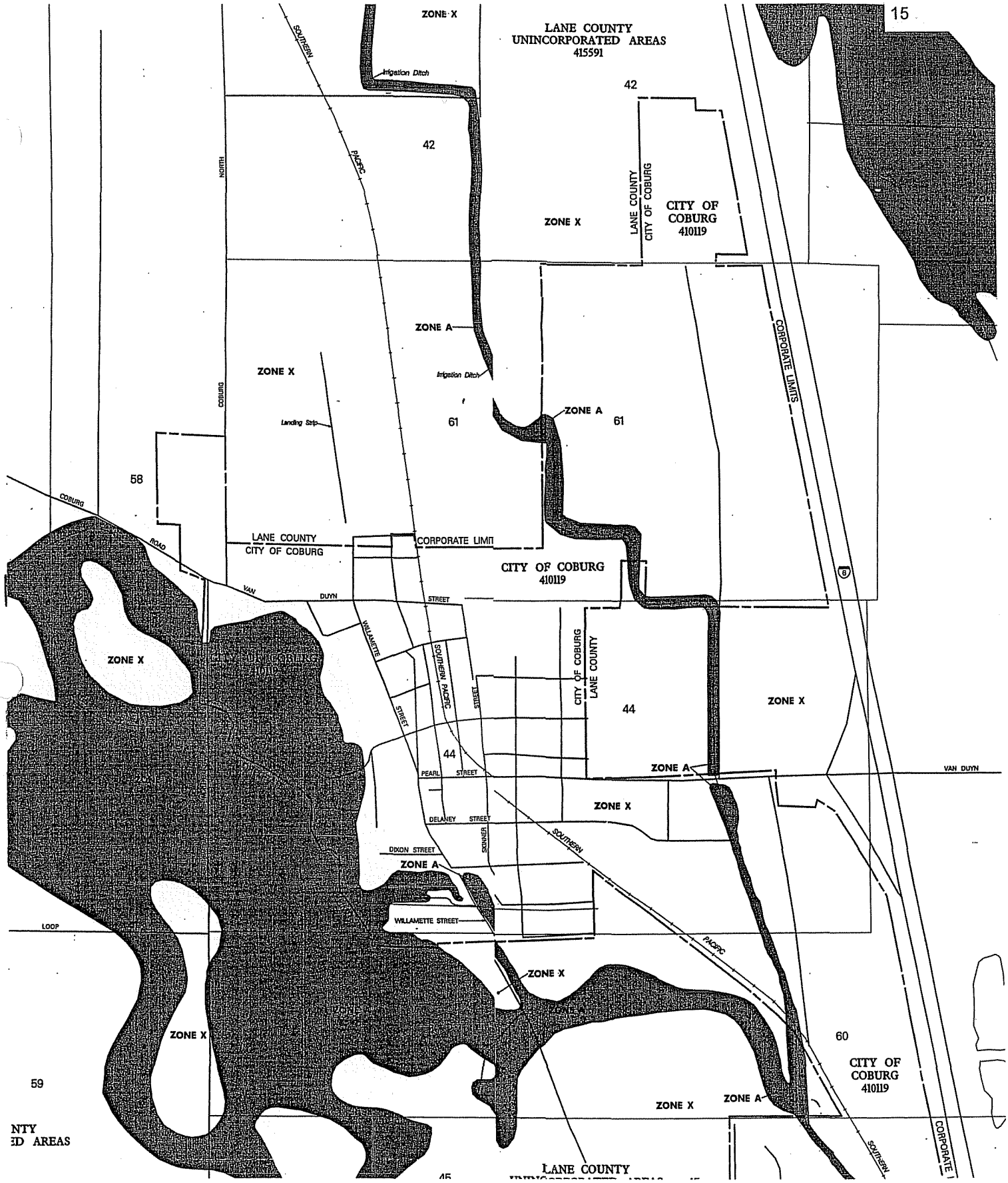
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DRAINAGE BASINS OF COBURG MAP
Coburg LWI
City of Coburg
October, 1999

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Scale: 1" : 1000'

N

FEMA ZONE DESIGNATIONS MAP

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City of Coburg
October, 1999

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Watershed summary for the Oregon Method

Watershed or community identification: *Mill Slough Watershed*

Characteristic	Description
Physical characteristics of the watershed	Characterized by the relatively flat agricultural area south and west of City of Coburg. Includes City of Coburg area west of S.P.R.R. Low, gently undulating landscape developed under cycles of stream flooding and erosion. Tributary to the Willamette River.
Land use within the watershed	Central land use is agriculture, combined with the community activities of western Coburg-residential, school and some commercial usage.
Water quality	Water quality is an important factor for this community, dependent upon dry wells. Given the land use in this small watershed, and the intermittent nature of the slough, water quality should be expected to be degraded.
Biological characteristics of the watershed	This watershed has a brief (<150 years) but intensive history of agriculture disturbance. As such, the landscape is now dominated by agriculture and domesticated species, with scattered patches of native plants. Riparian corridors are discontinuous; stream channels have been modified.
Narrative summary of watershed description	
The Mill Slough watershed contains soils and land forms which developed under cycles of riverine flooding/deposition and erosion through the valley terrace. Recent history has been dominated by agricultural practices to control and manage this landscape for the production of domestic food and ornamental crops. The result is a gently rolling, very open, grassy landscape broken by sparse riparian plant communities ordered along historic river meander scars. The City of Coburg is also currently experiencing rapid residential development near the Mill Slough, with a resulting increase in frequency, duration and intensity of disturbance.	

Watershed summary for the Oregon Method

Watershed or community identification: *Muddy Creek Irrigation Canal North*

Characteristic	Description
Physical characteristics of the watershed	Much of the northern Muddy Creek Irrigation Canal runs through agricultural fields and large commercial developments. Irrigation canal diverted from McKenzie River, flows north through various canals to Muddy Creek.
Land use within the watershed	Major portion of land use is agriculture and more recently, development of commercial/industrial facilities.
Water quality	Given the land use in this watershed and the manipulation of the canal (channelized and culverted), water quality should be expected to be very degraded.
Biological characteristics of the watershed	This watershed has a brief (<150 years) but intensive history of agriculture disturbance. As such, the landscape is now dominated by agriculture and domesticated species, with scattered patches of native plants.

Narrative summary of watershed description

Recent history has been dominated by agricultural practices to control and manage this landscape for the production of domestic food and ornamental crops. The channelized nature of the irrigation canal limits the diversity of species in the riparian area and the possibility of flooding. Furthermore, the City of Coburg has recently experienced the development of large commercial and industrial lots along this canal, with a resulting significant loss in permeable surface in the watershed.

The Muddy Creek Irrigation Canal (North) flows through an area of historically mixed upland/wetland soils.

Watershed summary for the Oregon Method

Watershed or community identification: *Muddy Creek Irrigation Canal South*

Characteristic	Description
Physical characteristics of the watershed	Much of the southern Muddy Creek Irrigation Canal runs through large commercial developments and undeveloped fields. Irrigation canal diverted from McKenzie River. Area of generally upland soils of moderate permeability.
Land use within the watershed	Major portion of land use is agriculture and more recently, development of roads and commercial facilities.
Water quality	Given the land use in this watershed, and the manipulation of the canal (channelized and culverted), water quality should be expected to be very degraded. Much permeable surface has been lost as commercial/industrial developments have become more dominant.
Biological characteristics of the watershed	This watershed has a brief (<150 years) but intensive history of agriculture disturbance. Portions of the canal are bordered by commercial developments and their corresponding landscaping, giving the area a combination of agricultural and domesticated species, with scattered patches of native plants.

Narrative summary of watershed description

Recent history has been dominated by agricultural practices to control and manage this landscape for the production of domestic food and ornamental crops. The channelized nature of the irrigation canal limits the diversity of species in the riparian area and the possibility of flooding. Furthermore, the City of Coburg has recently experienced the development of large commercial and industrial sites within the watershed.

The Muddy Creek Irrigation Canal (South) flows through an area historically mixed upland/wetland soils.

	Species List	*Wetland 1* MCN-W1	*Wetland 2* MCN-W2	*Wetland 3* MCN-W3	*Wetland 4* MS-W1
Question 1 Does the wetland contain threatened, endangered or sensitive species of wildlife, plants, invertebrates or fish? (Either federal- or state-listed. Include species.) If yes, list.	Oregon chub- *Oregonichthys crameri* Upper Willamette Chinook salmon- *Oncorhynchus tshawytscha*	No	Slight potential for chub entering from Muddy Canal	No	Chinook at high water events only
Question 2 Is the wetland designated as critical habitat or essential habitat for federal- or state-listed threatened or endangered species of wildlife, plants, invertebrates or fish? If yes, list.		No	No	No	No
Question 3 Is the wetland a dedicated or proposed Registered State Natural Area or Area of Critical Environmental Concern, State Natural Heritage Conservation Area, Federal Research Natural Area, or a Nature Conservancy Preserve?		No	No	No	No
Question 4 Is the wetland of regional or national significance for migratory birds?		No	No	No	No
Question 5 Is the wetland protected in a local wetland conservation plan or a local comprehensive plan as a Goal 5 or Goal 17 resource?		No	No	No	No
Question 6 Is the wetland a designated State Outstanding Resource Water?		No	No	No	No
Question 7 Is the wetland a protected area in a recognized federal, state or local management plan, e.g., for a park, refuge or scenic river?		No	No	No	No
Question 8 Is the wetland a protected mitigation site for a removal-fill permit, federal 404 fill permit, or enforcement action? Protected means there is a legal instrument, such as a conservation easement, that will preclude a wetland impact permit from being issued for this site.		No	No	No	No

Question 9
Is the wetland a restoration or protected area included in the wetland reserve program administered by the Natural Resources Conservation Service? The length of protection may vary depending of landowner agreements.

Question 10
Is the wetland considered rare or unique in Oregon? Examples include bogs, vernal and old growth forested wetlands (See Appendix G).

Species List	*Wetland 1* MCN-W1	*Wetland 2* MCN-W2	*Wetland 3* MCN-W3	*Wetland 4* MS-W1
	No	No	No	No
	No	No	No	No

Contact was made with the Oregon Natural Heritage Program (ONHP) and with the Oregon Department of Fish and Wildlife (ODFW) regarding known sightings of protected species within the Study Area. According to ODFW, Oregon chub (*Oregonichthys crameri*) may be present within the Muddy Creek Irrigation Canal, and Chinook (*Oncorhynchus tshawytscha*) may utilize Willamette River backwaters during high water events. Additionally, concern was expressed that Chinook fry may successfully pass the screen at the pumps on the McKenzie River which provide water to the Muddy Creek Irrigation Canal.

Wetland MCN-W2 has a slight potential for Oregon chub entering from Muddy Creek Irrigation Canal, but the connection of the Canal with this wetland is indirect by virtue of the small levees on either side of the Canal. No individuals were found in the wetland during the time of this study, nor are there any known sightings of the Oregon Chub within this wetland.

Similarly, wetland MS-W1 goes dry during the summer, with flood conditions occurring during periods of high groundwater and / or high water in the Willamette River, which can back-up into this system. According to ODFW, high water events may result in small Chinook seeking refuge within the Mill Slough system. At the time of this study, MS-W1 was dry throughout this relict meander feature. Anecdotal evidence was provided by residents of adjacent property, however, indicating that substantial water stands or flows slowly through the Mill Slough during the winter and spring months.

One sighting of a rare plant with no protective status, dotted water-meal (*Wolffia borealis*), is on record with the ONHP.

The results of the Wetlands for Special Interest for Protection analysis is displayed in the Table on the pages following the Watershed Summary information.

4.3.3. Determination of Locally Significant Wetlands

A wetland will be identified as locally significant if it occurs within 1/4 mile of a 303(d) listed stream, if it contains one or more rare plant communities, is inhabited by any listed species, has an open connection to a salmonid inhabited stream, or if it satisfies any of the four OFWAM criteria ranking (intact fish habitat, diverse wildlife habitat, intact water quality and intact hydrologic control). The following Table summarizes these results, which are more fully shown on the following page.

WETLAND NUMBER	ACREAGE	SIGNIFICANCE DETERMINATION
MS-W1	1.3	Potentially Significant
MCN-W1	3.0	Not significant
MCN-W2	10.2	Significant
MCN-W3	3.68	Not significant
MCS-W1	0.2	Not significant
MCS-W2	0.6	Not significant
MCS-W3	1.1	Not significant

Of the seven wetland areas, two wetlands received positive scoring as Locally Significant Wetlands. MS-W1 qualified as a potentially Locally Significant Wetland, by virtue of the surface connection to the salmonid-bearing Willamette River and high educational ratings; and MCN-W2 received a very positive scoring, due to

Table V

Coburg Local Wetlands Inventory Determination of Locally Significant Wetlands

Wetland Number	Acres	Artificially Created Entirely from Upland	OFWAM Ecological Function Criteria Ranking†					Within ¼-Mile of 303(d) Listed Stream (and WQ function degraded)	Contains Rare or Uncommon Plant Communities	Contains Listed Species	Surface Water Connection to Salmonid Bearing Stream	High Educational Rating (Optional Criteria)	Locally Significant
			Diverse Wildlife Habitat	*Intact* Fish Habitat	*Intact* Water Quality	*Intact* Hydrologic Control	Locally Significant Based On OFWAM						
MS-W1	1.3	No	2	2	2	2	No	No	No	No	Possible Connection at High Water [2] *(to Willamette River)*	Possible [4] (if publicly owned)	Potentially Yes
MCN-W1	3.0	No	2	2	2	2	No	No	No	No	No	No	No
MCN-W2	10.2	No	1	2	2	2	Yes	No	No	Potentially Yes [1] *(Oregon Chub, Spring Chinook)*	Potentially Yes [3] *(Spring Chinook)*	Possible [5] (if publicly owned)	Yes
MCN-W3	3.7	No	2	N/A	2	2	No	No	No	No	No	No	No
MCS-W1	0.2	Yes	2	N/A	2	2	No	No	No	No	No	No	No
MCS-W2	0.6	No	2	N/A	2	2	No	No	No	No	No	No	No
MCS-W3	1.1	No	2	N/A	2	2	No	No	No	No	No	No	No

†On a numerical ranking of 1 to 3 with 1 indicating the highest value.

1. According to the Oregon Department of Fish and Wildlife, the Muddy Creek Irrigation Canal potentially possesses both Oregon Chub and Spring Chinook. The Canal is tributary to the Lake Creek system, which has documented presence of Oregon Chub *(Oregonicthys crameri),* listed by the Federal government as Endangered and by State government as Species Critical. Additionally, Spring Chinook *(Oncorhynchus tshawytscha)* is suspected to be present in the canal, as fry may be able to pass through the screen at the McKenzie River pump station which supplies water to the canal. Spring Chinook is listed as Threatened by the Federal government and Threatened by the Oregon Department of Fish and Wildlife. Given that wetland MCN-W2 is openly connected to the Canal at High Water events, there is the potential for these two listed species to be present in WCN-W2.

2. At extreme High Water events, the Willamette River may back-up into the Mill Slough system and provide slow water refugia for fish at that time. Given that the Willamette River is known to support populations of Federal and State protected salmonids (Upper Willamette River Steelhead, Spring Chinook Salmon), the potential exists for the Mill Slough to have a connection to this major salmonid-bearing river system.

3. Please see discussion under footnote 1.

4. Potions of the Mill Slough are currently within public ownership (City of Coburg, Lane County) as parks, open space and storm water detention and management.

5. It is anticipated by the property owner and City of Coburg that MCN-W2 will be transferred in the near future to City ownership for open space and as an interpretive / educational wetland site.

several factors, such as providing a diverse wildlife habitat, being identified as Locally Significant during the OFWAM process, potentially connected to Salmonid Bearing Stream and reflecting the possible use of this site for educational / recreational purposes. The other wetlands did not satisfy any of the criteria for designation as a locally significant wetland.

4.4. Aerial photographs and maps

Numerous historic and current aerial photos have been utilized for this study. The photo dates and scales are as follows:

Date	Scale
1936	1 : 15,000
1944	1 : 8,000
1952	1 : 12,000
1960	1 : 20,000
1968	1 : 20,000
1979	1 : 24,000
1990	1 ; 12,000
1994	1 : 40,000
1998	Digital

These Aerial photos are displayed in the following pages.

Maps for this document were developed for each identified wetland unit and for the overall Local Wetland Inventory Index Map. Using ArcView GIS (the cartographic system utilized), field information was overlaid upon existing digital data provided by LCOG. Field information was drawn onto a separate theme layer, using the GIS drawing tools and with the Coburg digitized aerial photo displayed underneath.

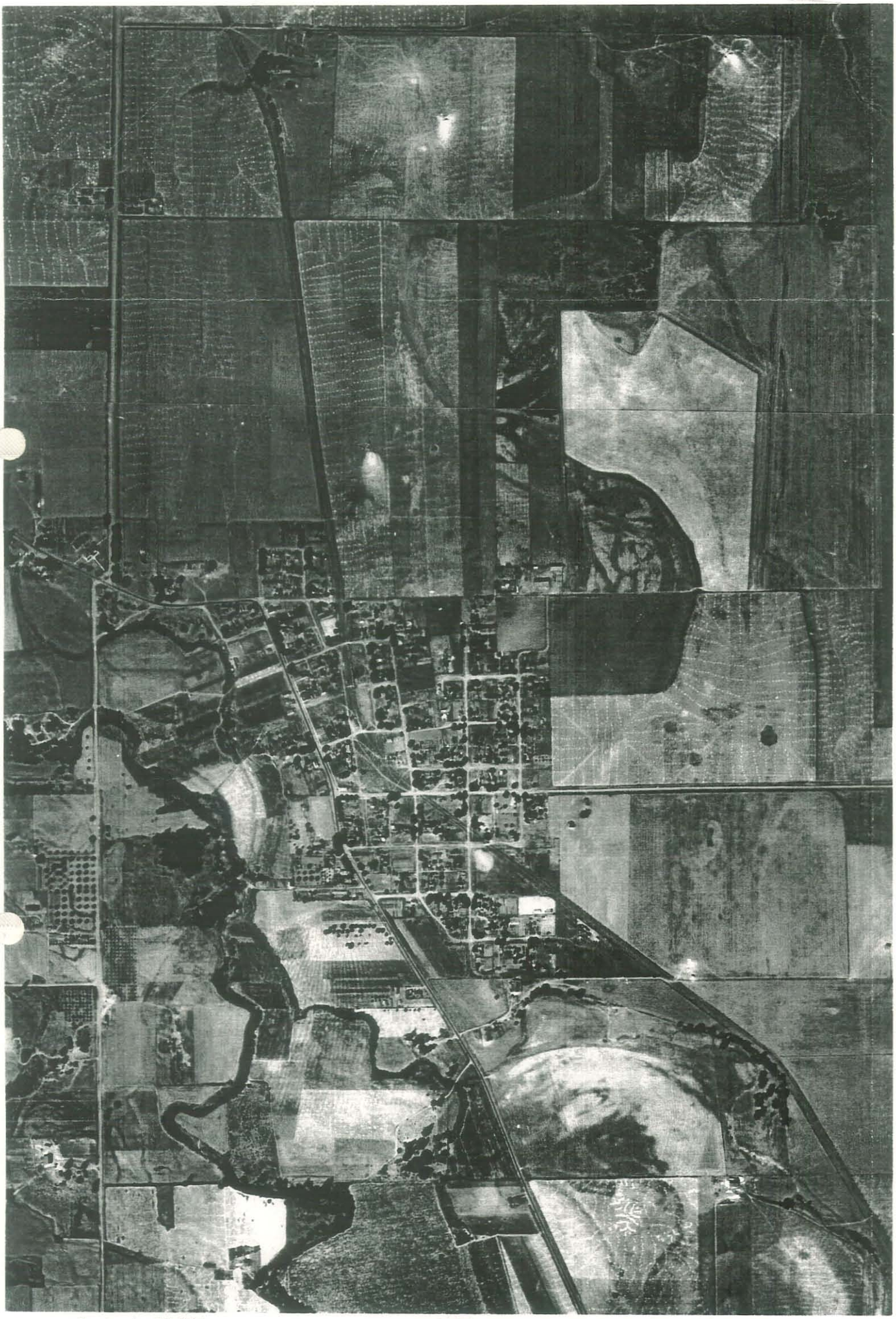
5. RIPARIAN FINDINGS

5.1. Summary

Within the 700 acre Study Area, only two riparian systems were identified: the Mill Slough system and the Muddy Creek Irrigation Canal. The Muddy Creek Irrigation Canal was subsequently divided into North and South segments for research and assessment, with the dividing line being Pearl Street. Waterways in the Study Area have been filled, disconnected, diked, piped, rerouted and moved from some of the historic locations, with a resulting loss of vegetative connectivity, channel structure and channel / habitat complexity. Riparian areas are generally lacking within the Muddy Creek Irrigation Canal North and South segments, and are somewhat confined in much of the rapidly developing east bank portion of the Mill Slough system.

5.2. Riparian Inventory Results

Preparatory to the Riparian Inventory field work, preliminary reach lengths were determined from aerial photos. These were verified in the field and modified where needed. The Mill Slough was subsequently divided into 4 reaches; the Muddy Creek Irrigation Canal was divided into 8 northern reaches and 10 southern reaches.



Scale: 1 : 15,000

1936

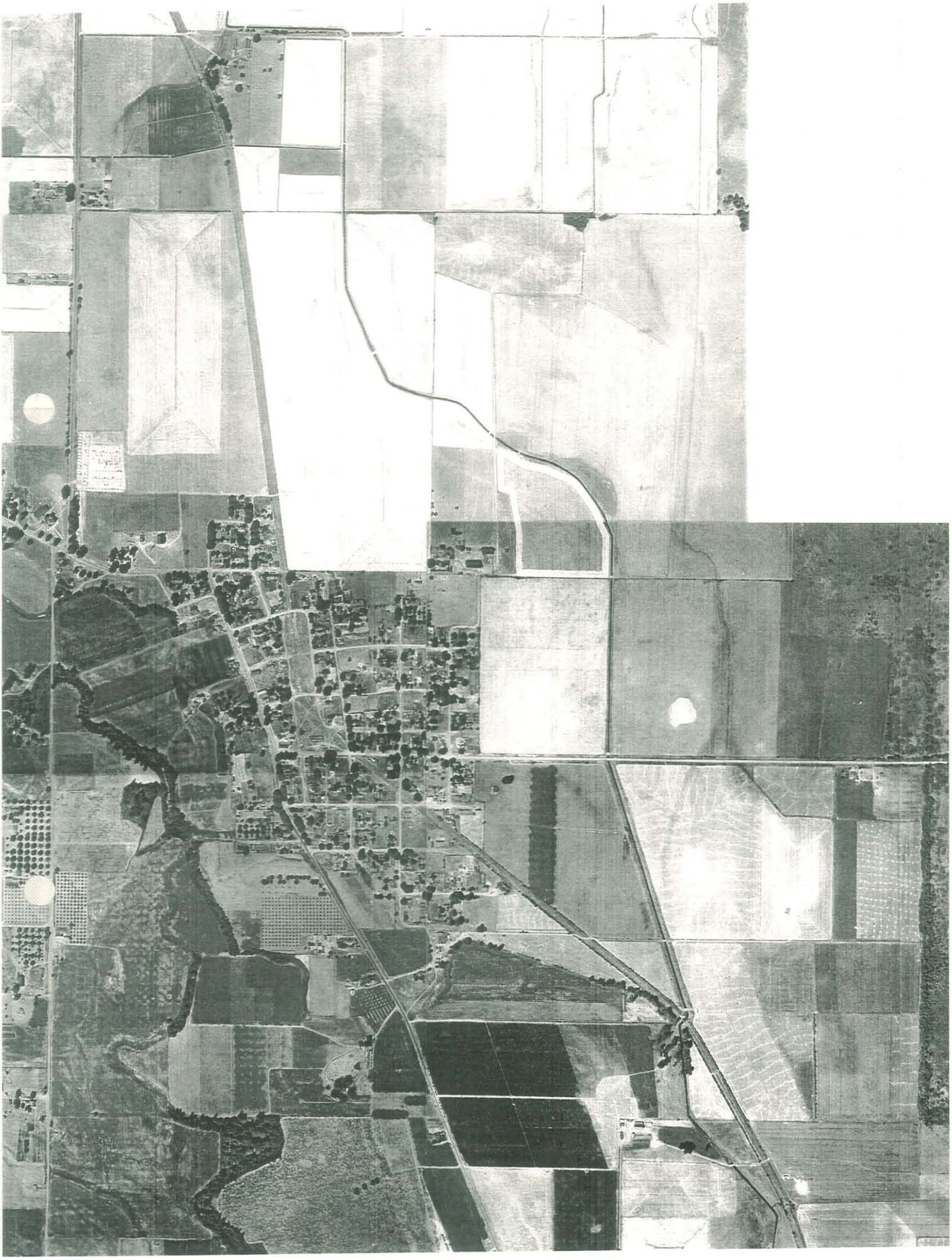
N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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Scale: 1 : 8,000

1944

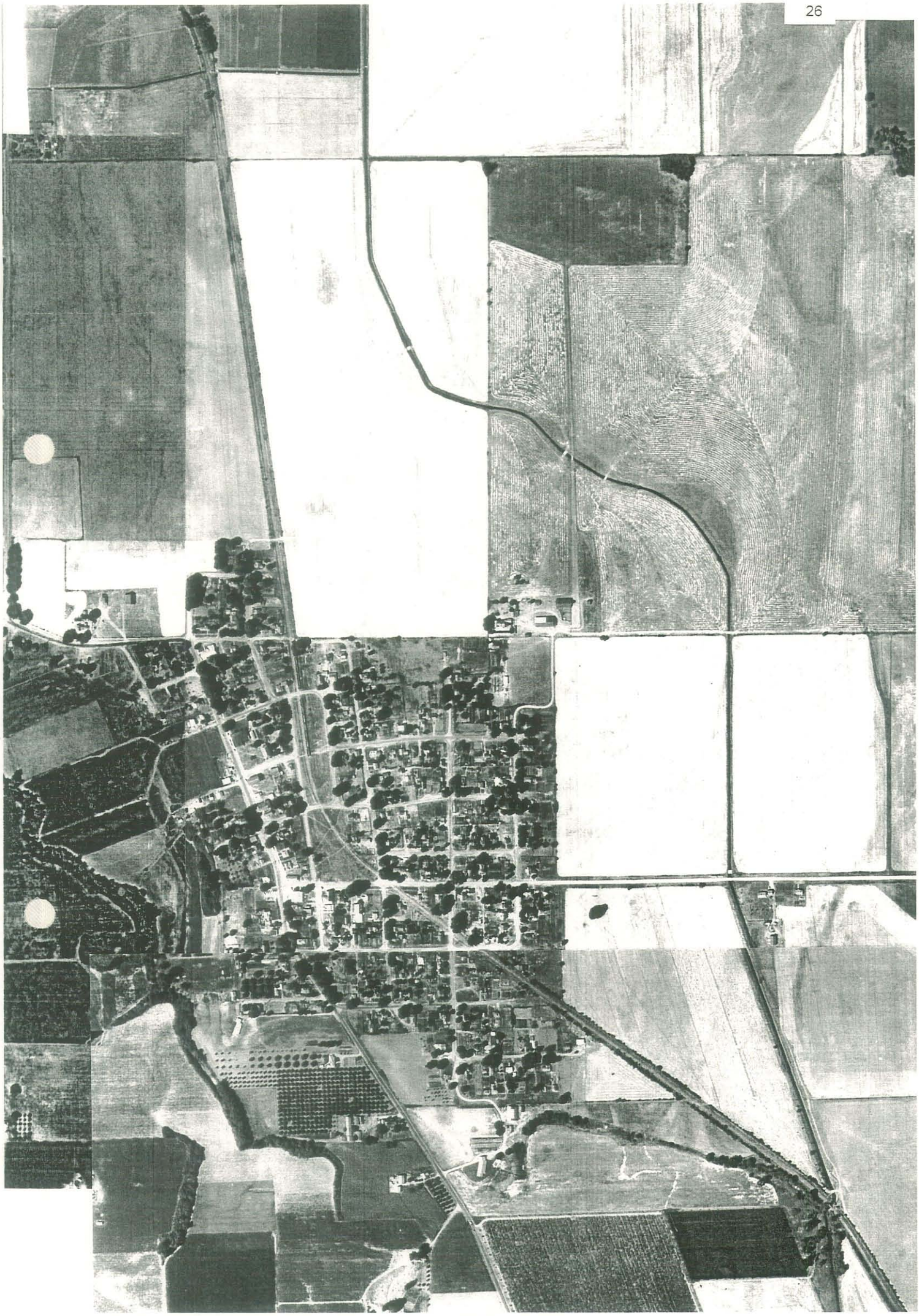
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Scale: 1 : 12,000

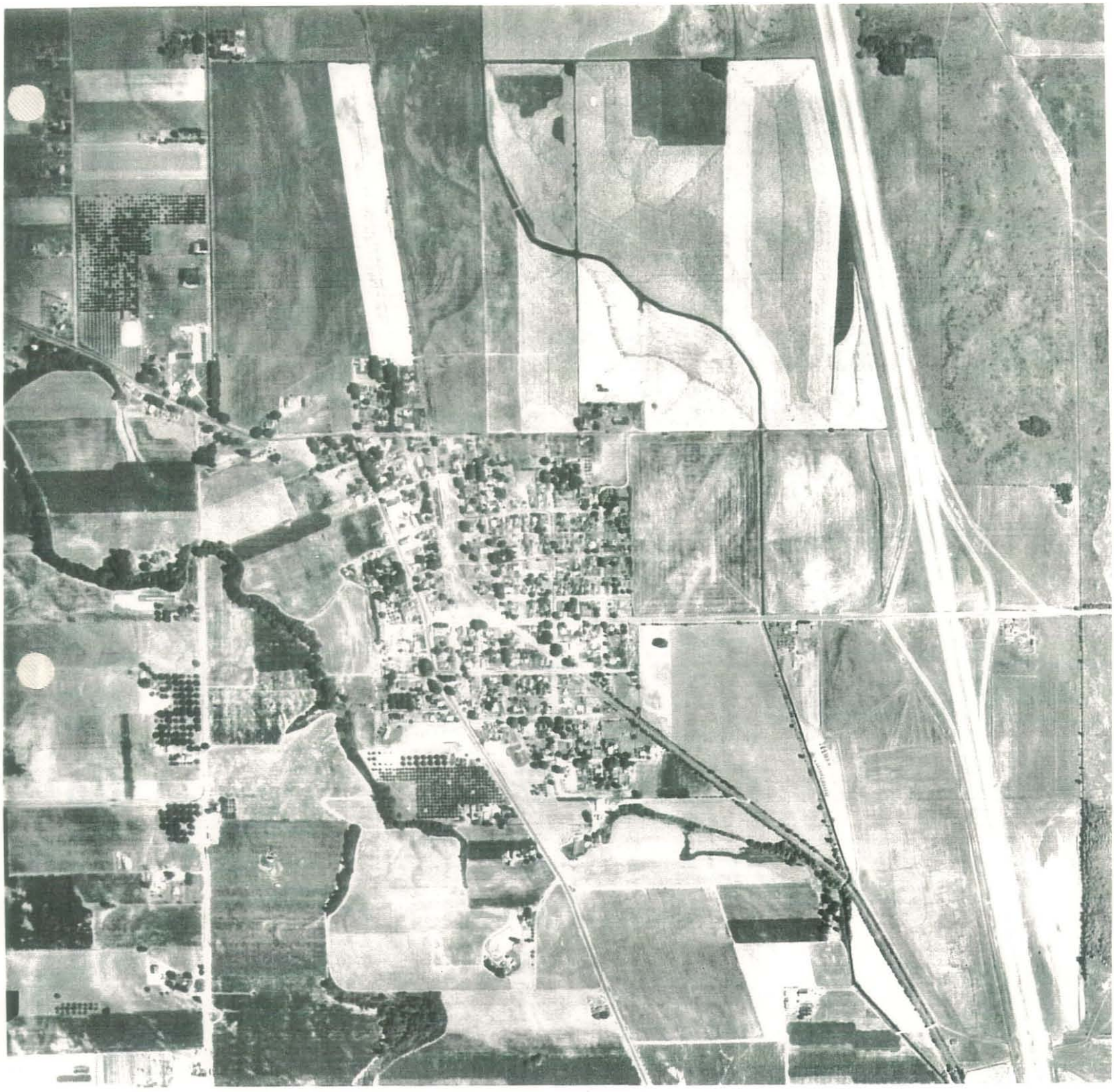
1952

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Scale: 1 : 20,000

1960

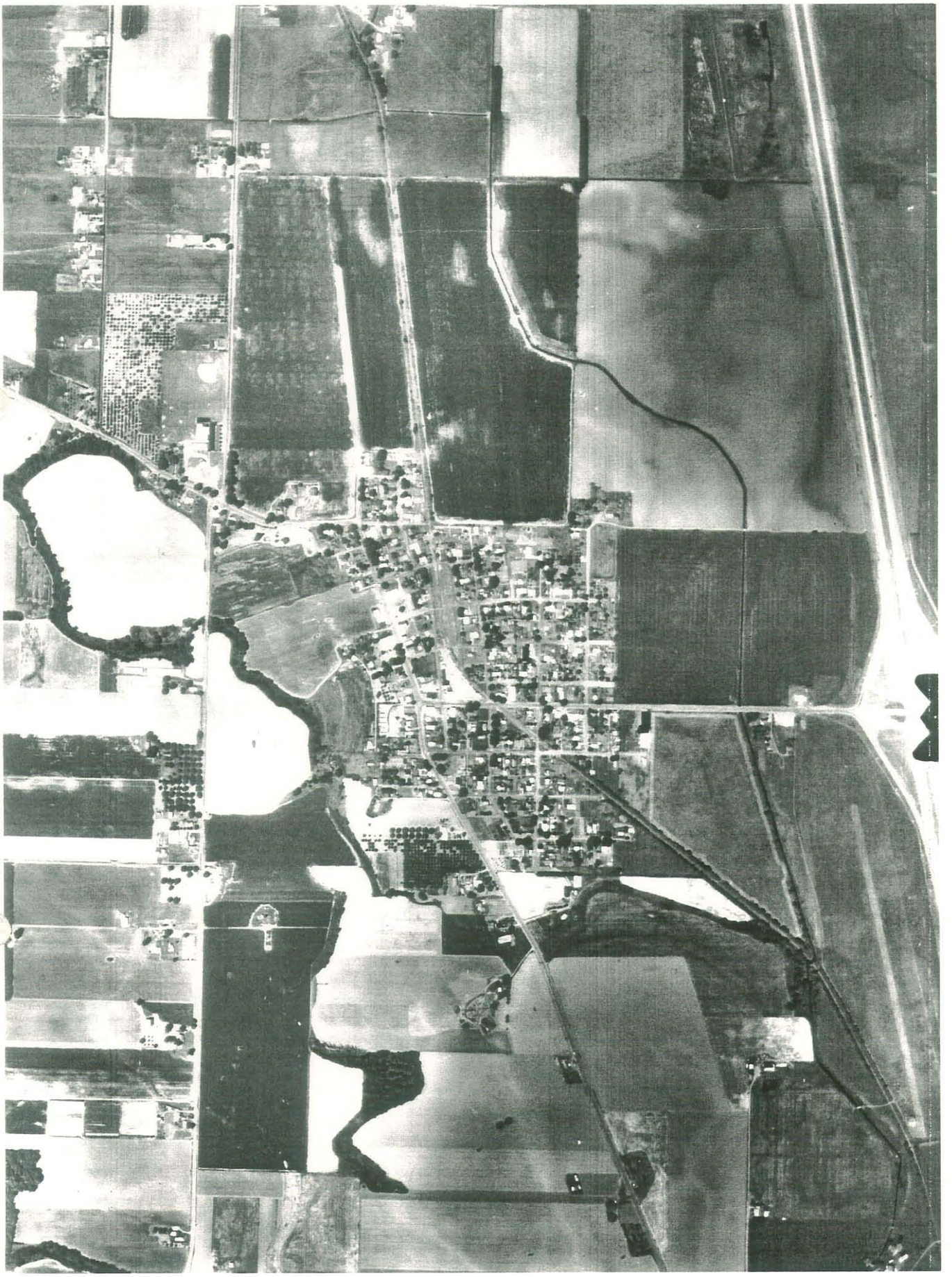
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Scale: 1 : 20,000

1968

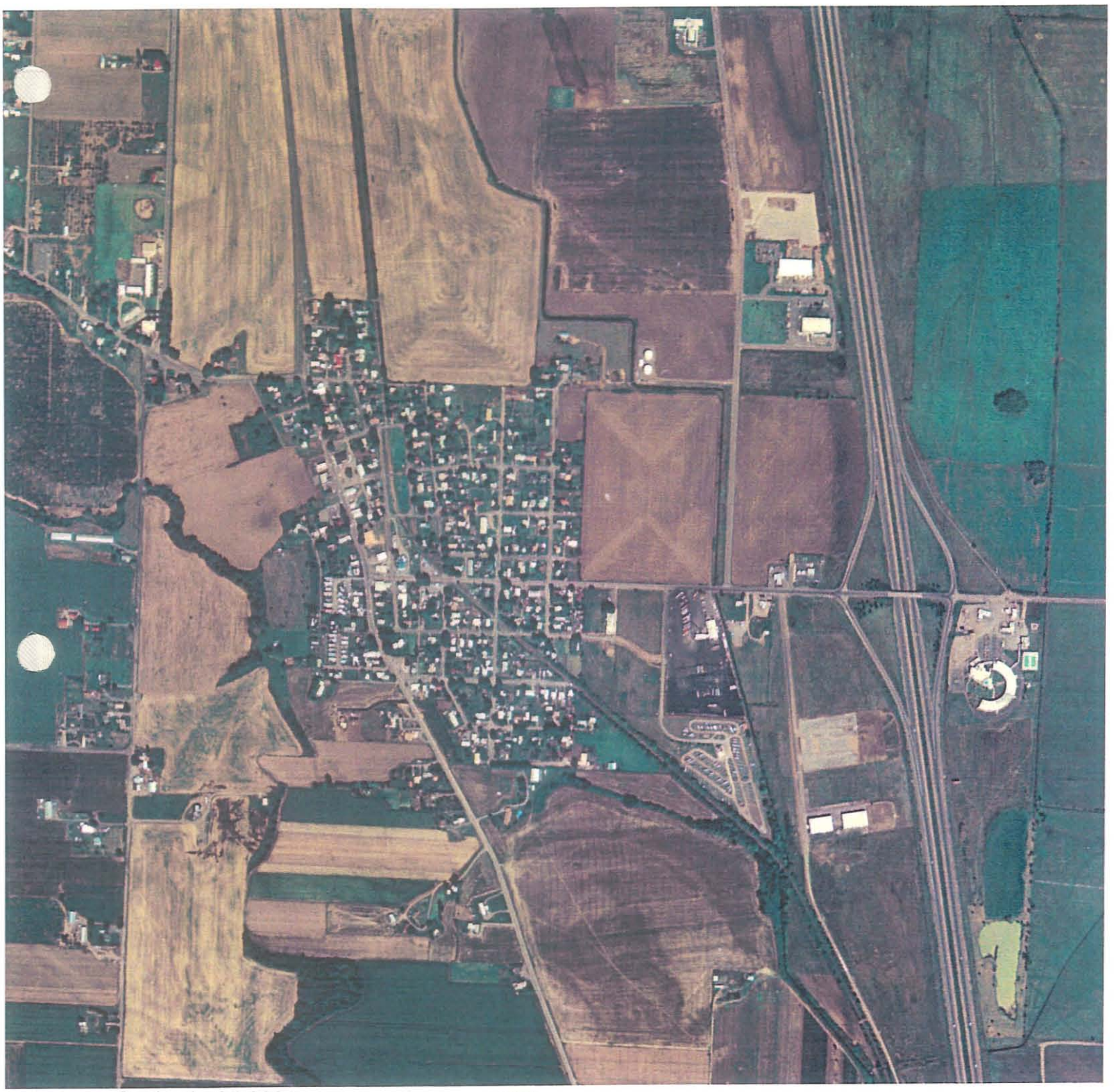
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Scale: 1 : 24,000

1979

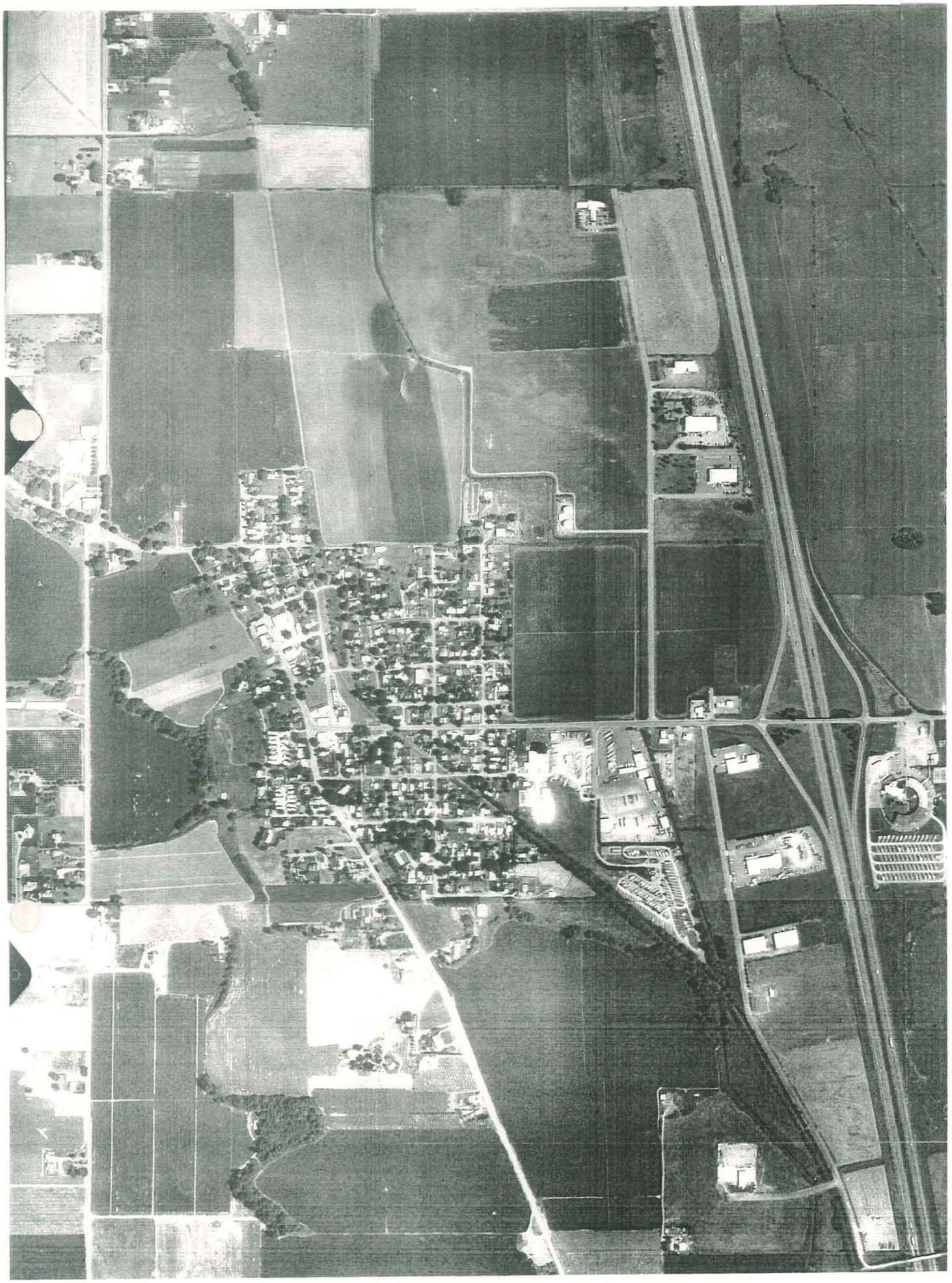
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Scale: 1 : 12,000

1990

N

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Scale: 1 : 40,000

1994

N

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Field forms were created for Riparian Width Determination and Riparian Characterization, and were completed for each reach and bank (left and right, as viewed downstream). In most cases, the actual riparian width (distance to nearest obstruction to vegetation continuity) was less than the width established by Potential Tree Height. The exceptions to this are those areas where agricultural activities are still present on one bank or the other, such as the entire Mill Slough system and several reaches of the Muddy Creek Irrigation Canal North system.

Based upon the findings from field work and an analysis of current aerial photos, the Riparian Areas present within the Coburg LWI Study Area are as follows:

Mill Slough System	3.46 acres
Muddy Creek Irrigation Canal North	3.96 acres
Muddy Creek Irrigation Canal south	2.23 acres
for a total of	9.65 acres.

The Riparian Width and Characterization forms for each Riparian Reach and Bank are included in the Appendices, along with aerial and site photos and maps.

5.3. Riparian Quality Assessment Results

As described earlier, the assessment of riparian functions and conditions is conducted utilizing information collected from existing documentation, augmented with field information developed during the inventory phase of the project. Additional forms are completed and the result is a rating of each Riparian Reach and Bank for a set of Riparian Functions and Conditions. The Riparian Function Assessment Forms for each Riparian Reach and Bank are included in the Appendices, as is the Riparian Function Assessment Summary Table.

In general, the Mill Slough reaches rated consistently high for functions of water quality and thermal regulation, and medium for flood management and wildlife habitat. The Muddy Creek Irrigation Canal North reaches generally rated medium to high for water quality functions, low to medium for thermal regulation, flood management and wildlife habitat. The Muddy Creek Irrigation Canal South reaches rated similarly for water quality functions, but consistently medium for flood management and low for thermal regulation. Results were varied for the provision of wildlife habitat along the Muddy Creek Irrigation Canal South reaches.

5.4. Aerial Photographs and Maps

The preceding set of aerial photos display the changes over time in the extent and density of riparian vegetation along the two systems identified in the Study Area. As lands adjacent to the two stream systems have been developed, impervious surfaces have increased and riparian areas have become increasingly constricted. The Mill Slough has particularly become less connected hydrologically from both upstream and downstream segments, with flow now occurring only during the winter and spring months.

6. GLOSSARY OF TERMS

Aerobic - A situation in which molecular oxygen is a part of the environment.

Anaerobic - A situation in which molecular oxygen is absent (or effectively so) from the environment.

Aquic Moisture Regime - A mostly reducing soil moisture regime nearly free of dissolved oxygen due to saturation by ground water or its capillary fringe and occurring at periods when the soil temperature at 19.7 in. is greater than 5° C.

Atypical Situation - Areas in which one or more parameters (vegetation, soil, and / or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter.

Channelize - To straighten the bed or banks of a stream, or to line with concrete or other materials.

Chroma - The relative purity or saturation of a color; intensity of distinctive hue as related to grayness; one of the three variables of color.

Degraded - Lowered in quality from adverse impacts such as vegetation removal, invasion of nonnative species and/or draining.

Dike - A bank (usually earthen) constructed to control or confine water.

Dominance - A descriptor of vegetation that is related to the standing crop of a species in an area, usually measured by height, areal cover or basal area (for trees).

Dominant Species - A plant species that exerts a controlling influence on or defines the character of a community.

Emergent Plant - A rooted herbaceous plant species that has parts extending above a water surface.

Farmed Wetlands - An agricultural wetland classification for those areas which are not potholes, playas or pocosins, where inundation is 15 consecutive days or more during the growing season or 10% of the growing season, whichever is less, most years (50% chance or more) and have a crop history before 12/23/85. (From National Food Security Act Manual, 3rd Edition, 11/96)

Fill Material - Any material placed in an area to increase surface elevation.

Flooded - A condition in which the soil surface is temporarily covered with flowing water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, inflow from high tides, or any combination of sources.

Flood Prone Area - A topographic feature such as a depression, swale or 100-year floodplain within the riparian area which is prone to flooding.

Gleyed - A soil condition resulting from prolonged soil saturation, which is manifested by the presence of bluish or greenish colors through the soil mass or in mottles (spots or streaks) among other colors. Gleying occurs under reducing soil conditions resulting from soil saturation, by which iron is reduced predominantly to the ferrous state.

Growing Season - The portion of the year when soil temperatures at 19.7 inches below the soil surface are higher than biologic zero (5° C). Can be approximated by the number of frost-free days.

Herb - A nonwoody individual of a macrophytic species, or seedlings of woody plants that are less than 3.2 feet in height.

Hue - A characteristic of color that denotes a color in relation to red, yellow, blue, etc; one of the three variables of color.

Hydric Soil - A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.

Hydrologic Basin - An area of land that drains into a particular river or body of water, usually defined by topography.

Hydrophytic Vegetation - The sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

Impervious Surface - A surface that cannot effectively absorb or infiltrate water, such as roads, parking lots, and sidewalks.

Indicator Status - One of the categories that describes the estimated probability of a plant species occurring in wetlands.

Inundation - A condition in which water from any source temporarily or permanently covers a land surface.

Man-Induced Wetland - Any area that develops wetland characteristics due to some activity of humans.

Ponded - A condition in which water stands in a closed depression. Water may be removed only by percolation, evaporation, and / or transpiration.

Prior Converted Wetlands - An agricultural wetland classification for those areas which are not potholes, playas or pocosins, where inundation is less than 15 consecutive days during the growing season or 10% of the growing season, whichever is less, most years (50% chance or more) and have a crop history before 12/23/85. (From National Food Security Act Manual, 3rd Edition, 11/96)

Reach - A segment of a riparian area with relatively homogeneous physical characteristics. Its length parallel to the water resource can be determined by major changes in vegetation type, slope or by changes in land use.

Reference Site - An undisturbed area that exhibits the potential natural vegetation under a particular set of conditions. Used as a model for restoration, disturbed sites, or where permission was not granted to enter the property for data collection.

Riparian - Those areas associated with streams, lakes and wetlands where vegetation communities are predominantly influenced by their association with water.

Riparian Area - An area adjacent to a water resource which affects or is affected by the water resource.

Sample Plot - An area of land used for measuring or observing existing conditions.

Saturated Soil Conditions - A condition in which all easily drained voids between soil particles in the root zone are temporarily or permanently filled with water to the soil surface at pressures greater than atmospheric.

Soil - Unconsolidated mineral and organic material that supports, or is capable of supporting, plants, and which has recognizable properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief over time.

Soil Series - A group of soils having horizons similar in differentiating characteristics and arrangement in the soil profile, except for texture of the surface horizon.

Surface Runoff - Water that flows over the surface of the land as a result of rainfall or snowmelt. Surface runoff enters streams and rivers to become channelized stream flow.

Top of Bank - Topography break at the top of the streambank; point at which flood water leaves the channel.

Transect - A line on the ground along which observations are made at some interval.

Value - The relative lightness or intensity of color, approximately a function of the square root of the total amount of light reflected from a surface; one of the three variables of color.

Watershed - The area drained by a tributary or a river system.

Vegetation Layer - Canopy, midstory, and groundcover levels of vegetation, commonly represented by trees, shrubs and herbaceous plant species. Determined by vegetation height.

Wetlands - 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.

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APPENDIX 8.1.

WETLAND FUNCTION AND CONDITION SUMMARY TABLE

WETLAND FUNCTION AND CONDITION SUMMARY TABLE
Coburg Local Wetland Inventory

WETLAND NUMBER	MS-W1	MCN-W1	MCN-W2	MCN-W3	MCS-W1	MCS-W2	MCS-W3
WETLAND ACREAGE	1.3 acres	3.0 acres	10.2 acres	3.7 acres	0.2 acres	0.6 acres	1.1 acres
WILDLIFE HABITAT	Provides some habitat	Provides some habitat	Provides diverse habitat	Provides some habitat	Provides some habitat	Provides some habitat	Provides some habitat
FISH HABITAT	Impacted or degraded	Degraded ponds	Impacted or degraded	N/A	N/A	N/A	N/A
WATER QUALITY	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded
HYDROLOGIC CONTROL	Impacted of degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive	Sensitive	Potentially sensitive	Sensitive	Sensitive	Sensitive	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential	Moderate potential	High potential	Moderate potential	Moderate potential	Moderate potential	Moderate potential
EDUCATION	Appropriate use	Potential use	Potential use	Not appropriate	Potential use	Potential use	Potential use
RECREATION	Potential value	No potential recreation	Potential use	No potential recreation	No potential recreation	No potential recreation	No potential recreation
AESTHETIC QUALITY	Moderately pleasing	Not pleasing	Moderately Pleasing	Moderately pleasing	Not pleasing	Not pleasing	Not pleasing

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APPENDIX 8.2.

WETLAND AREAS
by Drainage System and Wetland Unit

MS-W1

DRAINAGE BASIN: MILL SLOUGH
WETLAND NUMBER: MS-W1
WETLAND ACREAGE: 1.3 Acres
TAX LOTS: 16-03-32-00-02002
16-03-32-11-02500
16-03-32-14-03100, -02100, -01900, -00400, -01600, -00500, -00800, -00700, -01700
16-03-33-32-02105, -02104, -02300

CONTENTS:

WETLAND DELINEATION FORMS
PREVIOUS DELINEATION INFORMATION
WETLAND CHARACTERIZATION SHEET
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MS-W1
WETLAND ACREAGE	1.3 acres
WILDLIFE HABITAT	Provides some habitat
FISH HABITAT	Impacted or degraded
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted of degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential
EDUCATION	Appropriate use
RECREATION	Potential value
AESTHETIC QUALITY	Moderately pleasing

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MSW1

WETLAND DETERMINATION DATA FORM
On-site Method

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg
Investigator: N. Holthausen E. Perkins, M. Shippey
Do normal circumstances exist on the site? Yes
Is the site significantly disturbed (Atypical Situation?) Yes - Farmed
Is the area a potential Problem Area (If needed, explain on reverse)? No

Date: 7/26/99
County: Lane
State: Oregon
Community ID:
Transect ID:
Plot ID: SP #1 (1700-1)
42' S. of N Plot line, 11' N. of Sorbus

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☒ No recorded data available

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Field Observations:
Depth of surface water 0"
Depth to free water - None to 18"
Depth to saturated soil - None to 18"

Secondary Wetland Hydrology Indicators
- ☐ Oxidized root channels in upper 12 in/30 cm
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☒ Other (Low elevation)

Criterion Met? No Remarks: Low drainage on terrace

SOILS

Map unit name (Series and phase) Clagmata Silt Loam
Taxonomy (subgroup) Coarse-silty, mixed, mesic. Cumulic Ultic Haploxeroll
Drainage class Deep, well-drained
Field observations confirm mapped type? Yes

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle size abundance/contrast	Texture, concretions, structure, et cetera
0-6"		10YR 3/3	10YR 5/6-5/8	Common/Med/Faint	Silty loam, Fe concretions
6-18"		10YR 3/2	5YR 5/8	Common/Fine/bistinct	Sandy loam

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☒ Gleyed or low chroma colors at 6-18"
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☒ Other (Chroma of 2 with mottles/ Landscape position)

Criterion Met? Yes Remarks:

VEGETATION

	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
*	Festuca arundinacea	H	FAC-	63	70					
*	Agrostis tenuis	H	FAC	36	40					
	Rubus discolor	H	FACU		10					
*	Sorbus sitchensis	T		60	20					
	Pyrus fusca	T	FAC+	40	15					

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 1/3 = 33%

Criterion Met? No Remarks:

WETLAND DETERMINATION

Hydrophytic vegetation present? No
Wetland hydrology present? No
Hydric soils present? Yes
Is this sampling point within a wetland? No
Remarks Probable historic wetland, now dewatered

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MSWI

WETLAND DETERMINATION DATA FORM
On-site Method

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg
Investigator: N. Holzhauser, E. Perkins, M. Shippey
Do normal circumstances exist on the site? Yes
Is the site significantly disturbed (Atypical Situation?) Yes - farmed & grazed
Is the area a potential Problem Area (If needed, explain on reverse)? No

Date: 7.26.99
County: Lane
State: Oregon
Community ID:
Transect ID:
Plot ID: SP #2 (1700-2)
30'N, 97'W of 1700-1

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☐ No recorded data available

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☒ Drainage patterns in wetlands

Field Observations:
Depth of surface water None
Depth to free water None to 18"
Depth to saturated soil None to 18"

Secondary Wetland Hydrology Indicators
- ☒ Oxidized root channels in upper 12 in/30 cm @ 4"
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☒ Other (Landscape position)

Criterion Met? Yes - Marginal Remarks: Lowest elev. on property, in obvious swale, "holds water for long time" - prop. owner

SOILS

Map unit name Cloquato Silt Loam
(Series and phase) Coarse-silty, mixed, mesic Cumulic Ultic Haploxeroll
Taxonomy (subgroup)
Drainage class Deep, well-drained
Field observations confirm mapped type?

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle size abundance/contrast	Texture, concretions, structure, et cetera
0-5"		10YR 2/2	None		Loam
5-12"		10YR 3/2	10YR 3/3	Common, Coarse, Faint	Gravelly, Loam

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☒ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☒ Other (Chroma of 2 with mottles)

Criterion Met? Yes Remarks: Rocky, cobbles, river rock - obviously old river bottom

VEGETATION

Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
Phalaris arundinacea	H	FACW	10	10%	* Acer macrophyllum	T	FACU	95	25
* Graphalium	H	OBL	20	20%	Populus trichocarpa	T	FAC	5	2
* Rubus discolor	V	FACU	100	25%	Lolium perenne	H	FACU	15	15
Juncus bufonius	H	OBL	5	5%					
* Poa annua	H	FAC	50	50%					

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 50%

Criterion Met? Y Remarks: Alopecurus, Acer at top of bank

WETLAND DETERMINATION

Hydrophytic vegetation present? Yes
Wetland hydrology present? Yes
Hydric soils present? Yes
Is this sampling point within a wetland? Yes, although marginal
Remarks
MMS

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WETLAND DETERMINATION DATA FORM
On-site Method

MS-W1

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg
Investigator: Mike Shippey / Greta Murdoff
Do normal circumstances exist on the site? Yes
Is the site significantly disturbed (Atypical Situation?) No
Is the area a potential Problem Area (If needed, explain on reverse)? No

Date: 9/28/99
County: Lane
State: Oregon
Community ID:
Transect ID: n/a
Plot ID: SP#3 (600-1 slough low point

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☐ No recorded data available

Field Observations:
Depth of surface water none to 18"
Depth to free water none to 18"
Depth to saturated soil >18"

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Secondary Wetland Hydrology Indicators
- ☐ Oxidized root channels in upper 12 in/30 cm
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☑ Other (landscape position)

Criterion Met? No Remarks:

SOILS

Map unit name (Series and phase) Cloquato silt loam
Taxonomy (subgroup) Coarse-silty, mixed, mesic Cumulic Ultic Haplaxeroll
Drainage class Deep, well-drained
Field observations confirm mapped type?

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, et cetera
0-16"		7.5YR 2.5/2			cobbley, sandy, gravelly loam
					very cobbly, hard digging

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☒ Other (Landscape Position)

Criterion Met? No Remarks:

VEGETATION

Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
* Fraxinus latifolia	T	FACW	27%	35-40%	Phalaris arundinacea	H	FACW	100%	5
* Acer macrophyllia	T	FACU	54%	40	Solanum dulcamara	V	FAC+	12.5	5
Populus balsamifera trichocarpa	T	FAC	15.5%	15%	bare ground				30-40%
Rubus discolor	V	FACU	25	10					
* Hedera helix	V	NOL	10%	25					

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 33%

Criterion Met? No Remarks: Does not meet criteria

WETLAND DETERMINATION

Hydrophytic vegetation present? No
Wetland hydrology present? No
Hydric soils present? No
Is this sampling point within a wetland? No
Remarks

MWE

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WETLAND DETERMINATION DATA FORM
On-site Method

MS-W1

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg
Investigator: MWS/GM
Do normal circumstances exist on the site? No, sample point is in a lawn
Is the site significantly disturbed (Atypical Situation?) Yes
Is the area a potential Problem Area (If needed, explain on reverse)? No

Date: 9/28
County: Lane
State: Oregon
Community ID:
Transect ID:
Plot ID: SP #4 (L00-2) LAWN

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☐ No recorded data available

Field Observations:
Depth of surface water none
Depth to free water none
Depth to saturated soil > 3"

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Secondary Wetland Hydrology Indicators
- ☐ Oxidized root channels in upper 12 in/30 cm
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☐ Other ( )

Criterion Met? No Remarks:

SOILS

Map unit name (Series and phase) Cloquato silt loam
Taxonomy (subgroup) Coarse-silty, mixed, mesic Cumulic Ultic Haploxeroll
Drainage class Well-drained
Field observations confirm mapped type? No

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, et cetera
0-3		10YR 3.5/3			cobbley, gravely, sandy, loam Fine, Faint mottling

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other ( )

Criterion Met? No Remarks:

VEGETATION

	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
*	lawn	G	—	100%	100					
*	Acer macrophyllum	T	FACU	50	50%					
*	Fraxinus latifolia	T	FACW	50	50%					

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC:

Criterion Met? No Remarks: ≥ 33%

WETLAND DETERMINATION

Hydrophytic vegetation present? No
Wetland hydrology present? No
Hydric soils present? No
Is this sampling point within a wetland? No
Remarks

MWS

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September 12, 1997

Jennifer Guard
Wetland Specialties, Inc.
132 East Broadway, Suite 423
Eugene, OR 97401

Re: **Wetland Delineation for Chuck Shepard site in Coburg**
T16S R3W S32 TL 201; DSL Det. # 97-0088

Dear Ms. Guard:

I apologize for the long delay in reviewing your wetland delineation report for the above site. I had actually done a review a few months ago and set the report aside to contact you regarding a possible site visit.

The NFSAM procedures for agricultural land were not applied; however, due to the well-drained soils mapped on site and the data presented, I concur that the only area subject to permit requirements of the state Removal-Fill Law is the slough at the southwest edge of the property. This concurrence is for purposes of the state Removal-Fill Law only; I have spoken with Brian Lightcap at the Corps of Engineers and I believe there is some additional information that he will be requesting.

Thank you for your report, and my apologies again for the long delay.

Sincerely,

Janet C. Morlan

Janet C. Morlan, PWS
Wetlands Program Leader

cc: Brian Lightcap, Corps of Engineers
Nancy Leibowitz, DSL

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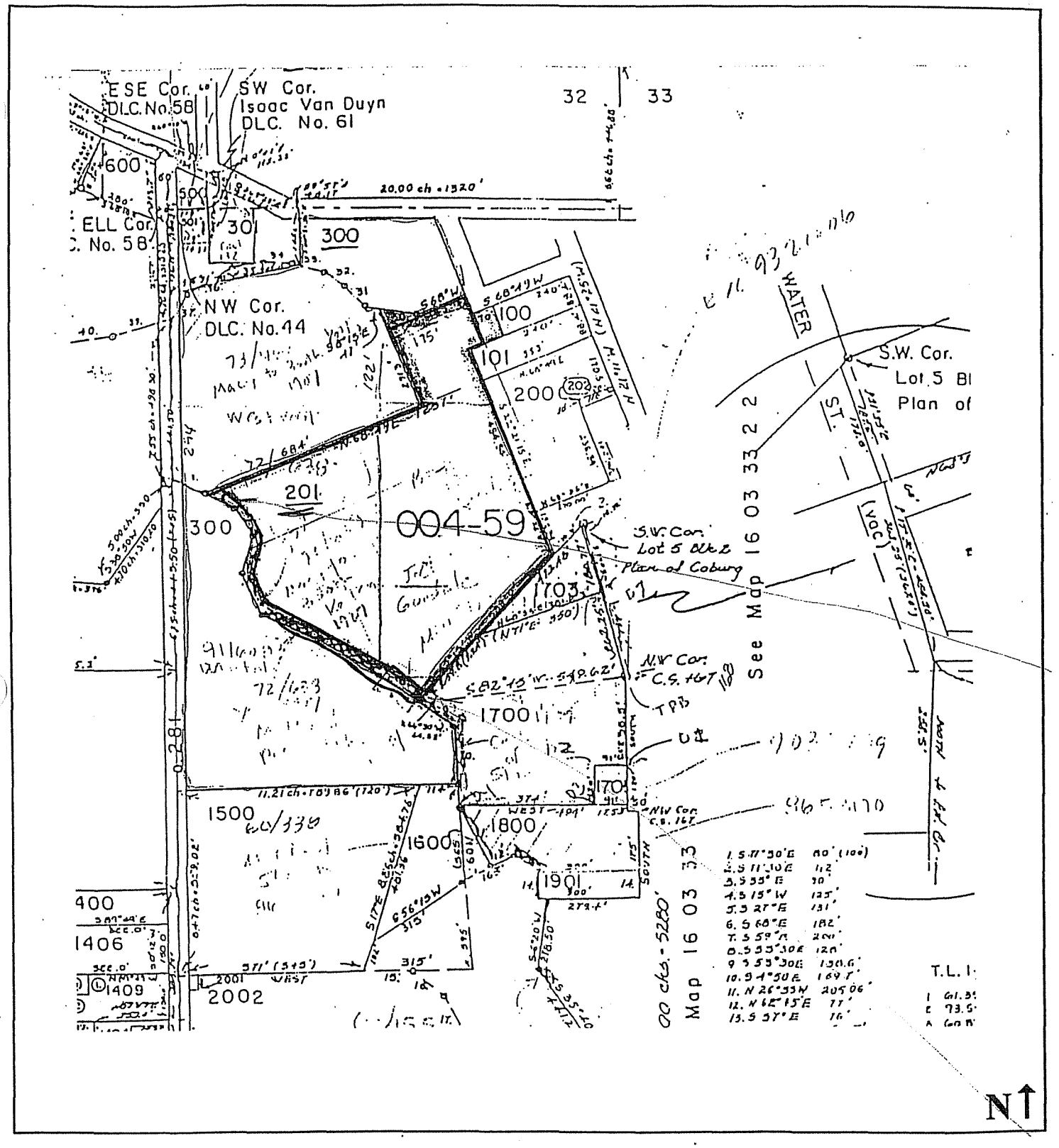


Figure 2. Tax Lot Map. (1"=400')
NE 1/4 of the NE 1/4 of Section 32 in T.16S. of R.3W.
Tax Map 16 03 32 11 Lot 201
Chuck Shepard, Umbrella Properties, Coburg Determination.
Wetland Specialties, Inc. February, 1997.

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June 15, 1998

Emery I. Marko
Lane County Public Works
3040 North Delta Highway
Eugene, OR 97408-1696

Re: **Wetland Delineation Report for Coburg Mill Slough**
Lane County; T16S, R3W, Section 32 Det. #98-0248

Dear Mr. Marko:

Thank you for meeting with me and Jennifer Guard on site recently to review the Wetlands Specialties report dated November, 1997, for the project referenced above. Based on the information presented in the report and the site visit I concur that Site I (end of Vintage Way) is not a jurisdictional wetland or waterway under the State Removal-Fill Law. The slough segment at that site appears to be a relict feature that no longer has wetland hydrology or vegetation. The slough segment also does not meet the state definition as an intermittent stream as it does not support food or game fish or appear to be a food producing area for fish. It is possible that following construction of the stormwater treatment facility the slough segment will receive enough water to develop wetland hydrology. A re-evaluation may be necessary if impacts are planned at that time.

Site II (east of Bottom Loop Road) does meet wetland criteria in the area shown on the attached map which we revised during the site visit. The area is subject to state permitting requirements under the State Removal-Fill Law. As your proposed outfall project involves less than 50 cubic yards no state permit will be required. Federal and local regulations may apply; those agencies should be contacted regarding their regulations.

Sincerely,

Joel Shaich
Wetlands Technician

Enclosure

cc: City of Eugene Planning Department
Jim Goudzwaard, Corps of Engineers
Chris Thoms, Corps of Engineers
Patti Caswell, DSL
B. Jennifer Guard, Wetland Specialties, Inc.

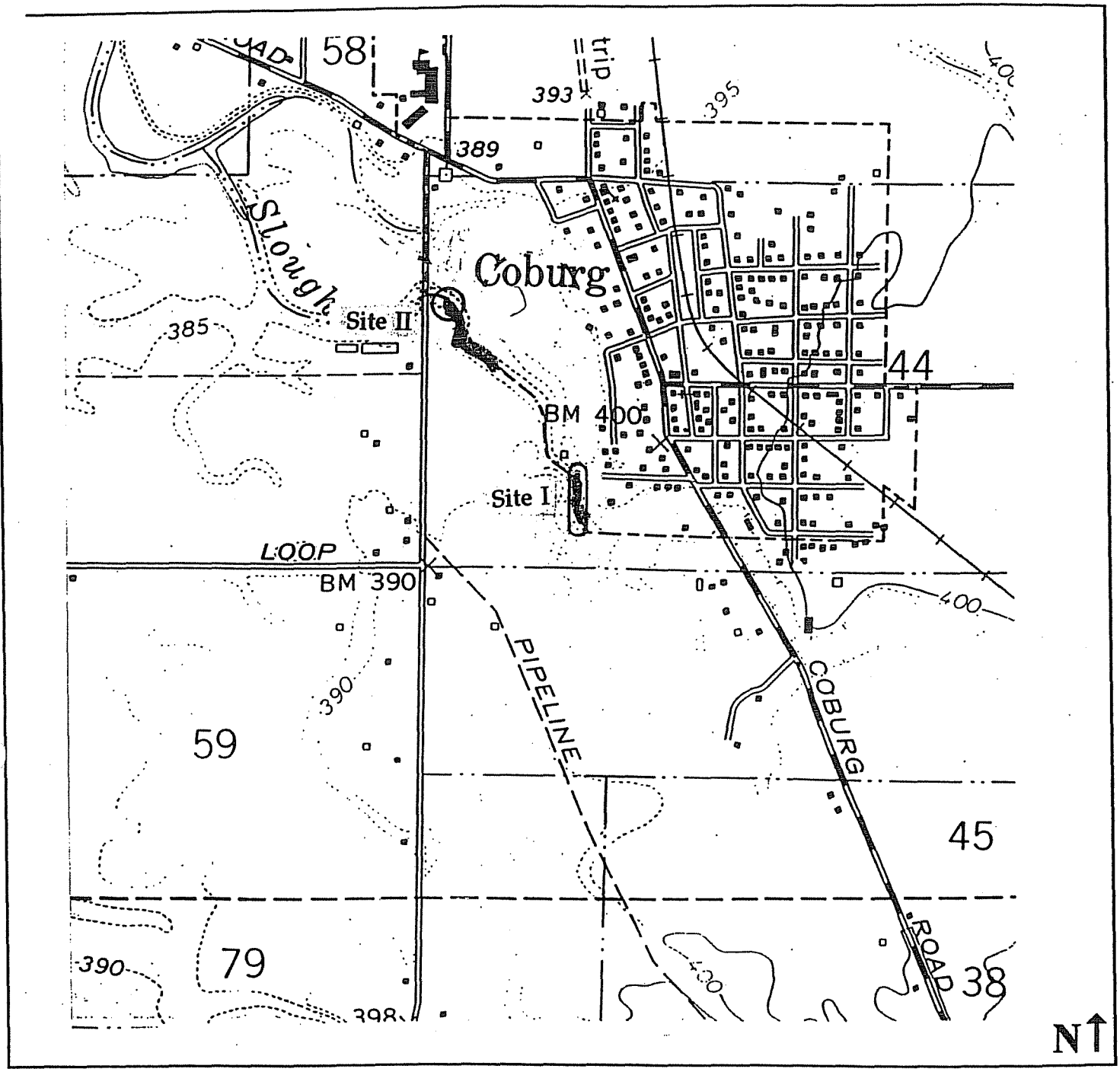
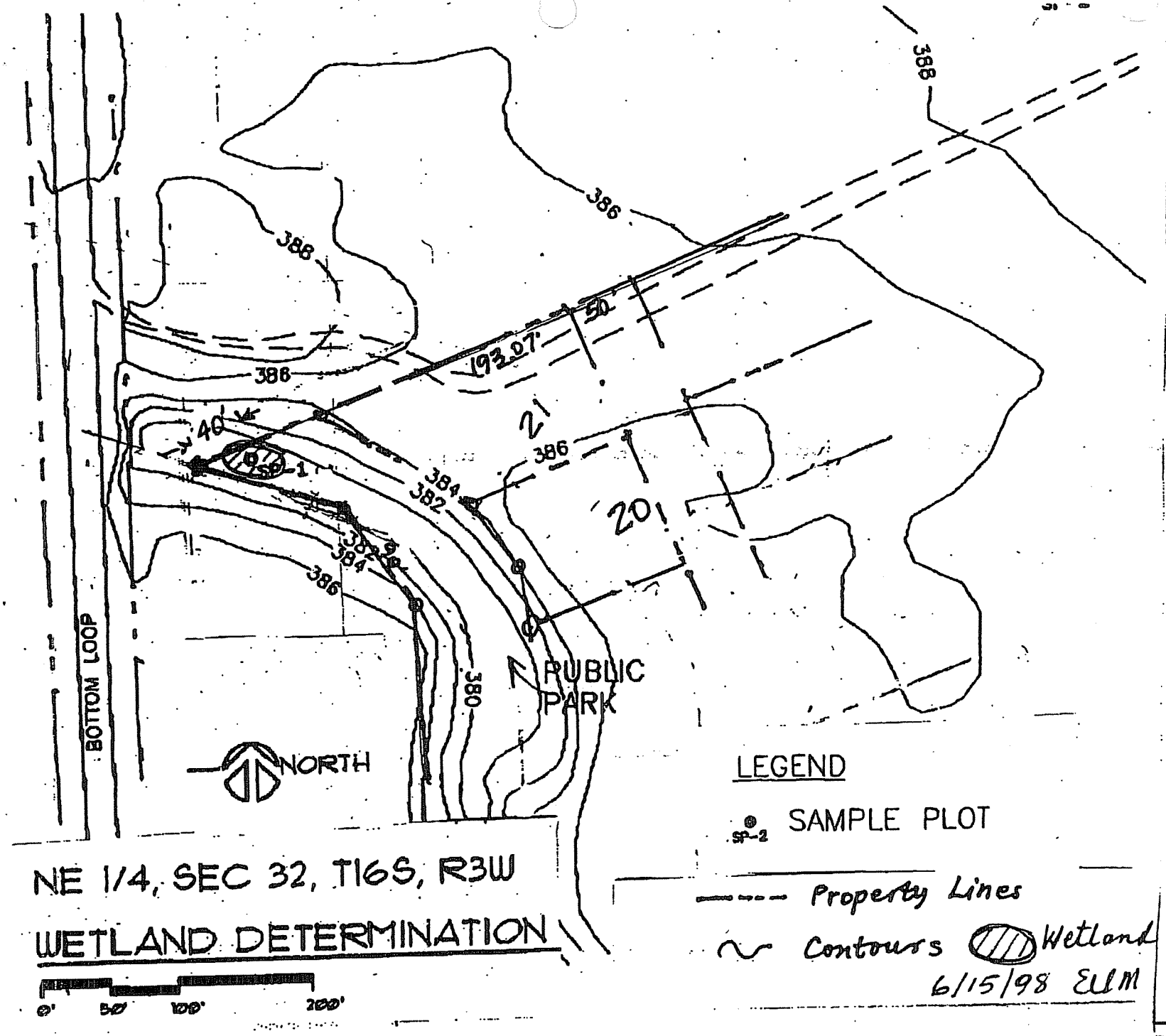


Figure 2. USGS Topographic Map (1967). (1"=1000').
Site I and II: NE 1/4 of Section 32, T. 16S., R.3W
Lane County Department of Transportation, Coburg Road, Coburg, Lane County, Oregon.
Wetland Specialties, Inc. November, 1997.



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PLANNING & LANDSCAPE ARCHITECTS
WETLAND SPECIALISTS, INC.

COBURG MILL SLOUGH
WETLAND DETERMINATION
BOTTOM LOOP SITE, SITE II

JOB # 9-98
DATE 6-15-98
DRAWN KAC
CHECKED RHS
REVISED

SHEET L-2
OF 2

WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 7/28/99
Data Sheet Numbers: Sp #1, Sp #2, Sp #3, Sp #4
Investigator(s): Mike Shippey and Jessie Minniti-Shippey

Wetland Mapping Code: **MS-W1**
Size (acres): **1.3**
Cowardin Classification* **PEM/PSS**
%PSS: **40** %PEM: **60** %PFO:

Location:

T-R-S: 16-03-32, 16-03-33
Physical: West end of Vintage
Hydrologic Basin: Coburg Mill Slough

Tax Lot(s)
1603320002002, 1603321102500;
16033214-03100, -02100, -01900, -00400, -01600, -00500, -00800, -00700, -01700;
16033332-02105, -02104, -02300

Soils:

Mapped Series: Cloquato Silt Loam

Hydrology:

Hydrologic Source: Adjacent run-off; groundwater

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
Salix sitchensis	*Salix lasiandra*	*Rubus discolor*	*Phalaris arundinacea*
Fraxinus latifolia	*Symphoricarpos albus*	*Solanum dulcamara*	*Dipsacus sylvestris*
Acer macrophyllum			*Lolium perenne*
Populus trichocarpa			*Festuca arundinacea*
			Gnaphalium palustre

Comments:

Wetland lies within Mill Slough Channel, and extends up the slope approximately one third (about two feet) from channel bottom.

*Cowardin Classifications:
PFO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MS-W1**

Function	Assessment	Rationale
Wildlife Habitat	Provides some wildlife habitat	Some diversity of wetland types; connected intermittently with other wet areas; moderate buffer of upland habitat
Fish Habitat	Impacted or degraded	At high water, sensitive species may take shelter in this meander; very modified.
Water Quality	Impacted or degraded	Primary surface water source; low wetland vegetation cover percent; near agricultural area.
Hydrologic Control	Impacted or degraded	Located within 100 year floodplain; "ponded a lot"; some restriction to flow; in an agricultural setting.
Sensitivity to Future Impacts	Sensitive to future impacts	Site has been dewatered by upstream reaches; forested vegetation, agricultural context.
Enhancement Potential	Moderate enhancement potential	Functions are degraded but not lost; surface water source is blocked.
Education	Appropriate for educational use	Portions are accessible, visible; moderate habitat value.
Recreation	Potential value for recreation	No existing recreational facilities; not applicable for fishing and hunting.
Aesthetic Quality	Moderately pleasing	Moderately diverse habitat. Not very visible; some visual detractors; some traffic as well as natural sounds.

OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MS-W1**

Narrative description of overall wetland functions and conditions
Wetland MS-W1 consists of seasonally isolated patches of similar character located within the bed and banks of the Mill Slough. Mill Slough is an abandoned meander scar which once carried flow from near the McKenzie River to the East Arm of the Willamette River. Although dewatered, disconnected hydrologically from a perennial water source, and surrounded by agriculture and residential developments, the Mill Slough system supports a moderately diverse mix of habitat types; plays degraded water quality functions; ;and is very sensitive to impacts form further future developments. The system offers opportunity for educational/passive recreational and aesthetic experiences.

MC-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: **Number of Cowardin wetland classes**
Rural: A: 3-4, B: 2, C: 1
Urban: A: 2+, B: 1 w/5+ plant species, C: 1 w/<5 plant species

Q2: **Dominant Veg**
A: Woody, B: Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Q3: **Cowardin class interspersion (edge effect)**
A: High, B: Moderate, C: Low

Q4: **Acres of unvegetated open water**
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: A: >1 ac, B: 0.5-1 ac, C: <0.5 ac

Q5: **How is wetland connected to another body of water?**
A: by surface water, B: no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi. @high water only.

Q6: **How connected to other wetlands?** @high water.
A: W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake
B: not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: **What is water quality condition upstream/adjacent to wetland?**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: **What is dominant land use w/in 500' of wetland?**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q9a: **Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q9b: **Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide**
A: >40%, B: 10-40%, C: <10%

Assessment: Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams

Q1: **% of stream shaded by riparian veg:**
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: **What is physical characteristic of stream channel:**
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: **% of entire stream w/instream structures (natural)**
A: >25%, B: 10-25%, C: <10%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: **Dominant existing land use:**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in stream/lake/wetland pond**
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds

Q1: **Does pond/lake contain deep and shallow water?**
A: yes, B: cannot determine, C: no

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MS-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, C: <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, B: 20-60%, C: <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in lake/wetland pond**
A: no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "a"

Water Quality

Q1: **Primary source of water**
A: surface flow (including streams and ditches), B: precip or sheet flow, C: groundwater, including seeps and springs

Q2: **Evidence of flooding or ponding during a portion of growing season?**
A: yes, B: unable to determine, C: no

Q3: **Degree of wetland veg cover**
A: high >60%, B: Mod 60%, Low <60%

Q4: **Wetland area in acres**
A: >5 ac, B: 0.5-5 ac, but connected to others w/in 3-mi. radius, C: <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, B: no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
A: yes, B: unable to determine, C; no

Q3: **Wetland acreage**
A: >5 ac, B: 0.5-5 ac, C: <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
A: yes, restricted or no outlet, B: minor restrictions, C: unrestricted flow

Q5: **Dominant veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q7: **Dominant land use in watershed upstream**
A: urban or urbanizing, B: ag., C: forested or natural

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MS-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
*Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: **Has stream flow or bank been modified by humans less than 1 mi. above wetland?**
(A) yes, B: no

Q2: **Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?**
(A) yes, B: unable to determine, C: no

Q3: **Water quality condition of stream reaches upstream/adjacent to wetland**
(A) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q4: **Dominant existing land use within 500' of wetland's edge:**
A: Developed, (B) Agricultural, C: Exclusive forest/open space

Q5: **Dominant zoned land use within 500':**
A: Developed, (B) Agricultural, C: Exclusive forest/open space

Q6: **Dominant Veg cover**
(A) Woody, B: Emergent veg and ponding, or open water only, (C) Em veg or wet meadow

Assessment: *Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: **What are assessment results for wildlife hab, fish hab, water qual, and hydro control?**
(A) 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: **What is wetland's primary source of water?**
(A) Surface (incl streams and ditches), B: groundwater, incl springs and seeps, C: precipitation or sheet flow

Q3: **If primary source of water is surface flow, is water flow into the wetland restricted?**
A: no, (B) perm blockage, but may be breached, or a new channel has created, C: flow restricted and cannot be restored

Q4: **Wetland area in acres**
A: >5 ac, (B) 0.5-5 ac, C: <0.5 ac

Q5a: **Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q5b: **Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, (C) <10%

Q6: **What is result of sensitivity to impact index?**
A: wetland not sensitive to impacts, B: potentially sensitive, (C) sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
*Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: **Is wetland site open to public for direct access/observation?** Portions are public
(A) yes, B: yes, with owners' permission, C: no

Q2: **Visible hazards to public?**
(A) no, B: 1-2 present, C: 2+ present

Q3: **What are results of wildlife and fish habitat assessment?**
A: diverse, (B) do not meet A or C, C: lost/ not intact

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MS-W11

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: yes, or easily created, B: no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, C: no

Q6: **Is there limited mobility access?** @ Bottom Loop Road
A: yes, B: no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, C: no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, C: no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, C: no

Q4: **Wildlife habitat index:**
A: diverse habitat, B: habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, B: no, or not applicable

Q6: **Hunting allowed?**
A; yes, B: no

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
Potential if answer not satisfy above/below criteria
No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, B: 2, C: 1

Q2: **How much of wetland visible from viewing area?**
A: >50%, B: 25-50%, C: <25%

Q3: **General appearance**
A: no visual detractors, B: visual detractors exist, but can be removed, C: visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, CL developed with no landscaping

Q5: **Odors present?**
A: natural and pleasant, B: unpleasant at times, C: unpleasant always

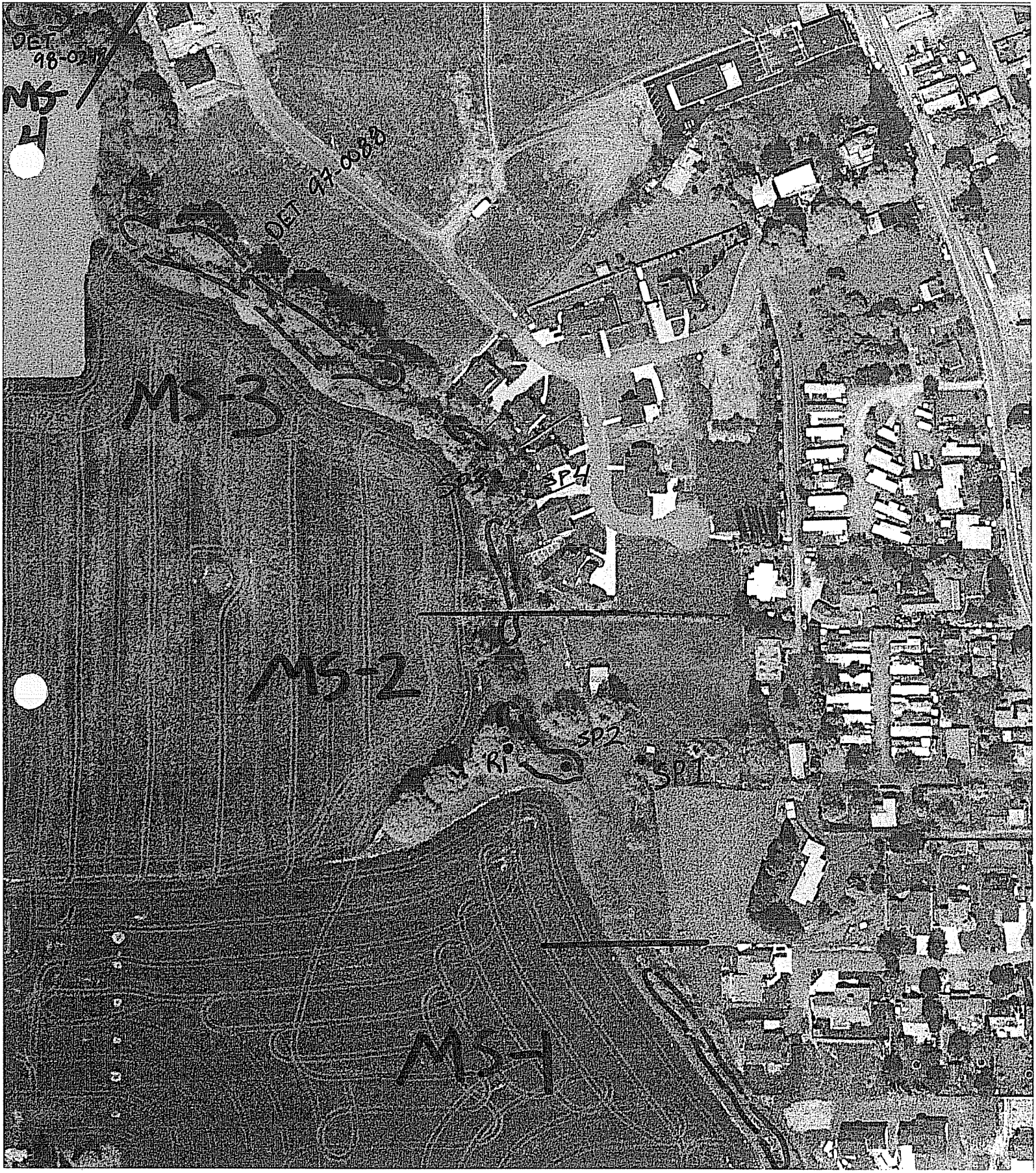
Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, C: no natural sounds

Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
Wetland moderately pleasing if answer do not satisfy above/below criteria
Wetland not pleasing if 2+ Q are "c"

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Scale: 1" : 200'

N

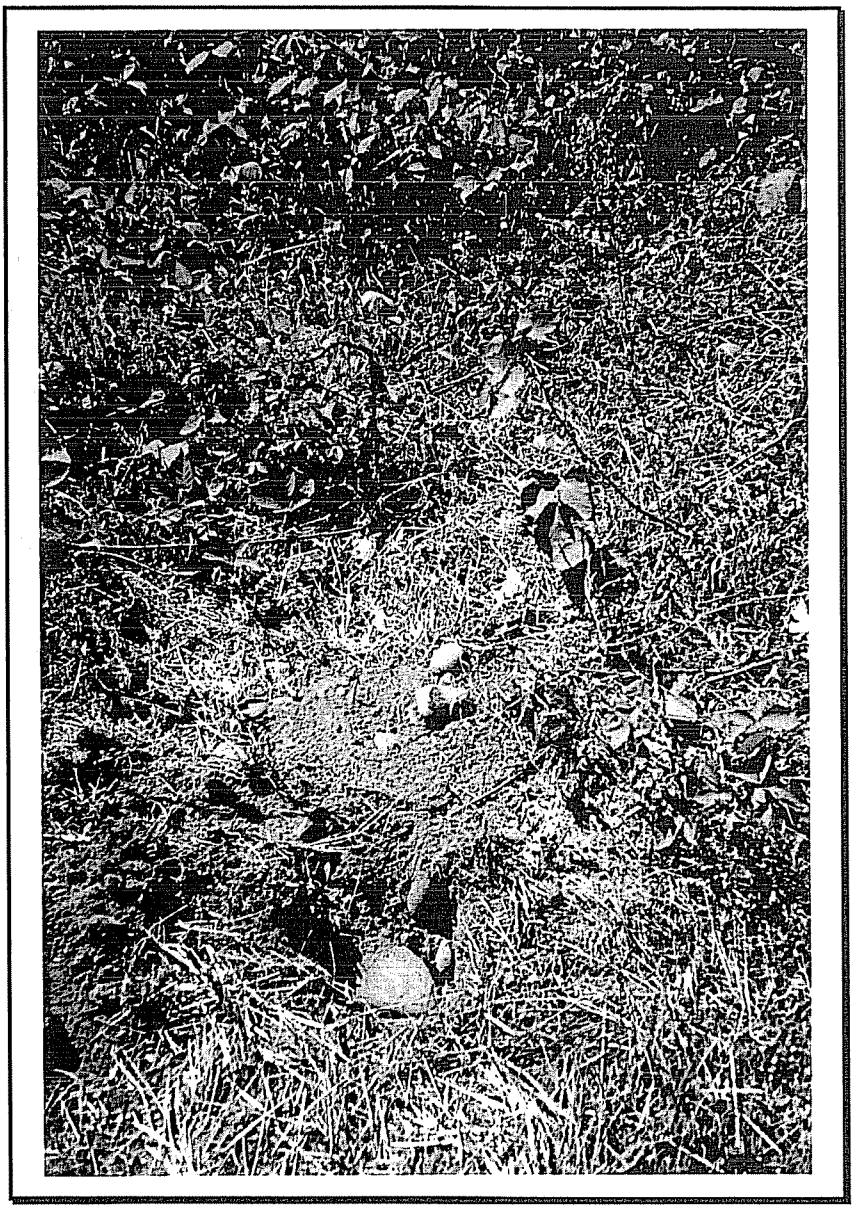
AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MS-W1
SP 1700-1



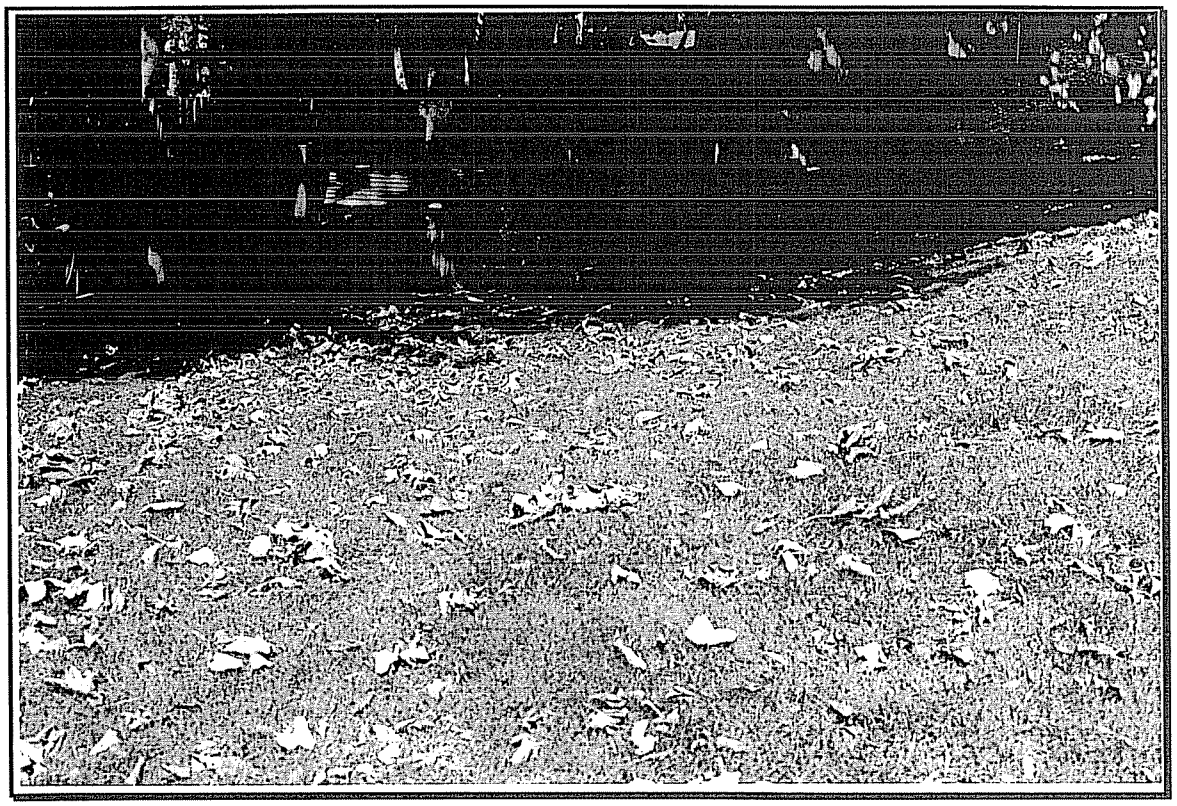
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MS-W1
SP 600-2



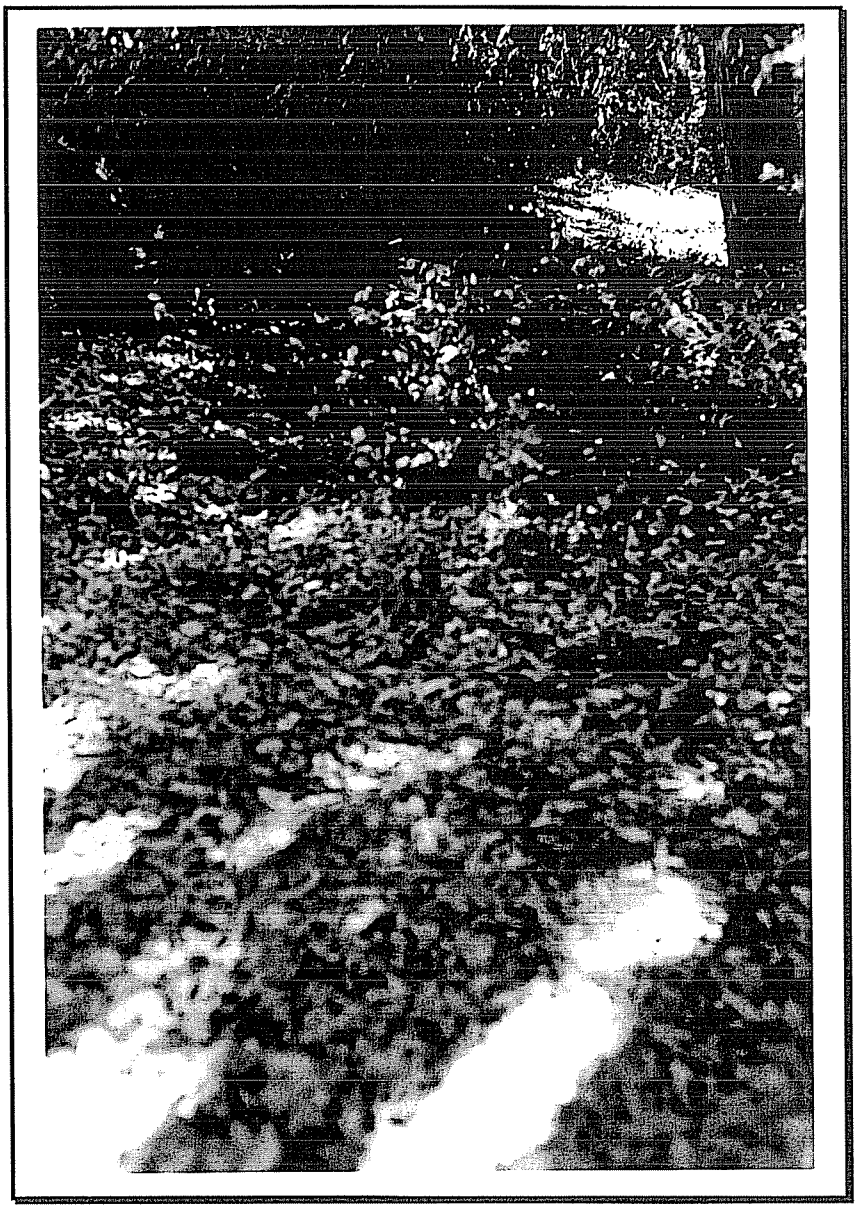
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MS-W1
SP 600-1



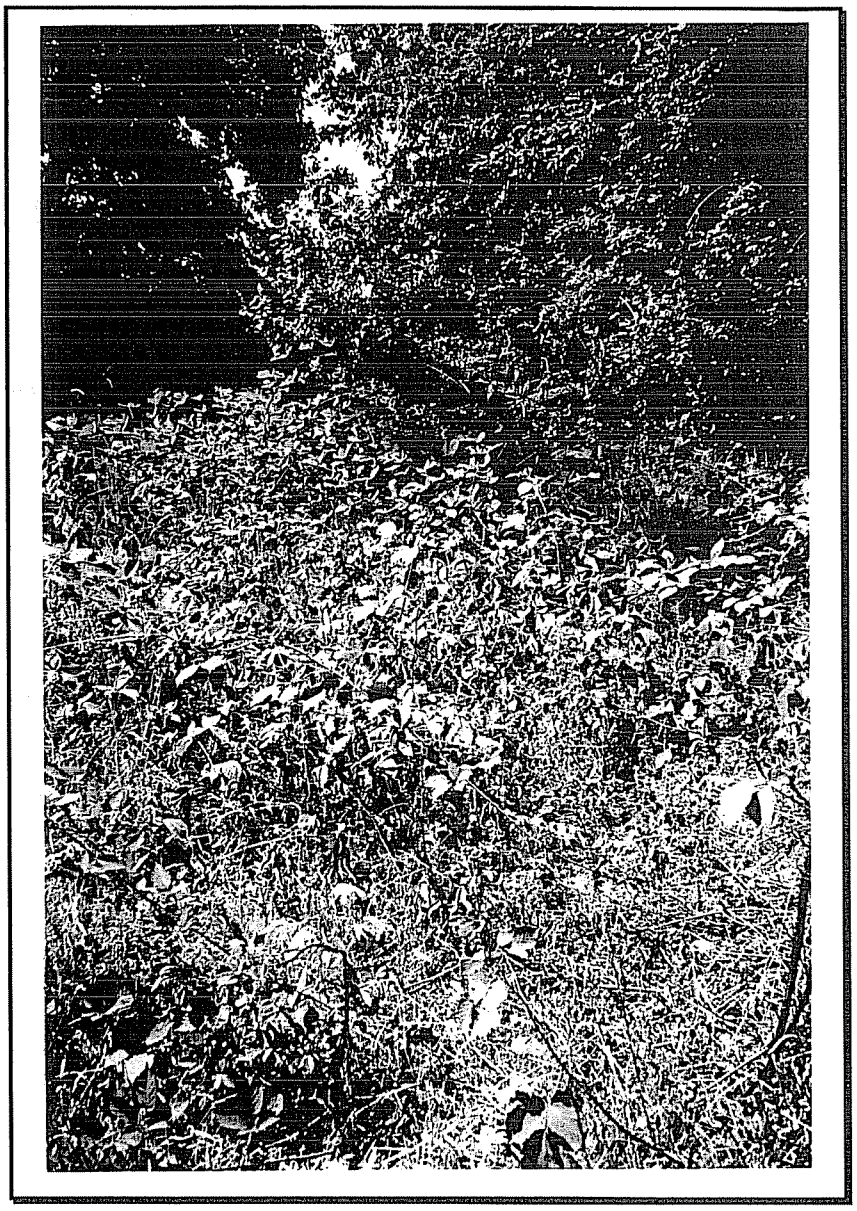
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MS-W1
SP 1700-2



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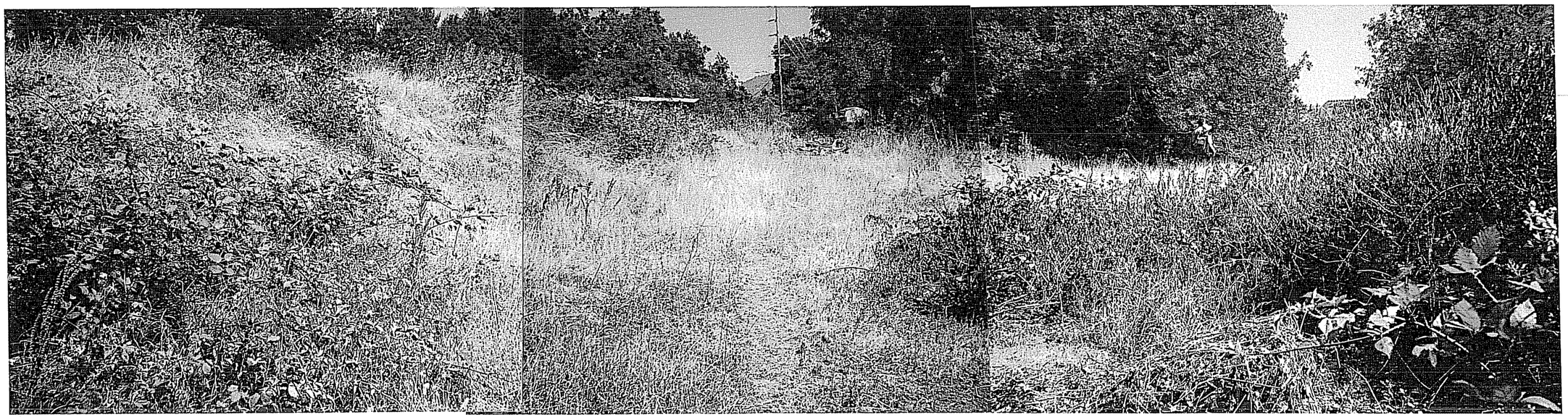
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MS-W1



Near SP 1700-2 View West



Near SP 1700-2 View East and South

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SITE PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

MCN-W1

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

WETLAND NUMBER: MCN-W1

WETLAND ACREAGE: 3.0 ACRES

TAX LOTS: 16-03-33 00100
16-03-28 00606, 00604, 00607, 00608, 00609, 00610, 00611, 00612, 00616

CONTENTS:

WETLAND DELINEATION FORM
PREVIOUS DELINEATION INFORMATION
WETLAND CHARACTERIZATION SHEET
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MCN-W1
WETLAND ACREAGE	3.0 acres
WILDLIFE HABITAT	Provides some habitat
FISH HABITAT	Degraded ponds
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential
EDUCATION	Potential use
RECREATION	No potential recreation
AESTHETIC QUALITY	Not pleasing

NCW-W1

WETLAND DETERMINATION DATA FORM
On-site Method

INTERSTATE 5 R.O.W. 16' NE of SE corner, 5' SE of fence (first post NE)

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg T16S R03W Sec 33 TL 100 SE corner
Investigator: ETHEN PERKINS
Date: 7/29/99
County: Lane
State: Oregon
Community ID: FOXTAIL-FESCUE
Transect ID: 33-100 + 1-5
Plot ID: SP #5

Do normal circumstances exist on the site? YES
Is the site significantly disturbed (Atypical Situation?) YES- mowed but some veg near fence is not mowed
Is the area a potential Problem Area (If needed, explain on reverse)?

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☒ No recorded data available

Field Observations:
Depth of surface water | too dry to determine
Depth to free water
Depth to saturated soil

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Secondary Wetland Hydrology Indicators
- ☒ Oxidized root channels in upper 12 in/30 cm
- ☒ Water-stained leaves
- ☒ Local soil survey data
- ☐ FAC-neutral test
- ☒ Other (Topography - in low ditch

Criterion Met? YES Remarks: area of poor drainage 0.3' higher than at bottom of swale

SOILS

Map unit name (Series and phase) Bashaw Clay Typic
Taxonomy (subgroup) very fine montmor. mesic Pelloxererts
Drainage class Poorly drained
Field observations confirm mapped type? YES

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, et cetera
0-6"		10YR3/1	NONE	N/A	CLAY
6-18"		10YR3/1	NONE		CLAY

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☒ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☒ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other ( )

Criterion Met? YES Remarks: SOME POSS. FENCE/DITCH CONSTRUCTION DISTURBANCE

VEGETATION

Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
# ALOPECURIS PRATENSIS	H	FACW	76	80	Traces				
# FESTUCA ARUNDINACEA	H	FAC-	19	20	VICIA sp.				
DIPSACUS SYLVESTRIS	H	FAC	5	5	Lathyrus sp.				
					Lactuca sp.				

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 50%

Criterion Met? YES Remarks: 16' where changes to loss dominance ALOPRA (slope of off ramp)

WETLAND DETERMINATION

Hydrophytic vegetation present? Yes
Wetland hydrology present? Yes
Hydric soils present? Yes
Is this sampling point within a wetland? Yes
Remarks A few "vernal pool" spots where in ditch ind.

SALPIP, Grindelia, MENPUL

Satre Associates, PC
132 East Broadway, Suite 536 (541) 465-4721
Eugene, Oregon 97401 (541) 465-4722 fax

Environmental Solutions
2540 Pierce Street (541) 343-6585
Eugene, Oregon 97405

Ethen Perkins Consulting
2410 Monroe (541) 345-3944
Eugene, Oregon 97405

MCN-WI

WETLAND DETERMINATION DATA FORM
On-site Method

INTERSTATE 5 R.O.W. 380' ON CURVE N+E from 33-100+15 PLOT ①

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg T16S R03W Sec 33
Investigator: ETHEN PERKINS T2 100 SE. CURVE.

Date: 7/29/99
County: Lane
State: Oregon

Community ID: Fescue
Transect ID: 33-100+15
Plot ID: SP #6

Do normal circumstances exist on the site? YES
Is the site significantly disturbed (Atypical Situation?) YES- MOWED. BUT SOME FENCE REMNANTS
Is the area a potential Problem Area (If needed, explain on reverse)?

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☒ No recorded data available

Field Observations:
Depth of surface water
Depth to free water
Depth to saturated soil

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Secondary Wetland Hydrology Indicators
- ☐ Oxidized root channels in upper 12 in/30 cm
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☐ Other ( )

Criterion Met? NO Remarks: APPEARS NEAR N-S DIVIDE IN I-5 DITCH DRAINAGE

SOILS

Map unit name (Series and phase) COBURG SILTY CLAY LOAM fine montmorillonitic mesic
Taxonomy (subgroup) PAHIC ULTIC AGRIXEROLLS
Drainage class Moderately well drained
Field observations confirm mapped type? YES.

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, et cetera
0 – 17"		10YR3/2	NONE	N/A	SILTY CLAY LOAM.
17 – 18+		10YR3/3	10YR5/4	COMMON MEDIUM	CLAY

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☑ Listed on Local Hydric Soils List Inclusions only
- ☑ Listed on National Hydric Soils List
- ☐ Other ( )

Criterion Met? NO Remarks: PROB. SOME TOPSOIL REMOVED TO MAKE DITCH GRADE

VEGETATION

Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
* FESTUCA ARUNDINACEA	H	FAC-	80	90	TRACES				
ALOPECURIS PRATENSIS	H	FACW	9	10	GALIUM APARINE				
BROMUS MOLLIS	H	FACU	4	5	LACTUCA SP.				
AGROSTIS TENUIS	A	FAC	4	5	DAUCUS CAROTA				
LOLIUM PERENNE	H	FAC	2	2	SONCHIS SP.?				
					CONVOLVULUS				

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 0

Criterion Met? NO. Remarks: ALOPRA MORE PERSISTANT & HIGHER COVER ON FENCE LINE

WETLAND DETERMINATION

Hydrophytic vegetation present? NO
Wetland hydrology present? NO
Hydric soils present? NO
Is this sampling point within a wetland?
Remarks WET. BDY @ 20' S. here where ALOPRA becomes dominant.

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Eugene, Oregon 97401 (541) 465-4722 fax

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2410 Monroe (541) 345-3944
Eugene, Oregon 97405

MCN-W1

WETLAND DETERMINATION DATA FORM
On-site Method

SITE TL# 1603280000604 - CUMMINS

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg
Investigator: ETHEN PERKINS
Do normal circumstances exist on the site? YES
Is the site significantly disturbed (Atypical Situation?) YES - W. side landscaped
Is the area a potential Problem Area (If needed, explain on reverse)?
LOCATION: 72'N., 8'W. of S.E. CORNER OF PARCEL (FENCE + S. edge asphalt)

Date: 7/28/99
County: Lane
State: Oregon
Community ID: FEAR/fenceline
Transect ID: 28-604
Plot ID: SP#7

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☑ No recorded data available

Field Observations:
- Depth of surface water
- Depth to free water
- Depth to saturated soil

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☐ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Secondary Wetland Hydrology Indicators
- ☐ Oxidized root channels in upper 12 in/30 cm
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☐ Other ( )

Criterion Met? NO. Remarks: WELL DRAINED EXCAVATION + BANK NEXT I-5 DITCH.

SOILS

Map unit name (Series and phase): (31) Coburg Silty Clay Loam
Taxonomy (subgroup): Fine, mixed, mesic Pachic Ultic Argixerolls
Drainage class: Moderately well drained
Field observations confirm mapped type? No hydric inclusions

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, et cetera
0-5"		10YR3/2	NONE		Silty Clay Loam w/ leafy duff cover.
5-18"		10YR4/2+4/3	5YR5/4	few, fine	Silty Clay Loam

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☐ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☑ Listed on Local Hydric Soils List — Inclusions only
- ☑ Listed on National Hydric Soils List
- ☐ Other ( )

Criterion Met? NO. Remarks: MOTTLING ONLY OCCASIONAL - prob. from disturbance/fill activity

VEGETATION

Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
* FESTUCA ARUNDINACEA	H	FAC-	60	80	TRACES (NOT DOMINANT)				
* DIPSACUS SYLVESTRIS	H	FAC	17	20	EQUISETUM ARVENSE		FAC		
* LOTUS PURSHIANA	H	NOL	17	20	VICIA TETRASPERMA		BROMUS MOLLUS		
* RUBUS DISCOLOR	S-V	FACU	100	30	AGROSTIS TENUIS		FAC CENTAURIUM UMBELLATUM		
					HOLCUS LANATUS		FAC CAREX DENSA		

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 25%

Criterion Met? NO Remarks:

WETLAND DETERMINATION

Hydrophytic vegetation present? NO
Wetland hydrology present? NO
Hydric soils present? NO
Is this sampling point within a wetland? NO
Remarks

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2410 Monroe (541) 345-3944
Eugene, Oregon 97405

MCN-W1

WETLAND DETERMINATION DATA FORM
On-site Method

SITE TL# 16032800000604 - CUMMINS -

Project/Site: Coburg Local Wetland Inventory
Applicant/Owner: City of Coburg
Investigator: ETHEN PERKINS
Do normal circumstances exist on the site? YES
Is the site significantly disturbed (Atypical Situation?) YES - W. Side Landscaped.
Is the area a potential Problem Area (If needed, explain on reverse)?
POSSIBLY LANDSCAPED WITH ARTIFICIAL WATER INPUTS - See photos.

Date: 7/28/99
County: Lane
State: Oregon
Community ID: Pennyroyal rush
Transect ID: 28.60 sedge
Plot ID: SP#8

HYDROLOGY

Recorded Data (Describe in Remarks):
- ☐ Stream, lake, or tide gauge
- ☐ Aerial photographs
- ☐ Other
- ☐ No recorded data available

Primary Wetland Hydrology Indicators:
- ☐ Inundated
- ☒ Saturated in upper 12 inches/30 cm
- ☐ Water marks
- ☐ Drift lines
- ☐ Sediment deposits
- ☐ Drainage patterns in wetlands

Field Observations:
Depth of surface water
Depth to free water – 1.6'
Depth to saturated soil —@ 10"

Secondary Wetland Hydrology Indicators
- ☐ Oxidized root channels in upper 12 in/30 cm
- ☐ Water-stained leaves
- ☐ Local soil survey data
- ☐ FAC-neutral test
- ☐ Other ([ca. 22" lower elev. than plot!]

Criterion Met? YES Remarks: Surface water 1'W (1.6' ELEV. DROP).

SOILS

Map unit name (Series and phase) 8 BASHAW silty clay loam
Taxonomy (subgroup) Mesic Typic PELLOXERETS
Drainage class Poorly drained
Field observations confirm mapped type? YES

Profile description: Depth	Horizon	Matrix colors (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, et cetera
0–2"					Shoreline cobbles 2"+1"
2–5"		10YR3/1	7.5YR5/6	common, medium	clay.
5–17"		10YR4/1	10YR5/3	common, large	clay.

Hydric Soil Indicators
- ☐ Histosol
- ☐ Histic epipedon
- ☐ Sulfidic odor
- ☐ Aquic moisture regime
- ☐ Reducing conditions
- ☒ Gleyed or low chroma colors
- ☐ Concretions
- ☐ High organic content in surface layer in sandy soils
- ☐ Organic streaking in sandy soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other ( )

Criterion Met? YES Remarks: POSSIBLY ARTIFICIAL DEVELOPED ON SUBSOILS.

VEGETATION (BAND @ 0.75 m. from app. perm. low water shoreline.

Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall	Plant species	Stratum	Indicator Status	%Cover Stratum	% Cover Overall
AGROSTIS EXERATA	H	FACW	4	5	SALIX PIPERI	S	FACW	100	5
* MENTHA PULEGIUM	H	OBL	31	40	VULPIA MYURIS	H	FACU	4	5
* CAREX UNILATERALIS	H	FACW	16	20	DAUCUS CAROTA	H	NOL	2	3.
* ELEOCHARIS OVATA	H	OBL	27	35	BIDENS FRONDOSA	H	FACW+	>1	1
* AGROSTIS ALBA	H	FAC	16	20	JUNCUS EFFUSUS	H	Near by	out of	plot.)

* = Dominant. Percent of dominant species that are OBL, FACW, or FAC: 100% FACW

Criterion Met? YES Remarks: Veg. E. side pond app. not landscaped + planted.

WETLAND DETERMINATION

Hydrophytic vegetation present? YES
Wetland hydrology present? YES
Hydric soils present? YES
Is this sampling point within a wetland? YES.
Remarks BDY @ 2'E HERE WHERE ABRUPT TRANS TO TEASEL + LOTUS. NARROWS N. TO @ 20'

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May 3, 1993

Mr. Bruce Newhouse
Salix Associates
2525 Potter
Eugene, OR 97405

Re: Wetland Delineation for Hessel Tractor T16S, R3W, Section 28, Tax Lot 606

Dear Bruce:

I have reviewed the above referenced wetland delineation. Based on the data presented, I concur with the delineation as shown on Attachment F of your report. The area of wetland identified in the report is subject to the permit requirements of Oregon Removal-fill Law (ORS 196.800 - 196.990). You should advise your client of the permit requirements and permit criteria that apply.

Thank you for the clear documentation. If you have any questions, please feel free to call me at (503) 378-3805, extension 246.

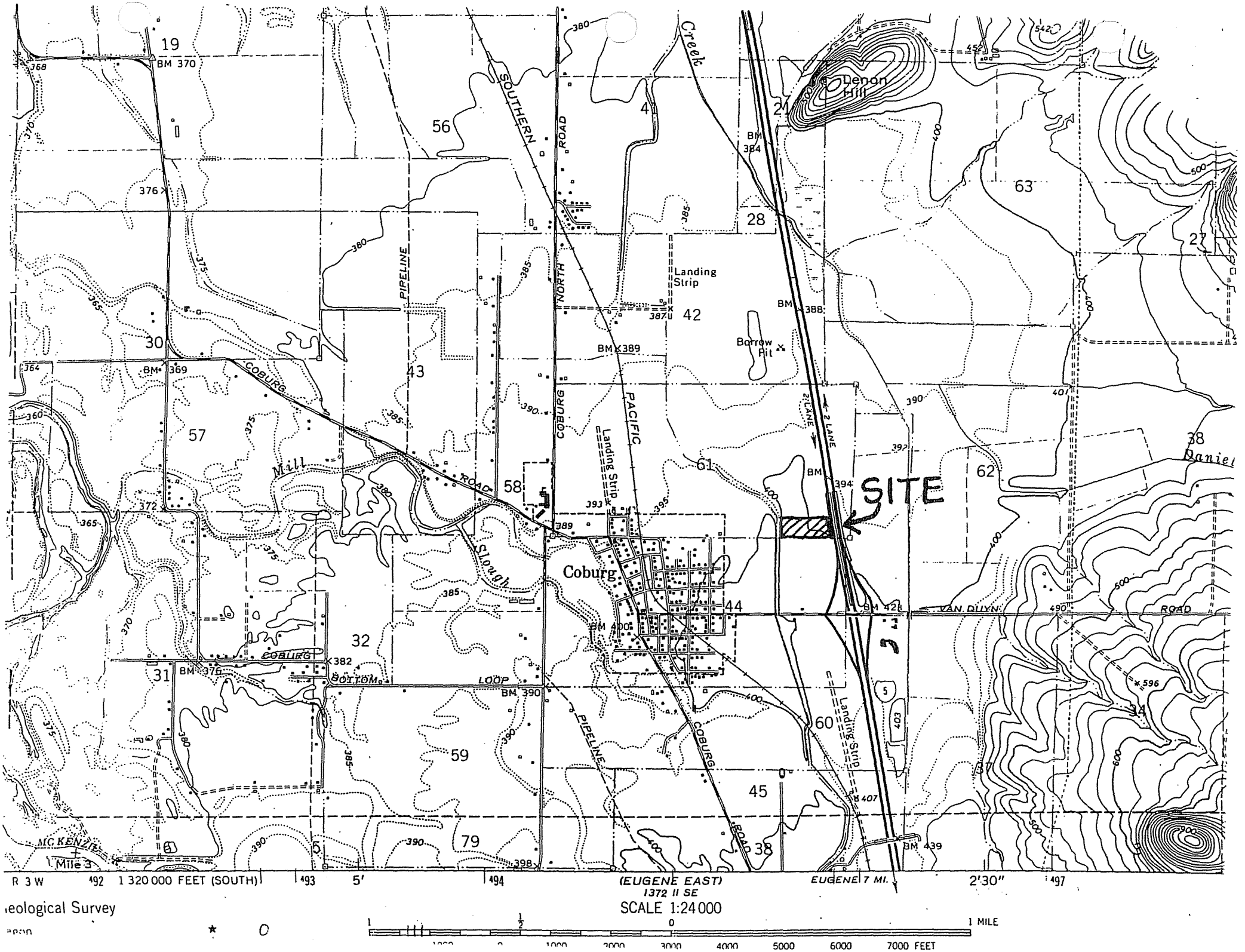
Sincerely,

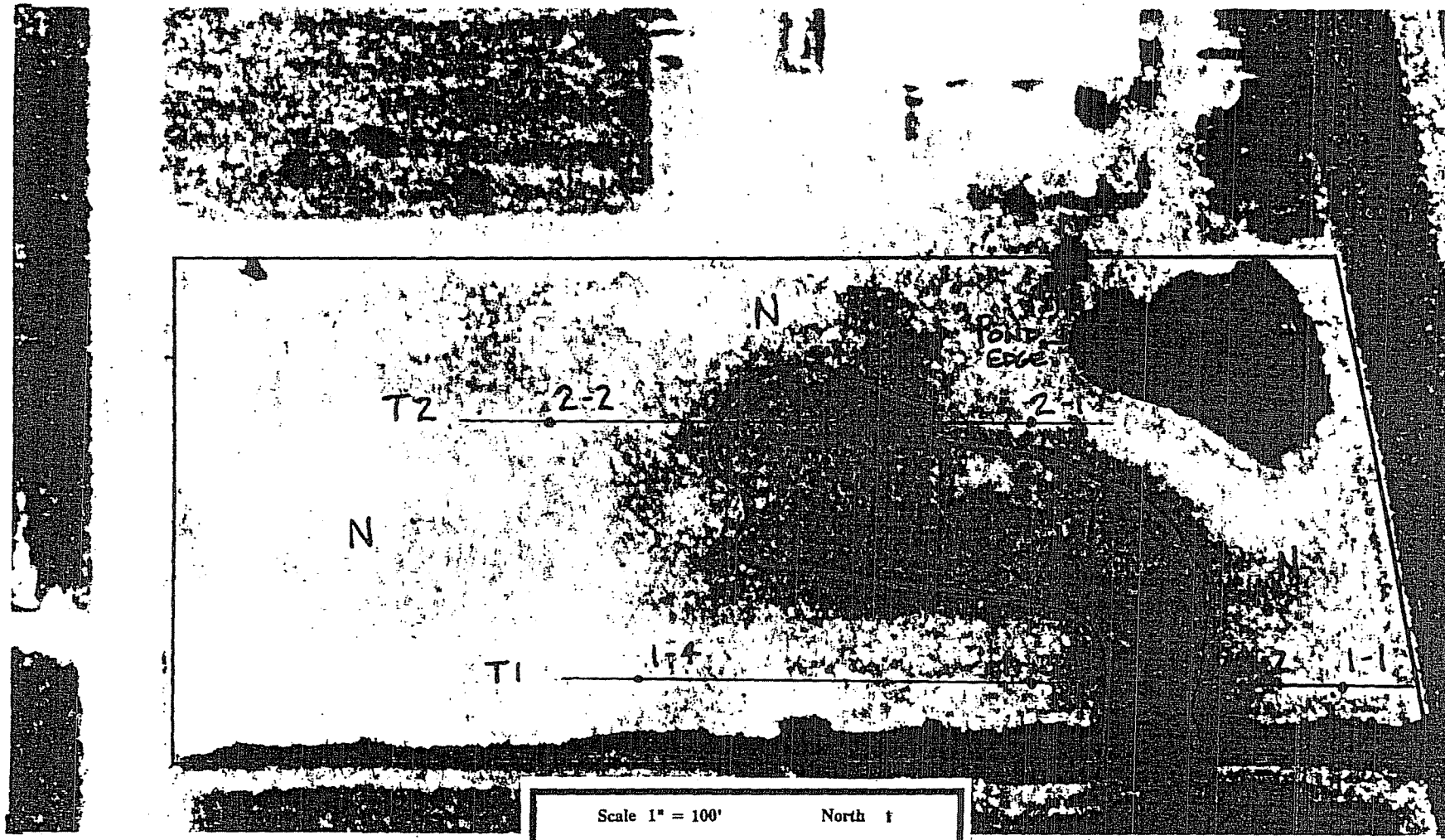
Kenneth F. Bierly
Wetlands Program Manager

KFB/jp
ken:395 p4

cc: Jim Goudzwaard, Corps of Engineers

775 Summer Street NE
Salem, OR 97310-1337
(503) 378-3805
FAX (503) 378-4844


SITE
Coburg
Denon Hill
Landing Strip
Borrow Pit
Mill Slough
SOUTHERN PACIFIC
COBURG ROAD
NORTH COBURG ROAD
PIPELINE
VAN DUYN ROAD
COBURG LOOP
BOTTOM ROAD
MC KENZIE
Mile 3
R 3 W
1 320 000 FEET (SOUTH)
5'
(EUGENE EAST)
1372 II SE
EUGENE 7 MI.
2'30"
SCALE 1:24000
1 MILE
7000 FEET



Scale 1" = 100' North ↑

MAP KEY:

W - Wetlands
N - Non-wetlands (uplands)
— — Approximate boundary of potential jurisdictional wetlands

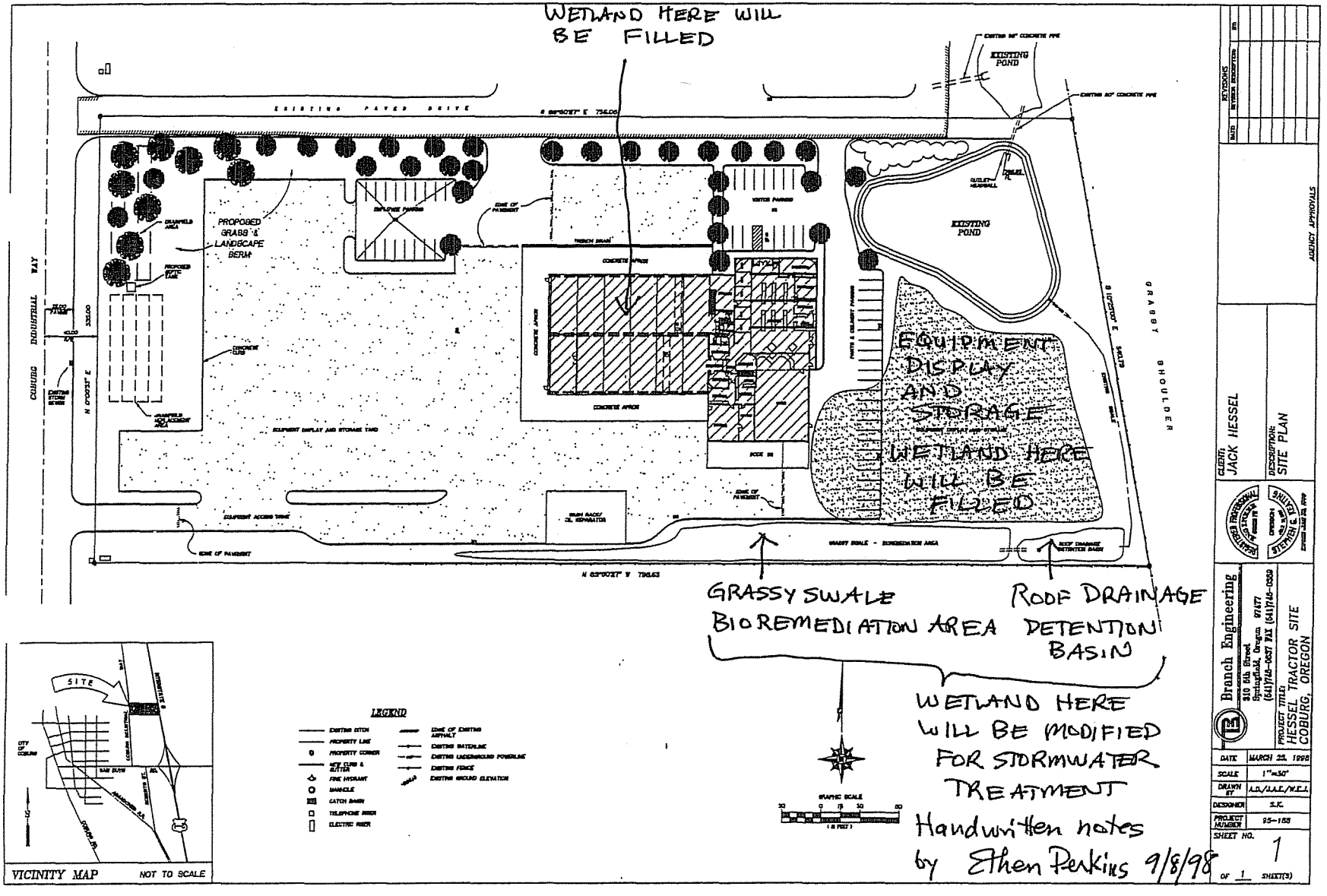
Hessel Property Wetland Determination
Salix Associates 4/93

N

TAX LOT 1603280-00606

Hessel
Det 93-0167
FP 7643

Joint Permit Attachment 1.
Figure 1. 84



Oregon

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August 12, 1993

Mr. Mike Warren
Marathon Motor Coach
105 S. Bertelson Road
Eugene, Oregon 97401

RE: Development Site in Coburg Industrial Park
T6S, R3W, Section 28, TLs 609, 610, 611, and 612

Dear Mr. Warren:

I have reviewed the wetland delineation conducted by Mr. Scott Craig for the above referenced site. Based on the data presented at the site observations made by Ms. Nancy Leibowitz, I concur with the wetland delineation presented as site and photo map in Scott's report. Alteration of the farmed wetland area is subject to state permit requirements.

Based on the observations made by Ms. Leibowitz the activities conducted to date do not constitute a violation of Oregon's Removal-Fill Law (ORS 196.800 to 196.990). If you have any questions, concerning this letter please call.

Sincerely,

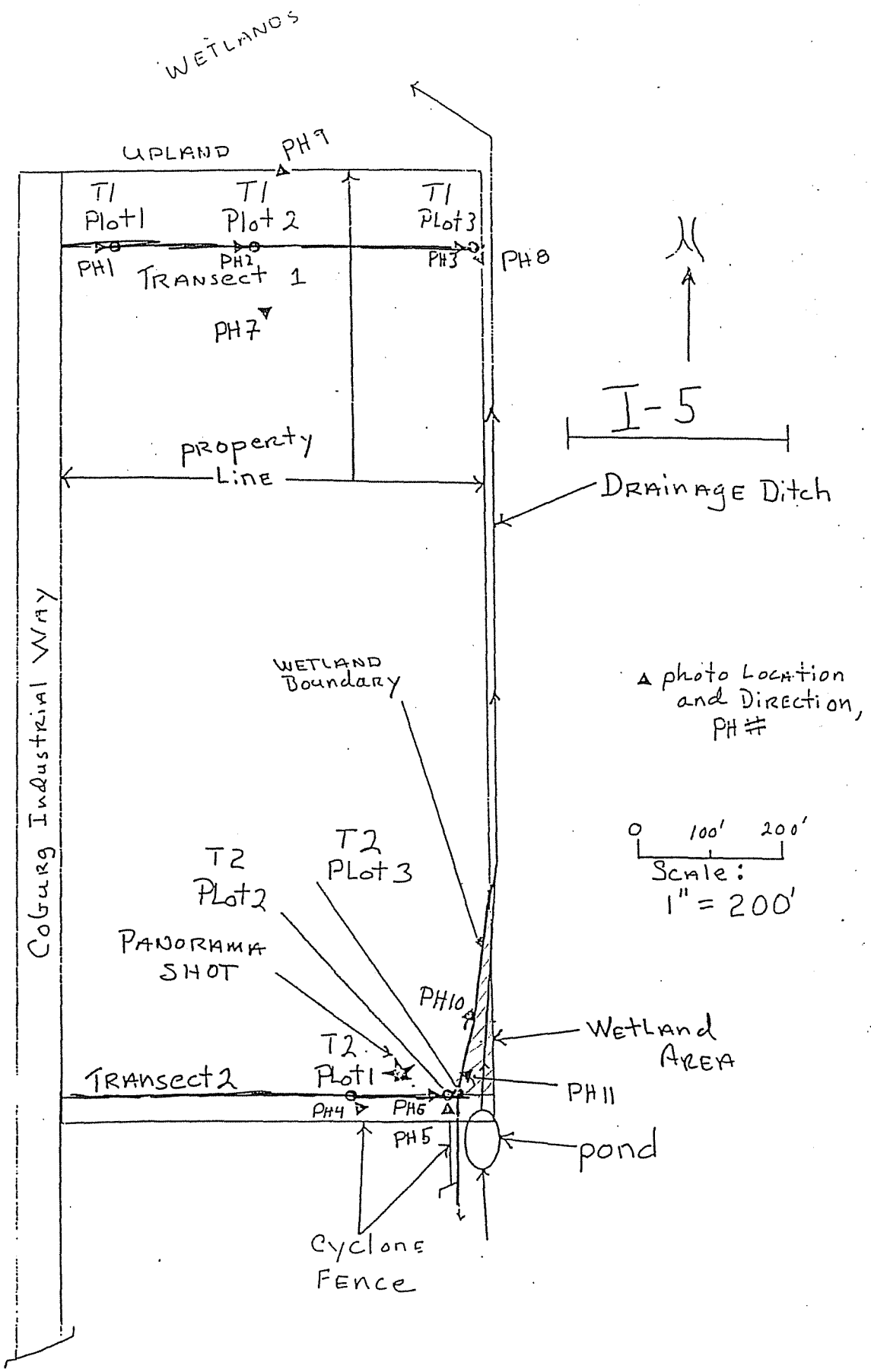
Kenneth F. Bierly
Wetland Manager
Policy and Planning Section

KFB/amo
ann:636

775 Summer Street NE
Salem, OR 97310-1337
(503) 378-3805
FAX (503) 378-4844



Soil Map
TL 609-612
Coburg Industrial Park
W.E.T., Inc. 4 Feb 93



Site and Photo Map
TL 609-612
Coburg Industrial Park
W.E.T., Inc. 4 Feb 93

WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 7/28/99 and 7/29/99
Data Sheet Numbers: Sp #5, Sp #6, Sp #7, Sp #8
Investigator(s): Ethen Perkins

Wetland Mapping Code: **MCN-W1**
Size (acres): **3.0**
Cowardin Classification* **PEM**
%PSS: **2** %PEM: **98** %PFO:

Location:

T-R-S: 16-03-33 and 16-03-28
Physical: Northeast Coburg Industrial Zone
Hydrologic Basin: Muddy Creek; surface drainage

Tax Lot(s)
160333000100
1603280000604, -00606, -00607, -00608, -00609, -00610, -00611, -00612, -00616

Soils:

Mapped Series: (8) Bashaw Clay

Hydrology:

Hydrologic Source: Local drainage of Muddy Creek floodplain and terraces.

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
Fraxinus latifolia	*Salix* sp.		*Alopercurus pratensis*
			Festuca arundinacea
			Mentha pulegium
			Carex unilateralis
			Agrostis alba
			Eleocharis ovata
			Phalaris arundinacea
			Deschampsia cespitosa
			Juncus effusus
			Agrostis capillaris

Comments:

This wetland is farmed, mown, landscaped, excavated, and constricted over most areas. Best potential vegetation woody cover guess is *Fraxinus latifolia* swale.

*Cowardin Classifications:
PFO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCN-W1**

Function	Assessment	Rationale
Wildlife Habitat	Provides some wildlife habitat	Two Cowardin Classes. Other wetlands within three miles.
Fish Habitat	Degraded ponds	Not a stream, ditch. Excavated/some scrub-shrub
Water Quality	Impacted or degraded	Dominant land use within 500 feet is developed.
Hydrologic Control	Impacted or degraded	Dominant land use is developed. Not in flood plain.
Sensitivity to Future Impacts	Sensitive to future impacts	Flow is modified and isolated, quality limited water, surrounding area is developed.
Enhancement Potential	Moderate enhancement potential	Impact sensitive, precipitation source less than 40 percent with 150 feet upland habitat.
Education	Potential	No public access. Stormwater treatment possibility.
Recreation	No potential recreational use	Only because some wildlife habitat is present.
Aesthetic Quality	Not pleasing	Visual detractors and constant traffic.

OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCN-W1**

Narrative description of overall wetland functions and conditions
Upslope inputs restricted; some parts may be developed stormwater treatment areas; outflows unclear-possibly culverted, blocked by fill or diverted to interstate highway ditch which shunts to areas east of I-5 and south of Muddy Creek. In general either highly human modified or farmed except occasional abandoned lots (one permitted for fill).

MCN-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: **Number of Cowardin wetland classes**
Rural: A: 3-4, B: 2, C: 1
Urban: (A:) 2+, B: 1 w/5+ plant species, C: 1 w/<5 plant species

Q2: **Dominant Veg** (C <½ of N. ½)
A: Woody B: Emergent veg and ponding, or open water only (C:) Em veg or wet meadow

Q3: **Cowardin class interspersion (edge effect)**
A: High, B: Moderate, (C:) Low

Q4: **Acres of unvegetated open water**
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: A: >1 ac, B: 0.5-1 ac, (C:) <0.5 ac

Q5: **How is wetland connected to another body of water?**
A: by surface water, (B:) no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi.

Q6: **How connected to other wetlands?**
A: W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake
(B:) not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: **What is water quality condition upstream/adjacent to wetland?**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C:) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: **What is dominant land use w/in 500' of wetland?**
A: Exclusive forest/open space, B: Agricultural, (C:) Developed

Q9a: **Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide** N/A.
A: >40%, B: 10-40%, C: <10%

Q9b: **Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide**
(A:) >40%, B: 10-40%, C: <10%

Assessment: Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams N/A

Q1: **% of stream shaded by riparian veg:**
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: **What is physical characteristic of stream channel:**
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: **% of entire stream w/instream structures (natural)**
A: >25%, B: 10-25%, C: <10%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: **Dominant existing land use:**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in stream/lake/wetland pond**
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds

Q1: **Does pond/lake contain deep and shallow water?**
A: yes, (B:) cannot determine, C: no

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Eugene, Oregon 97405

MCN-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, (C) <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, (B) 20-60%, C: <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
(A) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural (C: Developed

Q6: **Are fish present in lake/wetland pond**
(A: no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "a"

Water Quality

Q1: **Primary source of water**
A: surface flow (including streams and ditches) (B: precip or sheet flow, C: groundwater, including seeps and springs

Q2: **Evidence of flooding or ponding during a portion of growing season?**
(A: yes, B unable to determine, C: no

Q3: **Degree of wetland veg cover**
(A: high >60%, B: Mod 60%, Low <60%

Q4: **Wetland area in acres** ACRES ? UNCERTAIN.
A: >5 ac, (B: 0.5-5 ac, but connected to others w/in 3-mi. radius, C: <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural (C: Developed

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, (B: no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
(A: yes, B: unable to determine, C; no

Q3: **Wetland acreage**
A >5 ac, (B: 0.5-5 ac, C: <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
A: yes, restricted or no outlet, (B: minor restrictions, C: unrestricted flow ? fill ? I-5 ditch

Q5: **Dominant veg cover**
A: Woody, B: Emergent veg and ponding, or open water only (C: Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural (C: Developed

Q7: **Dominant land use in watershed upstream**
(A: urban or urbanizing, B: ag., C: forested or natural

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MCN-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: Has stream flow or bank been modified by humans less than 1 mi. above wetland?
(A): yes, B: no

Q2: Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?
but even if connected under I-5 overpass, isolated further upslope.
(A): yes, B: unable to determine, C: no

Q3: Water quality condition of stream reaches upstream/adjacent to wetland
(A): 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q4: Dominant existing land use within 500' of wetland's edge:
(A): Developed, B: Agricultural, C: Exclusive forest/open space

Q5: Dominant zoned land use within 500':
(A): Developed, B: Agricultural, C: Exclusive forest/open space

Q6: Dominant Veg cover
A: Woody, B: Emergent veg and ponding, or open water only, (C): Em veg or wet meadow

Assessment: Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: What are assessment results for wildlife hab, fish hab, water qual, and hydro control?
(A): 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: What is wetland's primary source of water?
A: Surface (incl streams and ditches), B: groundwater, incl springs and seeps, (C): precipitation or sheet flow

Q3: If primary source of water is surface flow, is water flow into the wetland restricted? N/A.
A: no, B: perm blockage, but may be breached, or a new channel has created, C: flow restricted and cannot be restored

Q4: Wetland area in acres
A: >5 ac, (B): 0.5-5 ac, C: <0.5 ac

Q5a: Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide N/A.
A: >40%, B: 10-40%, C: <10%

Q5b: Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, (B): 10-40%, C: <10%

Q6: What is result of sensitivity to impact index?
A: wetland not sensitive to impacts, B: potentially sensitive, (C): sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: Is wetland site open to public for direct access/observation?
A: yes, (B): yes, with owners' permission, C: no In some places (Cumns).

Q2: Visible hazards to public?
(A): no, B: 1-2 present, C: 2+ present

Q3: What are results of wildlife and fish habitat assessment?
A: diverse, (B): do not meet A or C, C: lost/ not intact

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4 MCN-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: yes, or easily created, B: no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, C: no

Q6: **Is there limited mobility access?**
A: yes, B: no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, C: no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, C: no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, C: no

Q4: **Wildlife habitat index:**
A: diverse habitat, B: habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, B: no, or not applicable

Q6: **Hunting allowed?**
A; yes, B: no

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
Potential if answer not satisfy above/below criteria 4 is B
No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, B: 2, C: 1

Q2: **How much of wetland visible from viewing area?**
A: >50%, B: 25-50%, C: <25%

Q3: **General appearance** fences interstate, factories
A: no visual detractors, B: visual detractors exist, but can be removed, C: visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, CL developed with no landscaping

Q5: **Odors present?**
A: natural and pleasant, B: unpleasant at times, C: unpleasant always

Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, C: no natural sounds

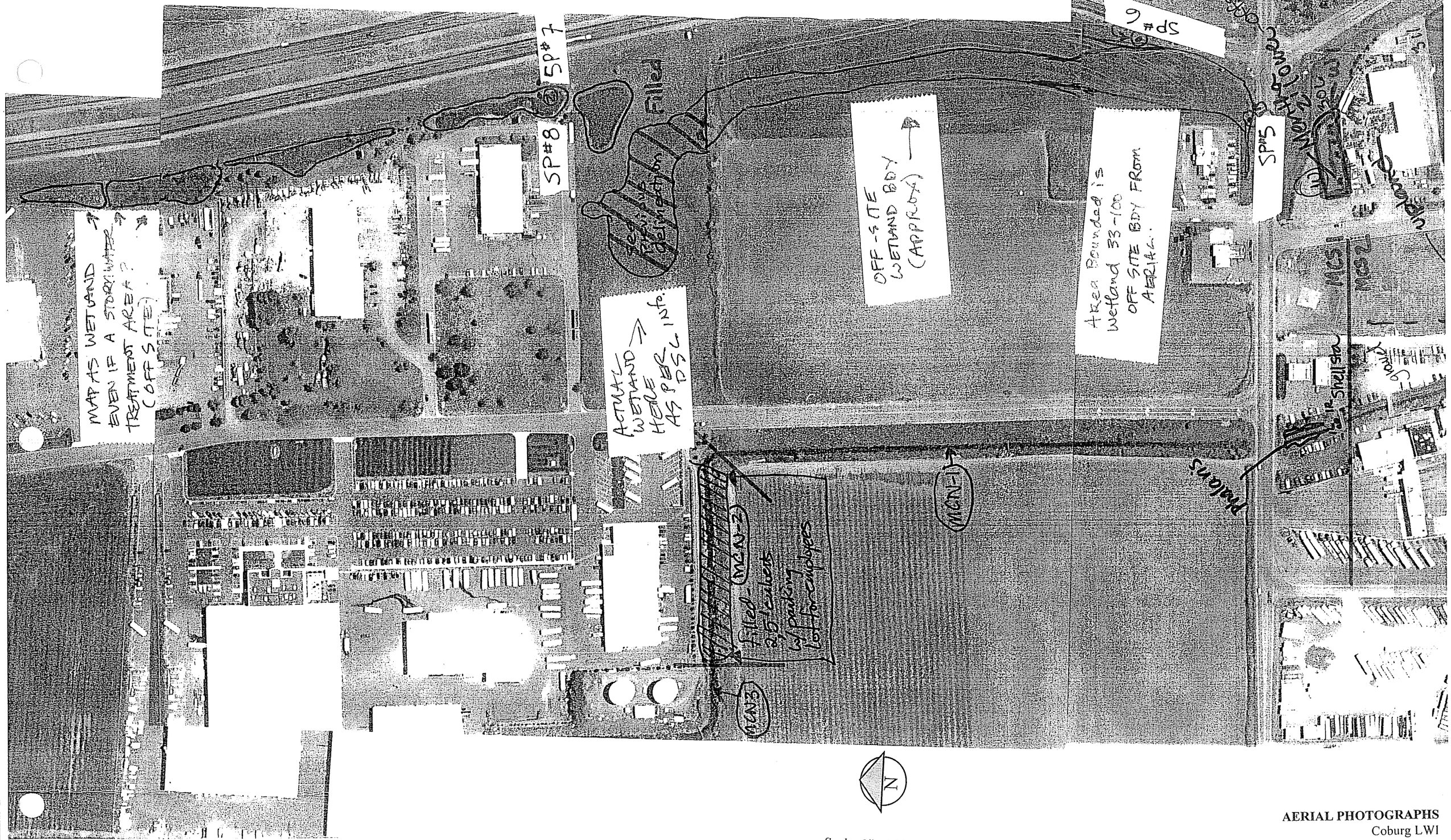
Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
Wetland moderately pleasing if answer do not satisfy above/below criteria
Wetland not pleasing if 2+ Q are "c"

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MCN-W1



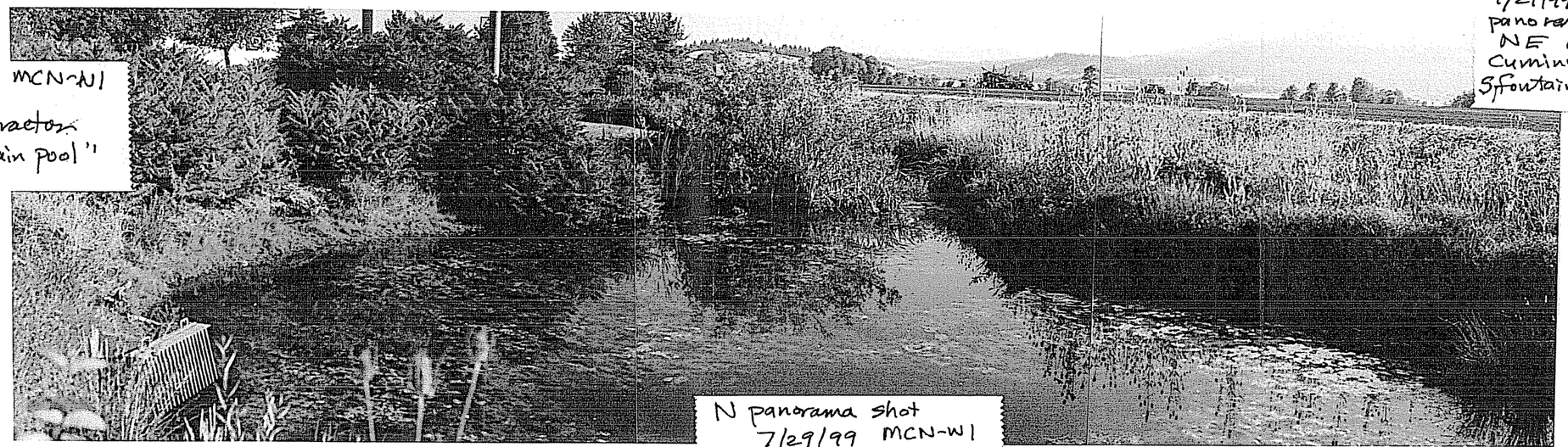
Scale: 1"= 200'

AERIAL PHOTOGRAPHS
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City of Coburg
October, 1999

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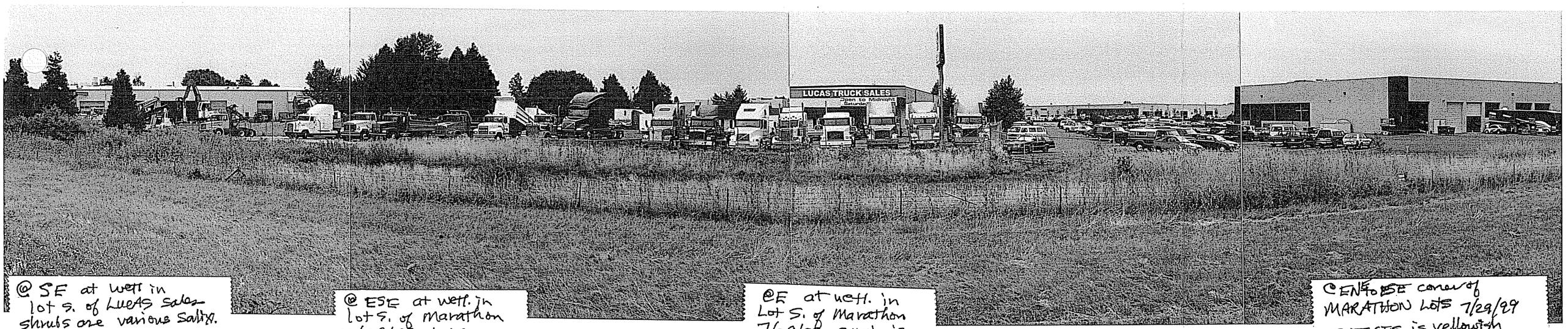
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NW. from MCN-W1 on 7/29/99 Cummins tractor S "fountain pool"

7/29/99 MCN-W1 panorama shot NE at Cumins tractor S fountain pool

N panorama shot 7/29/99 MCN-W1 Cummins tractor "fountain pool"



@SE at well in lot S. of LUCAS Sales shrubs are various Salix. 7/29/99

@ ESE at well in lot S. of Marathon 7/29/99 more MENPUL in center.

@E at well in Lot S. of Marathon 7/29/99 purple is MENPUL.

CENTo ESE corner of MARATHON Lots 7/29/99 DESCES is yellowish taller grass + PHAARU green on S

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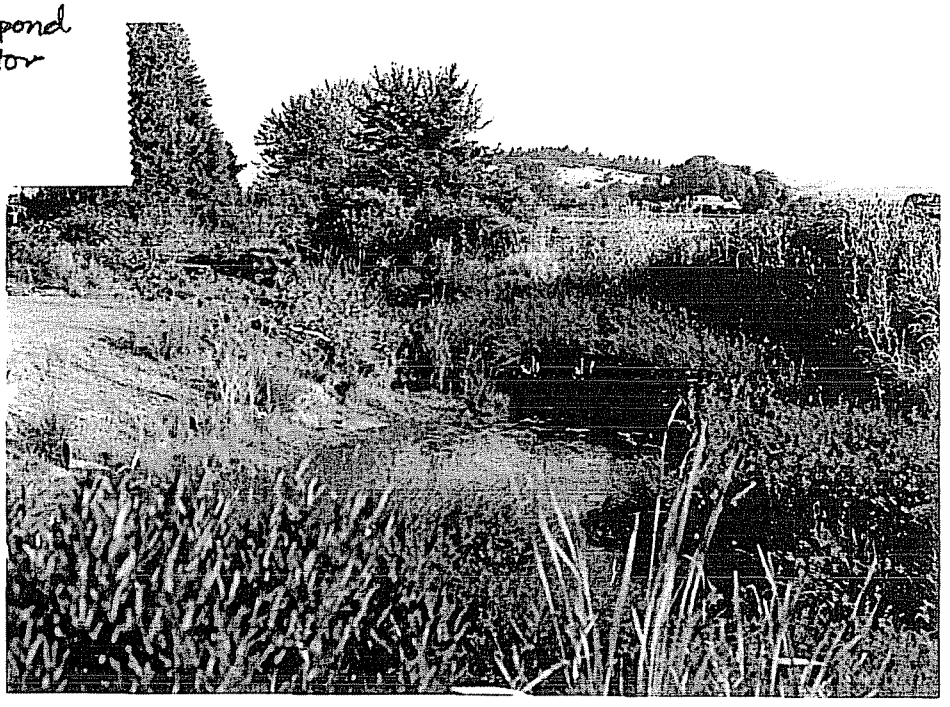
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SITE PHOTOGRAPHS
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1. North fountain pond Cumins tractor 7/29/99 MCN-WI



N second pond Cumins tractor 7/29/99 MCN-WI



SITE PHOTOGRAPHS
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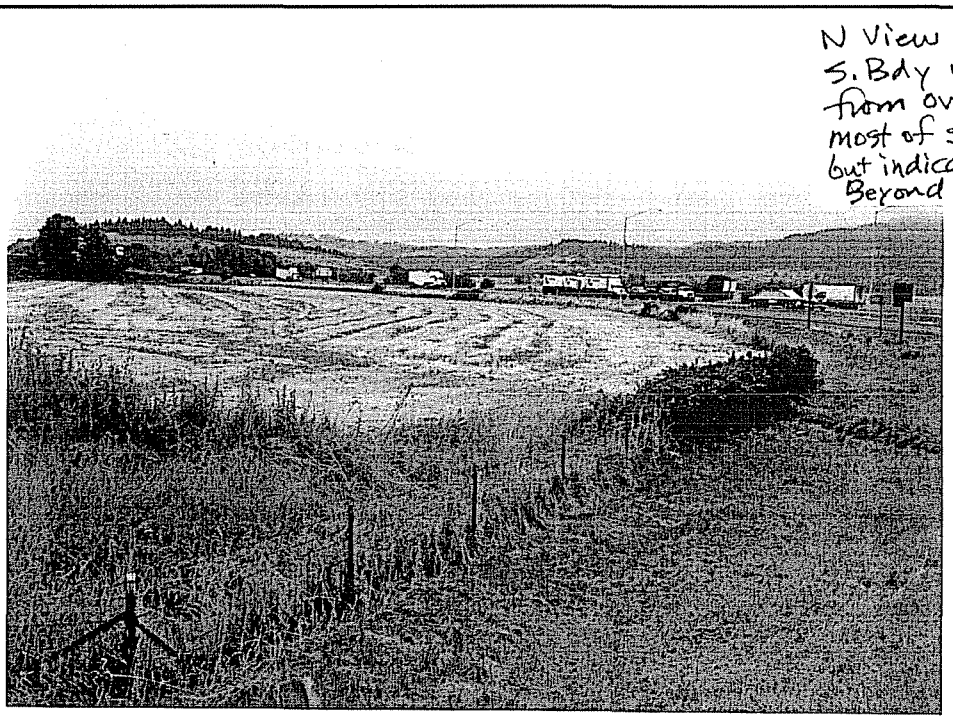
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N View of unmown corner (southwestern) of MCN-W1 note DESCES beyond FESARU at fence 7/29/99



N View MCN-W1 at S. Bdy w/ I-5 ROW from overpass. 7/29/99 most of swale is mown but indicators at fence + Beyond incl. ROSPIS

SITE PHOTOGRAPHS
Coburg LWI
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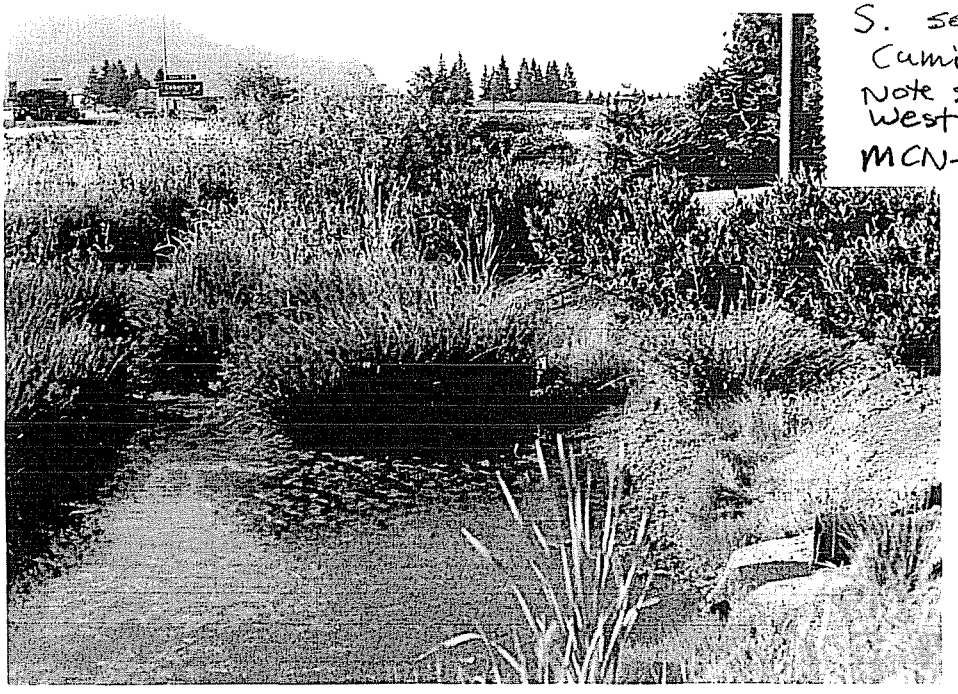
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View E. from SE Cummins tractor lot. Inflow pipe + edge vegetation. MCN-WI. 7/29/99



S. second pond Cumins tractor. Note storm inflow? from west. MCN-WI 7/29/99

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N. from edge of Cumins tractor 7/29/99 MCN-WI mown wetswale w/indicators



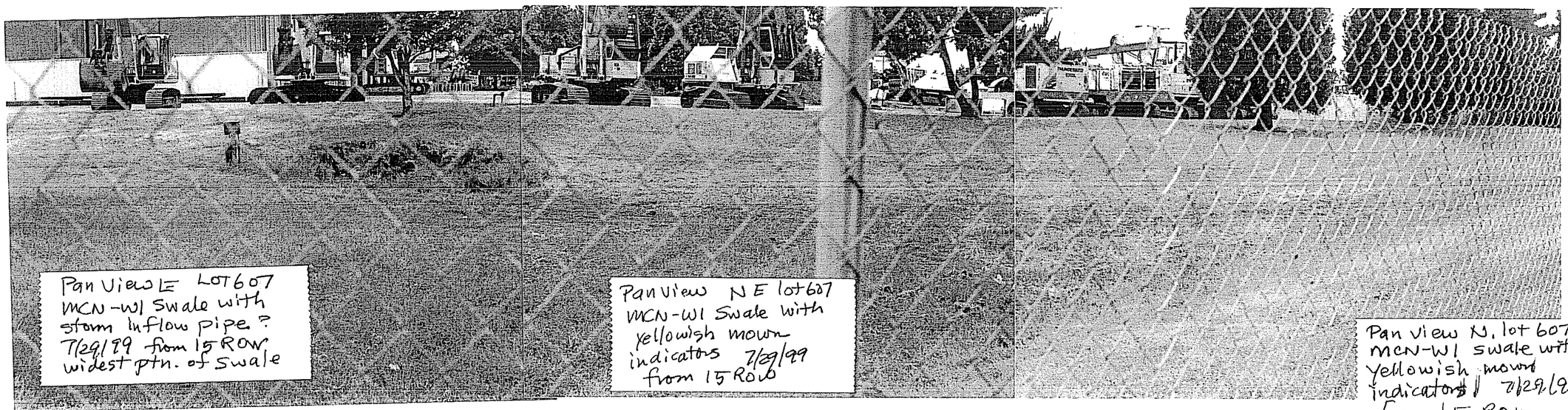
SE from S. drive of Cumins tractor 7/29/99 MCN-WI purple is MENPUL.

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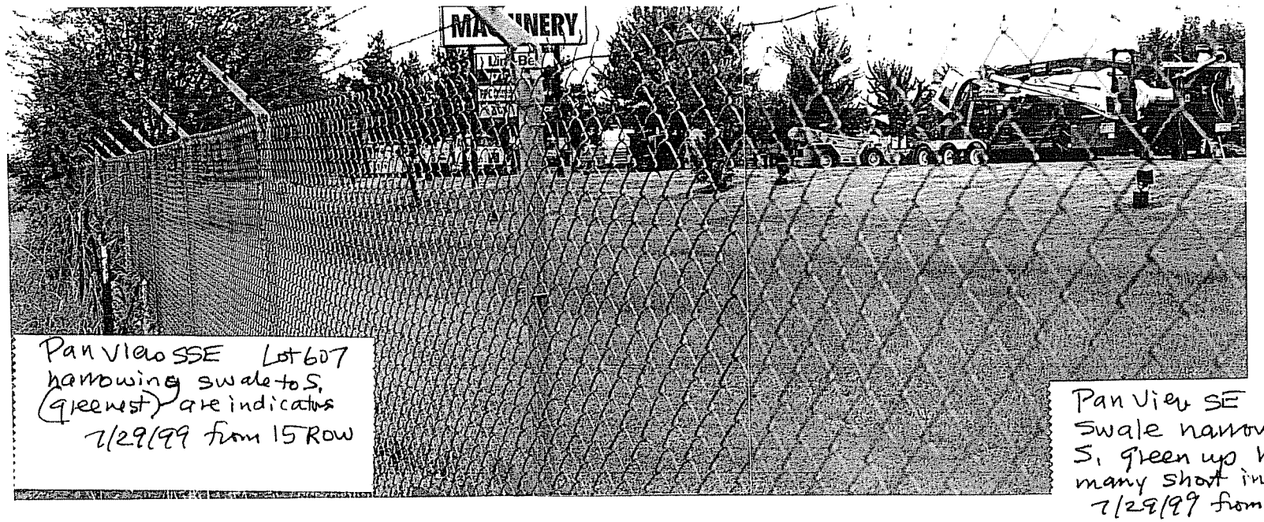
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Pan View E Lot 607 MCN-W1 Swale with storm inflow pipe? 7/29/99 from 15 ROW widest ptn. of swale

Pan View NE lot 607 MCN-W1 Swale with yellowish mown indicators 7/29/99 from 15 ROW

Pan view N. lot 607 MCN-W1 swale with Yellowish mown indicators 7/29/99 from 15 ROW



Pan View SSE Lot 607 narrowing swale to S. (greenest) are indicates 7/29/99 from 15 ROW

Pan View SE Lot 607 Swale narrows to S, green up has many short indicators 7/29/99 from 15 ROW

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SITE PHOTOGRAPHS
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MCN-W2

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

WETLAND NUMBER: MCN-W2

WETLAND ACREAGE: 10.2 ACRES

TAX LOTS: 16-03-28-00 00404

CONTENTS: OFF-SITE DETERMINATION

WETLAND CHARACTERIZATION SHEET
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MCN-W2
WETLAND ACREAGE	10.2 acres
WILDLIFE HABITAT	Provides diverse habitat
FISH HABITAT	Impacted or degraded
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Potentially sensitive
ENHANCEMENT POTENTIAL	High potential
EDUCATION	Potential use
RECREATION	Potential use
AESTHETIC QUALITY	Moderately pleasing

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WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 7/29/99
Data Sheet Numbers: (Off-site)
Investigator(s): Ethen Perkins

Wetland Mapping Code: **MCN-W2**
Size (acres): **10.2**
Cowardin Classification* **PEM**
%PSS: **01** %PEM: **99** %PFO:

Location:

T-R-S: 16-03-28
Physical: North, past Marathon and West of I-5
Hydrologic Basin: Muddy Creek

Tax Lot(s)
1603280000404

Soils:

Mapped Series: (8) Bashaw Clay

Hydrology:

Hydrologic Source: Precipitation, field and road run-off, industrial stormwater and possibly Muddy Creek Irrigation ditch.

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
			Scirpus tabernaemontani
			Juncus effusus
			Juncus patens
			Polygonum hydropiperoides
			Veronica sp.

Comments:

Vegetation from memory of previous site visits, (therefore not a definitive listing). No permission to enter was granted, thus not backed by site specific data.

Cowardin Classifications:
PFO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCN-W2**

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse wildlife habitat	Ditch in 25 foot buffer provides connections but few Cowardin classes are present.
Fish Habitat	Impacted or degraded	Note irrigation channel and levee bisects this wetland.
Water Quality	Impacted or degraded	Groundwater connections; large and well vegetated
Hydrologic Control	Impacted or degraded	Developed areas may not drain here, outflow restricted; not actually in floodplain.
Sensitivity to Future Impacts	Potentially sensitive	Zoned industrial and is on two sides (I-5 to west) North and West side are agricultural and subject to rezoning.
Enhancement Potential	High potential	Habitat, water quality and hydrological control impacted or degraded. Large with workable buffer.
Education	Potential	Possible access, avoidance of hazards, observations possible.
Recreation	Potential	Hunting (if legal) wildlife viewing and view structure is buildable.
Aesthetic Quality	Moderately pleasing	Though mined and maintained, ditch appears natural and contrasts the agriculture on two sides.

OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCN-W2**

Narrative description of overall wetland functions and conditions
An unusual situation produced by shallow mining removal of large portions for I-5 grades and overpasses. Also unique in bisection by Muddy Creek east diversion irrigation channel and levees. Despite age, few trees are present and shrubs are more or less absent (reasons for this are unclear).

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MCN-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: **Number of Cowardin wetland classes**
Rural: A: 3-4, B: 2, C: 1
Urban: (A) 2+, B 1 w/5+ plant species, C: 1 w/<5 plant species - Within UGB

Q2: **Dominant Veg**
A: Woody, (B) Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Q3: **Cowardin class interspersion (edge effect)**
A: High, (B) Moderate, C: Low (but wet/upland edge is high ↳ transition)

Q4: **Acres of unvegetated open water**
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: (A) >1 ac, B: 0.5-1 ac, C: <0.5 ac

Q5: **How is wetland connected to another body of water?**
(A) by surface water, B: no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi. ← (unless berm for ditch is a connection)

Q6: **How connected to other wetlands?**
(A) W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake .. .
B: not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: **What is water quality condition upstream/adjacent to wetland?**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: **What is dominant land use w/in 500' of wetland?**
A: Exclusive forest/open space, (B) Agricultural, C: Developed

Q9a: **Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10% N/A.

Q9b: **Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide**
A: >40%, (B) 10-40%, C: <10%

Assessment: Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams N/A.

Q1: **% of stream shaded by riparian veg:**
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: **What is physical characteristic of stream channel:**
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: **% of entire stream w/instream structures (natural)**
A: >25%, B: 10-25%, C: <10%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: **Dominant existing land use:**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in stream/lake/wetland pond**
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds

Q1: **Does pond/lake contain deep and shallow water?**
A: yes, B: cannot determine, (C) no

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2 MCN-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, (C:) <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, B: 20-60%, (C:) <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
(A:) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, (B:) Agricultural, C: Developed

Q6: **Are fish present in lake/wetland pond**
(A:) no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "c"

Water Quality

Q1: **Primary source of water**
(A:) surface flow (including streams and ditches), (B:) precip or sheet flow, (C:) groundwater, including seeps and springs (when water table is low in summer only?)

Q2: **Evidence of flooding or ponding during a portion of growing season?**
(A:) yes, B: unable to determine, C: no ? By casual observations from freeway.

Q3: **Degree of wetland veg cover**
(A:) high >60%, B: Mod 60%, Low <60%

Q4: **Wetland area in acres**
(A:) >5 ac, B: 0.5-5 ac, but connected to others w/in 3-mi. radius, C: <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, (B:) Agricultural, C: Developed

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C:) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, (B:) no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
(A:) yes, B: unable to determine, C; no

Q3: **Wetland acreage**
(A:) >5 ac, B: 0.5-5 ac, C: <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
A: yes, restricted or no outlet, (B:) minor restrictions, C: unrestricted flow culvert? to Muddy Creek via I-5-ditch?

Q5: **Dominant veg cover**
A: Woody, (B:) Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, (B:) Agricultural, C: Developed

Q7: **Dominant land use in watershed upstream**
(A:) urban or urbanizing, B: ag., C: forested or natural — how connected??

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3 MCN-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: **Has stream flow or bank been modified by humans less than 1 mi. above wetland?**
A: yes, B: no

Q2: **Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?**
A: yes, B: unable to determine, C: no

Q3: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited – Muddy Creek Irrigation? may connect via ground water?

Q4: **Dominant existing land use within 500' of wetland's edge:**
A: Developed, B: Agricultural, C: Exclusive forest/open space

Q5: **Dominant zoned land use within 500':**
A: Developed, B: Agricultural, C: Exclusive forest/open space

Q6: **Dominant Veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Assessment: Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: **What are assessment results for wildlife hab, fish hab, water qual, and hydro control?**
A: 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: **What is wetland's primary source of water?**
A: Surface (incl streams and ditches), B: groundwater, incl springs and seeps, C: precipitation or sheet flow

Q3: **If primary source of water is surface flow, is water flow into the wetland restricted?** N/A
A: no, B: perm blockage, but may be breached, or a new channel has created, C: flow restricted and cannot be restored

Q4: **Wetland area in acres**
A: >5 ac, B: 0.5-5 ac, C: <0.5 ac

Q5a: **Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10% N/A

Q5b: **Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q6: **What is result of sensitivity to impact index?**
A: wetland not sensitive to impacts, B: potentially sensitive, C: sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: **Is wetland site open to public for direct access/observation?**
A: yes, B: yes, with owners' permission, C: no (but not given for this assessment).

Q2: **Visible hazards to public?**
A: no, B: 1-2 present, C: 2+ present deep ditches, fences

Q3: **What are results of wildlife and fish habitat assessment?**
A: diverse, B: do not meet A or C, C: lost/ not intact

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4 MCN-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: yes, or easily created, B: no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, C: no

Q6: **Is there limited mobility access?**
A: yes, B: no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
* Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, C: no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, C: no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, C: no

Q4: **Wildlife habitat index:**
A: diverse habitat, B: habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, B: no, or not applicable

Q6: **Hunting allowed?**
A: yes, B: no — presumably but in UGB so may not be legal.

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
* Potential if answer not satisfy above/below criteria
No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, B: 2, C: 1 — but not all in this wetland.

Q2: **How much of wetland visible from viewing area?** (potential + I-5).
A: >50%, B: 25-50%, C: <25%

Q3: **General appearance**
A: no visual detractors, B: visual detractors exist, but can be removed, C: visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, CL developed with no landscaping — but appearing natural after mining + grading.

Q5: **Odors present?**
A: natural and pleasant, B: unpleasant at times, C: unpleasant always

Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, C: no natural sounds

Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
* Wetland moderately pleasing if answer do not satisfy above/below criteria
Wetland not pleasing if 2+ Q are "c"

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MCN-W2



Scale: 1" = 600'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCN-W3

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

WETLAND NUMBER: MCN-W3

WETLAND ACREAGE: 3.68 ACRES

TAX LOTS: 16-03-28-00 00613, 00614

CONTENTS: OFF-SITE DETERMINATION

PREVIOUS DELINEATION INFORMATION
WETLAND CHARACTERIZATION FORM
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MCN-W3
WETLAND ACREAGE	3.68 acres
WILDLIFE HABITAT	Provides some habitat
FISH HABITAT	N/A
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential
EDUCATION	Not appropriate
RECREATION	No potential recreation
AESTHETIC QUALITY	Moderately pleasing

Oregon

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May 20, 1994

Mr. Scott Craig
Wetland Environment Technologies, Inc.
PO Box 632
Corvallis, OR 97339-0632

Re: Wetland Delineation for Monaco Motor Homes, Coburg, Lane Co., T16S, R3W, Section 28, Tax Lot 614

Dear Scott:

I have reviewed the above referenced wetland delineation report. Based on the data presented I concur that there are no wetlands on the subject site.

If you have any questions, please call.

Sincerely,

Kenneth F. Bierly
Wetlands Program Manager

KFB/tmh
ken:896

c: Jim Goudzwaard, Corps
Lane County
Nancy Leibowitz, DSL

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TTY (503) 378-4615

October 29, 1998

State Land Board
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John Nepute
Monaco Coach Corporation
91320 Coburg Industrial Way
Coburg, OR 97408

Re: Permit Requirements for Site Expansion Plans; DSL File # Det. 94-0166 now 98-0562
TM 16-03-28-1-4 Tax Lots 613 & 614 for TL 613

Dear Mr. Nepute:

As you are aware, the Division has provided comments to the City of Coburg regarding Monaco Coach Corporation's expansion application to the city. Scott Craig has also been in communication with me regarding the wetland delineation that he has been hired to complete on your behalf. I understand that Scott has completed the field work and that a report will be submitted to us in due time. I'm sure that Scott Craig has been providing you with good guidance, but I thought it would be helpful for us to communicate directly.

At the time I submitted our comments, I had not yet investigated our jurisdiction over the Muddy Creek irrigation canal. Some "ditches" are exempt from state removal-fill law regulation if they are constructed entirely from upland and are not accessible to nor contain fish. Because the canal does not meet those conditions, it is subject to permit requirements. To my knowledge, it is also subject to Corps of Engineers jurisdiction under Section 404 of the Clean Water Act.

A state permit is required for fill or excavation of 50 cubic yards or more of material in the wetland area and in the Muddy Creek channel. Fill amounts are calculated cumulatively. For culverts in creeks, we calculate the amount of fill required over and around the culvert, within the creek banks. State law places a preference on avoidance of wetland and waterway impacts. Specifically, when a fill permit application is submitted we must first evaluate whether all feasible measures have been taken to avoid and then minimize adverse impacts. Compensatory mitigation (wetland restoration, creation or enhancement) is required for wetland fills; fills in creeks are often mitigated by restoring temporary impacts resulting from construction activity.

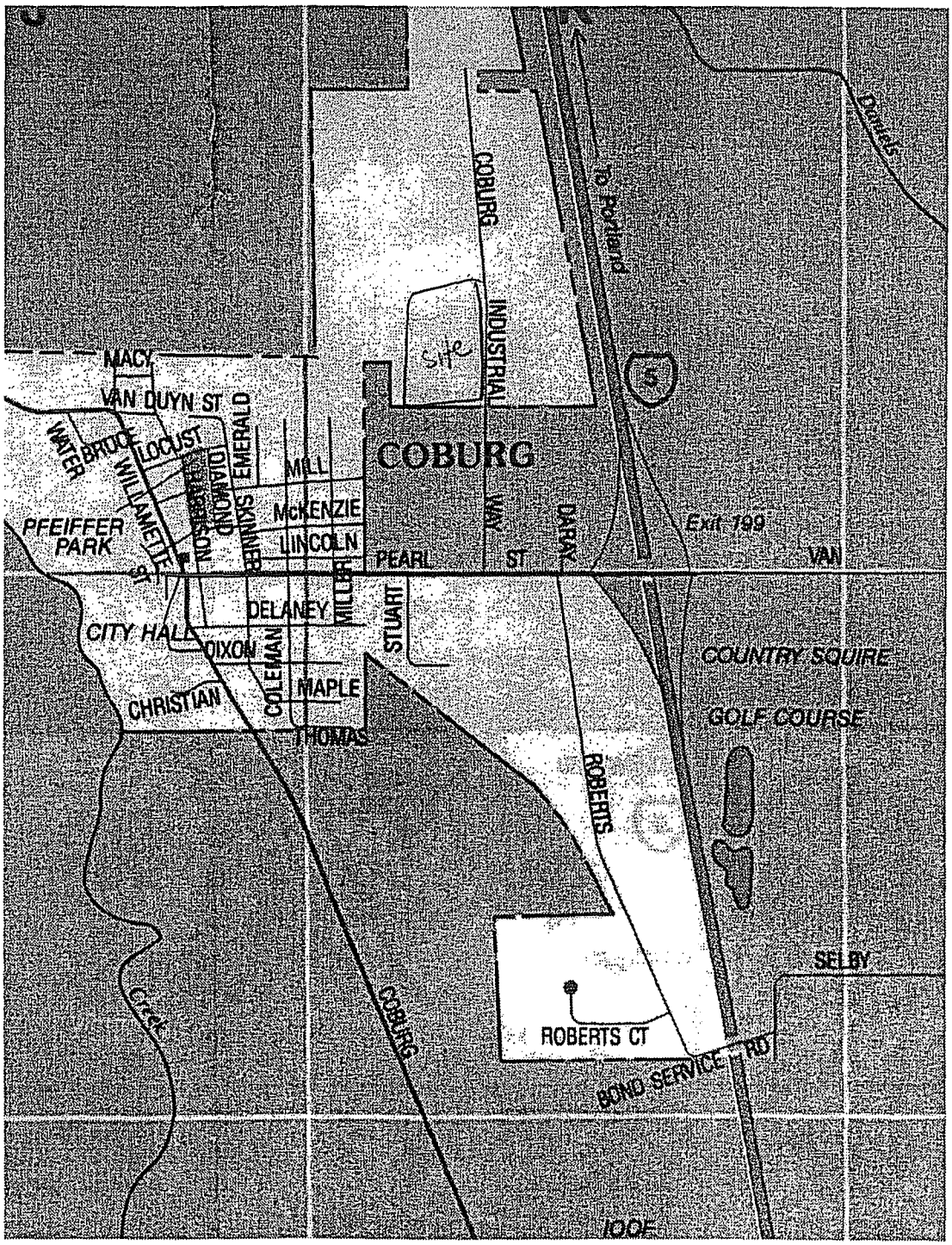
Patti Caswell (extension 226) will be your contact for the permit application. She would be happy to address any permit questions you might have. I will be reviewing the wetland delineation report. Please phone me at extension 236 if you have any questions.

Sincerely,

Janet C. Morlan

Janet C. Morlan, PWS
Wetlands Program Leader

cc: Megan Banks, City of Coburg
Scott Craig
Patti Caswell, DSL
Chris Thoms, Corps of Engineers
Dave Malpass, Muddy Creek Irrigation District
Amanda Essner, Coburg resident



Location Map
Monaco Motor Homes
Coburg Industrial Park
W.E.T., Inc.
24 April 1994

Oregon
John A. Kitzhaber, M.D., Governor

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January 6, 1999

Scott Craig, PWS
W.E.T.
P.O. Box 632
Corvallis, OR 97339-0632

Re: Wetland Delineation for Monaco Coach Expansion, Coburg
T16S R3W S28 TL 613; DSL Det. # 98-0562 (lot 614 is Det. 94-0166)

Dear Scott:

I have reviewed your wetland delineation report for the above site and concur with your conclusions. There are a couple of discrepancies in the report that we discussed over the phone that I would like to note here, to help avoid any confusion as this project progresses. One is that some of the figures and the site data sheet list wetland acres by type, which total 4.19 acres. Per our conversation, that figure was derived from the hand drawn wetland boundary and the surveyed total of 3.68 acres is the correct wetland area. Second, plots 8 and 9 should be switched on the plot location figure.

The wetland areas mapped (total 3.68 acres) on the surveyed wetland boundary map in your report are subject to permit requirements of the state Removal-Fill Law. A state permit is required for fill or excavation of 50 cubic yards or more in the wetland area. Also, please remind your client that the Muddy Creek channel is subject to state jurisdiction. One extension of the channel runs along the north boundary of lot 613, as noted in your report but not mapped. Planning documents we received from the City of Coburg indicated that there may be plans to culvert a portion of the Muddy Creek channel to the west of lot 613 in conjunction with the proposed expansion. We have previously advised Mr. Nepute (letter dated October 29, 1998) that the channel is subject to state jurisdiction.

This concurrence is for purposes of the state Removal-Fill Law only. The Army Corps of Engineers (Corps) will make a determination for purposes of Section 404 of the Clean Water Act. When the wetland determination involves cropped land, the area of Corps jurisdiction may be less extensive than the area of Removal-Fill Law jurisdiction. If the landowner or operator receives any U.S. Department of Agriculture benefits, they should contact the NRCS for information about Farm Bill wetland conversion provisions that might jeopardize their benefits.

Division approval of wetland delineation reports is based upon the information provided to us. Should additional information be brought to our attention or should site conditions change, we would consider the new information and re-evaluate the site and our jurisdictional determination as needed.

Thank you for your report. Please phone if you or your client has any questions.

Sincerely,

Janet C. Morlan

Janet C. Morlan, PWS
Wetlands Program Leader

cc: Brian Lightcap & Chris Thoms, Corps of Engineers
Megan Banks, City of Coburg
Amanda Essner
Patti Caswell, DSL

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State Land Board
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MEMORANDUM

Date: September 4, 1998

To: Loretta Kindt, City of Coburg Planning Commission Staff

From: JCM
Janet Morlan, Wetlands Program Leader

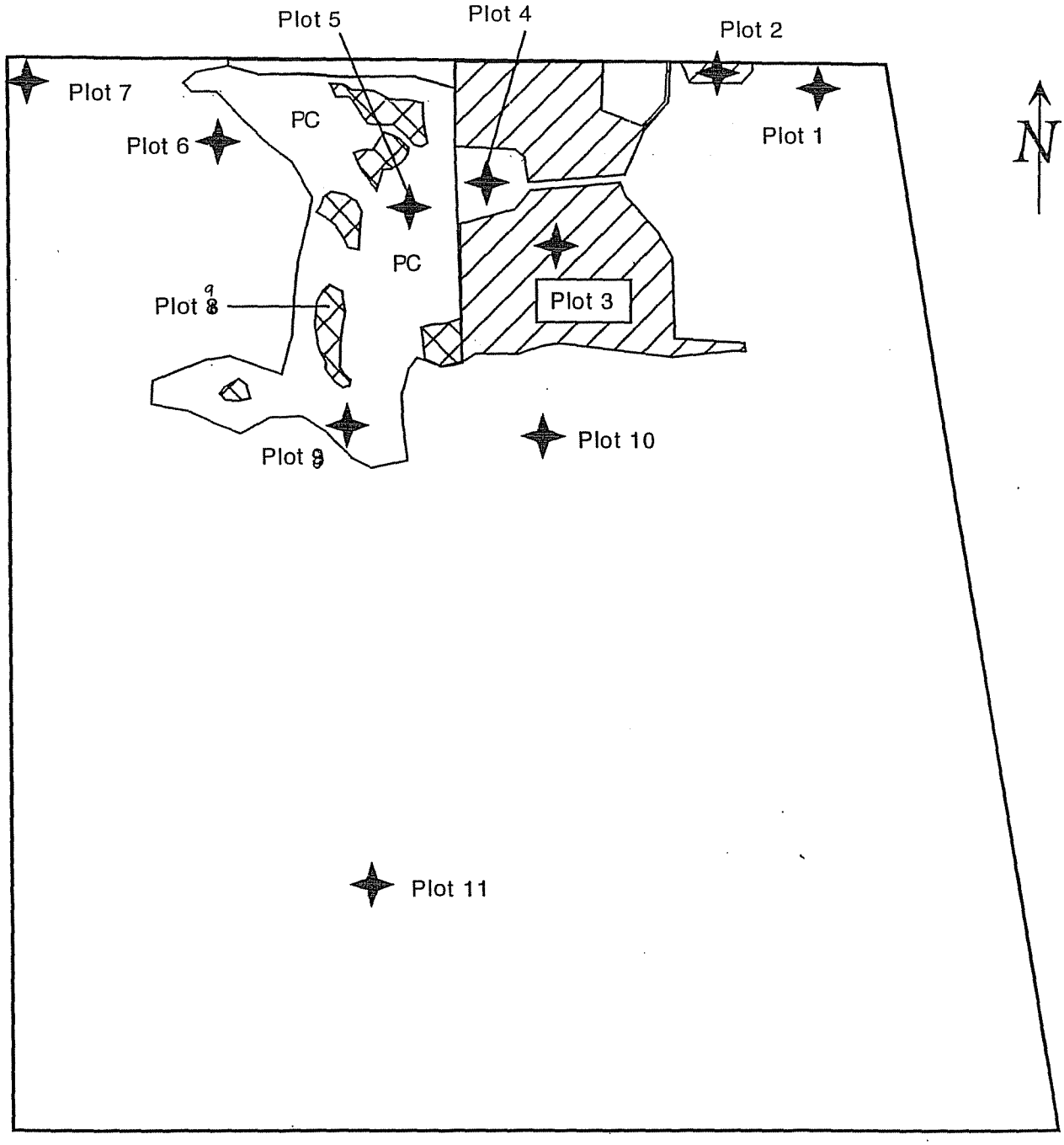
Subject: Comments on Monaco Coach Corp. Land Use Applications
TM 16-03-28-1-4TL 614; 613

Per your request, I have reviewed the materials submitted to us regarding Monaco Coach Corporation's site review applications for facilities expansion and culverting 1,320 lineal feet of the Muddy "Creek" channel, along with other available site information. The Division has approved a wetland delineation conducted in 1994 (DSL File Det. 94-0166) for parcel 614 only. That delineation established that there were no wetlands on the parcel.

Parcel 613 was not investigated. There are soils typical of wetlands mapped in the northeast portion of the parcel. If expansion plans will affect that area, we recommend a requirement that a wetland delineation be conducted and submitted to the Division for review and approval. Any wetlands would be subject to removal-fill law permit requirements.

The proposal to culvert the Muddy Creek irrigation channel may require a state permit. Factors that determine whether or not a permit is required include whether or not it is a natural waterway or, if not, whether or not it has an open connection to either Muddy Creek or the McKenzie River and supports fish. We would need that additional information to make a decision on any permit requirements.

Thank you for the notice. Please phone me at extension 236 if you have any questions.



DSL Wetlands Area, 3.68 acres (see survey map)

Wetland: 1.9 acres

Farmed Wetlands: 0.34 acre

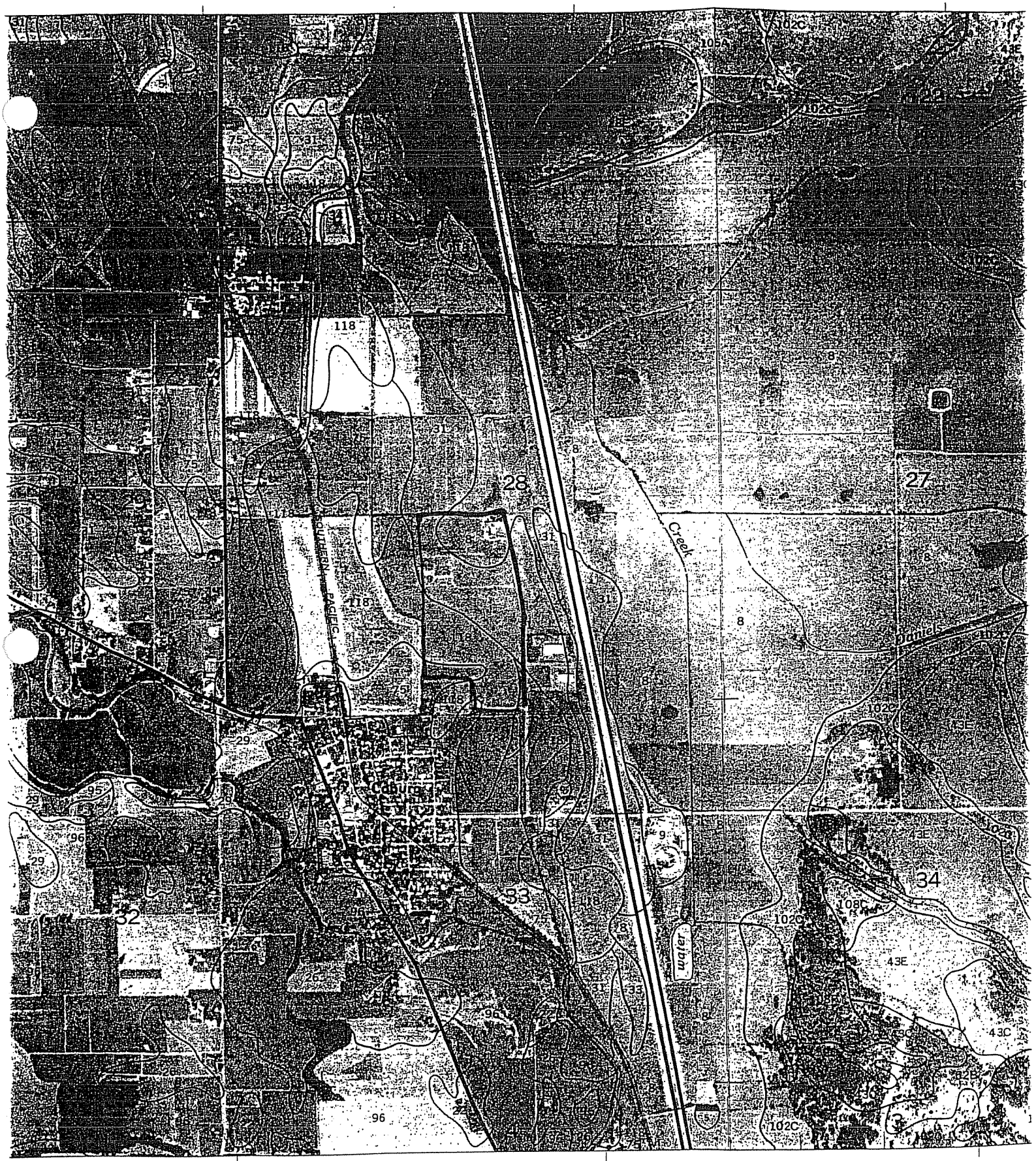
PC Prior Converted: 1.95 acres

Plots

Scale 1"=200'

Plot Locations
Monaco Coach's TL 613
Eugene (Coburg), OR
WET Inc., December 1998

PREVIOUS DELINEATION



31 = Coburg sicl
118 = Salem or sicl
5 = Bashaw
33 - Conser sicl (H)
75 - NH

WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 9/6/99
Data Sheet Numbers: (Off-site)
Investigator(s): Ethen Perkins

Wetland Mapping Code: **MCN-W3**
Size (acres): **3.68**
Cowardin Classification* **PEM**
%PSS: %PEM: **100** %PFO:

Location:

T-R-S: 16-03-28
Physical: West of I-5 and Marathon
Hydrologic Basin: Muddy Creek Irrigation Canal

Tax Lot(s)
1603280000613

Soils:

Mapped Series: (31) Coburg Silty Clay Loam

Hydrology:

Hydrologic Source: Surface water run-off, local precipitation

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
Fraxinus latifolia	*Rosa nutkana*	*Rubus discolor*	*Festuca arundinacea*
			Deschampsia cespitosa

Comments:

No permission to enter. Previous delineation by others; area is protected by construction fencing as the rest of the site develops for industrial purposes.

*Cowardin Classifications:
FO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCN-W3**

Function	Assessment	Rationale
Wildlife Habitat	Provides some wildlife habitat	Presence (ditch-NE corner) of woody vegetation and multiple Cowardin classes, ditch connection to MCN-W2 and edge habitat but little open water and poor edge effect.
Fish Habitat	N/A	No streams (excluding adjacent Muddy Creek ditch) or ponds.
Water Quality	Impacted or degraded	Unable to determine flooding or ponding in growing season.
Hydrologic Control	Impacted or degraded	Flooding unclear. Not in flood plain; more than five acres, some possible outflow restrictions, mostly PEM; urban upstream.
Sensitivity to Future Impacts	Sensitive to impacts	Modified (ditch) is being diverted; site zoned for development.
Enhancement Potential	Moderate enhancement potential	Good upland connections to habitat, but many functions degraded: poor surface connection and impact sensitive.
Education	Not applicable/appropriate	Poor access and difficult to observe.
Recreation	No opportunities	Except remotely some wildlife observations.
Aesthetic Quality	Moderately pleasing	Poor visibility and located near traffic, but with trees and fields.

OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCN-W3**

Narrative description of overall wetland functions and conditions
Many functions appear marginal or degraded and not very appealing to the recreating or learning public, yet there appears to be good potential for restoration and enhancements.

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MCN-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: **Number of Cowardin wetland classes**
Rural: A: 3-4, B: 2, C: 1
Urban A: 2+, B: 1 w/5+ plant species, C: 1 w/<5 plant species

Q2: **Dominant Veg** and Q2 A is NW corner only (unmapped). and ditch?
A: Woody, B: Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Q3: **Cowardin class interspersion (edge effect)**
A: High, B: Moderate, C: Low

Q4: **Acres of unvegetated open water**
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: A: >1 ac, B: 0.5-1 ac, C: <0.5 ac

Q5: **How is wetland connected to another body of water?** to ditch?
A: by surface water, B: no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi.

Q6: **How connected to other wetlands?**
A: W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake to MCN-W2
B: not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: **What is water quality condition upstream/adjacent to wetland?**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: **What is dominant land use w/in 500' of wetland?** (in field itself from photos? aerials)
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q9a: **Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q9b: **Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide**
A: >40%, B: 10-40%, C: <10%

Assessment:
Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams N/A

Q1: **% of stream shaded by riparian veg:**
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: **What is physical characteristic of stream channel:**
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: **% of entire stream w/instream structures (natural)**
A: >25%, B: 10-25%, C: <10%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: **Dominant existing land use:**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in stream/lake/wetland pond**
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds

Q1: **Does pond/lake contain deep and shallow water?**
A: yes, B: cannot determine, C: no

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2 MCN-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, C: <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, B: 20-60%, C: <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in lake/wetland pond**
A: no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "a"

N/A

Water Quality

Q1: **Primary source of water**
A: surface flow (including streams and ditches), B: precip or sheet flow, C: groundwater, including seeps and springs (unless fed by ditch?)

Q2: **Evidence of flooding or ponding during a portion of growing season?**
A: yes, B: unable to determine, C: no

Q3: **Degree of wetland veg cover**
A: high >60%, B: Mod 60%, Low <60% from aerials

Q4: **Wetland area in acres**
A: >5 ac, B: 0.5-5 ac, but connected to others w/in 3-mi. radius, C: <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed (in field from aerials + photos).

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants (Ditch? quality limited.

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, B: no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
A: yes, B: unable to determine, C; no

Q3: **Wetland acreage**
A: >5 ac, B: 0.5-5 ac, C: <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
A: yes, restricted or no outlet, B: minor restrictions, C: unrestricted flow (?) of ditch bank? (couldn't see this)

Q5: **Dominant veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed in field from aerials (photos).

Q7: **Dominant land use in watershed upstream**
A: urban or urbanizing, B: ag., C: forested or natural

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3 MCN-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: **Has stream flow or bank been modified by humans less than 1 mi. above wetland?**
A: yes, B: no ditch

Q2: **Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?**
A: yes, B: unable to determine, C: no — assumption of connection due to proximity to ditch.

Q3: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q4: **Dominant existing land use within 500' of wetland's edge:**
A: Developed, B: Agricultural, C: Exclusive forest/open space

Q5: **Dominant zoned land use within 500':**
A: Developed, B: Agricultural, C: Exclusive forest/open space

Q6: **Dominant Veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, C: Em veg or wet meadow

Assessment: Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: **What are assessment results for wildlife hab, fish hab, water qual, and hydro control?**
A: 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: **What is wetland's primary source of water?**
A: Surface (incl streams and ditches), B: groundwater, incl springs and seeps, C: precipitation or sheet flow — unless fed by ditch.

Q3: **If primary source of water is surface flow, is water flow into the wetland restricted?** N/A.
A: no, B: perm blockage, but may be breached, or a new channel has created, C: flow restricted and cannot be restored (?)

Q4: **Wetland area in acres**
A: >5 ac, B: 0.5-5 ac, C: <0.5 ac

Q5a: **Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q5b: **Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q6: **What is result of sensitivity to impact index?**
A: wetland not sensitive to impacts, B: potentially sensitive, C: sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: **Is wetland site open to public for direct access/observation?**
A: yes, B: yes, with owners' permission, C: no

Q2: **Visible hazards to public?**
A: no, B: 1-2 present, C: 2+ present

Q3: **What are results of wildlife and fish habitat assessment?**
A: diverse, B: do not meet A or C, C: lost/ not intact

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4 MCN-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: y es, or easily created, B: no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, C: no

Q6: **Is there limited mobility access?**
A: yes, B: no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, C: no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, C: no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, C: no

Q4: **Wildlife habitat index:**
A: diverse habitat, B: habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, B: no, or not applicable

Q6: **Hunting allowed?**
A; yes, B: no ? uncertain — prob. not.

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
Potential if answer not satisfy above/below criteria
No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, B: 2, C: 1

Q2: **How much of wetland visible from viewing area?**
A: >50%, B: 25-50%, C: <25%

Q3: **General appearance**
A: no visual detractors, B: visual detractors exist, but can be removed, C: visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, CL developed with no landscaping

Q5: **Odors present?**
A: natural and pleasant, B: unpleasant at times, C: unpleasant always

Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, C: no natural sounds

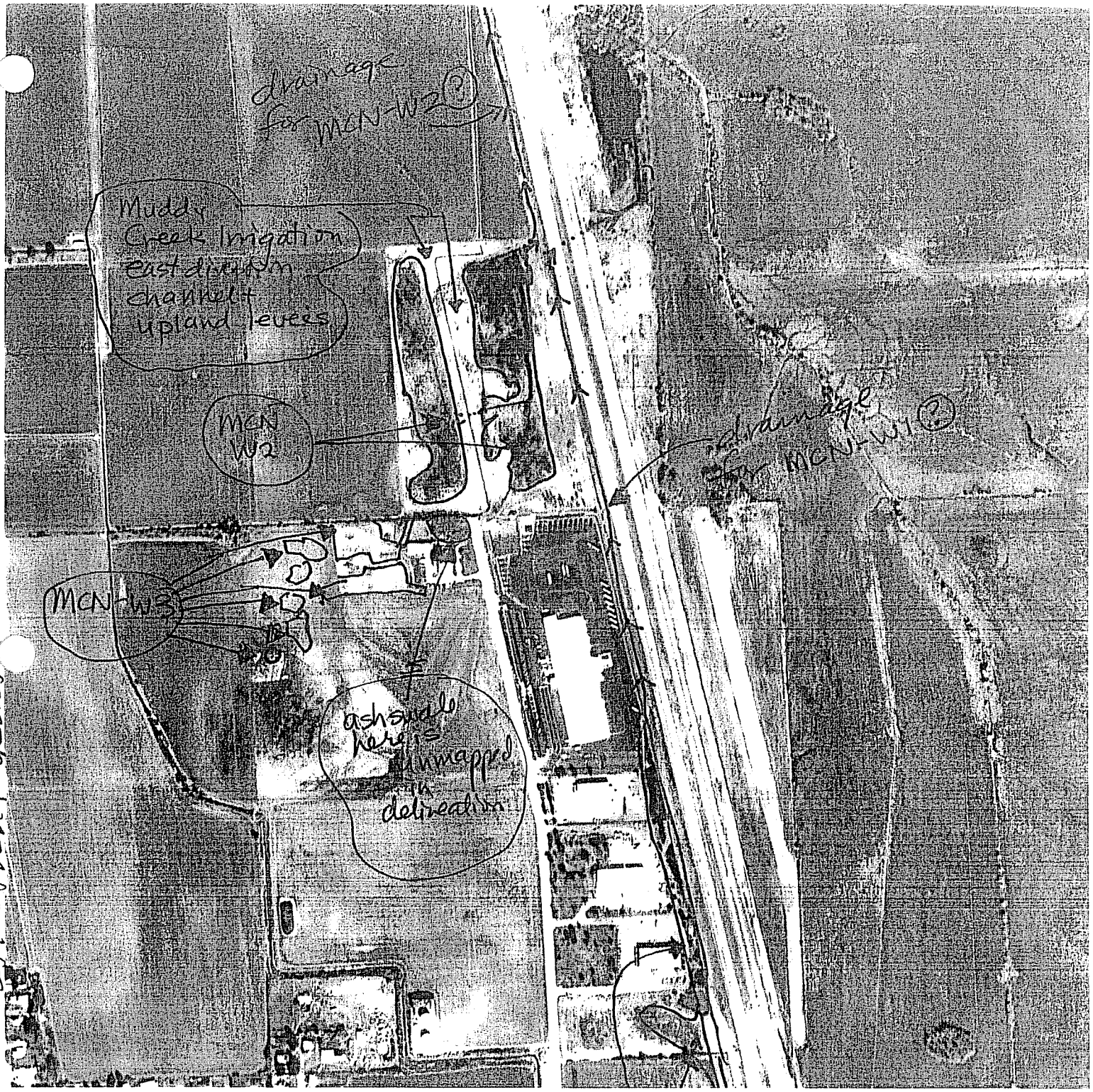
Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
Wetland moderately pleasing if answer do not satisfy above/below criteria
Wetland not pleasing if 2+ Q are "c"

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MCN-W3



Scale: 1" = 600'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCS-W1

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

WETLAND NUMBER: MCS-W1

WETLAND ACREAGE: 0.2 ACRES

TAX LOTS: 16-03-33-00-00306

CONTENTS: OFF-SITE DETERMINATION

WETLAND CHARACTERIZATION SHEET
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MCS-W1
WETLAND ACREAGE	0.2 acres
WILDLIFE HABITAT	Provides some habitat
FISH HABITAT	N/A
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential
EDUCATION	Potential use
RECREATION	No potential recreation
AESTHETIC QUALITY	Not pleasing

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WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 7/29/99
Data Sheet Numbers: Off-site
Investigator(s): Nancy Holzhauser

Wetland Mapping Code: **MCS-W1**
Size (acres): **0.2**
Cowardin Classification* **PEM/PSS**
%PSS: **1** %PEM: **99** %PFO:

Location:

T-R-S: 16-03-33
Physical: North of Basin Tire, on Roberts Street
Hydrologic Basin: Muddy Creek

Tax Lot(s)
1603330000306

Soils:

Mapped Series: (8) Bashaw Clay

Hydrology:

Hydrologic Source: Stormwater run-off from adjacent commercial site

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
Fraxinus latifolia	*Salix* sp.		*Phalaris arundinacea*
			Carex obnupta
			Disacus sylvestris
			Mentha pulegium
			Convulvulus sp.

Comments:

This area is isolated from surrounding grassy mown areas by a fence.
This off-site determination was based on mapped soil type, identified vegetation, and ponding evident in aerial photograph.

*Cowardin Classifications:
PFO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCS-W1**

Function	Assessment	Rationale
Wildlife Habitat	Provides some wildlife habitat	Two Cowardin classes. Other wetlands are within three mile radius.
Fish Habitat	N/A	
Water Quality	Impacted or degraded	Wetland under 0.5 acres; Muddy Creek is water quality limited (temperature).
Hydrologic Control	Impacted or degraded	Dominant land use is developed, restricted flow out of wetland. Wetland less than 0.5 acres.
Sensitivity to Future Impacts	Sensitive to future impacts	Stream flow modified by humans, water quality limited; surrounding area developed.
Enhancement Potential	Moderate enhancement potential	Two functions degraded, less than 10 percent of edge is bordered by wildlife habitat.
Education	Potential	No public access.
Recreation	No potential recreational use	Only because some wildlife is present.
Aesthetic Quality	Not pleasing	Visual detractors and constant traffic noise.

MCS-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: Number of Cowardin wetland classes
Rural: A: 3-4, B: 2, C: 1
Urban: (A) 2+, B: 1 w/5+ plant species, C: 1 w/<5 plant species

Q2: Dominant Veg
A: Woody, B: Emergent veg and ponding, or open water only (C) Em veg or wet meadow

Q3: Cowardin class interspersion (edge effect)
A: High, B: Moderate, (C) Low

Q4: Acres of unvegetated open water
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: A: >1 ac, B: 0.5-1 ac, (C) <0.5 ac

Q5: How is wetland connected to another body of water?
A: by surface water, (B) no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi.

Q6: How connected to other wetlands?
A: W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake
(B) not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: What is water quality condition upstream/adjacent to wetland?
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: What is dominant land use w/in 500' of wetland?
A: Exclusive forest/open space, B: Agricultural, (C) Developed

Q9a: Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, B: 10-40%, C: <10%

Q9b: Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide
A: >40%, (B) 10-40%, C: <10%

Assessment: Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams - N/A

Q1: % of stream shaded by riparian veg:
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: What is physical characteristic of stream channel:
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: % of entire stream w/instream structures (natural)
A: >25%, B: 10-25%, C: <10%

Q4: Water quality condition of stream reaches upstream/adjacent to wetland
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: Dominant existing land use:
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: Are fish present in stream/lake/wetland pond
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds

Q1: Does pond/lake contain deep and shallow water?
A: yes, B: cannot determine, C: no

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MCS-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, C: <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, B: 20-60%, C: <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in lake/wetland pond**
A: no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "a"

Water Quality

Q1: **Primary source of water**
(A) surface flow (including streams and ditches), B: precip or sheet flow, C: groundwater, including seeps and springs

Q2: **Evidence of flooding or ponding during a portion of growing season?**
A: yes, (B) unable to determine, C: no

Q3: **Degree of wetland veg cover**
(A) high >60%, B: Mod 60%, Low <60%

Q4: **Wetland area in acres**
A: >5 ac, B: 0.5-5 ac, but connected to others w/in 3-mi. radius, (C) <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, (C) Developed

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, (B) no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
A: yes, (B) unable to determine, C; no

Q3: **Wetland acreage**
A: >5 ac, B: 0.5-5 ac, (C) <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
(A) yes, restricted or no outlet, B: minor restrictions, C: unrestricted flow

Q5: **Dominant veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, (C) Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, (C) Developed

Q7: **Dominant land use in watershed upstream**
A: urban or urbanizing, (B) ag., C: forested or natural

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MCS-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: Has stream flow or bank been modified by humans less than 1 mi. above wetland?
(A) yes, B: no

Q2: Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?
(A) yes, B: unable to determine, C: no

Q3: Water quality condition of stream reaches upstream/adjacent to wetland
(A) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q4: Dominant existing land use within 500' of wetland's edge:
(A) Developed, B: Agricultural, C: Exclusive forest/open space

Q5: Dominant zoned land use within 500':
(A) Developed, B: Agricultural, C: Exclusive forest/open space

Q6: Dominant Veg cover
A: Woody, B: Emergent veg and ponding, or open water only, (C) Em veg or wet meadow

Assessment: Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: What are assessment results for wildlife hab, fish hab, water qual, and hydro control?
(A) 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: What is wetland's primary source of water?
A: Surface (incl streams and ditches), B: groundwater, incl springs and seeps, (C) precipitation or sheet flow

Q3: If primary source of water is surface flow, is water flow into the wetland restricted? N/A
A: no, B: perm blockage, but may be breached, or a new channel has created, C: flow restricted and cannot be restored

Q4: Wetland area in acres
A: >5 ac, B: 0.5-5 ac, (C) <0.5 ac

Q5a: Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, B: 10-40%, C: <10%

Q5b: Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, B: 10-40%, (C) <10%

Q6: What is result of sensitivity to impact index?
A: wetland not sensitive to impacts, B: potentially sensitive, (C) sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: Is wetland site open to public for direct access/observation?
A: yes, B: yes, with owners' permission, (C) no

Q2: Visible hazards to public?
A: no, (B) 1-2 present, C: 2+ present

Q3: What are results of wildlife and fish habitat assessment?
A: diverse, (B) do not meet A or C, C: lost/ not intact

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MCS-W1

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: y es, or easily created, (B:) no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, (C:) no

Q6: **Is there limited mobility access?**
A: yes, (B:) no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
* Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, (C:) no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, (C:) no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, (C:) no

Q4: **Wildlife habitat index:**
A: diverse habitat, (B:) habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, (B:) no, or not applicable

Q6: **Hunting allowed?**
A; yes, (B:) no

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
Potential if answer not satisfy above/below criteria
* No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, (B:) 2, C: 1

Q2: **How much of wetland visible from viewing area?**
(A:) >50%, B: 25-50%, C: <25%

Q3: **General appearance**
A: no visual detractors, B: visual detractors exist, but can be removed, (C:) visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, (C:) developed with no landscaping

Q5: **Odors present?**
(A:) natural and pleasant, B: unpleasant at times, C: unpleasant always

Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, (C:) no natural sounds

Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
Wetland moderately pleasing if answer do not satisfy above/below criteria
* Wetland not pleasing if 2+ Q are "c"

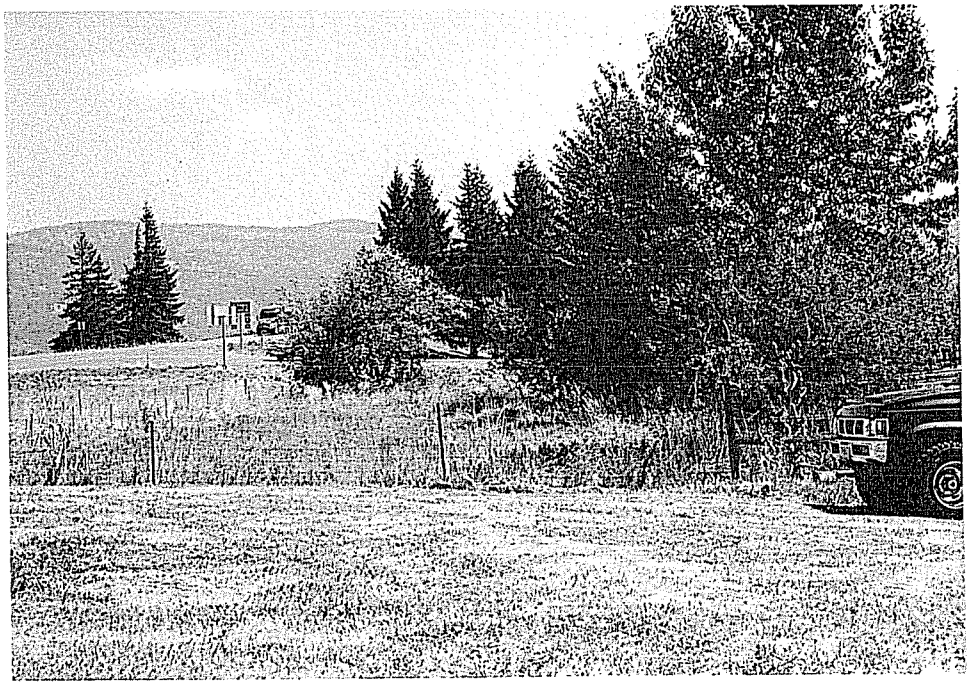
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MCS-W1





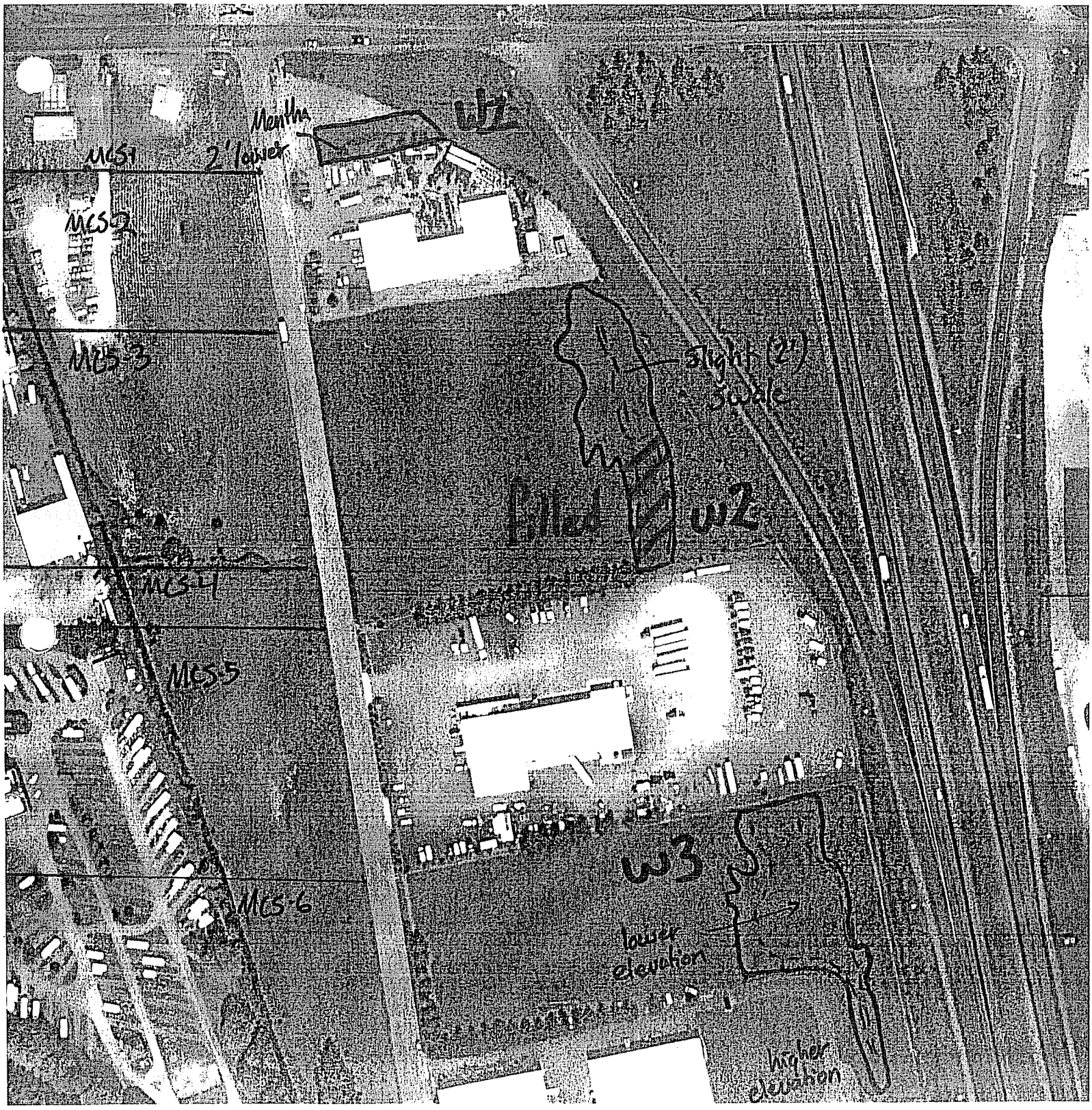
SITE PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCS-W1



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
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MCS-W2

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

WETLAND NUMBER: MCS-W2

WETLAND ACREAGE: 0.6 ACRES

TAX LOTS: 16-03-33-00-00321

CONTENTS: OFF SITE DETERMINATION

WETLAND CHARACTERIZATION SHEET
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MCS-W2
WETLAND ACREAGE	0.6 acres
WILDLIFE HABITAT	Provides some habitat
FISH HABITAT	N/A
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential
EDUCATION	Potential use
RECREATION	No potential recreation
AESTHETIC QUALITY	Not pleasing

WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 7/29/99
Data Sheet Numbers: Off-site
Investigator(s): Nancy Holzhauser

Wetland Mapping Code: **MCS-W2**
Size (acres): **0.6**
Cowardin Classification* **PEM**
%PSS: %PEM: **100** %PFO:

Location:

T-R-S: 16-03-33
Physical: South of Basin Tire, on Roberts Street
Hydrologic Basin: Muddy Creek

Tax Lot(s)
1603330000321

Soils:

Mapped Series: (31) Coburg Silty Clay Loam and (118) Salem Gravelly Silt Loam

Hydrology:

Hydrologic Source: Precipitation, sheet flow

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
			Festuca arundinacea
			Daucus carota
			Unknown grass/herb species

Comments:

Pit was dug in I-5 Right-of-Way, adjacent to East: 0-12" 10YR 2/1, crushed rock at 12"; shallow ditch between R-O-W and property-soil appears to be same as in R-O-W.

Mown grass field-shallow swale is apparent when viewed from I-5. All vegetation is 3 inches tall. Off-site determination was based on mapped soil and evidence of hydrology/saturated soil on aerial photograph. Vegetation has been altered-converted to non-native grasses/herbaceous species.

*Cowardin Classifications:
PFO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCS-W2**

Function	Assessment	Rationale
Wildlife Habitat	Provides some wildlife habitat	Connected to other wetlands within a three mile radius.
Fish Habitat	N/A	
Water Quality	Impacted or degraded	Muddy Creek is water quality limited due to its temperature. High degree of vegetation cover.
Hydrologic Control	Impacted or degraded	Not within flood plain, outlet restricted; developed land use within 500 feet.
Sensitivity to Future Impacts	Sensitive to future impacts	Stream flow upstream modified by humans, water used for irrigation, developed land use in surrounding area.
Enhancement Potential	Moderate enhancement potential	Two functions degraded.
Education	Potential	No public access
Recreation	No potential recreational use	Some wildlife habitat provided.
Aesthetic Quality	Not pleasing	Visual detractors (I-5 and buildings), no natural sounds.

MCS-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: Number of Cowardin wetland classes
Rural: A: 3-4, B: 2, C: 1
Urban: A: 2+, (B) 1 w/5+ plant species, C: 1 w/<5 plant species

Q2: Dominant Veg
A: Woody, B: Emergent veg and ponding, or open water only, (C) Em veg or wet meadow

Q3: Cowardin class interspersion (edge effect)
A: High, B: Moderate, (C) Low

Q4: Acres of unvegetated open water
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: A: >1 ac, B: 0.5-1 ac, (C) <0.5 ac

Q5: How is wetland connected to another body of water?
A: by surface water, (B) no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi.

Q6: How connected to other wetlands?
A: W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake
(B) not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: What is water quality condition upstream/adjacent to wetland?
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: What is dominant land use w/in 500' of wetland?
A: Exclusive forest/open space, B: Agricultural, (C) Developed

Q9a: Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, B: 10-40%, C: <10%

Q9b: Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide
A: >40%, B: 10-40%, (C) <10%

Assessment: Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
* Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams – NA

Q1: % of stream shaded by riparian veg:
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: What is physical characteristic of stream channel:
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: % of entire stream w/instream structures (natural)
A: >25%, B: 10-25%, C: <10%

Q4: Water quality condition of stream reaches upstream/adjacent to wetland
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: Dominant existing land use:
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: Are fish present in stream/lake/wetland pond
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds

Q1: Does pond/lake contain deep and shallow water?
A: yes, B: cannot determine, C: no

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MCS-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, C: <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, B: 20-60%, C: <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in lake/wetland pond**
A: no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "a"

Water Quality

Q1: **Primary source of water**
A: surface flow (including streams and ditches), (B:) precip or sheet flow, C: groundwater, including seeps and springs

Q2: **Evidence of flooding or ponding during a portion of growing season?**
A: yes, (B:) unable to determine, C: no

Q3: **Degree of wetland veg cover**
(A:) high >60%, B: Mod 60%, Low <60%

Q4: **Wetland area in acres**
A: >5 ac, (B:) 0.5-5 ac, but connected to others w/in 3-mi. radius, C: <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, (C:) Developed

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C:) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, (B:) no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
A: yes, (B:) unable to determine, C; no

Q3: **Wetland acreage**
A: >5 ac, (B:) 0.5-5 ac, C: <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
(A:) yes, restricted or no outlet, B: minor restrictions, C: unrestricted flow

Q5: **Dominant veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, (C:) Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, (C:) Developed

Q7: **Dominant land use in watershed upstream**
A: urban or urbanizing, (B:) ag., C: forested or natural

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MCS-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: Has stream flow or bank been modified by humans less than 1 mi. above wetland?
(A) yes, B: no

Q2: Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?
(A) yes, B: unable to determine, C: no

Q3: Water quality condition of stream reaches upstream/adjacent to wetland
(A) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q4: Dominant existing land use within 500' of wetland's edge:
(A) Developed, B: Agricultural, C: Exclusive forest/open space

Q5: Dominant zoned land use within 500':
(A) Developed, B: Agricultural, C: Exclusive forest/open space

Q6: Dominant Veg cover
A: Woody, B: Emergent veg and ponding, or open water only, (C) Em veg or wet meadow

Assessment: Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: What are assessment results for wildlife hab, fish hab, water qual, and hydro control?
(A) 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: What is wetland's primary source of water?
A: Surface (incl streams and ditches), B: groundwater, incl springs and seeps, (C) precipitation or sheet flow

Q3: If primary source of water is surface flow, is water flow into the wetland restricted? N/A
A: no, B: perm blockage, but may be breached, or a new channel has created, C: flow restricted and cannot be restored

Q4: Wetland area in acres
A: >5 ac, (B) 0.5-5 ac, C: <0.5 ac

Q5a: Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, B: 10-40%, C: <10%

Q5b: Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide
A: >40%, B: 10-40%, (C) <10%

Q6: What is result of sensitivity to impact index?
A: wetland not sensitive to impacts, B: potentially sensitive, (C) sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: Is wetland site open to public for direct access/observation?
A: yes, B: yes, with owners' permission, (C) no

Q2: Visible hazards to public?
A: no, (B) 1-2 present, C: 2+ present

Q3: What are results of wildlife and fish habitat assessment?
A: diverse, (B) do not meet A or C, C: lost/ not intact

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LACS-W2

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: y es, or easily created, B: no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, C: no

Q6: **Is there limited mobility access?**
A: yes, B: no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, C: no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, C: no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, C: no

Q4: **Wildlife habitat index:**
A: diverse habitat, B: habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, B: no, or not applicable

Q6: **Hunting allowed?**
A; yes, B: no

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
* Potential if answer not satisfy above/below criteria
No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, B: 2, C: 1

Q2: **How much of wetland visible from viewing area?**
A: >50%, B: 25-50%, C: <25%

Q3: **General appearance**
A: no visual detractors, B: visual detractors exist, but can be removed, C: visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, C: developed with no landscaping

Q5: **Odors present?**
A: natural and pleasant, B: unpleasant at times, C: unpleasant always

Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, C: no natural sounds

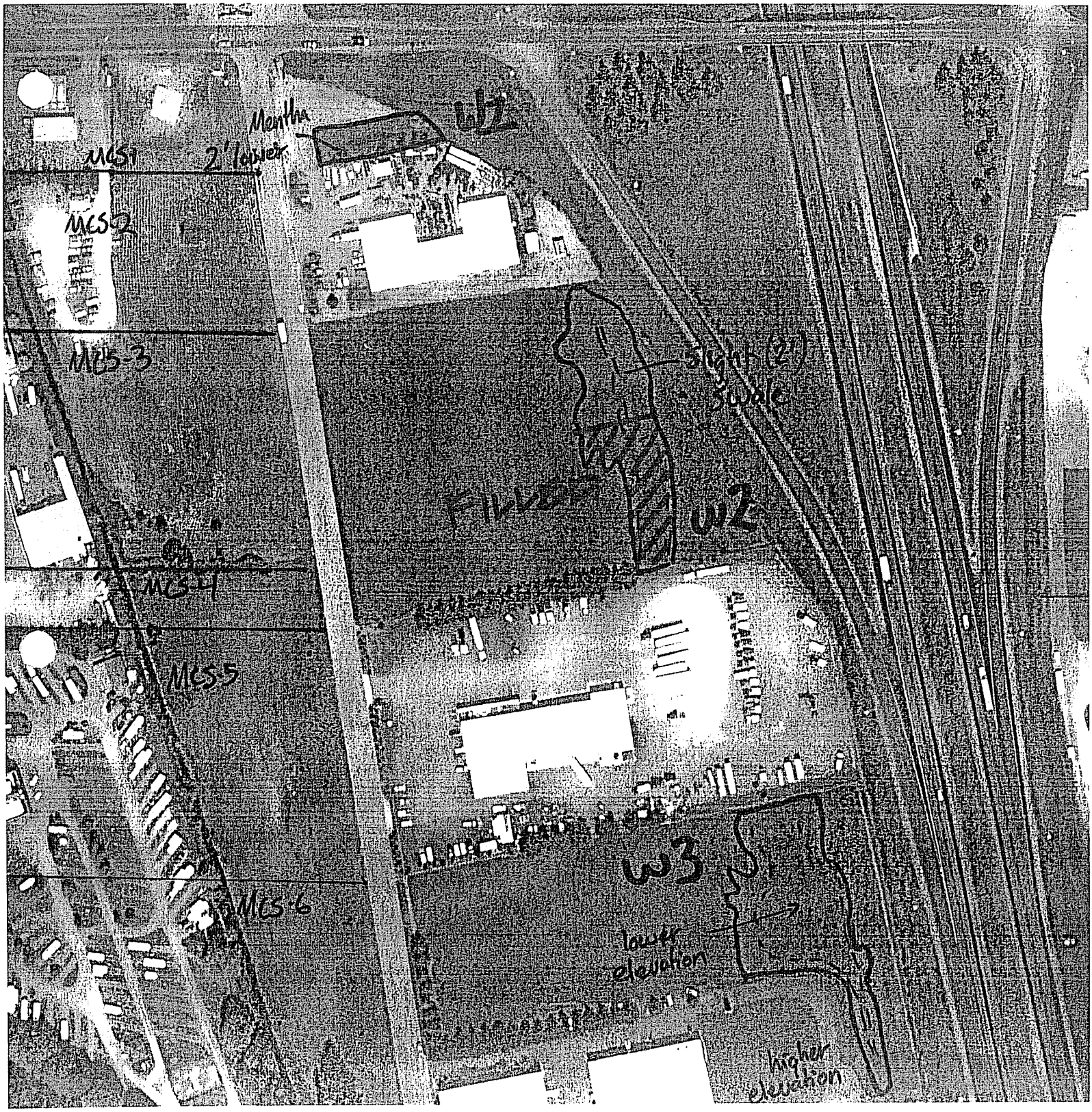
Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
Wetland moderately pleasing if answer do not satisfy above/below criteria
*Wetland not pleasing if 2+ Q are "c"

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MCS-W2



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
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MCS-W3

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

WETLAND NUMBER: MCS-W3

WETLAND ACREAGE: 1.1 ACRES

TAX LOTS: 16-03-33-00-00300, -00500 (east portion)

CONTENTS: OFF SITE DETERMINATION

WETLAND CHARACTERIZATION SHEET
OFWAM FUNCTION AND CONDITION SUMMARY
OFWAM QUESTIONNAIRE
SITE PHOTOGRAPHS AND MAPS

WETLAND NUMBER	MCS-W3
WETLAND ACREAGE	1.1 acres
WILDLIFE HABITAT	Provides some habitat
FISH HABITAT	N/A
WATER QUALITY	Impacted or degraded
HYDROLOGIC CONTROL	Impacted or degraded
SENSITIVITY TO FUTURE IMPACTS	Sensitive
ENHANCEMENT POTENTIAL	Moderate potential
EDUCATION	Potential use
RECREATION	No potential recreation
AESTHETIC QUALITY	Not pleasing

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WETLAND CHARACTERIZATION SHEEET
Coburg Local Wetland Inventory

Date(s) of Field Verification: 7/29/99
Data Sheet Numbers: Off-site
vestigator(s): Nancy Holzhauser

Wetland Mapping Code: **MCS-W3**
Size (acres): **1.1**
Cowardin Classification* **PEM**
%PSS: %PEM: **100** %PFO:

Location:

T-R-S: 16-03-33
Physical: North and East of Mill Log property - Roberts St.
Hydrologic Basin: Muddy Creek

Tax Lot(s)
1603330000300 (320)
1603330000500 (Eastern portion)

Soils:

Mapped Series: (118) Salem Gravelly Silt Loam

Hydrology:

Hydrologic Source: Muddy Creek

Dominant Vegetation:

TREES	SHRUBS	VINES	HERBS
			Festuca arundinacea
			Taraxacum officinale
			Convulvulus sp.
			Agrostis tenuis
			Mentha pulegium

Comments:

Not much evidence of elevation change when viewed from I-5. The off-site determination was based on mapped soils and evidence of saturated soils on aerial photograph. Vegetation has been altered to non-native grass / herbaceous species, and site is mowed presently to three inches.

Alopecurus pratensis is present on I-5 Right-of-Way, with *Festuca arundinacea*, shallow ditch runs along south and east property lines.

*Cowardin Classifications:
PFO = Palustrine Forested PSS = Palustrine Scrub-Shrub PEM = Palustrine Emergent POW = Palustrine Open Water

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OFWAM FUNCTION & CONDITION SUMMARY
Coburg Local Wetland Inventory

Wetland Identification: **MCS-W3**

Function	Assessment	Rationale
Wildlife Habitat	Provides some wildlife habitat	Other wetlands are within three mile radius.
Fish Habitat	N/A	
Water Quality	Impacted or degraded	Muddy Creek is water quality limited (temperature), surrounding use is developed.
Hydrologic Control	Impacted or degraded	Restricted outflow, dominant surrounding land use is developed.
Sensitivity to Future Impacts	Sensitive to future impacts	Stream flow modified by humans, water used for irrigation.
Enhancement Potential	Moderate enhancement potential	Two functions degraded.
Education	Potential	Only because some wildlife habitat is provided.
Recreation	No potential recreational use	Only because some wildlife habitat is provided.
Aesthetic Quality	Not pleasing	Visual detractors present, no natural sounds and traffic noise is constant.

MC5-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Wildlife Habitat:

Q1: **Number of Cowardin wetland classes**
Rural: A: 3-4, B: 2, C: 1
Urban: A: 2+, (B) 1 w/5+ plant species, C: 1 w/<5 plant species

Q2: **Dominant Veg**
A: Woody, B: Emergent veg and ponding, or open water only, (C) Em veg or wet meadow

Q3: **Cowardin class interspersion (edge effect)**
A: High, B: Moderate, (C) Low

Q4: **Acres of unvegetated open water**
Rural: A: >3 ac, B: 0.5-3 ac, C: <0.5 ac
Urban: A: >1 ac, B: 0.5-1 ac, (C) <0.5 ac

Q5: **How is wetland connected to another body of water?**
A: by surface water, (B) no connection, but others w/in 1 mi., C: no connection, no others w/in 1 mi.

Q6: **How connected to other wetlands?**
A: W/in 3-mi. radius by per/int stream, ditch, culvert, canal, lake
(B) not connected, but others w/in 3-mi. radius
C: not connected, and no others w/in 3-mi. radius

Q7: **What is water quality condition upstream/adjacent to wetland?**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q8: **What is dominant land use w/in 500' of wetland?**
A: Exclusive forest/open space, B: Agricultural, (C) Developed

Q9a: **Rural: % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q9b: **Urban: % of wetland's edge bordered by upland wildlife habitat at least 25' wide**
A: >40%, B: 10-40%, (C) <10%

Assessment: Wetland provides diverse wildlife habitat if at least 4 Q are "a" and no more than 1 is "c"
Wetland provides some wildlife habitat if answers do not satisfy above or below criteria
Wetland provides no wildlife function if all Q are "c"

Fish Habitat: Streams N/A

Q1: **% of stream shaded by riparian veg:**
W. Oregon: A: >75%, B: 50-75%, C: <50%
E. Oregon: A: >50%, B: 25-50%, C: <25%

Q2: **What is physical characteristic of stream channel:**
A: natural, or modified portions returning to natural, B: portions modified, C: Mod or non-veg channel, pipe

Q3: **% of entire stream w/instream structures (natural)**
A: >25%, B: 10-25%, C: <10%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
C: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Q5: **Dominant existing land use:**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in stream/lake/wetland pond**
A: salmon, trout, or sensitive sp some time of the year, B: other species present some time of the year, C: no species.

Fish Habitat: Ponds N/A

Q1: **Does pond/lake contain deep and shallow water?**
A: yes, B: cannot determine, C: no

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OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q2: **% of wetland complex containing cover objects**
A: >25%, B: 10-25%, C: <10%

Q3: **% shoreline forested or scrub/shrub**
A: >60%, B: 20-60%, C: <20%

Q4: **Water quality condition of stream reaches upstream/adjacent to wetland**
A: 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, C: Developed

Q6: **Are fish present in lake/wetland pond**
A: no species, B: other species present some time of the year, C: salmon, trout, or sensitive sp some time of the year

Assessment: Wetland provides diverse fish habitat if at least 3 Q are "a" and no more than 1 is "c"
Fish habitat function is impacted or degraded if answers do not satisfy above or below criteria
Fish habitat function lost if all Q are "a"

Water Quality

Q1: **Primary source of water**
A: surface flow (including streams and ditches), (B:) precip or sheet flow, C: groundwater, including seeps and springs

Q2: **Evidence of flooding or ponding during a portion of growing season?**
A: yes, (B:) unable to determine, C: no

Q3: **Degree of wetland veg cover**
(A:) high >60%, B: Mod 60%, Low <60%

Q4: **Wetland area in acres**
A: >5 ac, (B:) 0.5-5 ac, but connected to others w/in 3-mi. radius, C: <0.5 ac, and not connected to others

Q5: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, (C:) Developed

Q6: **Water quality condition of reaches upstream/adjacent to wetland**
A: no reaches listed as water quality limited
B: 1+ stream upstr/adj in moderate condition
(C:) 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants

Assessment: Water quality function intact if Q1 is "a" or "b", Q2 and Q3 are "a". And others are "a" or "b"
Water quality function is impacted or degraded if answers do not satisfy above or below criteria
Water quality function lost if 4 out of 6 Q are "c"

Hydrologic Control

Q1: **Is all/part of wetland located w/in 100-yr. floodplain, or w/in enclosed basin?**
A: yes, (B:) no

Q2: **Is there evidence of flooding or ponding during a portion of growing season**
A: yes, (B:) unable to determine, C; no

Q3: **Wetland acreage**
A: >5 ac, (B:) 0.5-5 ac, C: <0.5 ac

Q4: **Is water flow out of wetland restricted i.e.) beaver dam, undersized culvert, concrete structure**
(A:) yes, restricted or no outlet, B: minor restrictions, C: unrestricted flow

Q5: **Dominant veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, (C:) Em veg or wet meadow

Q6: **Dominant existing land use within 500':**
A: Exclusive forest/open space, B: Agricultural, (C:) Developed

Q7: **Dominant land use in watershed upstream**
A: urban or urbanizing, (B:) ag., C: forested or natural

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NCS-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Assessment: Hydrologic control function intact if 4+ Q are "a"
Hydrologic control function is impacted or degraded if answers do not satisfy above or below criteria
Hydrologic control function lost or not present if 4+ Q are "c"

Sensitivity to Future Impacts

Q1: **Has stream flow or bank been modified by humans less than 1 mi. above wetland?**
(A): yes, B: no

Q2: **Is water being taken out of stream through active diking, drainage, or irrigation districts upstream, or is wetland isolated?**
(A): yes, B: unable to determine, C: no

Q3: **Water quality condition of stream reaches upstream/adjacent to wetland**
(A): 1+ stream upstr/adj listed as water quality limited or sever wq for nonpt source pollutants
B: 1+ stream upstr/adj in moderate condition
C: no reaches listed as water quality limited

Q4: **Dominant existing land use within 500' of wetland's edge:**
(A): Developed, B: Agricultural, C: Exclusive forest/open space

Q5: **Dominant zoned land use within 500':**
(A): Developed, B: Agricultural, C: Exclusive forest/open space

Q6: **Dominant Veg cover**
A: Woody, B: Emergent veg and ponding, or open water only, (C): Em veg or wet meadow

Assessment: Wetland is sensitive to future impacts if Q1,2,3 are "a", and one other Q is "a"
Wetland is potentially sensitive to future impacts if answer does not satisfy above/below
Wetland is not sensitive to future impacts if Q1,2 are "b" and no other Q are "a"

Enhancement Potential

Q1: **What are assessment results for wildlife hab, fish hab, water qual, and hydro control?**
(A): 1+ functions impacted or degraded, B: Wetland has lost 1+ functions, or 1+ function is not present

Q2: **What is wetland's primary source of water?**
A: Surface (incl streams and ditches), B: groundwater, incl springs and seeps, (C): precipitation or sheet flow

Q3: **If primary source of water is surface flow, is water flow into the wetland restricted?**
A: no, B: perm blockage, but may be breached, or a new channel has created, (C): flow restricted and cannot be restored

Q4: **Wetland area in acres**
A: >5 ac, (B): 0.5-5 ac, C: <0.5 ac

Q5a: **Rural: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, C: <10%

Q5b: **Urban: what % of wetland's edge bordered by upland wildlife habitat at least 150' wide**
A: >40%, B: 10-40%, (C): <10%

Q6: **What is result of sensitivity to impact index?**
A: wetland not sensitive to impacts, B: potentially sensitive, (C): sensitive

Assessment: Wetland has high enhancement potential is Q1 is "a" and no more than 1 other is "c"
Wetland has mod potential if answers do not meet above/below criteria
Wetland has little enhancement potential if Q1 is "b" and 2+ are "c"

Education

Q1: **Is wetland site open to public for direct access/observation?**
A: yes, B: yes, with owners' permission, (C): no

Q2: **Visible hazards to public?**
A: no, (B): 1-2 present, C: 2+ present

Q3: **What are results of wildlife and fish habitat assessment?**
A: diverse, (B): do not meet A or C, C: lost/ not intact

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MLD-W3

OREGON FRESHWATER ASSESSMENT METHODOLOGY (OFWAM) QUESTIONNAIRE
Coburg Local Wetland Inventory

Q4: **Existing public access to other features?**
A: y es, or easily created, B: no, but observations can be made, C: no

Q5: **Is there public access within 250' of wetland edge?**
A: yes, B: yes, but not maintained, C: no

Q6: **Is there limited mobility access?**
A: yes, B: no

Assessment: Appropriate for ed. use if Q1,2 are "a'< and Q3,4,5 are "a" or "b"
Potential for ed. use if answer not satisfy criteria above/below
Not appropriate is Q1,2 are "c"

Recreation

Q1: **Public access w/in 250'?**
A: yes, and maintained, B: yes, not maintained, C: no

Q2: **Accessible by boat?**
A: yes, w/in ½ mi., B: potential, or >1/2 mile, C: no

Q3: **Trails, viewing areas, or other structure to encourage use?**
A: yes, and developed, B: yes, undeveloped, C: no

Q4: **Wildlife habitat index:**
A: diverse habitat, B: habitat for some wildlife, C: wildlife function lost, or not present

Q5: **Fishing allowed?**
A: yes, B: no, or not applicable

Q6: **Hunting allowed?**
A; yes, B: no

Assessment: Provides recreational opp if Q1, 1 are "a" and at least one other Q is "a"
Potential if answer not satisfy above/below criteria
No rec. opportunities if Q1, 2 are "c" or Q3, 4 are "c", and Q5,6 are "b"

Aesthetic

Q1: Number of Cowardin classes visible
A: >2, B: 2, C: 1

Q2: **How much of wetland visible from viewing area?**
A: >50%, B: 25-50%, C <25%

Q3: **General appearance**
A: no visual detractors, B: visual detractors exist, but can be removed, C: visual detractors exist

Q4: **Extent of visual contrast with surrounding landscape (rural) or visual character of surrounding area (urban)**
Rural: A: significant contrast, B: limited contrast, C: little contrast
Urban: A: open or natural landscape, B: landscaped by people, C: developed with no landscaping

Q5: **Odors present?**
A: natural and pleasant, B: unpleasant at times, C: unpleasant always

Q6: **Noises present?**
Rural: A: bird and wildlife sounds, B: some traffic and other noises, C: continuous traffic etc. noises
Urban: A: some traffic etc. plus natural sounds, B: continuous traffic and natural sounds, C: no natural sounds

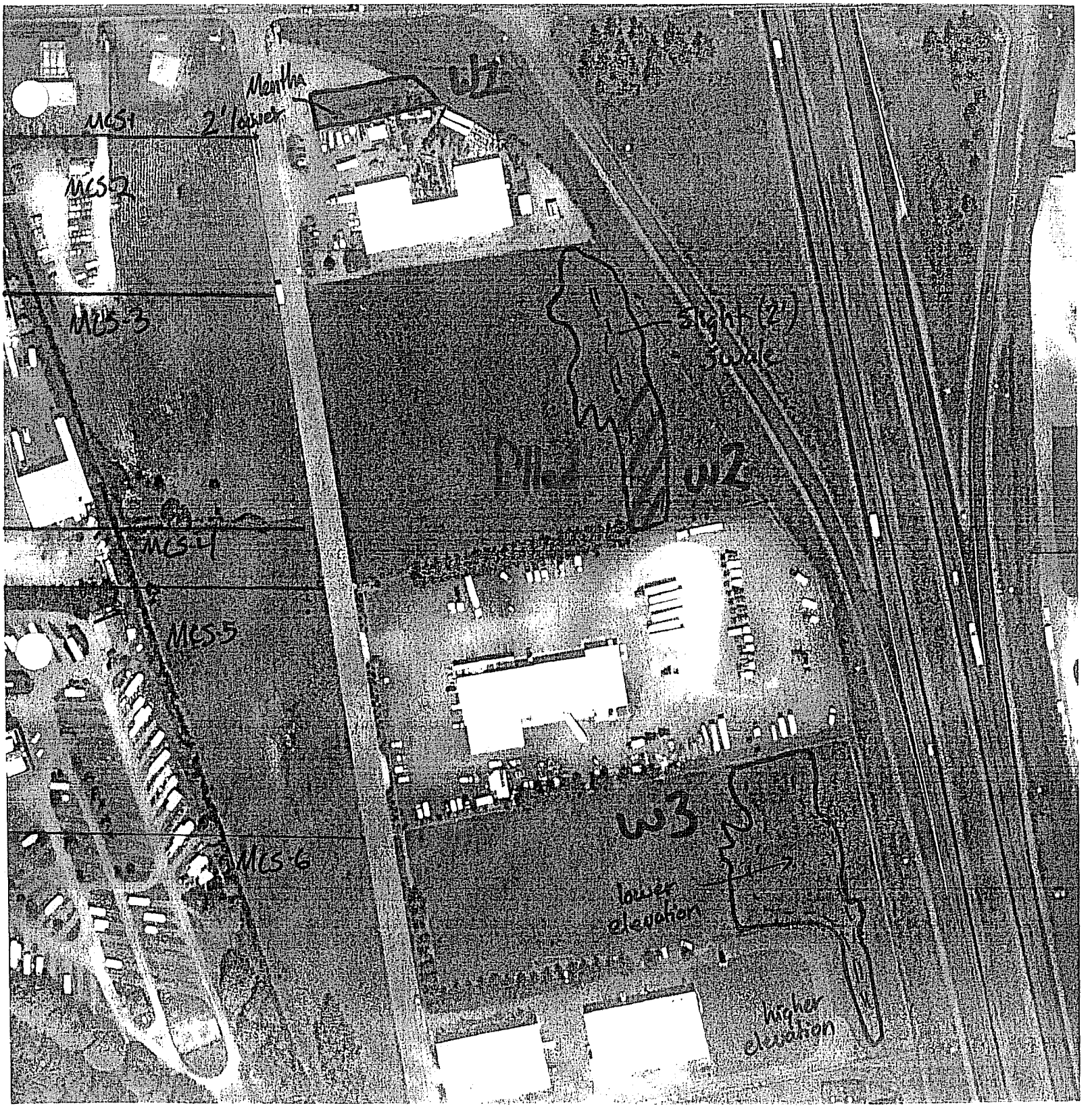
Assessment: Wetland pleasing if Q1,2 are "a" and all others are "a" or "b"
Wetland moderately pleasing if answer do not satisfy above/below criteria
Wetland not pleasing if 2+ Q are "c"

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MCS-W3



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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APPENDIX 8.3.

RIPARIAN AREA FUNCTION SUMMARY TABLE

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Coburg Local Wetland Inventory

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MS-1L	475	21	High	Medium	Low	Low
MS-1R	475	23	High	Medium	Low	Medium
MS-2L	600	89	High	Medium	Medium	Medium
MS-2R	600	19	High	Medium	Medium	High
MS-3L	1225	26	High	Medium	Medium	Medium
MS-3R	1225	34	High	Medium	Medium	Medium
MS-4L	200	32.5	High	Medium	High	Medium
MS-4R	200	47	High	Medium	High	Medium
MCN-1L	1250	11	High	Medium	Low	Medium
MCN-1R	1250	16.6	Medium	Low	Low	Low
MCN-2L	500	0	Low	Low	Medium	Low
MCN-2R	500	0	Low	Low	Medium	Low
MCN-3L	830	26	Medium	Low	Medium	Medium
MCN-3R	830	15	Medium	Medium	Low	Medium
MCN-4L	370	8	Medium	Low	High	Medium
MCN-4R	370	10	Low	Medium	Medium	Low
MCN-5L	750	0	Low	Low	Low	Low
MCN-5R	750	0	Low	Low	Low	Low
MCN-6L	840	8	High	Medium	Medium	Medium
MCN-6R	840	24	High	Medium	High	High
MCN-7L	340	10	High	Medium	Medium	Medium
MCN-7R	340	25	High	Low	High	High
MCN-8L	1390	20	High	Medium	Low	Medium
MCN-8R	1390	21	High	Medium	Low	Medium
MCS-1L	175	6.2	Low	Medium	Low	Low
MCS-1R	175	11	Low	Medium	Low	Low
MCS-2L	225	5.5	Low	Medium	Low	Low
MCS-2R	225	9	Medium	Medium	Low	Low
MCS-3L	350	9	Medium	Medium	Low	Low
MCS-3R	350	10	High	Medium	Low	Medium
MCS-4L	80	10	Medium	Medium	Low	Low
MCS-4R	80	10	Medium	Medium	Low	Low
MCS-5L	180	10	Medium	Medium	Low	Low
MCS-5R	180	10	Medium	Medium	Low	Low
MCS-6L	525	22	High	Medium	Medium	Medium
MCS-6R	525	10	High	Medium	Low	Medium
MCS-7L	150	35	High	Medium	High	High
MCS-7R	150	10	High	Medium	Low	Medium
MCS-8L	575	32.5	Medium	Medium	Low	Medium
MCS-8R	575	9	High	Medium	Low	Medium
MCS-9L	350	11	High	Medium	Low	Low
MCS-9R	350	5.5	Medium	Medium	Low	Medium
MCS-10L	500	0	Medium	Medium	Low	Low
MCS-10R	500	0	High	Medium	Low	Medium

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APPENDIX 8.4.

RIPARIAN AREAS

by Drainage System and Riparian Reach

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MS-1

DRAINAGE BASIN: MILL SLOUGH
RIPARIAN REACH: MS-1
TAX LOTS: 16-03-33-32-02300, -02400, -02105, -02104
16-03-32-00-02002

CONTENTS:

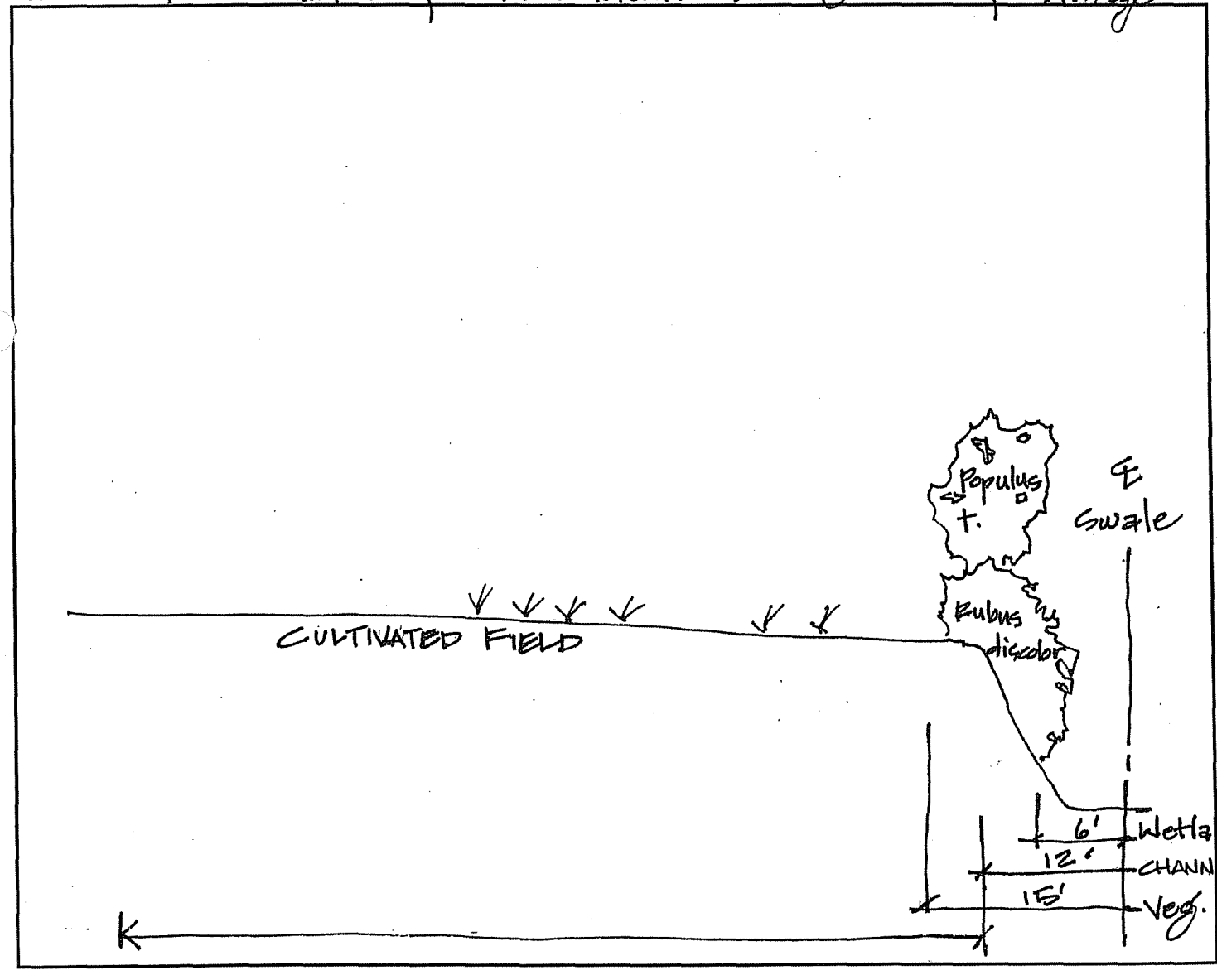
RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MS-1L	475	21	High	Medium	Low	Low
MS-1R	475	23	High	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MS 1-L
Date: 7/28/99
Investigators: WWS/JMS
Dominant Tree Species: Populus trichocarpa (Exist: young; adjacent reach has mature trees)
Width of Riparian Area: 21 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___ Reference site (Code ___)
Comments: Existing vegetation is confined to a narrow strip along the top of bank and down the channel slope.

Typical Cross Section (from stream center line)
Location of Sample Point: just N. of storm detention basin @ w. end of Vintage.



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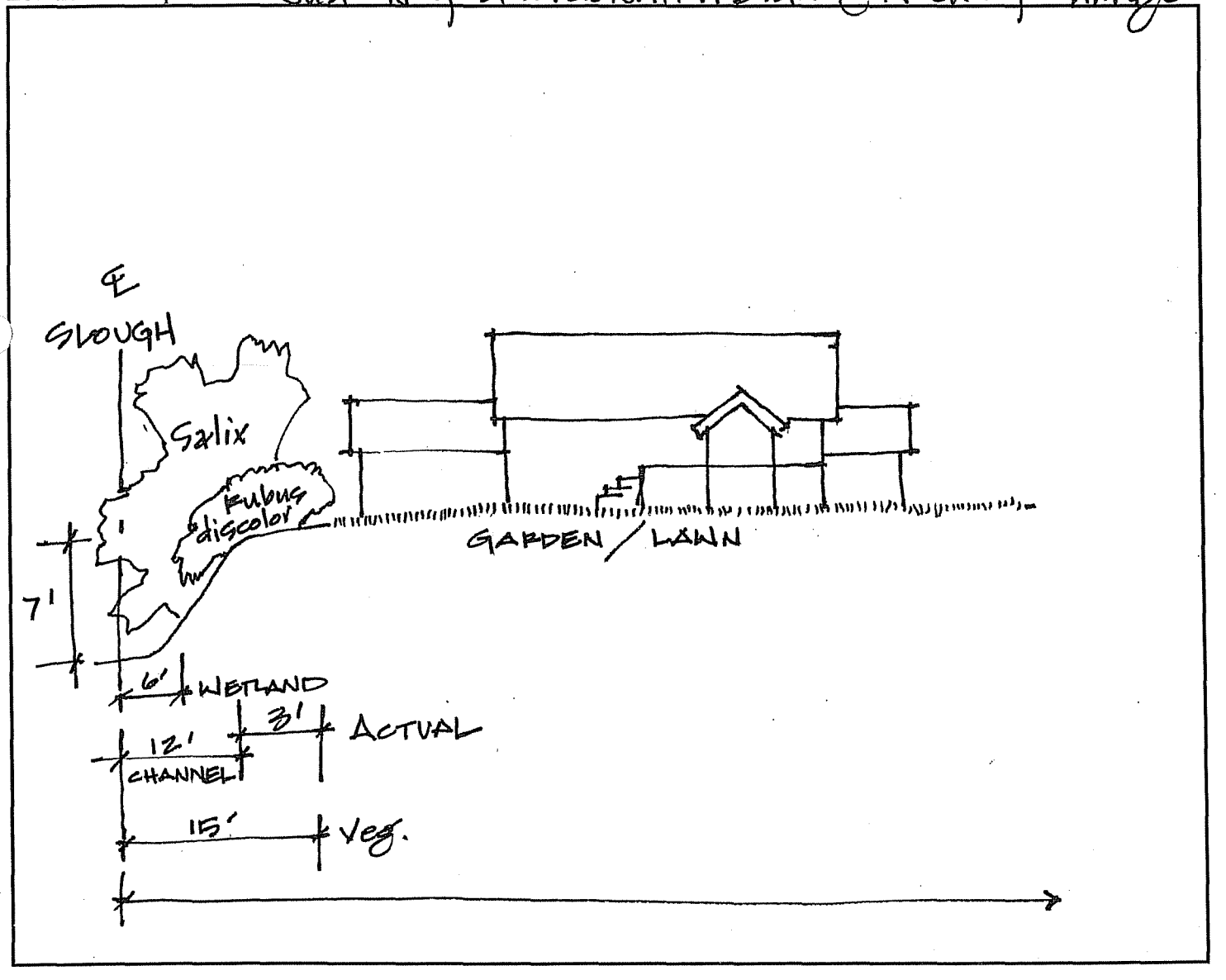
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MS 1-P
Date: 7/28/99
Investigators: WMS / JMS
Dominant Tree Species: Salix sitchensis (Exist.); Populus trichocarpa (adjacent reach)

Width of Riparian Area: 23 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___ Reference site (Code ___)
Comments: constrained by residential development near top of bank.

Typical Cross Section (from stream center line)
Location of Sample Point: Just N. of storm detention basin @ W. end of Vintage.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): M. Shippey
Tax Lots: 16033200-02002

Riparian Code: MS1-L
Reach Length: 475'
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 25 ft — Bank Full Depth: 7 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand ___Silt X Gravel X Other Cobbles
Name: Coburg Mill Slough
___ Lake/Pond — Width: ____ft Name:
___ Wetland — Width: ____ft LWI Code:
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes ___ No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #76 - Malabon Urban Land Complex
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads ___ — Commercial/Industrial ___ — Undeveloped ___
Residential X — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Phalaris arundinacea
Salix sitchensis	
Populus trichocarpa	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No Channelization
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Ag to TOB
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 8.24.99
Investigator(s): M. Shippey, N. Holzhauser
Tax Lots: 16033333202400, 16033333202104, 16033333202105

Riparian Code: MS-1 R
Reach Length: 475
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 25 ft — Bank Full Depth: 7 ft
Est Depth of OHW: 2 ft
Substrate: __Organic __Sand __Silt X Gravel X Other Cobbles
Name: Coburg Mill Slough

__ Lake/Pond — Width: ____ ft Name: ____
X Wetland — Width: 12 ft LWI Code: ____ w/in channel

Water Present Year-round: __ Yes X No
Salmonids present: __ Yes __ No
Is water resource listed for temperature on DEQ's 303(d) list: __ Yes __ No

Within FEMA-mapped 100-year floodplain: X Yes __ No
Mapped soil series: #76 - Malabon Urban Land Complex
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads __ Commercial/Industrial __ Undeveloped X
Residential X Forestry __

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Salix sitchensis	Dipsacus fullonum sylvestris
Salix lasiandra	Phalaris arundinacea
Rubus discolor	Verbascum
	Cirsium canadensis
	Lolium perenne
	Lupinus polyphyllus

Average slope in riparian area: X < 10:1 (10%) __ Between 10:1 (10%) and 5:1 (20%) __ > 5:1 (20%)
Extent of impervious surface within riparian area: __ <10% X 10%-25% __ >25%
Is the reach constricted by human-caused features? X Yes __ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? __ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation __ Herbaceous vegetation __ Bare ground
Does woody vegetation hang over edge of water? X Yes __ No
Is large woody debris present in riparian area? __ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% __ 10%-40% __ <10%
Degree of development or human-caused disturbance: __ <25% __ 25-75% X >75%
Comments: housing development, channelization
Bank stability: X Stable __ Minor erosion __ Severe erosion
Comments: This reach terminates at south, with storm detention basin

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS 1-L
Investigators: N. Holzhausen, M. Shippey

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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Eugene, Oregon 97405

THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   1 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   1 1 pt : No

4 **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts)** X **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   2 2 pts: 2 layers
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   1 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   1 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   3 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ____ 3 pts: Yes
   1 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   1 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   1 1 pt: Greater than 75%

12 **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts)** X **Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS1-R
Investigators: N. Holzhauser

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ____ 3 pts: Less than 10%
   - 2 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

13 **TOTAL POINTS** **Function:** X **High (12-14 pts)** ___**Medium (8-11 pts)** ___**Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

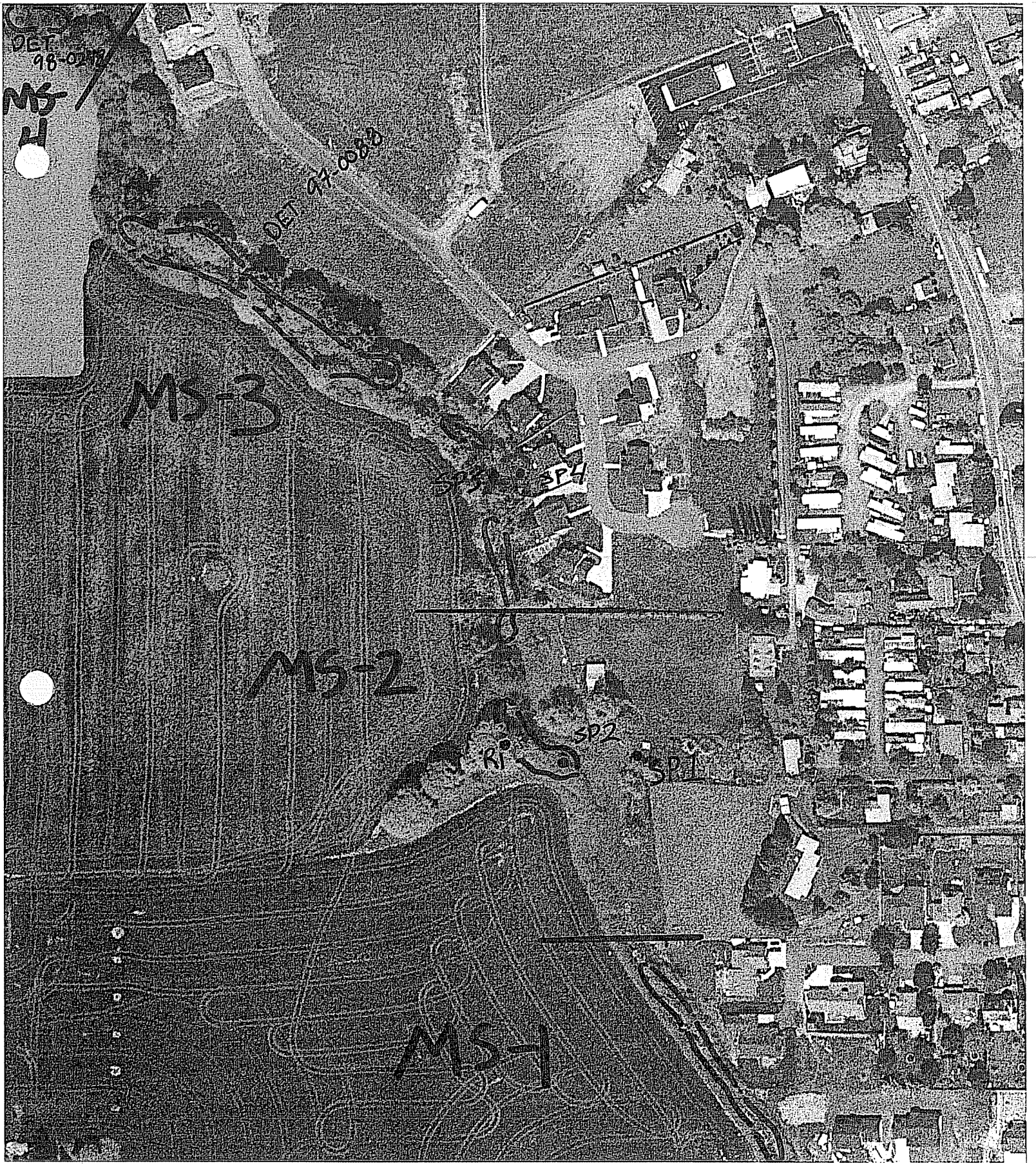
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   _2_ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ___ 3 pts: Yes
   _1_ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   _2_ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

_13_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MS-2

DRAINAGE BASIN: MILL SLOUGH
RIPARIAN REACH: MS-2
TAX LOTS: 16-03-33-23-09900
16-03-32-14-01600, -01700, -00900
16-03-32-00-02002
16-03-32-14-01900

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

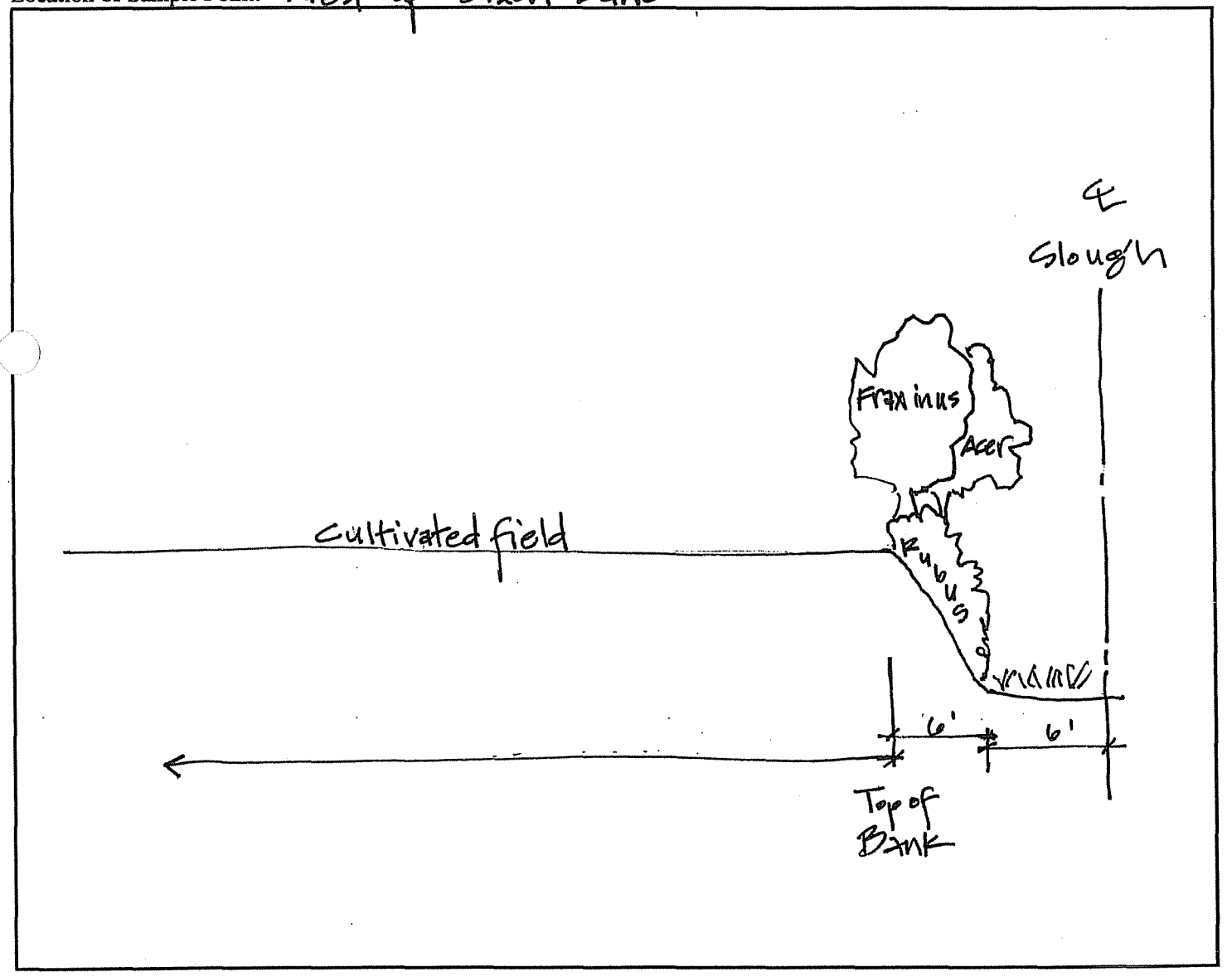
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MS-2L	600	89	High	Medium	Medium	Medium
MS-2R	600	19	High	Medium	Medium	High

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MG-2L
Date: 8/23/99
Investigators: N. Holzhauer
Dominant Tree Species: Fraxinus latifolia

Width of Riparian Area: 89 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: _____

Typical Cross Section (from stream center line)
Location of Sample Point: West of Dixon Lane



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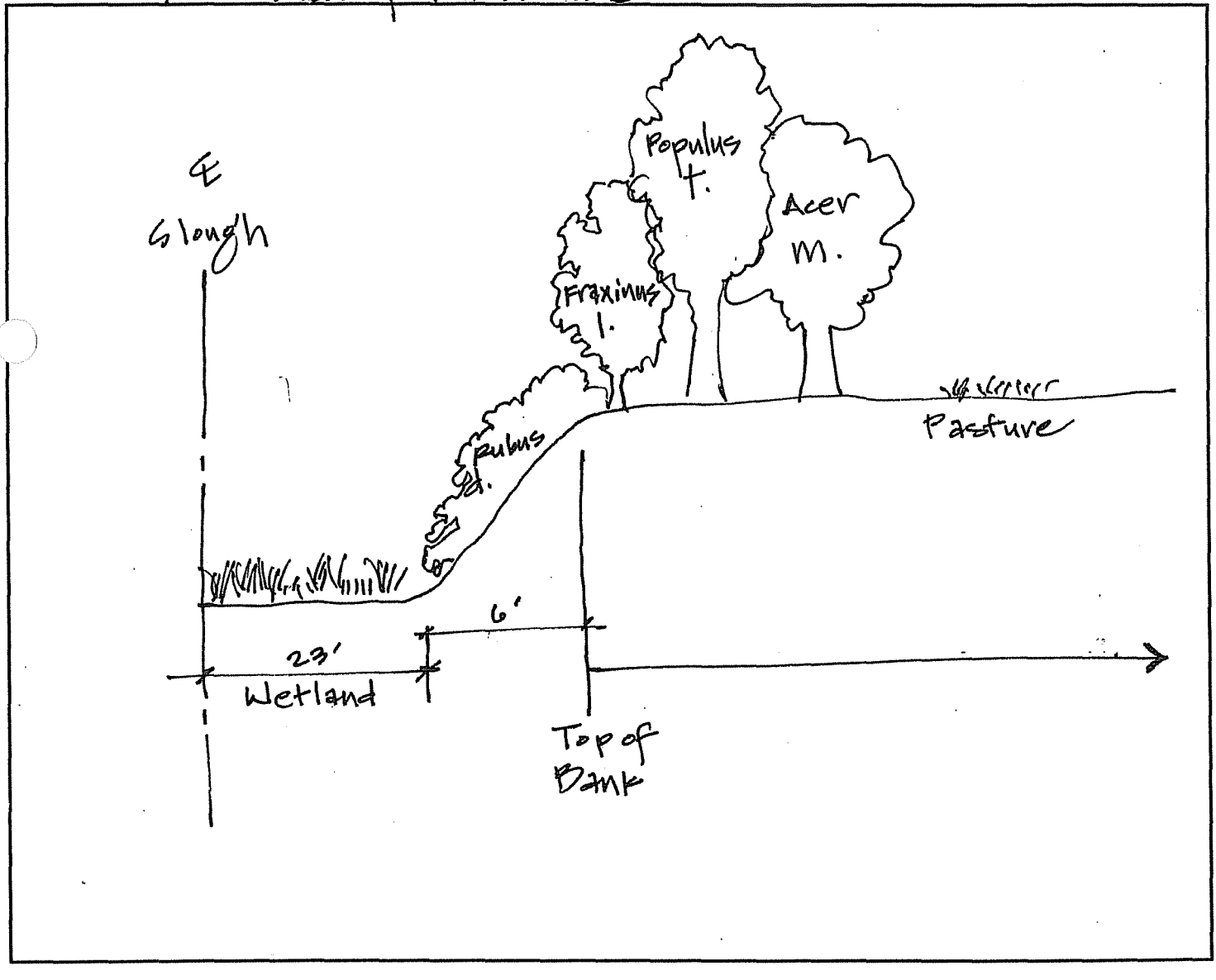
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MG-2 R
Date: 8/23/99
Investigators: WWS/NH/EP
Dominant Tree Species: Populus trichocarpa

Width of Riparian Area: 19 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: West of Dixon Lane



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
X On-Site ___ Off-Site
Date: 7.28.99
Investigator(s): M. Shuppey, N. Holzhauser, E. Perkins
Tax Lots: _____

Riparian Code: MS 2-L
Reach Length: 600'
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 40 ft — Bank Full Depth: 6 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand X Silt X Gravel ___ Other _____
Name: Coburg Mill Slough
___ Lake/Pond — Width: _____ft Name: _____
___ Wetland — Width: _____ft LWI Code: _____
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes ___ No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #76 Malabon Urban Land complex
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads ___ — Commercial/Industrial ___ — Undeveloped ___
Residential X — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Fraxinus latifolius	Misc. grasses & forbs
Acer macrophyllum	
Rubus discolor	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No channelization
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Ag from 720
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
X On-Site __ Off-Site
Date: 7.28.99
Investigator(s): N. Holzhausen, M. Shippen, E. Perkins
Tax Lots: 16033323090n, 1603321401700, 1603321401600

Riparian Code: MS2-R
Reach Length: 6000'
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 40 ft — Bank Full Depth: 6 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand ___Silt X Gravel X Other ____
Name: Coburg Mill Slough
___ Lake/Pond — Width: ____ft Name: ____
___ Wetland — Width: ____ft LWI Code: ____
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes ___ No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #76 Malabon Urban Land complex
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads ___ — Commercial/Industrial ___ — Undeveloped ___
Residential X — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Fraxinus latifolius	Rubus discolor
Acer macrophyllum	
Populus trichocarpa	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No Channelization
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% X 25-75% ___>75%
Comments: Farmed, pasture
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Area east of treed riparian is farm/pasture.

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS2-L
Investigators: N. Holzhauer

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

13 **TOTAL POINTS** **Function:** X **High (12-14 pts)** ___**Medium (8-11 pts)** ___**Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   _2_ 2 pts: Yes
   ____ 1 pt : No

_5_ **TOTAL POINTS** **Function: ___High (7-8 pts) _X_Medium (5-6 pts) ___Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   _3_ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   _2_ 2 pts: Yes
   ____ 1 pt : No
15. Is large woody debris present within riparian area:
   _3_ 3 pts: Yes
   ____ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ____ 3 pts: Yes
   _1_ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_16_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_Medium (13-18 pts) ___Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS2-R
Investigators: N. Holzhauser, M Shippey, E. Perkins

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - 3 3 pts: Yes
   - ____ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

7 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   __3__ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   __2__ 2 pts: Yes
   ____ 1 pt : No

__6__ **TOTAL POINTS** **Function: ___High (7-8 pts) __X__ Medium (5-6 pts) ___Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   __3__ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   __3__ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   __2__ 2 pts: Yes
   ____ 1 pt : No
15. Is large woody debris present within riparian area:
   __3__ 3 pts: Yes
   ____ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   __3__ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ____ 3 pts: Yes
   __1__ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   __3__ 3 pts: Yes Wetland
   ____ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   __2__ 2 pts: Between 25% and 75%
   ____ 1 pt: Greater than 75%

__20__ **TOTAL POINTS** **Function: __X__ High (19-23 pts) ___Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MS-3

DRAINAGE BASIN: MILL SLOUGH
RIPARIAN REACH: MS-3
TAX LOTS: 16-03-32-14-00400, -00500, -00600, -00700, -00800, -02100, -02700, -03100
16-03-32-11-02500

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

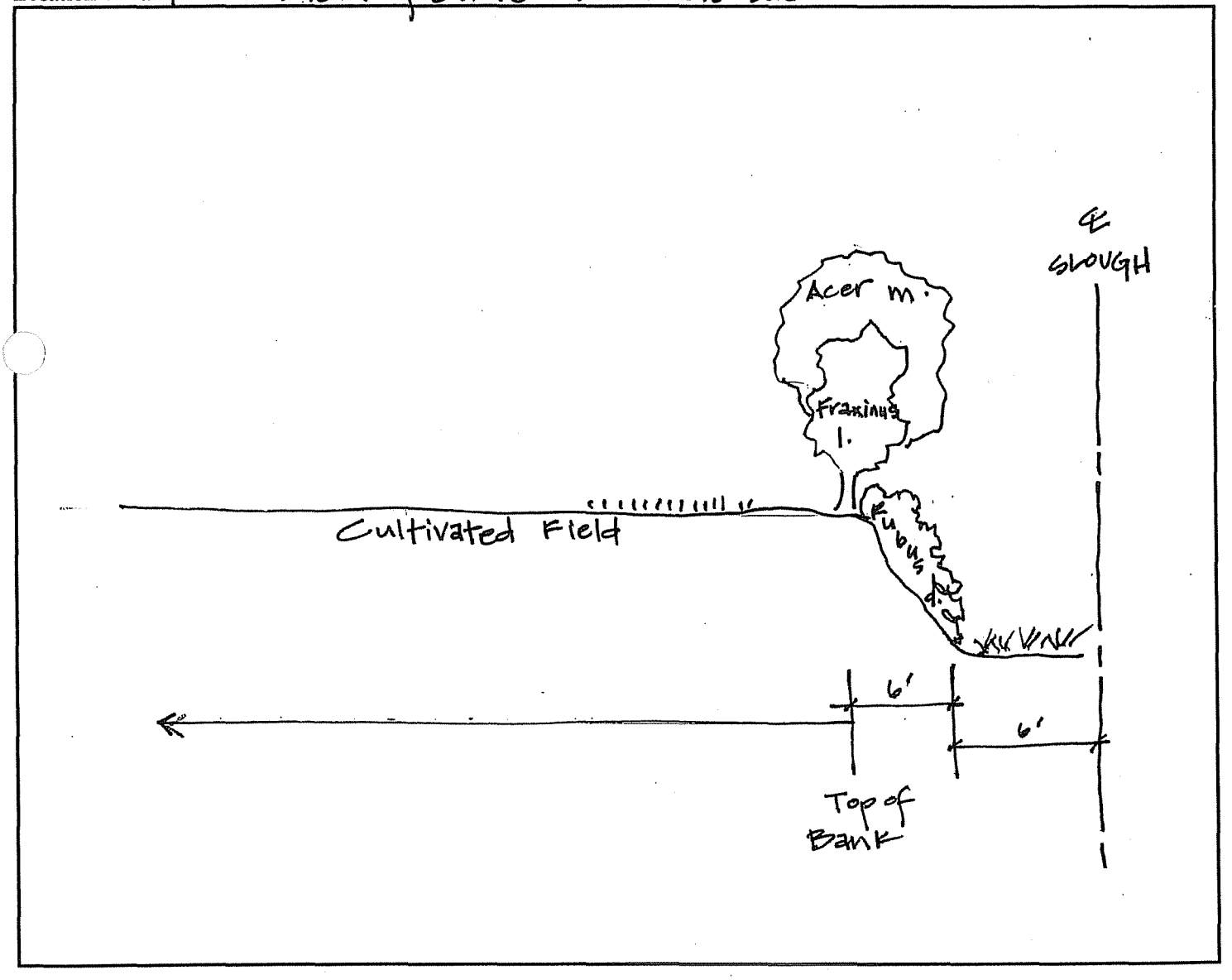
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MS-3L	1,225	26	High	Medium	Medium	Medium
MS-3R	1,225	34	High	Medium	Medium	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MG - 3L
Date: 8/24/99
Investigators: N. Holzhauer
Dominant Tree Species: Oregon Maple (Acer macrophyllum)

Width of Riparian Area: 26 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: Developed from aerial photo; field verified.

Typical Cross Section (from stream center line)
Location of Sample Point: West of curve in cul-de-sac.



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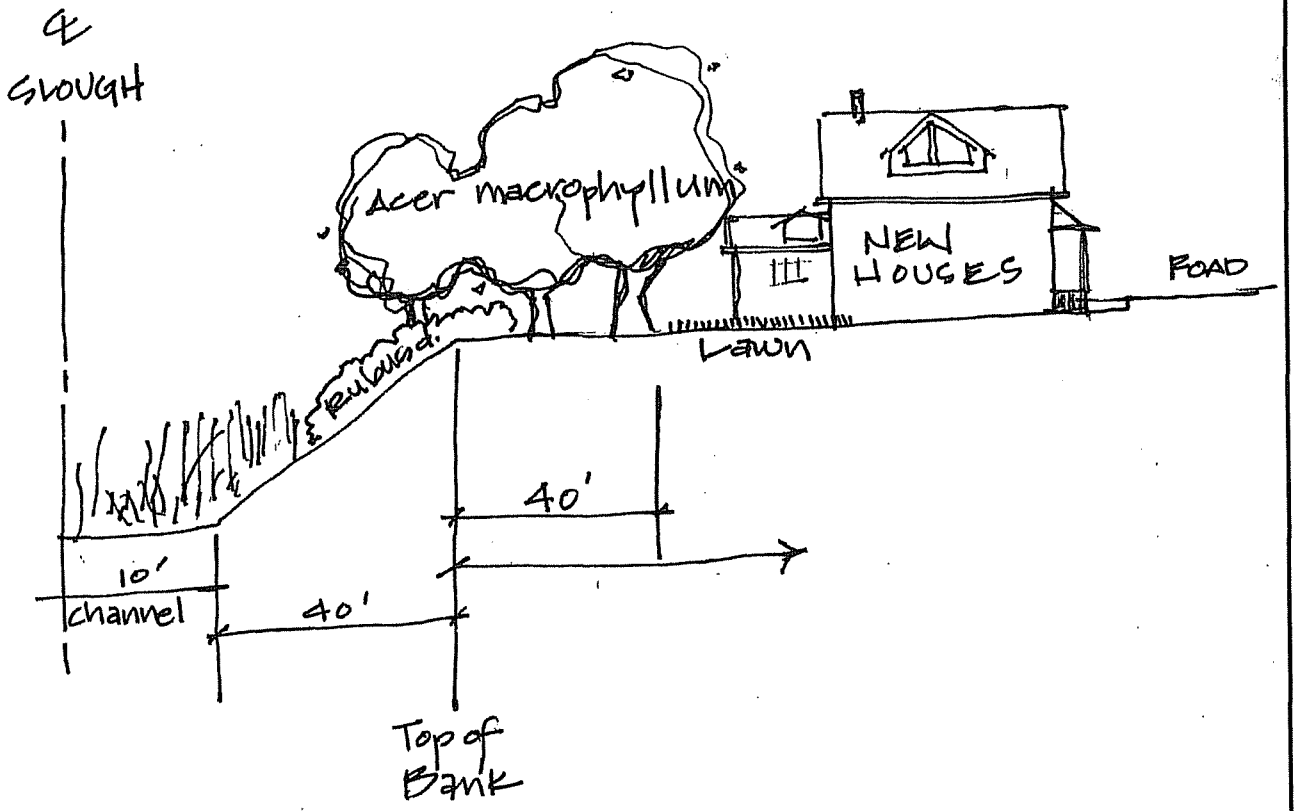
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MG-3 R
Date: 8/24/99
Investigators: N. Holzhauser
Dominant Tree Species: Oregon Maple / Acer macrophyllum

Width of Riparian Area: 34 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments:
Rapid home construction in this area is constraining riparian area.

Typical Cross Section (from stream center line)
Location of Sample Point: Near city Parcel.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 8.24.99
Investigator(s): N. Holzhauser
Tax Lots: 1003S2E11-02500

Riparian Code: MS3-L
Reach Length: 1,225'
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 32 ft — Bank Full Depth: 6 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand ___Silt X Gravel X Other_____
Name: Coburg Mill Slough
___ Lake/Pond — Width: _____ft Name:_____
___ Wetland — Width: _____ft LWI Code:_____
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes ___ No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #75- Malabon Silty Clay Loam
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads ___ — Commercial/Industrial ___ — Undeveloped ___
Residential X — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	
Fraxinus latifolius	
Acer macrophyllum	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No Channelization
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Ag. field
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Ag field comes to top of bank

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 8.24.99
Investigator(s): N. Holzhauser
Riparian Code: MS3R
Reach Length: 1,225'
Hydrologic Basin: Mill Slough
Tax Lots: 16033214-00400, -00500, -00600, -00700, -00800, -02100, -03100, -02700

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 32 ft — Bank Full Depth: 6-8ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand ___Silt X Gravel X Other ____
Name: Coburg Mill Slough
___ Lake/Pond — Width: ____ft Name: ____
X Wetland — Width: 0-25 ft LWI Code: MS-W1 (within Mill Slough channel)
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes X No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #15- Malabon Silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads ___ — Commercial/Industrial ___ — Undeveloped ___
Residential X — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Fraxinus latifolius	
Acer macrophyllum	
Rubus discolor	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: ___<10% ___10%-25% X >25% Houses
Is the reach constricted by human-caused features? X Yes ___ No Channelization
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% X 25-75% ___>75%
Comments: Houses w/in 40'-50' of stream
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS3-L
Investigators: N. Holzhauser

ATER QUALITY

1. Average slope in riparian area:
   3 3 pts: Less than 10:1 (10%): 3 pts
   ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   3 3 pts: Less than 10%
   ____ 2 pts: Between 10% and 25%
   ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   2 2 pts: Low, moderate, slight
   ____ 1 pt: High, severe, very high

13 **TOTAL POINTS** **Function:** X **High (12-14 pts)** ___**Medium (8-11 pts)** ___**Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   3 3 pts: Yes
   ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ____ 3 pts: Yes
   1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ____ 3 pts: No
   1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   1 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   2 2 pts: Yes
   ___ 1 pt : No

5 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** X **Medium (5-6 pts)** ___**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   3 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   2 2 pts: Yes
   ___ 1 pt : No
15. Is large woody debris present within riparian area:
   3 3 pts: Yes
   ___ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   3 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ___ 3 pts: Yes
   1 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   1 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   1 1 pt: Greater than 75%

16 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** X **Medium (13-18 pts)** ___**Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS3-R
Investigators: N. Hotzhauser

ATER QUALITY

1. Average slope in riparian area:
   _3_ 3 pts: Less than 10:1 (10%): 3 pts
   ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   _3_ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   _3_ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ____ 3 pts: Less than 10%
   ____ 2 pts: Between 10% and 25%
   _1_ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   _2_ 2 pts: Low, moderate, slight
   ____ 1 pt: High, severe, very high

_12_ **TOTAL POINTS** **Function:** _X_ **High (12-14 pts)** ___ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   _3_ 3 pts: Yes
   _1_ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   _3_ 3 pts: Yes
   ____ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ____ 3 pts: No
   _1_ 1 pt : Yes

_7_ **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** _X_ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

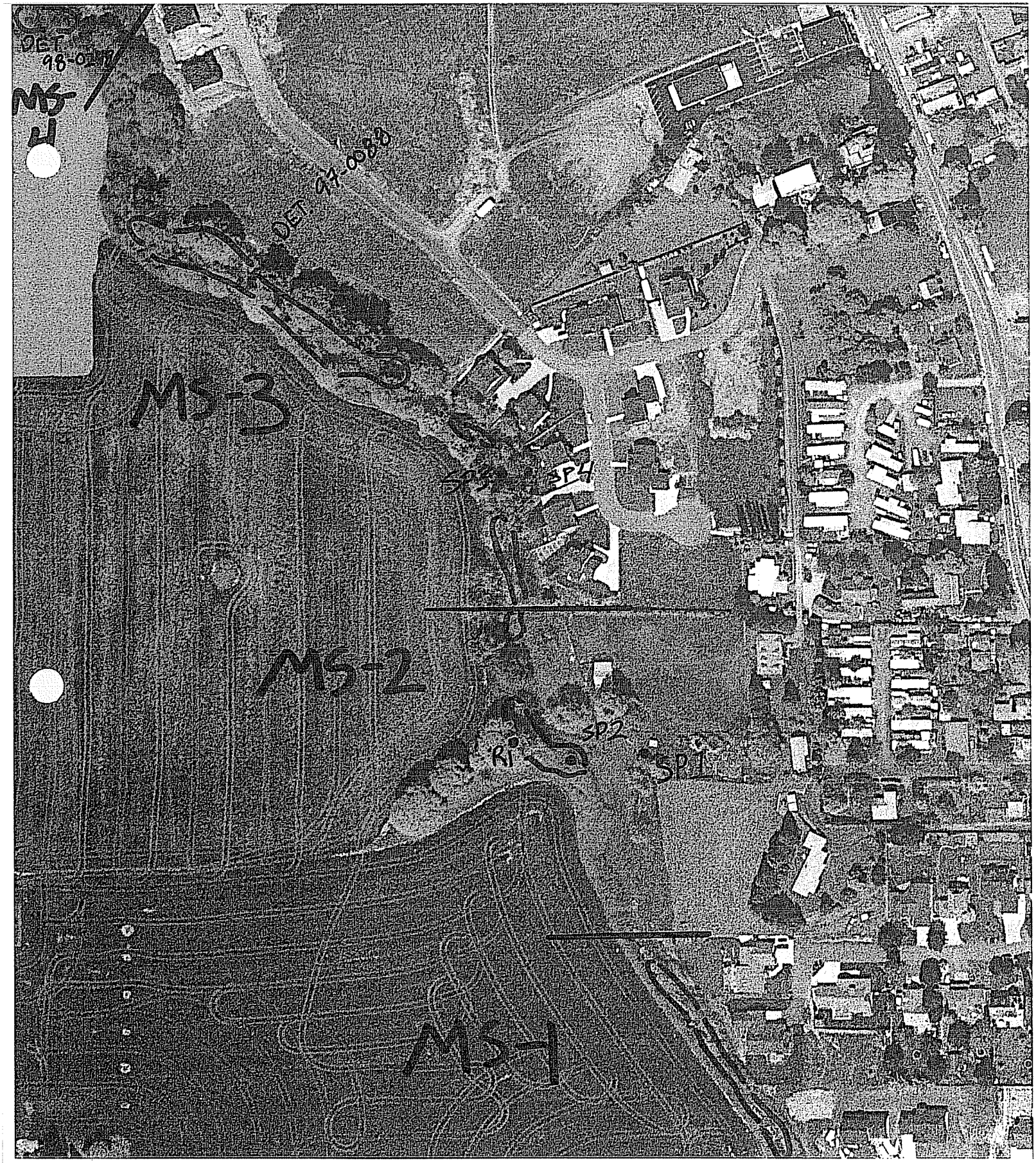
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   _3_ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   _2_ 2 pts: Yes
   ___ 1 pt : No

_6_ **TOTAL POINTS** **Function: ___High (7-8 pts) _X_ Medium (5-6 pts) ___Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   _3_ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   _3_ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   _2_ 2 pts: Yes
   ___ 1 pt : No
15. Is large woody debris present within riparian area:
   _3_ 3 pts: Yes
   ___ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ___ 3 pts: Yes
   _1_ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   _2_ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

_18_ **TOTAL POINTS** **Function: ___High (19-23 pts) _18_ Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

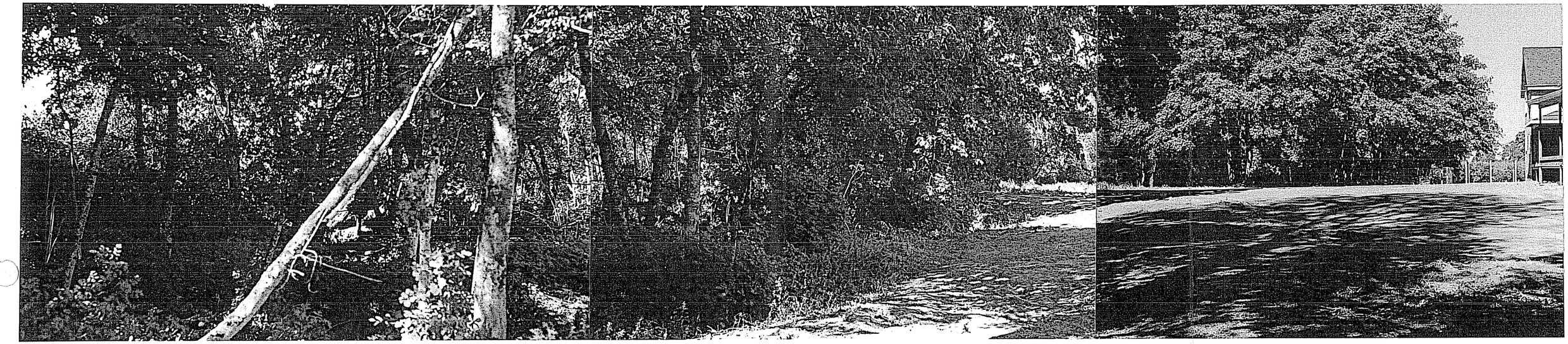
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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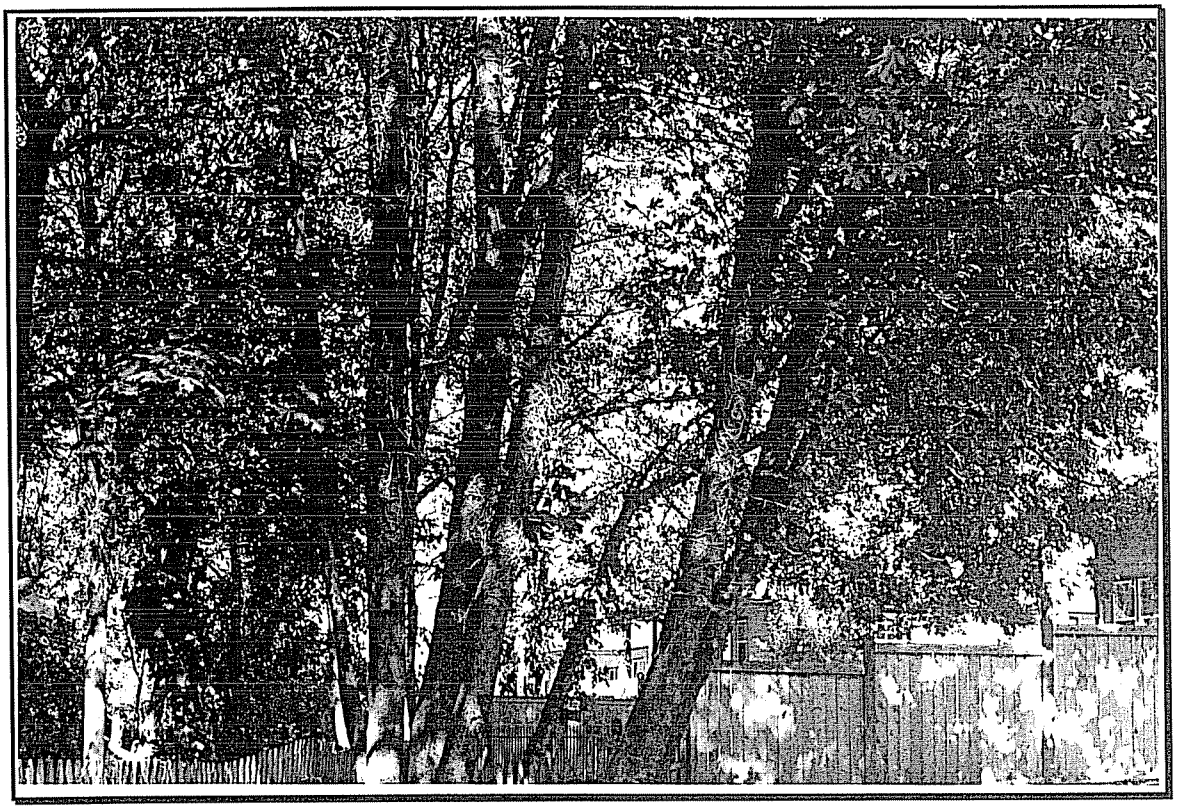


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October, 1999

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SITE PHOTOGRAPH
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City of Coburg
October, 1999

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MS-4

DRAINAGE BASIN: MILL SLOUGH
RIPARIAN REACH: MS-4
TAX LOTS: 16-03-32-14-03100
16-03-32-11-02500

CONTENTS:

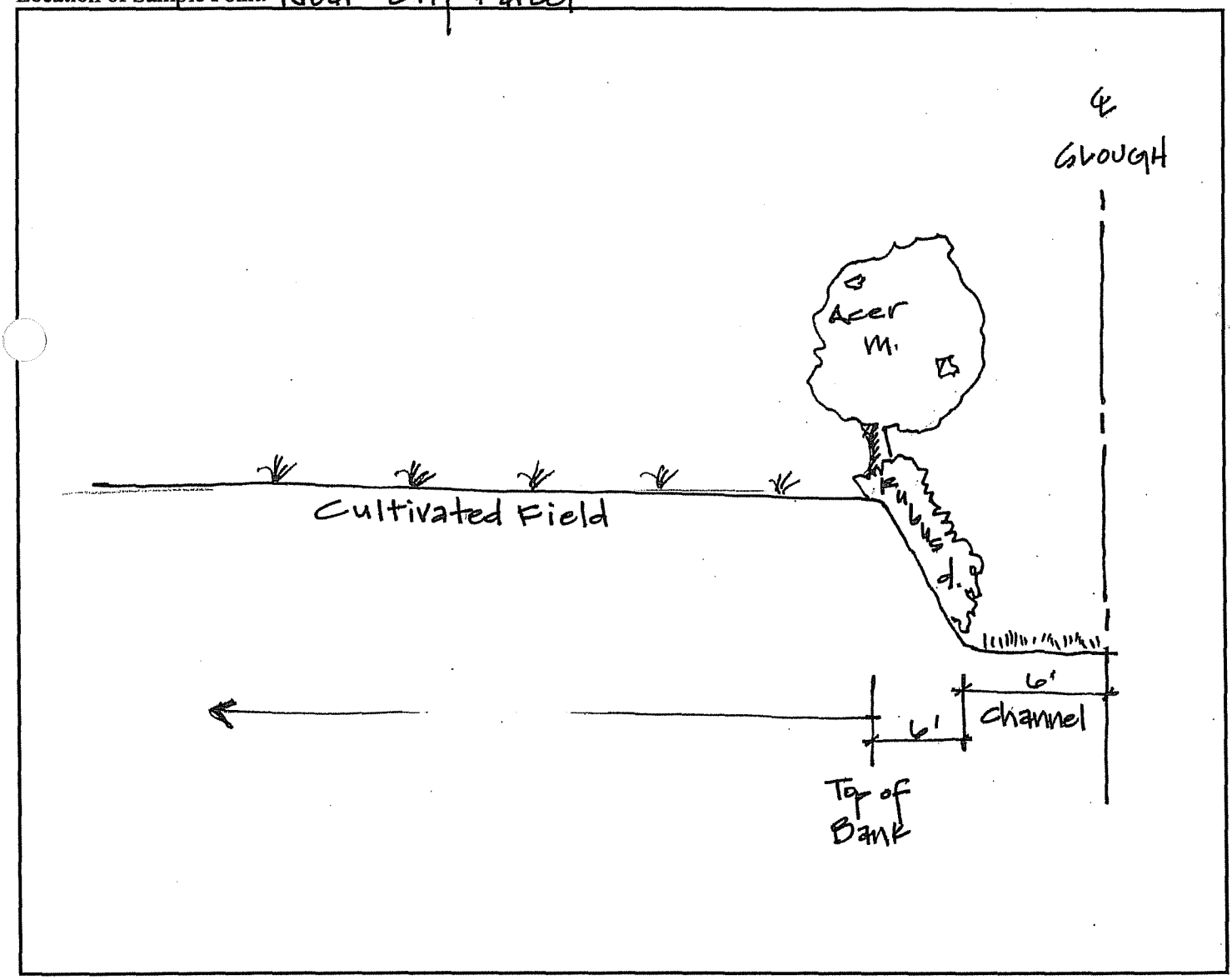
RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MS-4L	200	32.5	High	Medium	High	Medium
MS-4R	200	47	High	Medium	High	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MG-4L
Date: 8/24/99
Investigators: N. Holzhauser
minant Tree Species: Oregon Maple / Acer macrophyllum
Width of Riparian Area: 32.5 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments:
Developed from aerial photo with field verification

Typical Cross Section (from stream center line)
Location of Sample Point: Near city Parcel



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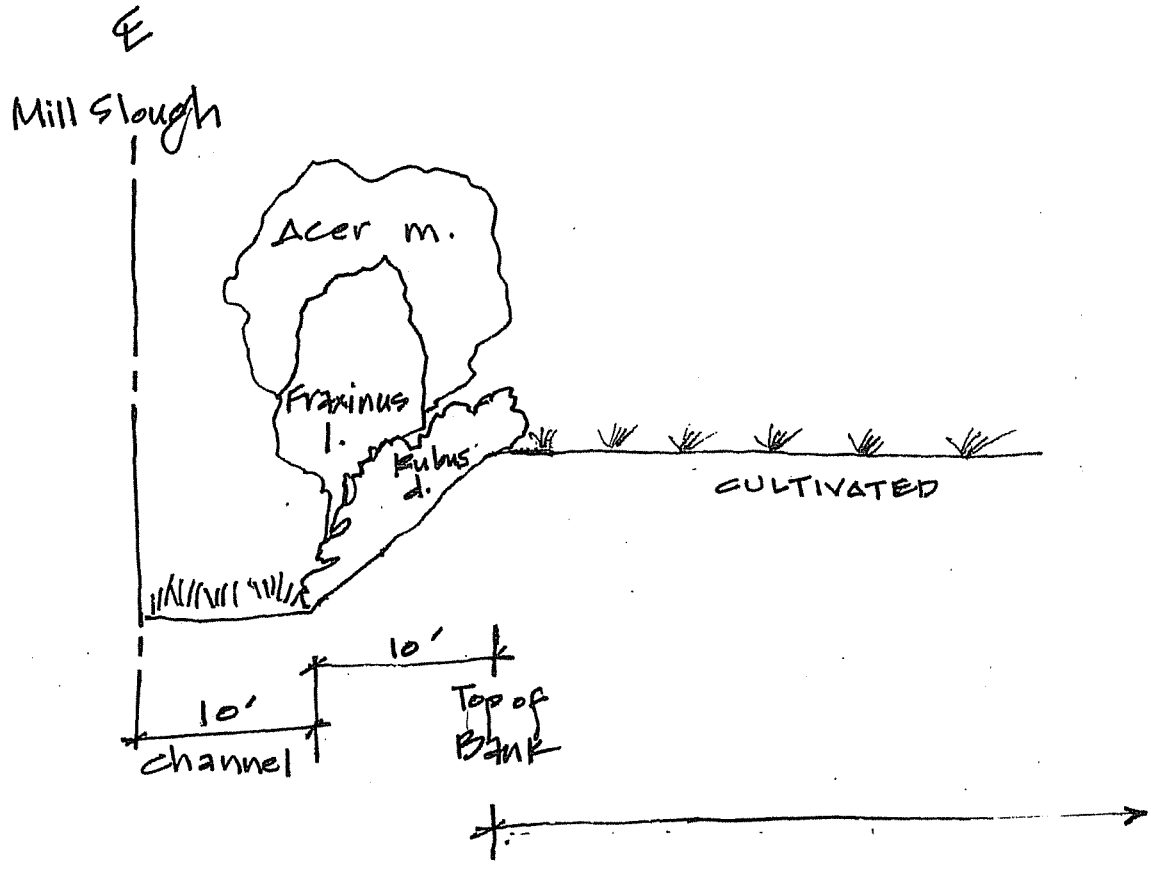
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory — Riparian Code: MS-4R
Date: 8/24/99 — Investigators: N. Holzhauer
minant Tree Species: Oregon Maple / Acer macrophyllum

Width of Riparian Area: 47 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments:
Developed from aerial photo with field verification

Typical Cross Section (from stream center line)
Location of Sample Point: East of Coburg Bottom Loop



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 8.24.99
Investigator(s): N. Holzhauser
Tax Lots: 16033211-02500

Riparian Code: MS-4L
Reach Length: 200
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 62 ft — Bank Full Depth: 8 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand ___Silt X Gravel X Other _____
Name: Coburg Mill Slough
___ Lake/Pond — Width: _____ft Name: _____
___ Wetland — Width: _____ft LWI Code: _____
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes ___ No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #15 Malabon silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads ___ — Commercial/Industrial ___ — Undeveloped ___
Residential X — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	
Acer macrophyllum	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No Channelization/Agricultural
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Ag field from top of bank
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 8.24.99
Investigator(s): N. Holzhauser
Tax Lots: 1603321403100, 02500

Riparian Code: MS-4R
Reach Length: 2001
Hydrologic Basin: Mill Slough

WATER RESOURCE INFORMATION

Water Resource: ___ Stream/River Channel Width: 32 ft Bank Full Depth: 8 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand ___Silt X Gravel X Other ____
Name: Coburg Mill Slough
___ Lake/Pond Width: ____ ft Name: ____
X Wetland Width: 25 ft LWI Code: MG-1
Water Present Year-round: ___ Yes X No
Salmonids present: ___ Yes ___ No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes X No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: #15 Malabon Silty Clay Loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads ____ Commercial/Industrial ___ Undeveloped ___
Residential X Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	
Acer macrophyllum	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No Channelization/Agriculture
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Cultivated field
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: M5-4L
Investigators: N. Hotchkiss / M. Sluiter

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

13 **TOTAL POINTS** **Function:** X **High (12-14 pts)** ___**Medium (8-11 pts)** ___**Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   _3_ 3 pts: Yes
   ____ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   _2_ 2 pts: Yes
   ____ 1 pt : No

_7_ **TOTAL POINTS** **Function: _X_ High (7-8 pts) ___Medium (5-6 pts) ___Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   _3_ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   _2_ 2 pts: Yes
   ____ 1 pt : No
15. Is large woody debris present within riparian area:
   _3_ 3 pts: Yes
   ____ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ____ 3 pts: Yes
   _1_ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _1_ 1 pt : No — wetland within channel
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_15_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8.24.99

Riparian Code: MS-4R
Investigators: N. Holzhauser/ M. Shugrue JT

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

13 **TOTAL POINTS** **Function:** X **High (12-14 pts)** ___**Medium (8-11 pts)** ___**Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes - channelization/agriculture

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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Eugene, Oregon 97405

THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   3 3 pts: Yes
   ___ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   2 2 pts: Yes
   ___ 1 pt : No

7 **TOTAL POINTS** **Function:** X **High (7-8 pts)** ___ **Medium (5-6 pts)** ___ **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   3 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   2 2 pts: Yes
   ___ 1 pt : No
15. Is large woody debris present within riparian area:
   3 3 pts: Yes
   ___ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   3 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ___ 3 pts: Yes
   1 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   1 1 pt : No — wetland within channel
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   1 1 pt: Greater than 75% cultivated Areas

16 **TOTAL POINTS** **Function:** ___ **High (19-23 pts)** X **Medium (13-18 pts)** ___ **Low (8-12 pts)**



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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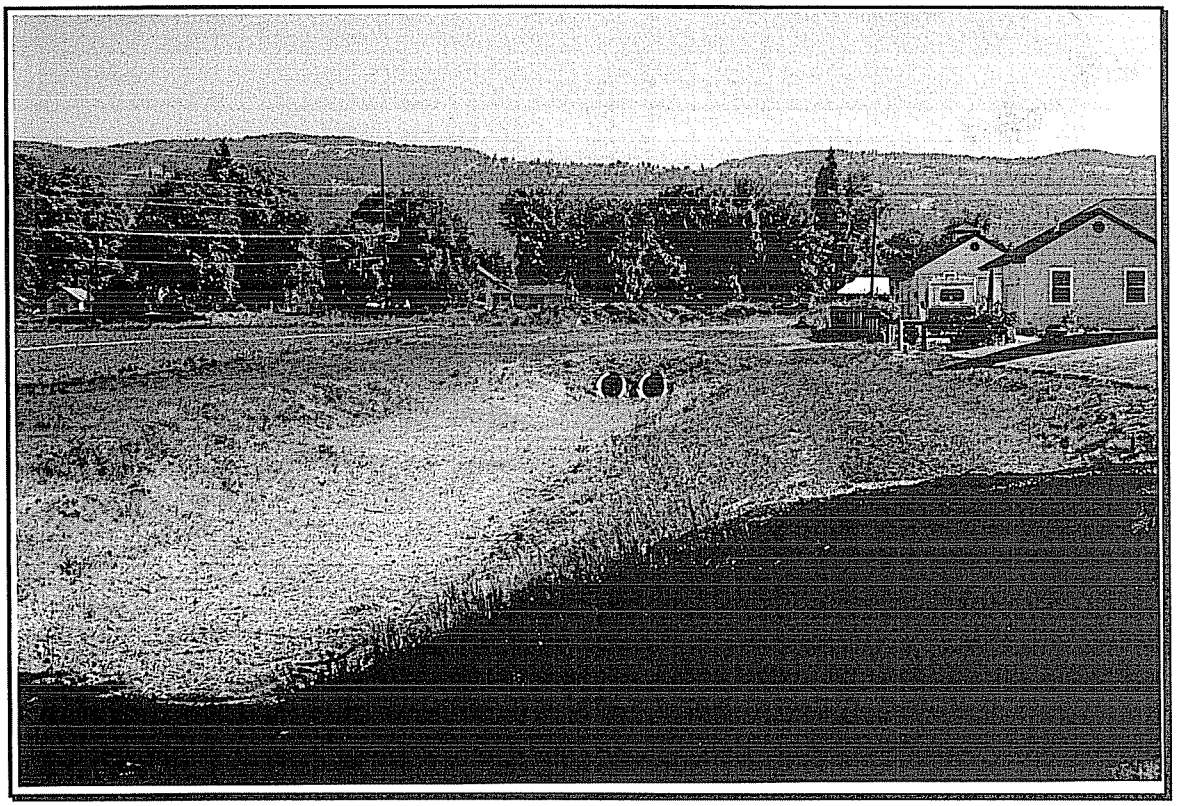


SITE PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPH
Coburg LWI
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MCN-1

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-1

TAX LOTS: 16-03-33-00-00100

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

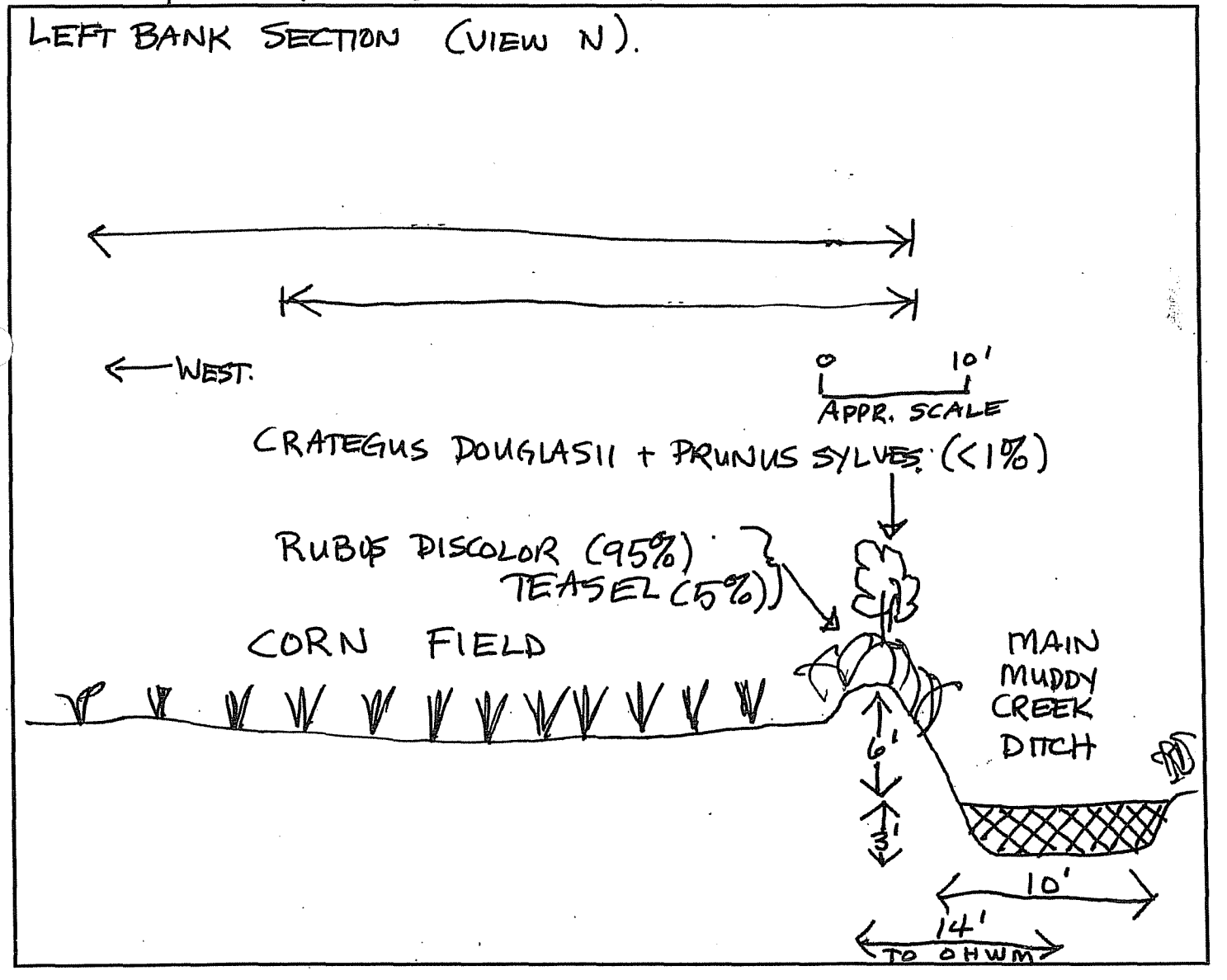
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-1L	1250	11	High	Medium	Low	Medium
MCN-1R	1250	16.6	Medium	Low	Low	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN-1L
Date: 7/29/99 rev, 10/1
Investigators: ETHEN PERKINS
Dominant Tree Species: prob. not present. Could be Populus trichocarpa

Width of Riparian Area: 11 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MCS-8)
Comments: AT N. END OF CORN FIELD, DITCH ENTERS 2 NEWLY CONSTRUCTED @4' CULVERTS UNDER FILL AT MARATHON COACH SITE. POTENTIAL WIDTH LIMITED BY (1) MAINTAINED IRRIGATION CHANNEL + LEVEE (2) FUTURE INDUSTRIAL DEVELOPMENT OF CORN FIELD.

Typical Cross Section (from stream center line)
Location of Sample Point: N. END OF CORNFIELD AT POWERLINE ACCESS



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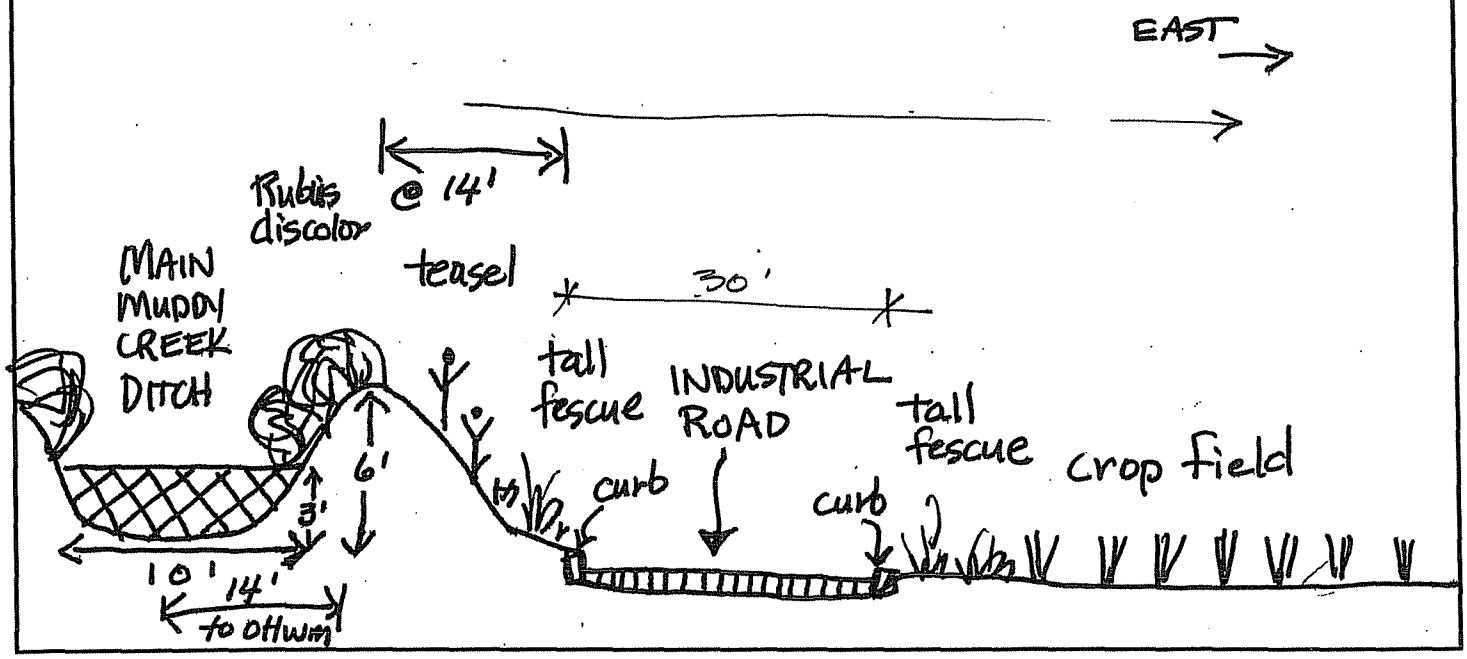
RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN-1R
Date: 7/29/99 rev. 10/1
Investigators: Ethen PERKINS
Dominant Tree Species: prob. not present. Could be Populus trichocarpa

Width of Riparian Area: 16.6. feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation X Reference site (Code MCS-8)
Comments: POTENTIAL RIPARIAN ZONE LIMITED BY (1) MAINTAINED NATURE OF IRRIGATION CHANNEL (2) COBURG INDUSTRIAL ROAD (3) FUTURE INDUSTRIAL DEVELOPMENT OF CORN-CROP FIELD.

Typical Cross Section (from stream center line)
Location of Sample Point: N. END OF CORNFIELD AT POWER LINE ACCESS

RIGHT BANK SECTION (view N)



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins
Tax Lots: 16033300000100

Riparian Code: MCW-1L
Reach Length: 1,250'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 10 ft Bank Full Depth: 9 ft
Est Depth of OHW: 3 ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal

___ Lake/Pond Width: _____ft Name:_____
___ Wetland Width: _____ft LWI Code:_____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: (33) Conser and (75) Malabon
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads ____ Commercial/Industrial ___ Undeveloped ___
Residential ____ Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Crataegus douglasii	Dipsacus fullonum
Rubus discolor	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: ___<10% ___10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% X 10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins
Tax Lots: 16033300000100

Riparian Code: MCW-1R
Reach Length: 1,250'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 10 ft — Bank Full Depth: 9 ft
Est Depth of OHW: 3 ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other ____
Name: Muddy Creek Irrigation Canal
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: (33) Conser and (75) Malabon
Adjacent Land Uses (Check as many as needed):
Agricultural X — Roads X — Commercial/Industrial ___ — Undeveloped ___
Residential ___ — Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Dipsacus fullonum
	Festuca arundinacea

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: ___ <10% ___ 10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% X 10%-40% ___ <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: ____
Bank stability: ___ Stable ___ Minor erosion ___ Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8/13/99

Riparian Code: MCW-1L
Investigators: Ethen Perkins

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant woody vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ✓ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No

6 TOTAL POINTS **Function: ___ High (8-9 pts)** **✓ Medium (5-7 pts)** **___ Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   _✓_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _✓_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _✓_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _✓_Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   _✓_ 2 pts: 2 layers — herb & vine
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _✓_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _✓_ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   _✓_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _✓_ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _✓_ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _✓_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _✓_ 1 pt: Greater than 75%

_4_ **TOTAL POINTS** **Function: ___High (19-23 pts) _✓_Medium (13-18 pts) ___Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8/13/99
Riparian Code: MCN-lk
Investigators: ETHEN PERKINS

ATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ___ 1 pt: Greater than 5:1 (20%)

   [NOT INCLUDING STEEP DITCH BANKS]
2. Dominant vegetation cover in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ___ 1 pt: Bare ground

   [SOME HIGHER BLACKBERRIES + OCC. SHRUBBY TREES]
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ___ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ___ 3 pts: Less than 10%
   - ___ 2 pts: Between 10% and 25%
   - ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ___ 1 pt: High, severe, very high

10 TOTAL POINTS Function: ___ High (12-14 pts) ✓ Medium (8-11 pts) ___ Low (5-7 pts)

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ___ 3 pts: Yes
   - ✓ 1 pt : No — flooding is not expected within this managed system.
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ___ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ___ 3 pts: No
   - ✓ 1 pt : Yes — channelization, significant roadway

3 TOTAL POINTS Function: ___ High (8-9 pts) ___ Medium (5-7 pts) ✓ Low (3-4 pts)

[SINCE MCN IS POSSIBLY HEADGATED AT RIVER SOURCE, FLOODING MAY BE IRRELEVANT]

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2410 Monroe St. (541)345-3944
Eugene, Oregon 97405

THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   ✓ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   ✓ 1 pt : No

4 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ___**Medium (5-6 pts)** ✓ **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   ✓ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ___ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ✓ 1 pt: Less than 10%

Roadway on E. restricts this as does loss of crop over large # months.

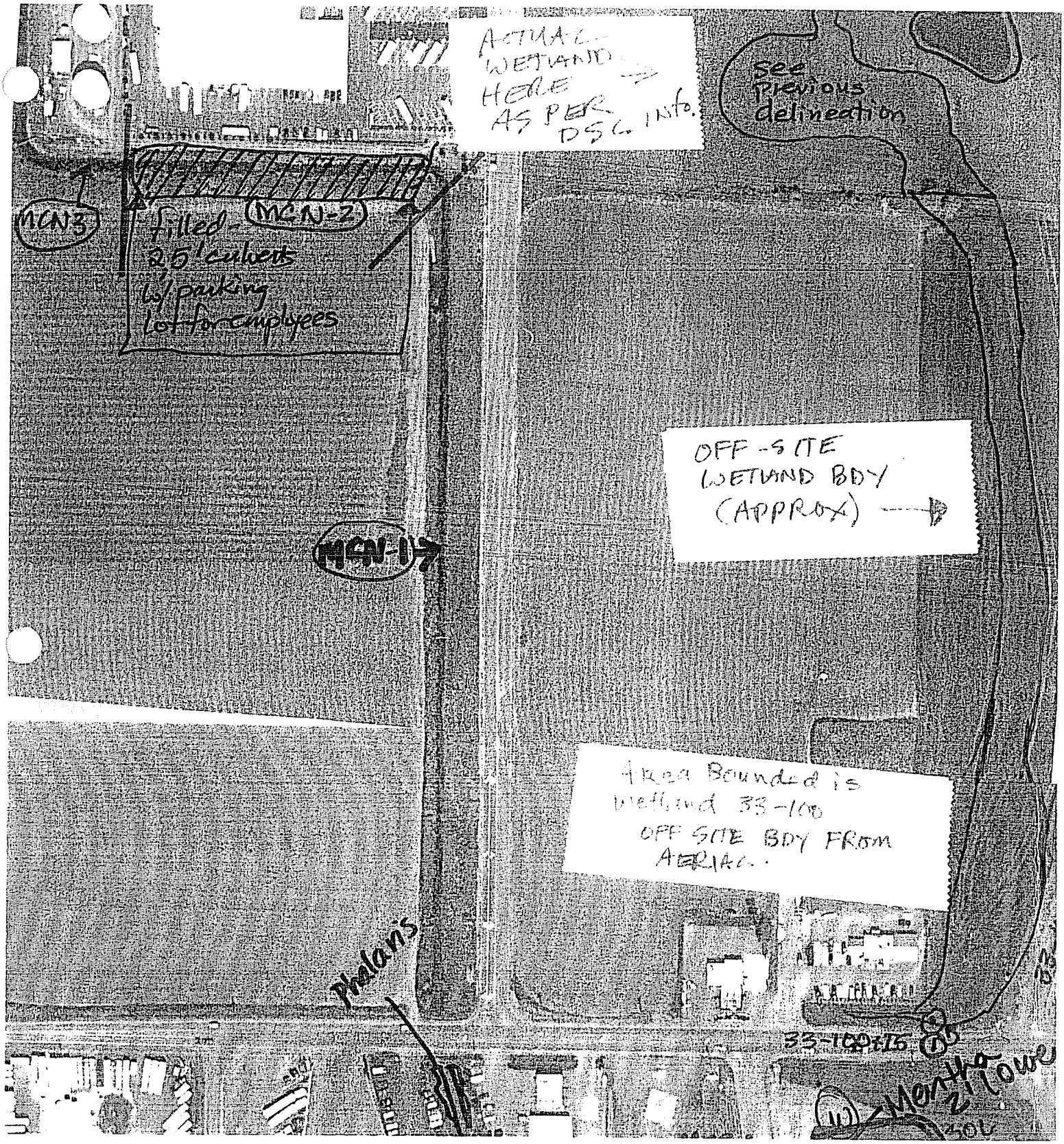
17. Is surface water present throughout the year?
   ✓ 3 pts: Yes
   ___ 1 pt : No

[presumably - may be headgated]

18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   ✓ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   ✓ 1 pt: Greater than 75%

12 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ___**Medium (13-18 pts)** ✓ **Low (8-12 pts)**

MCN-1



Scale: 1" : 200'

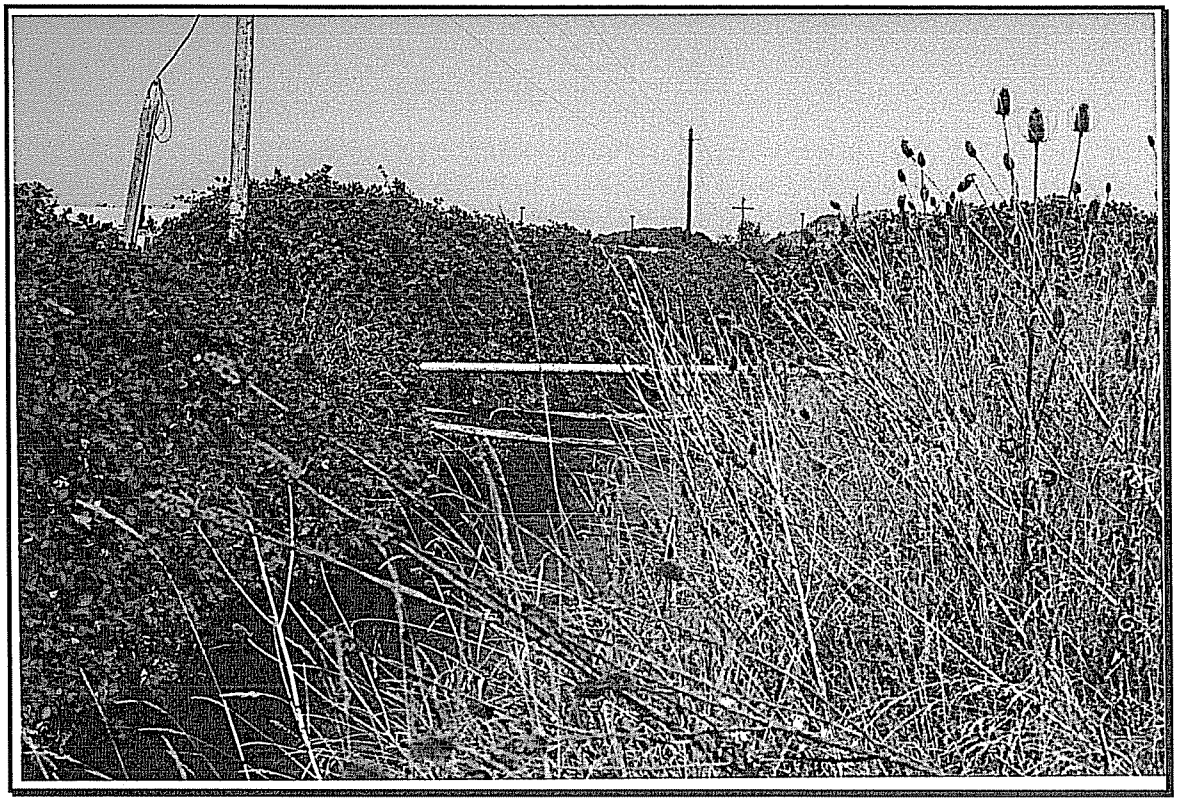
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCN-2

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-2 (CULVERTED)

TAX LOTS: 16-03-33-00-00100, 16-03-28-00-00614

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORM
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

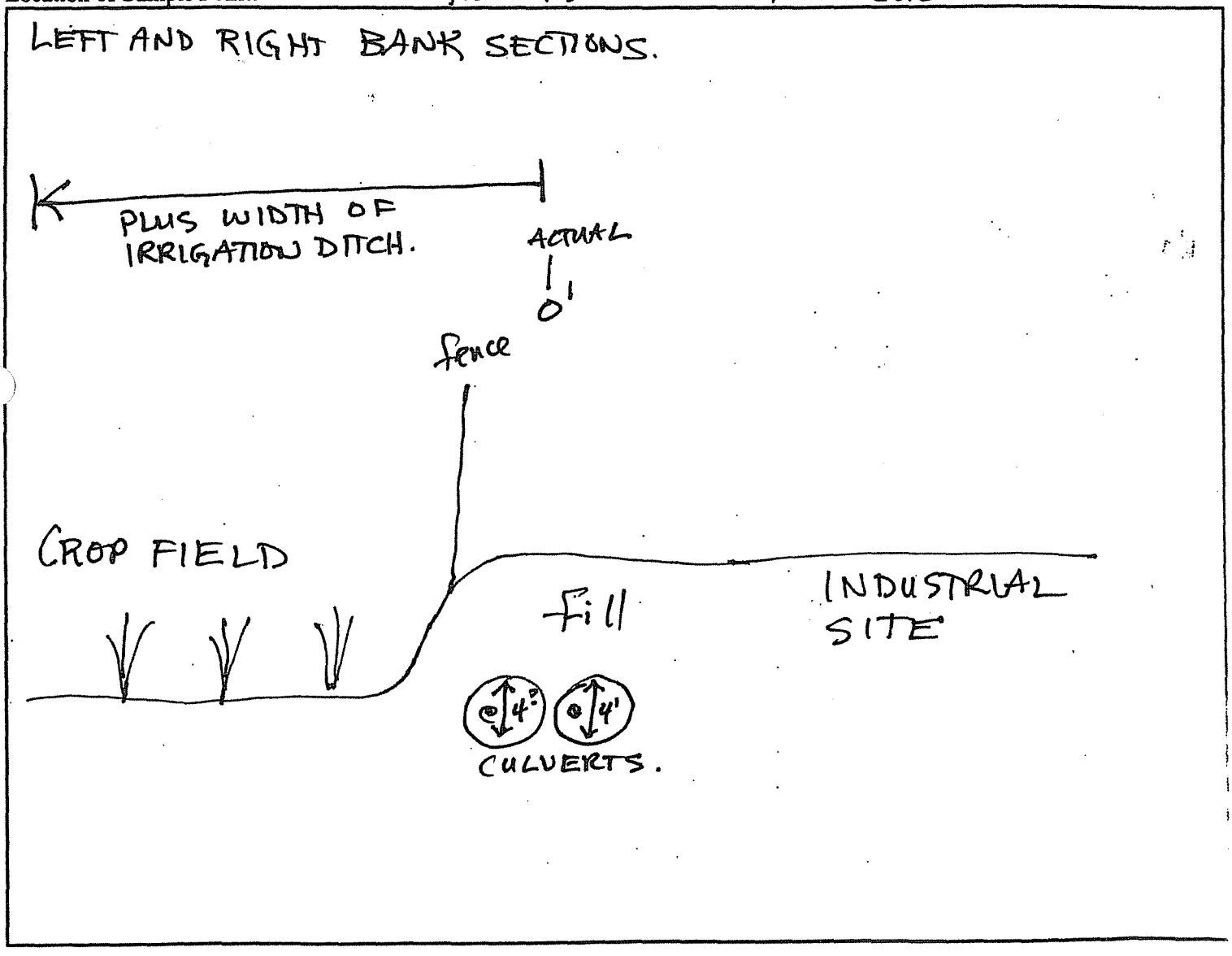
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-2L	500	0	Low	Low	Low	Low
MCN-2R	500	0	Low	Low	Low	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN-2 R+L
Date: 9/6/99
Investigators: E. PERKINS
Dominant Tree Species: Populus trichocarpa

Width of Riparian Area: 0 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___On-site vegetation ___Reference site (Code MCS-8)
Comments: SECTION CULVERTED — BOTH SIDES COMBINED, ALTHOUGH L. BANK IS RESTORABLE BY RELOCATING IRRIGATION DITCH SOUTH IN CORN FIELD.

Typical Cross Section (from stream center line)
Location of Sample Point: VIEW. W. from PT. OF ENTRY TO CULVERT.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 9/6/99
Investigator(s): Ethen Perkins
Tax Lots: 1603330000100, 1603280000614

Riparian Code: MCN-2 R+L
Reach Length: 500'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: ___ Stream/River
Culverted

Channel Width: _____ ft Bank Full Depth: _____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand ___Silt ___Gravel___ Other_____
Name: _____

___ Lake/Pond Width: _____ ft Name: _____
___ Wetland Width: _____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: N/A
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads ____ Commercial/Industrial X Undeveloped ___
Residential ____ Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Crop field on left bank

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: ___<10% ___10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Culverted Reach
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

Culverted reach bordered by Ag. field and industrial site.

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8/13/99
Riparian Code: MCN-2 R+L (CULVERTED)
Investigators: ETHEN PERKINS

WATER QUALITY

1. Average slope in riparian area: N/A
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ___ 1 pt: Greater than 5:1 (20%)
   [NOT INCLUDING STEEP DITCH BANKS OR CULVERT SIDES/FILL SLOPES]
2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
   [SOME HIGHER BLACKBERRIES + OCC. LANDSCAPE PLANTS ON E + W ENDS]
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ✓ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   ✓ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

9 TOTAL POINTS **Function:** ___ **High (12-14 pts)** ___ **Medium (8-11 pts)** ✓ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   ___ 3 pts: Yes
   ✓ 1 pt : No
   [? NO BANK TOP IN CULVERTED AREA]
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   ✓ 1 pt : Yes CULVERTED SECTION

___ **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** ___ **Medium (5-7 pts)** ✓ **Low (3-4 pts)**

[SINCE MCN IS POSSIBLY HEADGATED AT RIVER SOURCE, FLOODING MAY BE IRRELEVANT]

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes (SINCE CULVERT, SHADED CONTINUOUSLY)
   - ___ 1 pt : No

10. Dominant vegetation layer in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ✓ 1 pt: Bare ground (CULVERT + PARKING LOT OR CROP FIELD)

11. Does woody vegetation hang over edge of water?
   - ___ 2 pts: Yes
   - ✓ 1 pt : No (CULVERT)

5 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ✓**Medium (5-6 pts)** ___**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ___ 3 pts: More than 2 layers
   - ___ 2 pts: 2 layers
   - ✓ 1 pt: 1 layer, or unvegetated (culvert)

13. Dominant vegetation layer in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ✓ 1 pt: Bare ground

14. Does woody vegetation hang over edge of water?
   - ___ 2 pts: Yes
   - ✓ 1 pt : No

15. Is large woody debris present within riparian area:
   - ___ 3 pts: Yes
   - ✓ 1 pt : No

16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ___ 3 pts: Greater than 40%
   - ___ 2 pts: Between 10% and 40%
   - ✓ 1 pt: Less than 10%

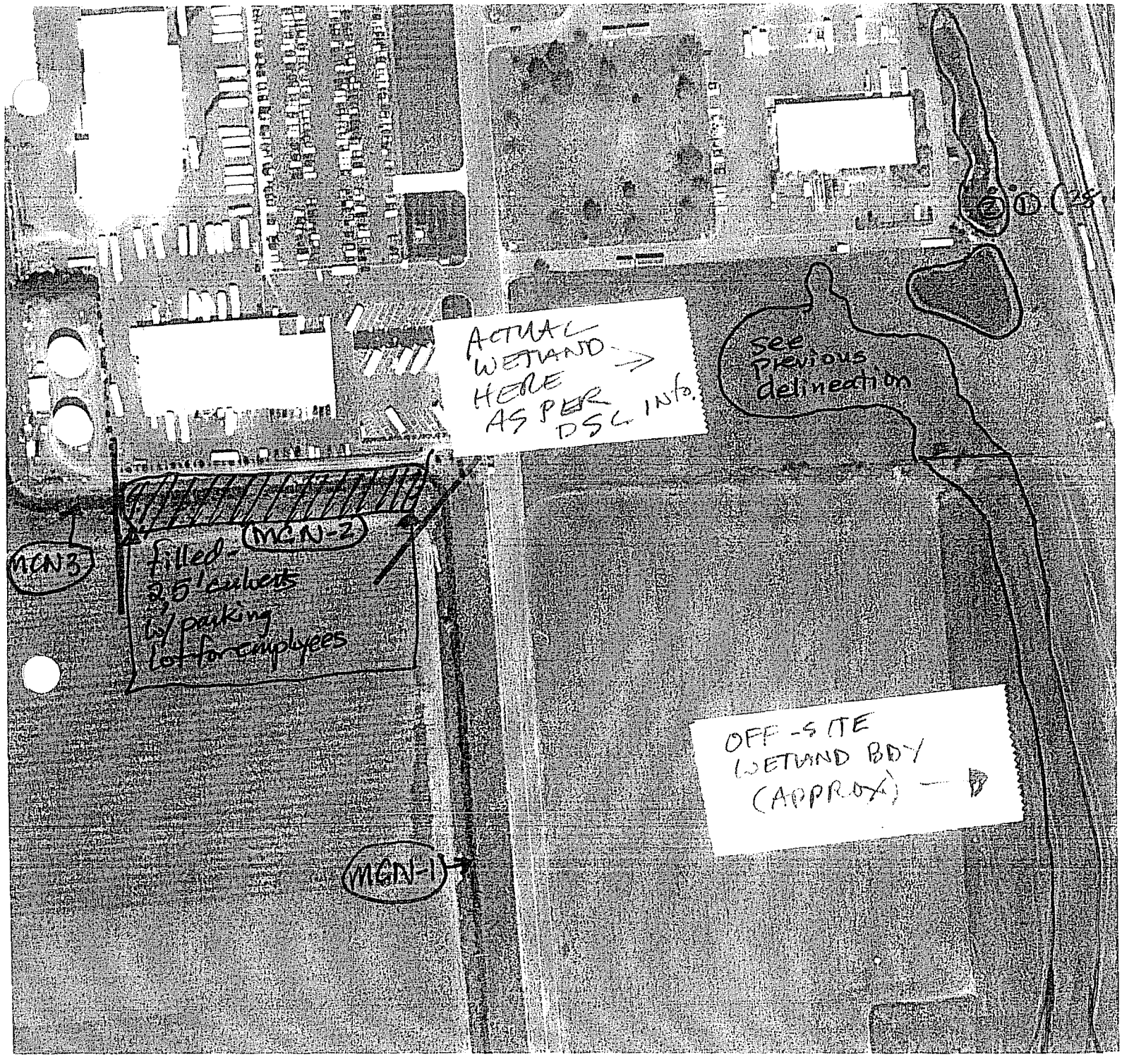
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes (presumably - may be headgated at source)
   - ___ 1 pt : No

18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ___ 3 pts: Yes
   - ✓ 1 pt : No

19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ___ 3 pts: Less than 25%
   - ___ 2 pts: Between 25% and 75%
   - ✓ 1 pt: Greater than 75%

10 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ___**Medium (13-18 pts)** ✓**Low (8-12 pts)**

MCN-2



Scale: 1" : 200'

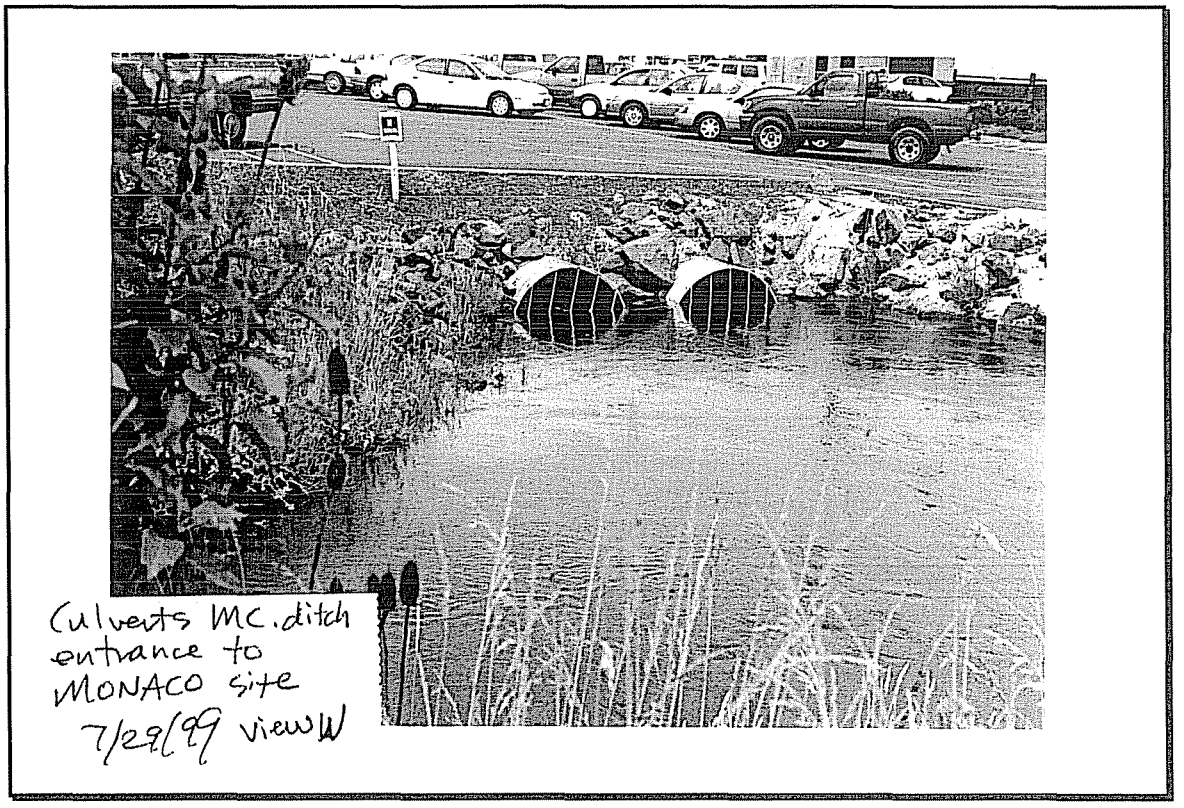
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
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SITE PHOTOGRAPH
Coburg LWI
City of Coburg
October, 1999

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MCN-3

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-3

TAX LOTS: 16-03-33-00-00100
16-03-33-21-00100, - 00400
16-03-28-00-00614

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

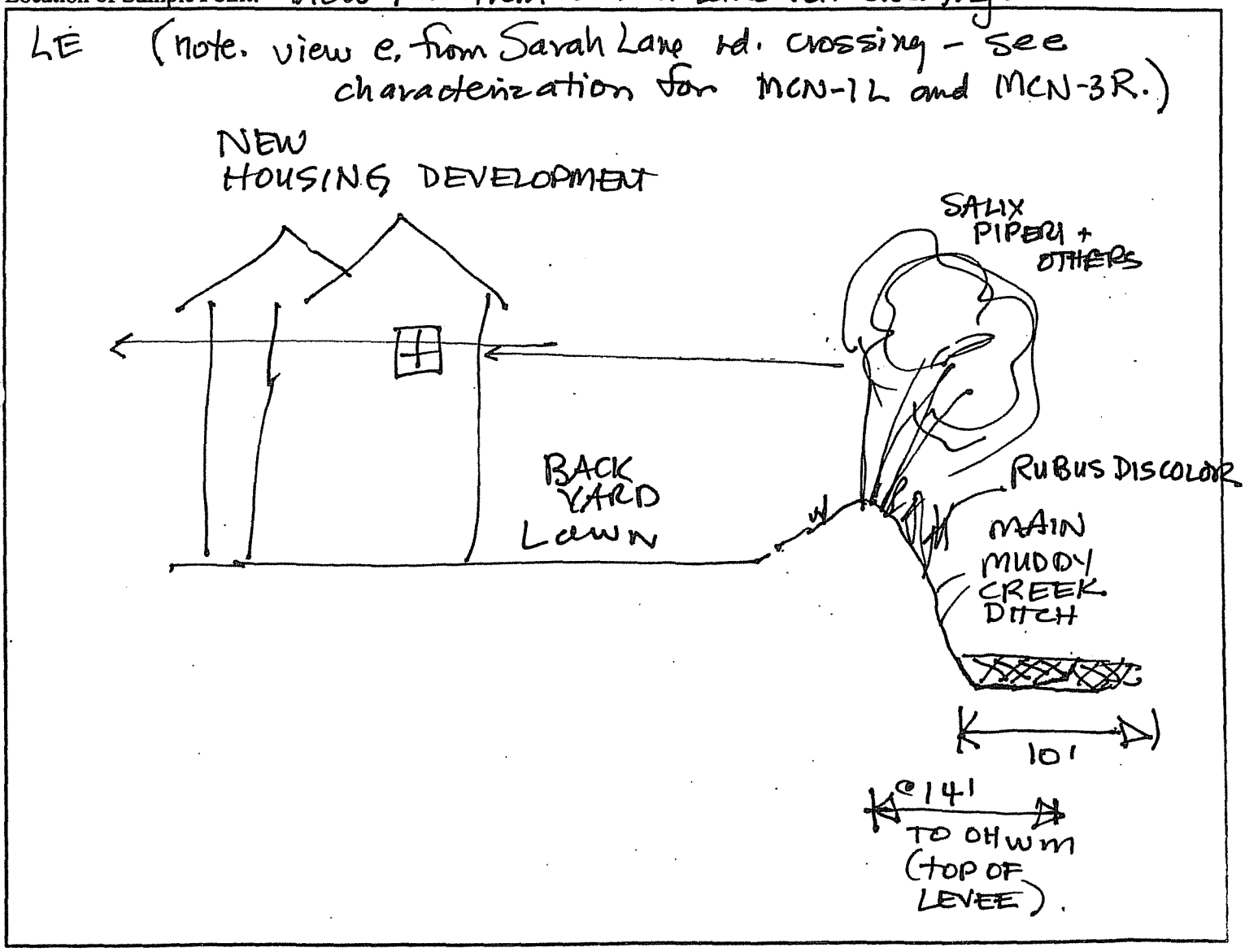
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-3L	830	26	Medium	Low	Medium	Medium
MCN-3R	830	15	Medium	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN-3L
Date: 9/8/99
Investigators: ETHEN PERKINS
Dominant Tree Species: prob. not. present. could be POPULUS TRICHOCARPA.

Width of Riparian Area: 26 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MCS-R1)
Comments: View from RECENTLY INSTALLED CROSSING
POTENTIAL WIDTH LIMITED BY (1) MAINTAINED IRRIGATION CHANNEL AND LEVEE. (2) DEVELOPMENT OUTSIDE CITY OWNED FACILITY.

Typical Cross Section (from stream center line)
Location of Sample Point: View N. from Sarah Lane rd. crossing.



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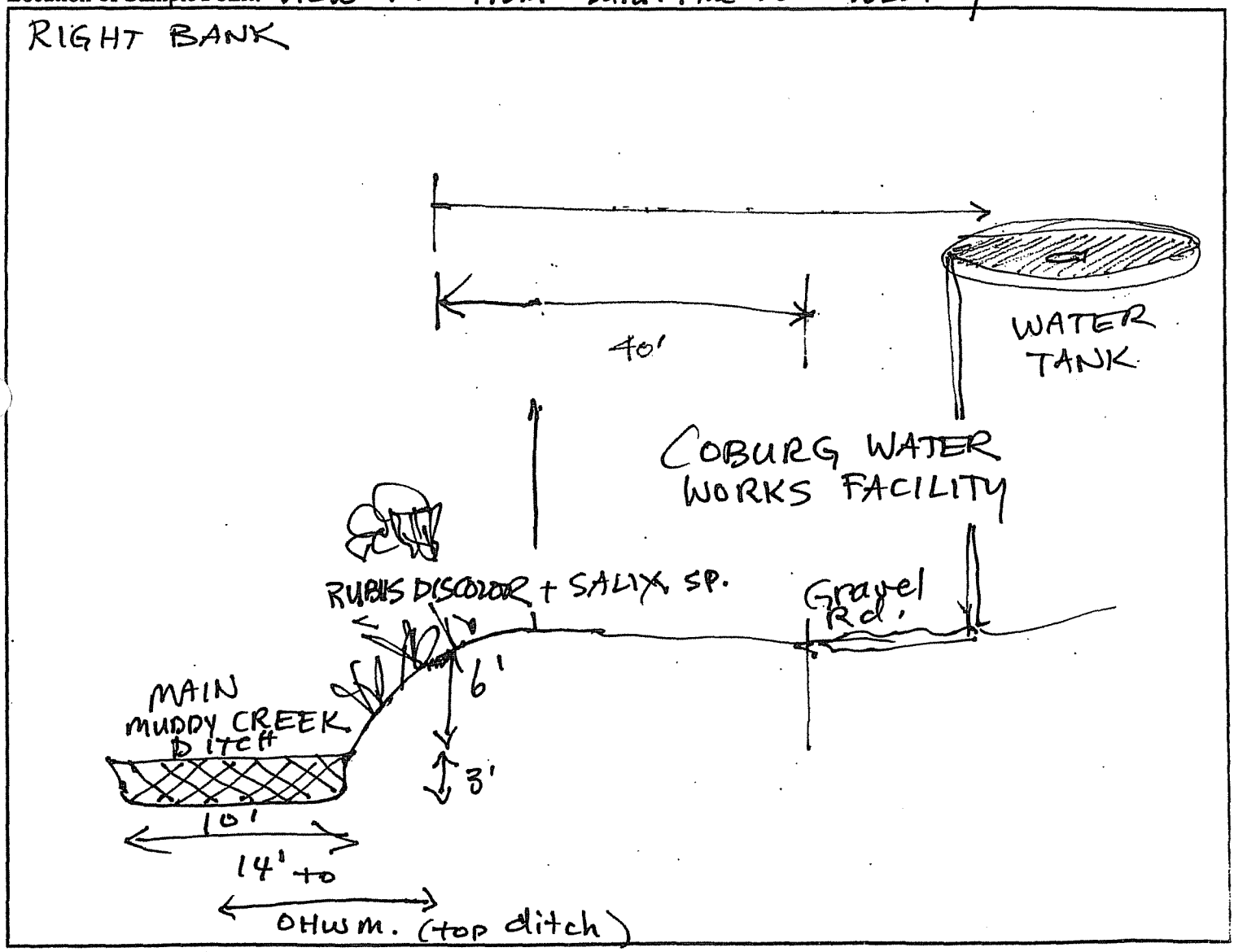
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory — Riparian Code: MCN-3R
Date: 9/6/99 — Investigators: ETHEN PERKINS
Dominant Tree Species: prob. not present. could be POPULUS TRICHOCARPA.

Width of Riparian Area: 15 Feet
(Width measured horizontally from edge of water resource) (top of ditch).
PTH determined by ___ On-site vegetation X Reference site (Code MCS-8)
Comments: VIEW FROM RECENTLY INSTALLED CROSSING. POTENTIAL WIDTH LIMITED BY (1) MAINTAINED IRRIGATION CHANNEL + LEVEE (2) PRESENCE OF WATER STORAGE TANK + GRAVEL ACCESS ROADS + PADS.

Typical Cross Section (from stream center line)
Location of Sample Point: VIEW N. from sarah lane rd. crossing



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins
Tax Lots: 1603330000100; 1603332100100, -00400; 1603280000614

Riparian Code: MCW-3L
Reach Length: 830'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 10 ft — Bank Full Depth: 9 ft
Est Depth of OHW: 3 ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal
___ Lake/Pond — Width: ____ft Name:_____
___ Wetland — Width: ____ft LWI Code:_____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: (75) Malabon and (118) Salem
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads ____ Commercial/Industrial ___ Undeveloped ___
Residential X Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Salix piperi	
Rubus discolor	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? ___ Yes X No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% X 10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins
Tax Lots: 16083300100; 160333210010O, -00400; 160328000061 4

Riparian Code: MCN-3R
Reach Length: 830'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 10 ft Bank Full Depth: 9 ft
Est Depth of OHW: 3 ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal

___ Lake/Pond Width: _____ft Name:_____
___ Wetland Width: _____ft LWI Code:_____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: (75) Malabon and (118) Salem
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	
Salix sp	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? ___ Yes X No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% X 10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 6/13/99
Riparian Code: MCN-3L
Investigators: ETHEN PERKINS

ATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ___ 1 pt: Greater than 5:1 (20%)

   [NOT INCLUDING STEEP DITCH BANKS]
2. Dominant vegetation cover in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ___ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ___ 1 pt: Bare ground

   [SOME LANDSCAPE PLANTINGS + BACKYARD LAWNS]
4. Extent of impervious surfaces within the riparian area:
   - ___ 3 pts: Less than 10%
   - ___ 2 pts: Between 10% and 25%
   - ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ___ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ___ 3 pts: Yes
   - ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ___ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ✓ 3 pts: No
   - ___ 1 pt : Yes

3 TOTAL POINTS **Function:** ___ **High (8-9 pts)** ___ **Medium (5-7 pts)** ✓ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ✓ 3 pts: Yes [FOR ONLY @ 70' IN SE. PT]
   ___ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ✓ 2 pts: Yes
   ___ 1 pt : No

6 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ✓ **Medium (5-6 pts)** ___**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ✓ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ✓ 2 pts: Yes
   ___ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ___ 3 pts: Greater than 40%
   ✓ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ✓ 3 pts: Yes [PRESUMABLY - MAY BE HEADGATED]
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   ✓ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ✓ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

17 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ✓ **Medium (13-18 pts)** ___**Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 8/13/99
Riparian Code: MCN-BR
Investigators: Ethen Perkins

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant woody vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ____ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

10 **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** ✓ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ✓ 3 pts: Yes CHANNELIZATION, ROAD, Fence, Buildings
   - ____ 1 pt : No

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** ✓ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

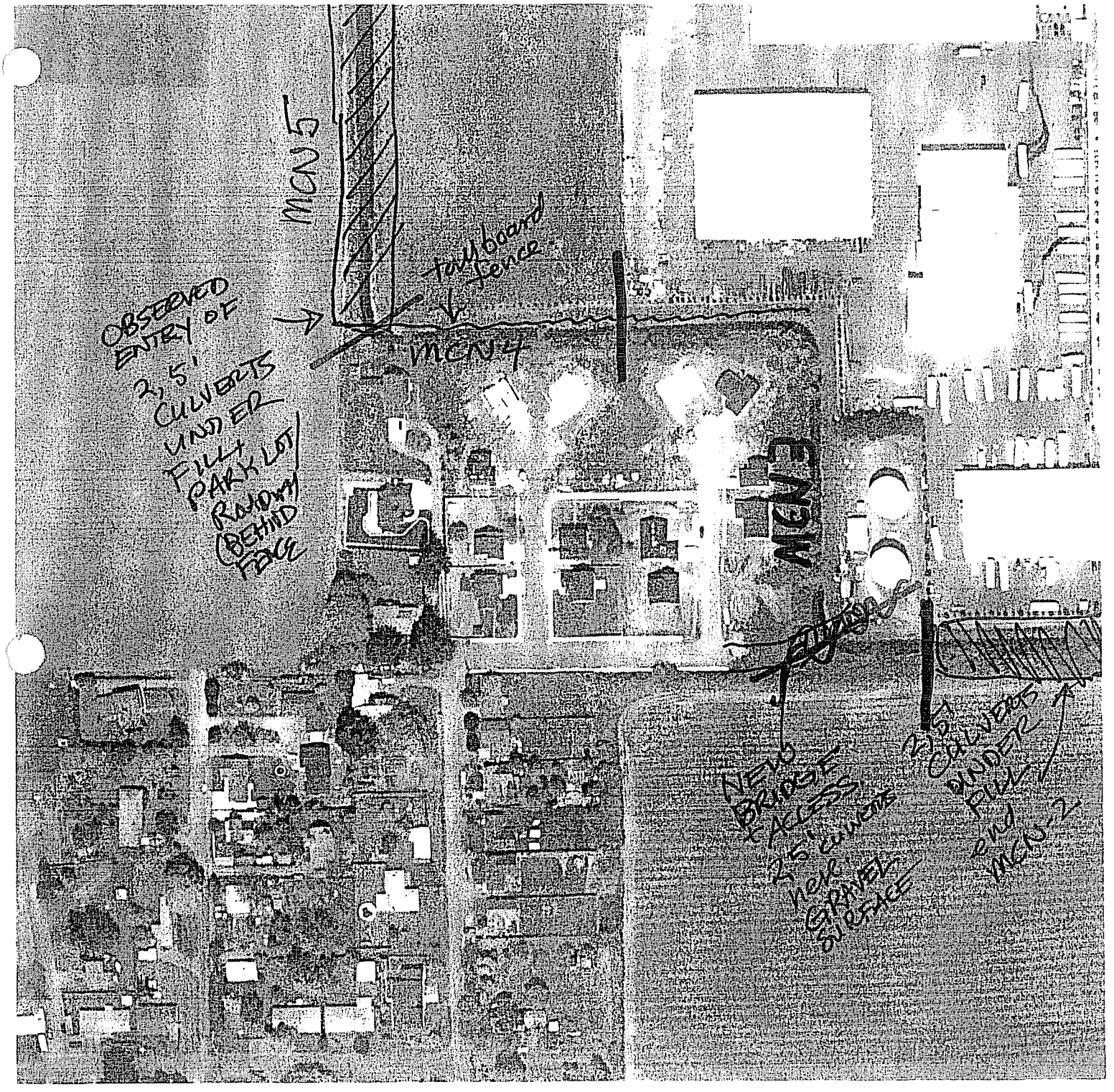
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _✓_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _✓_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _✓_ 1 pt : No

4 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ___**Medium (5-6 pts)** ✓ **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   _✓_ 2 pts: 2 layers herb + shrub/vine
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _✓_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _✓_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _✓_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ___ 3 pts: Greater than 40%
   _✓_ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _✓_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _✓_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   _✓_ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

14 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ✓ **Medium (13-18 pts)** ___**Low (8-12 pts)**



Scale: 1" : 200'

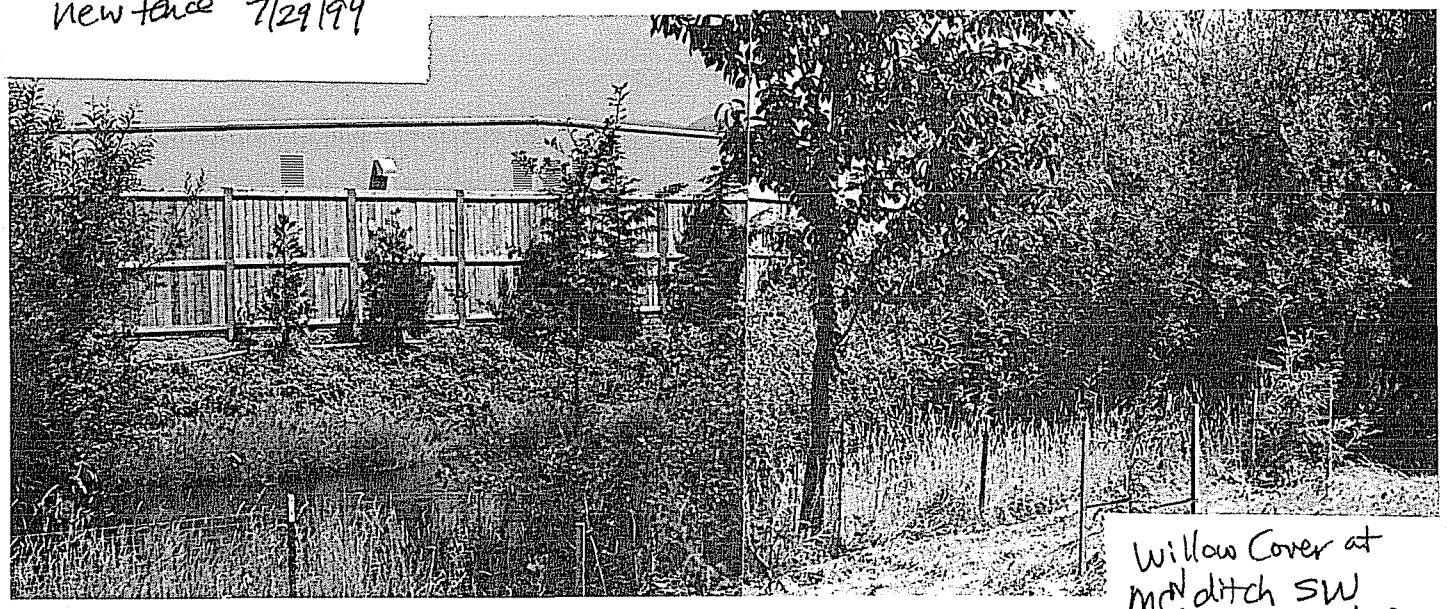
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCN-4

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-4

TAX LOTS: 16-03-33-21-00504, -00400
16-03-28-00-00614

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORM
SITE PHOTOGRAPHS AND MAPS

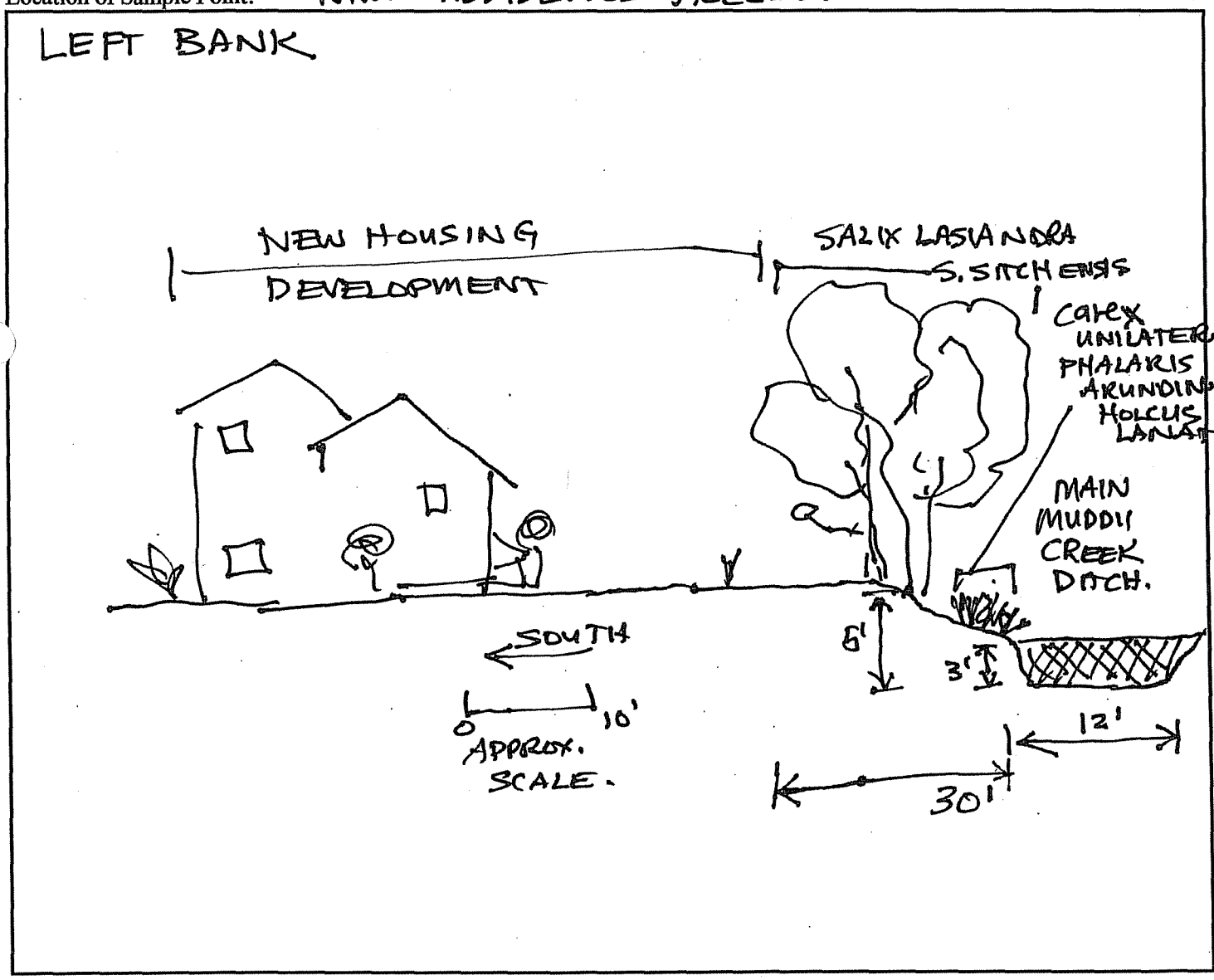
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-4L	370	8	Medium	Low	High	Medium
MCN-4R	370	10	Low	Medium	High	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN - 4L
Date: 7/29/99
Investigators: ETHEN PERKINS
Dominant Tree Species: POPULUS TRICHOCARPA / SALIX LASIANDRA / FRAXINUS ?

Width of Riparian Area: 8 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation X Reference site (Code MCS-8)
Comments: TALLEST ON SITE VEG. IS SALIX LASIANDRA BUT MANY RECENT PLANTINGS OF COTTONWOOD, ASH, CEDAR (RED), & BIRCH AS WELL AS SOME LARGER PRUNUS AVIUM PRESENT. STREAM ENTERS 25' CULVERTS UNDER MARATHON AS IT TURNS N.

Typical Cross Section (from stream center line)
Location of Sample Point: N.W. RESIDENCE ACLESS.



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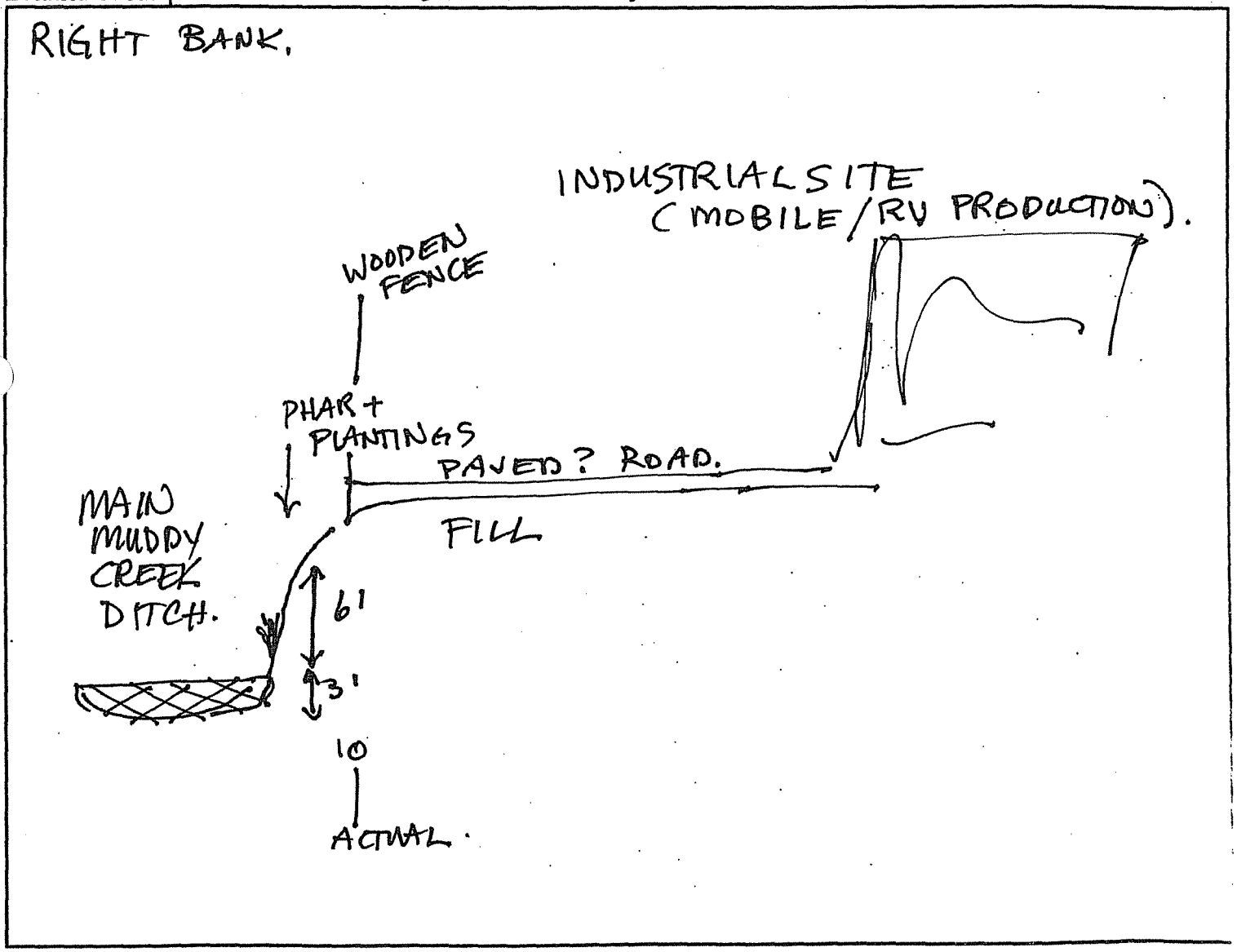
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN - 4R
Date: 7/29/99
Investigators: ETHEN PERKINS
Dominant Tree Species: POPULUS TRICOCARPA / SALIX LASIANDRA / FRAXINUS?

/Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____On-site vegetation ___Reference site (Code MCS-8)
Comments: POTENTIAL WIDTH LIMITED BY (1) MAINTAINED IRRIGATION CHANNEL + FILL TO PRODUCE ASPHALTED INDUSTRIAL AREA (PRESUMED) BEYOND WOODEN FENCE.

Typical Cross Section (from stream center line)
Location of Sample Point: N.W. RESIDENCE ACCESS



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins
Tax Lots: 1603332100504, -00400; 1603280000614

Riparian Code: MCN-4L
Reach Length: 370'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 12 ft Bank Full Depth: 5 ft
Est Depth of OHW: 3 ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal

___ Lake/Pond Width: _____ft Name:_____
___ Wetland Width: _____ft LWI Code:_____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: (75) Malabon
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads ____ Commercial/Industrial ___ Undeveloped ___
Residential X Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	**Herbaceous Vegetation** (Trees, shrubs, vines <3')
Salix lucida ssp. lasiandra	Carex unilateralis
Salix sitchensis	Phalaris arundinacea
	Holcus lanatus

Average slope in riparian area: ___< 10:1 (10%) X Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: ___<10% ___10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% X 10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-4R
Reach Length: 370'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 12 ft Bank Full Depth: 5 ft
Est Depth of OHW: ___ ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other ___
Name: Muddy Creek Irrigation Canal

___ Lake/Pond Width: ___ ft Name: ___
___ Wetland Width: ___ ft LWI Code: ___

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: ___ Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: (75) Malabon
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Phalaris arundinacea
	Landscape plantings

Average slope in riparian area: ___ < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: ___ <10% ___ 10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___ No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% X 10%-40% ___ <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: ___
Bank stability: ___ Stable ___ Minor erosion ___ Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7/29/99 + 9/6/99

Riparian Code: MCN-4L
Investigators: ETHEN PERKINS

WATER QUALITY

1. Average slope in riparian area:
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ✓ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ___ 1 pt: Greater than 5:1 (20%)

[Presumably; most backyards not seen some have low slopes.]

2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground

[some landscape plantings + backyard lawns]

4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   ✓ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

10 TOTAL POINTS **Function:** ___ **High (12-14 pts)** ✓ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   ___ 3 pts: Yes
   ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   ✓ 1 pt : Yes

3 TOTAL POINTS **Function:** ___ **High (8-9 pts)** ___ **Medium (5-7 pts)** ✓ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   - ✓ 2 pts: Yes
   - ____ 1 pt : No

7 **TOTAL POINTS** **Function:** ✓ **High (7-8 pts)** ___ **Medium (5-6 pts)** ___ **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ____ 3 pts: More than 2 layers
   - ✓ 2 pts: 2 layers
   - ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ✓ 2 pts: Yes
   - ____ 1 pt : No
15. Is large woody debris present within riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ____ 3 pts: Greater than 40%
   - ✓ 2 pts: Between 10% and 40%
   - ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No

(PRESUMABLY - MAY BE HEADGATED)

18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ____ 3 pts: Less than 25%
   - ____ 2 pts: Between 25% and 75%
   - ✓ 1 pt: Greater than 75%

14 **TOTAL POINTS** **Function:** ___ **High (19-23 pts)** ✓ **Medium (13-18 pts)** ___ **Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/16/99
Riparian Code: MCN-4R
Investigators: Ethen Perkins

WATER QUALITY

1. Average slope in riparian area:
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ✓ 1 pt: Greater than 5:1 (20%)
2. Dominant woody vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ✓ 1 pt: Bare ground Paved @ top of bank
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ✓ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   ✓ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

6 **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** ___ **Medium (8-11 pts)** ✓ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   ___ 3 pts: Yes
   ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ✓ 3 pts: Yes Paved @ top of channelized bank
   ___ 1 pt : No

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** ✓ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   - ____ 2 pts: Yes
   - ✓ 1 pt : No

6 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ✓**Medium (5-6 pts)** ___**Low (3-4 pts)**

WILDLIFE HABITAT

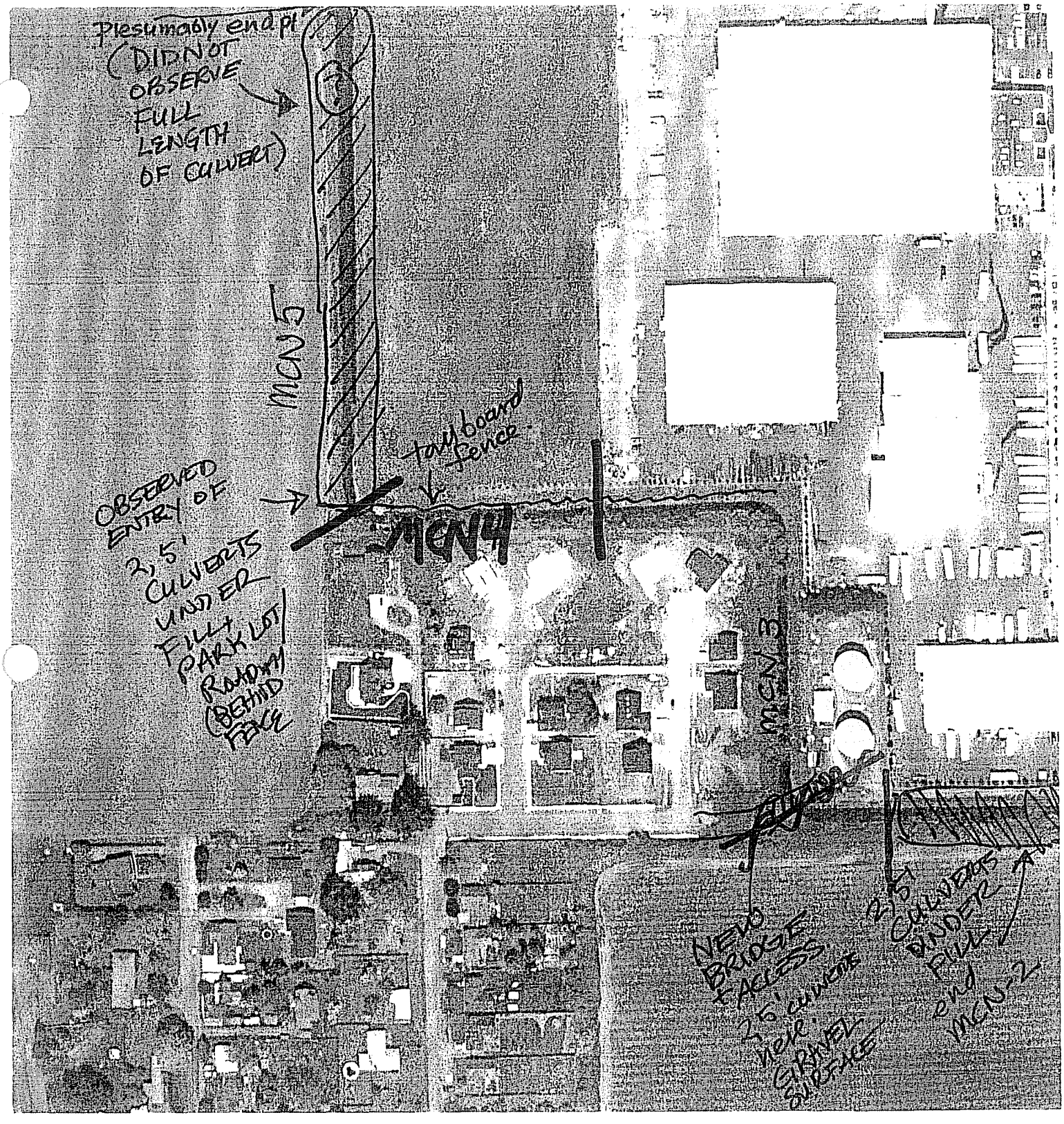
12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ____ 3 pts: More than 2 layers
   - ____ 2 pts: 2 layers
   - ✓ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ✓ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ____ 2 pts: Yes
   - ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ____ 3 pts: Greater than 40%
   - ____ 2 pts: Between 10% and 40%
   - ✓ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ____ 3 pts: Less than 25%
   - ____ 2 pts: Between 25% and 75%
   - ✓ 1 pt: Greater than 75%

10 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ___**Medium (13-18 pts)** ✓**Low (8-12 pts)**

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Scale: 1" : 200'

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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCN-5

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-5 (CULVERTED)

TAX LOTS: 16-03-28-00-00614, -00500

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORM
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORM
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-5L	750	0	Low	Low	Low	Low
MCN-5R	750	0	Low	Low	Low	Low

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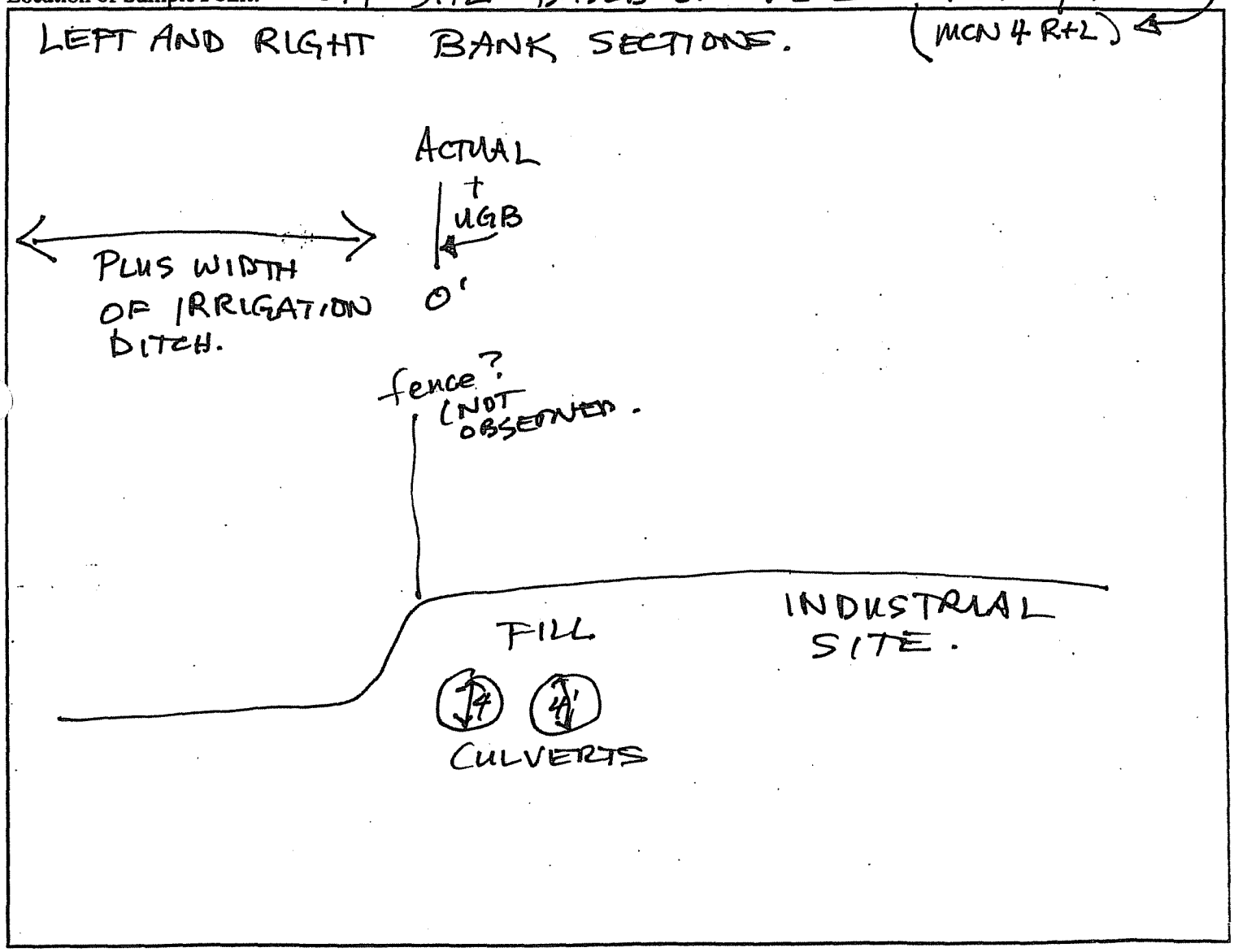
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN 5 R+L
Date: 9/6/99
Investigators: ETHEN PERKINS
Dominant Tree Species: POPULUS TRICHOCARPA.

Width of Riparian Area: 0 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___On-site vegetation ___Reference site (Code MCS-8)
Comments: THIS SECTION IS IDENTICAL TO MCN-2 EXCEPT AG. FIELD ON W. IS NOT IN UGB THUS MAY HAVE GREATER POTENTIAL FOR RESTORATION RATHER THAN INDUSTRIAL ZONED DEVELOPMENT

Typical Cross Section (from stream center line)
Location of Sample Point: OFF SITE BASED ON RECENT ACTIVITY SEEN AT (MCN 4 R+L) (NOT ON AVAILABLE AERIALS)



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 9/6/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-5
Reach Length: 750'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: ___ Stream/River
Culverted
Channel Width: _____ ft Bank Full Depth: _____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand ___Silt ___Gravel ___ Other _____
Name: _____

___ Lake/Pond Width: _____ ft Name: _____
___ Wetland Width: _____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: N/A
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads ____ Commercial/Industrial X Undeveloped ___
Residential ____ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
none	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: ___<10% ___10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/6/99

Riparian Code: MCN-5
Investigators: ETHEN PERKINS

ATER QUALITY

1. Average slope in riparian area: N/A [NOT INCLUDING CULVERT ITSELF]
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ___ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ✓ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ✓ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   ✓ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   ✓ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   ___ 3 pts: Yes
   ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   ✓ 1 pt : Yes

3 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** ___ **Medium (5-7 pts)** ✓ **Low (3-4 pts)**

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THERMAL REGULATION

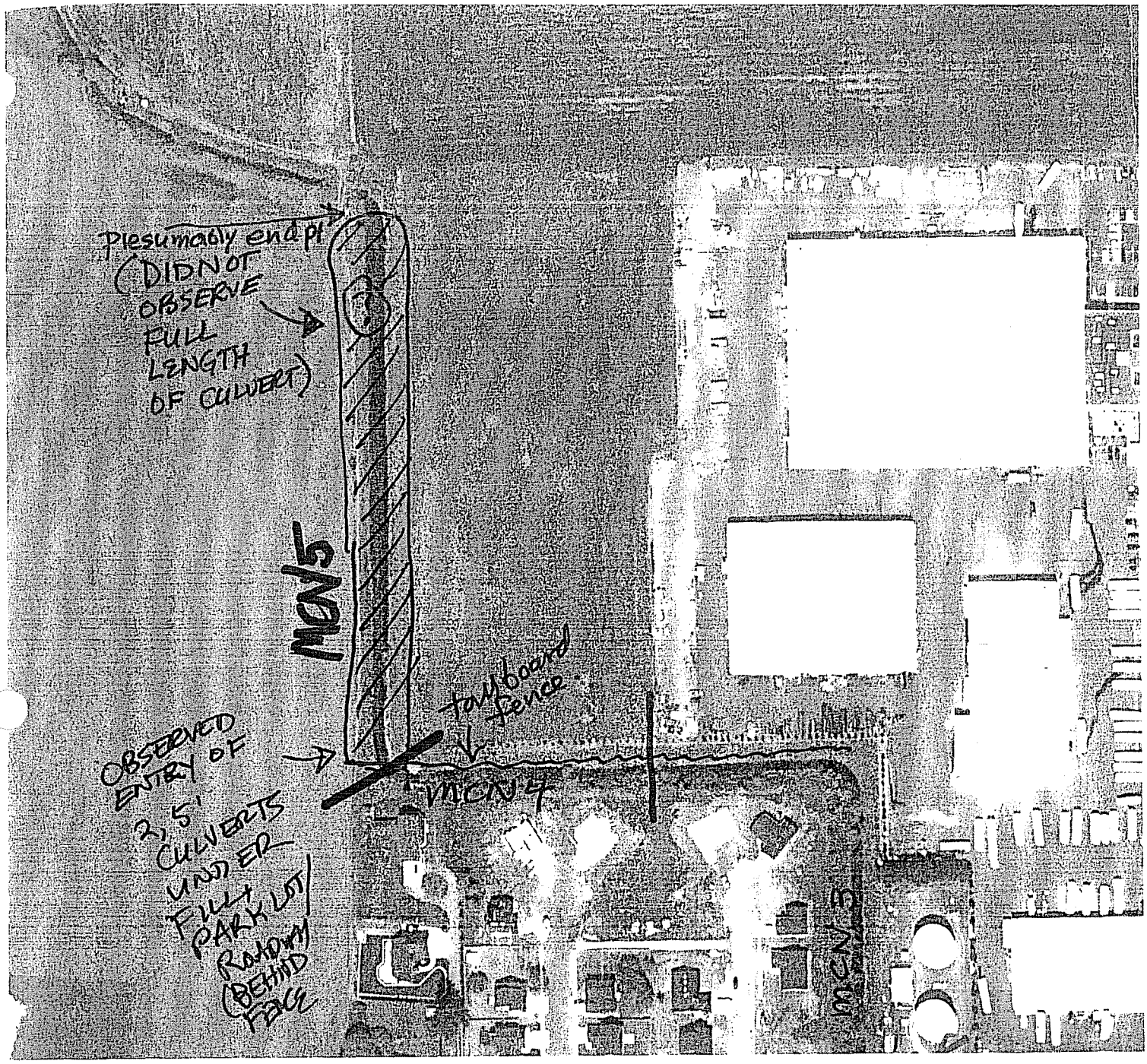
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes SINCE CULVERT, SHADED CONTINUOUSLY
   - ___ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ✓ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water? N/A
   - ___ 2 pts: Yes
   - ___ 1 pt : No

4 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ___**Medium (5-6 pts)** ✓**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ___ 3 pts: More than 2 layers
   - ___ 2 pts: 2 layers
   - ✓ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ✓ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ___ 2 pts: Yes
   - ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   - ___ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ___ 3 pts: Greater than 40%
   - ___ 2 pts: Between 10% and 40%
   - ✓ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ___ 3 pts: Yes [PRESUMABLY. MAY BE HEADGATED.
   - ✓ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ___ 3 pts: Yes
   - ✓ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ___ 3 pts: Less than 25%
   - ___ 2 pts: Between 25% and 75%
   - ✓ 1 pt: Greater than 75%

7 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ___**Medium (13-18 pts)** ✓**Low (8-12 pts)**



Scale: 1" : 200'

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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCN-6

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-6

TAX LOTS: 16-03-28-00-00613, -00400

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

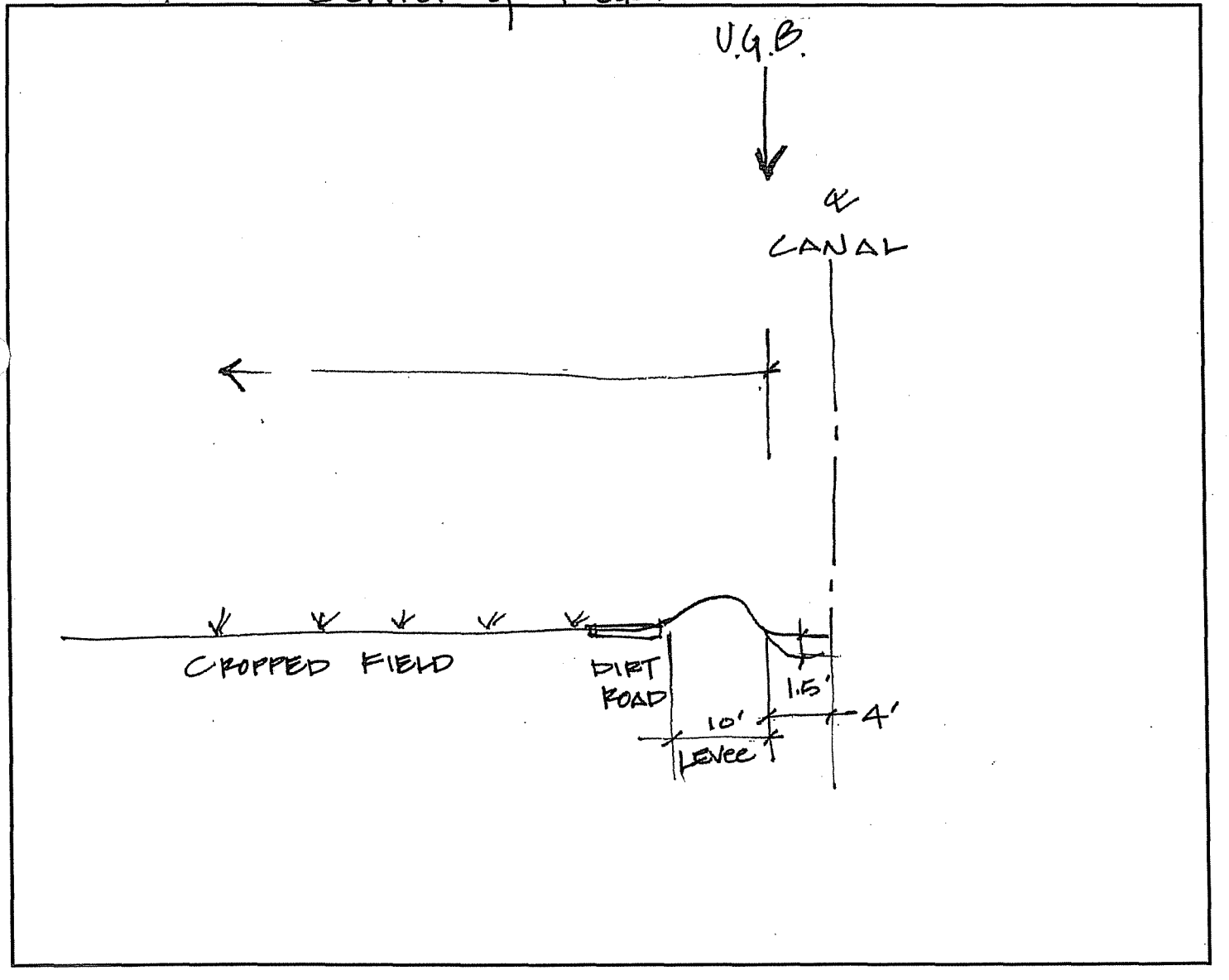
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-6L	840	8	High	Medium	Medium	Medium
MCN-6R	840	24	High	Medium	High	High

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN – 6L
Date: 9/6/99
Investigators: ETHEN PERKINS
Dominant Tree Species: Populus trichocarpa

Width of Riparian Area: 8 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MCG-R1)
Comments: Potential Width includes agricultural area.

Typical Cross Section (from stream center line)
Location of Sample Point: Center of Reach



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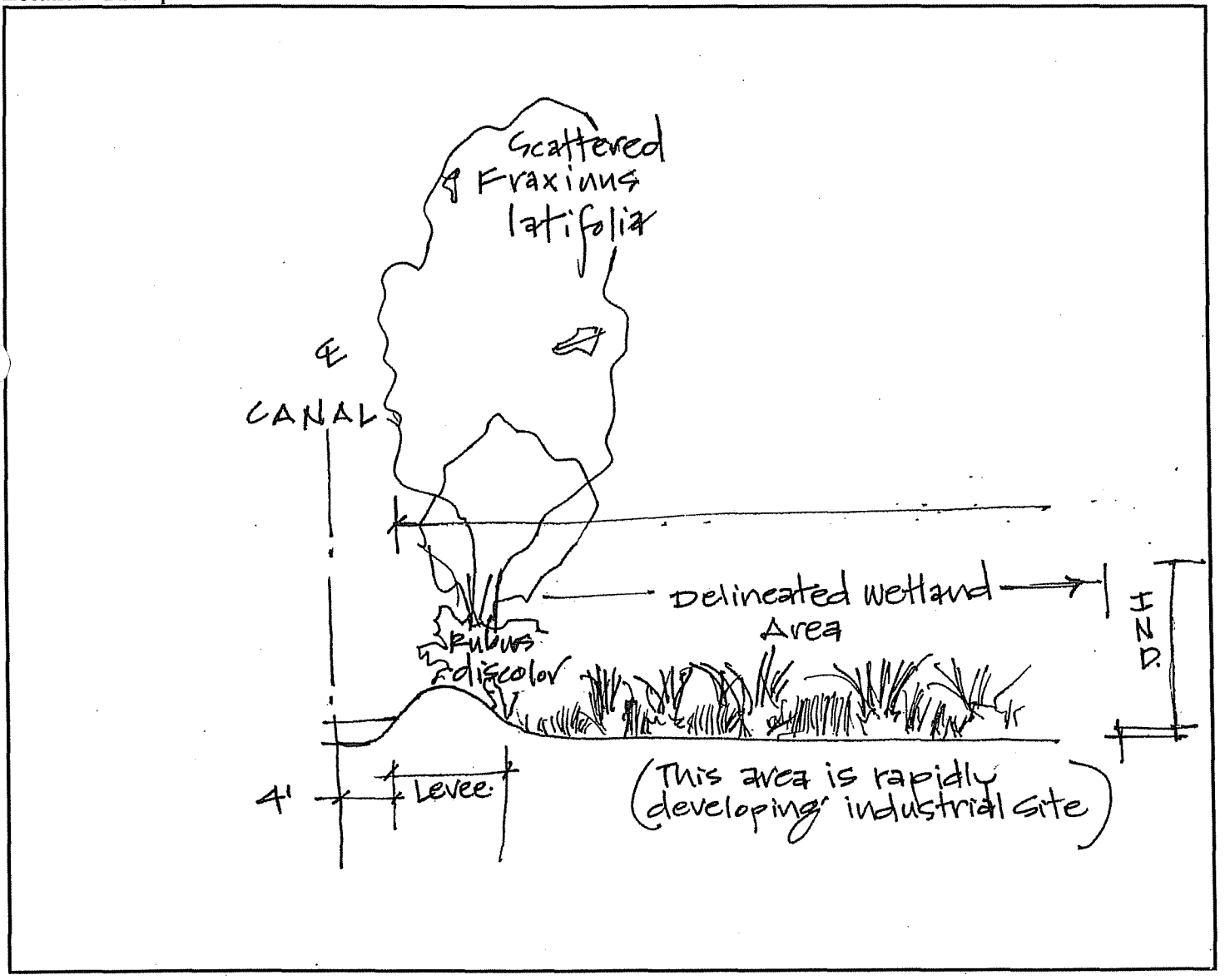
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN - 6F
Date: 9/6/99
Investigators: ETHEN PERKINS
Dominant Tree Species: Fraxinus latifolia

Width of Riparian Area: 24 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation X Reference site (Code MVS-R1)
Comments: Existing riparian zone includes previously delineated wetland area/ much of which is now protected.

Typical Cross Section (from stream center line)
Location of Sample Point:



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-6 L
Reach Length: 840'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 8 ft — Bank Full Depth: 5 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal
___ Lake/Pond — Width:____ft Name:_____
___ Wetland — Width:____ft LWI Code:_____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes X No
Mapped soil series: (8) Bashaw and (31) Coburg
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads ___ Commercial/Industrial ___ Undeveloped ___
Residential ___ Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Crop field

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-GR
Reach Length: 840'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 8 ft Bank Full Depth: 5 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___Other ____
Name: Muddy Creek Irrigation Canal
___ Lake/Pond Width: ____ ft Name: ____
___ Wetland Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes X No
Mapped soil series: (9) Bashaw and (31) Coburg
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads ___ Commercial/Industrial ___ Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Fraxinus latifolia	Festuca arundinacea
Rubus discolor	Deschampsia caespitosa

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? ___ Yes X No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: X <25% ___25-75% ___>75%
Comments: ____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/6/99
Riparian Code: MCN-GL
Investigators: Ethen Perkins

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant woody vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high cropland
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ✓ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No All FEMA areas w/in channel.
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** ✓ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   - ____ 2 pts: Yes
   - ✓ 1 pt : No

6 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ✓**Medium (5-6 pts)** ___**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ____ 3 pts: More than 2 layers
   - ____ 2 pts: 2 layers
   - ✓ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ____ 2 pts: Yes
   - ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ✓ 3 pts: Greater than 40%
   - ____ 2 pts: Between 10% and 40%
   - ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ____ 3 pts: Less than 25%
   - ____ 2 pts: Between 25% and 75%
   - ✓ 1 pt: Greater than 75% - Agricultural

15 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ✓**Medium (13-18 pts)** ___**Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/6/99
Riparian Code: MCN GR
Investigators: ETHEN PERKINS

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts [EXCEPT STEEP CHANNEL + LEVEE BANK ITSELF]
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ✓ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

13 TOTAL POINTS **Function: ✓ High (12-14 pts)** **___Medium (8-11 pts)** **___Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - ✓ 1 pt : Yes

5 TOTAL POINTS **Function: ___High (8-9 pts)** **✓ Medium (5-7 pts)** **___Low (3-4 pts)**

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THERMAL REGULATION

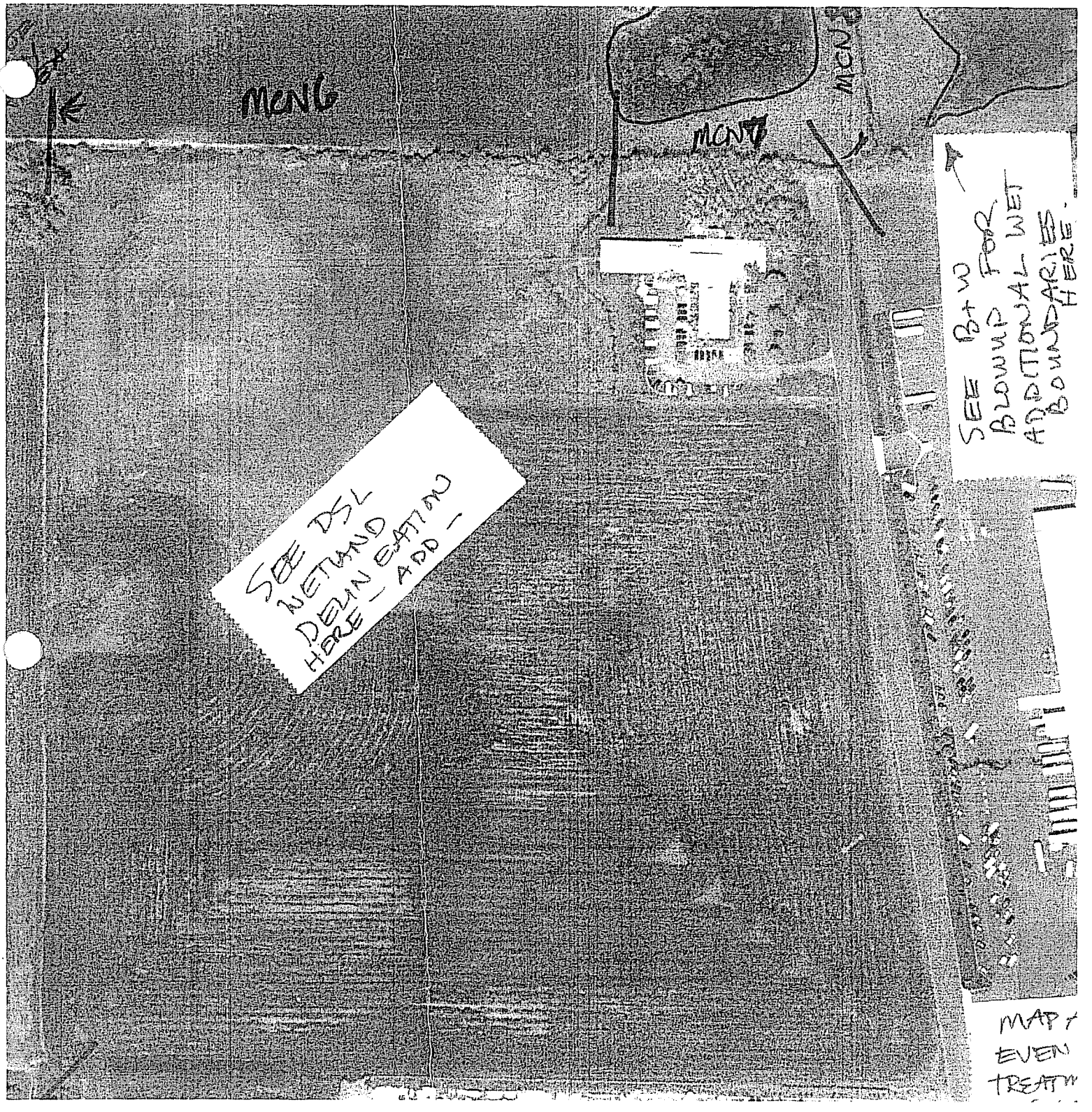
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   - ✓ 2 pts: Yes
   - ____ 1 pt : No

7 **TOTAL POINTS** **Function:** ✓ **High (7-8 pts)** ___ **Medium (5-6 pts)** ___ **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ✓ 3 pts: More than 2 layers
   - ____ 2 pts: 2 layers
   - ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ✓ 2 pts: Yes
   - ____ 1 pt : No
15. Is large woody debris present within riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ✓ 3 pts: Greater than 40%
   - ____ 2 pts: Between 10% and 40%
   - ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes [PRESUMABLY: MAY BE HEADGATED]
   - ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ✓ 3 pts: Less than 25% [UNLESS RECENTLY PERMITTED ACTIVITY IS IN THIS ZONE]
   - ____ 2 pts: Between 25% and 75%
   - ____ 1 pt: Greater than 75%

20 **TOTAL POINTS** **Function:** ✓ **High (19-23 pts)** ___ **Medium (13-18 pts)** ___ **Low (8-12 pts)**



Scale: 1" : 200'

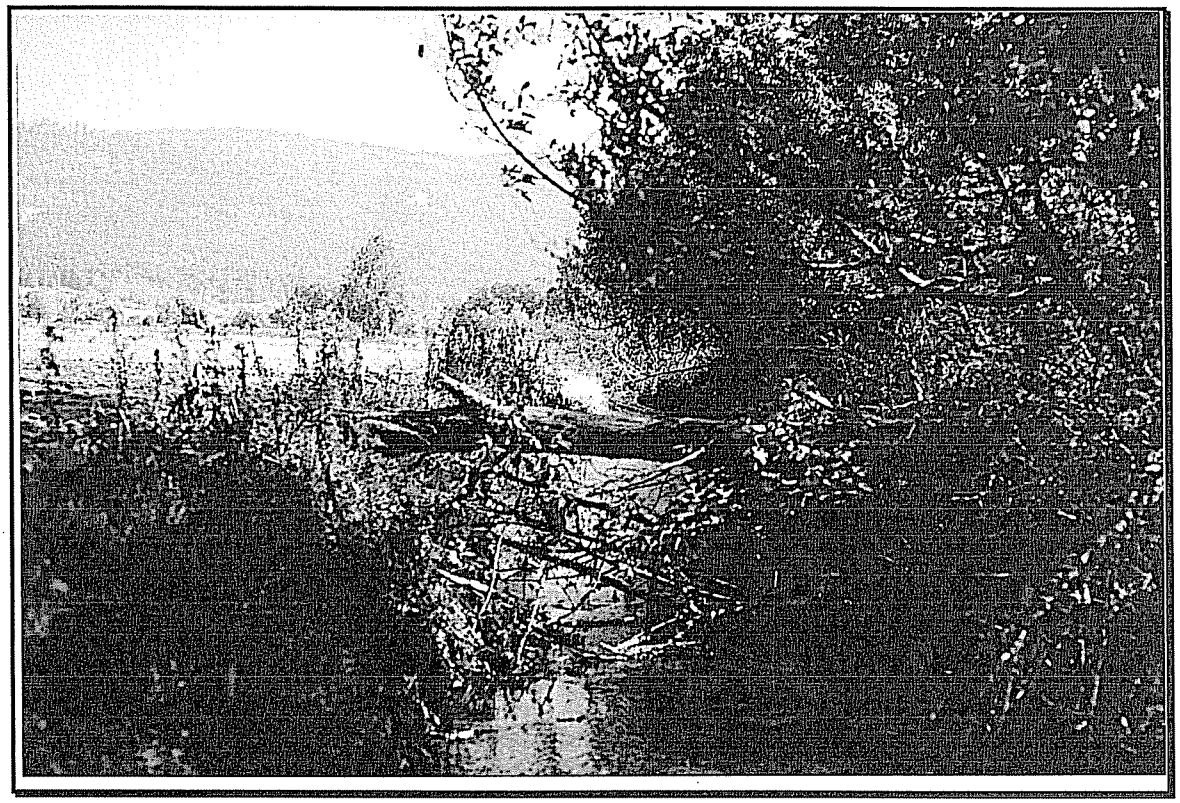
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPH
Coburg LWI
City of Coburg
October, 1999

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MCN-7

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-7

TAX LOTS: 16-03-28-00-00404, -00613

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORM
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORM
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-7L	340	10	High	Medium	Medium	Medium
MCN-7R	340	25	High	Low	High	High

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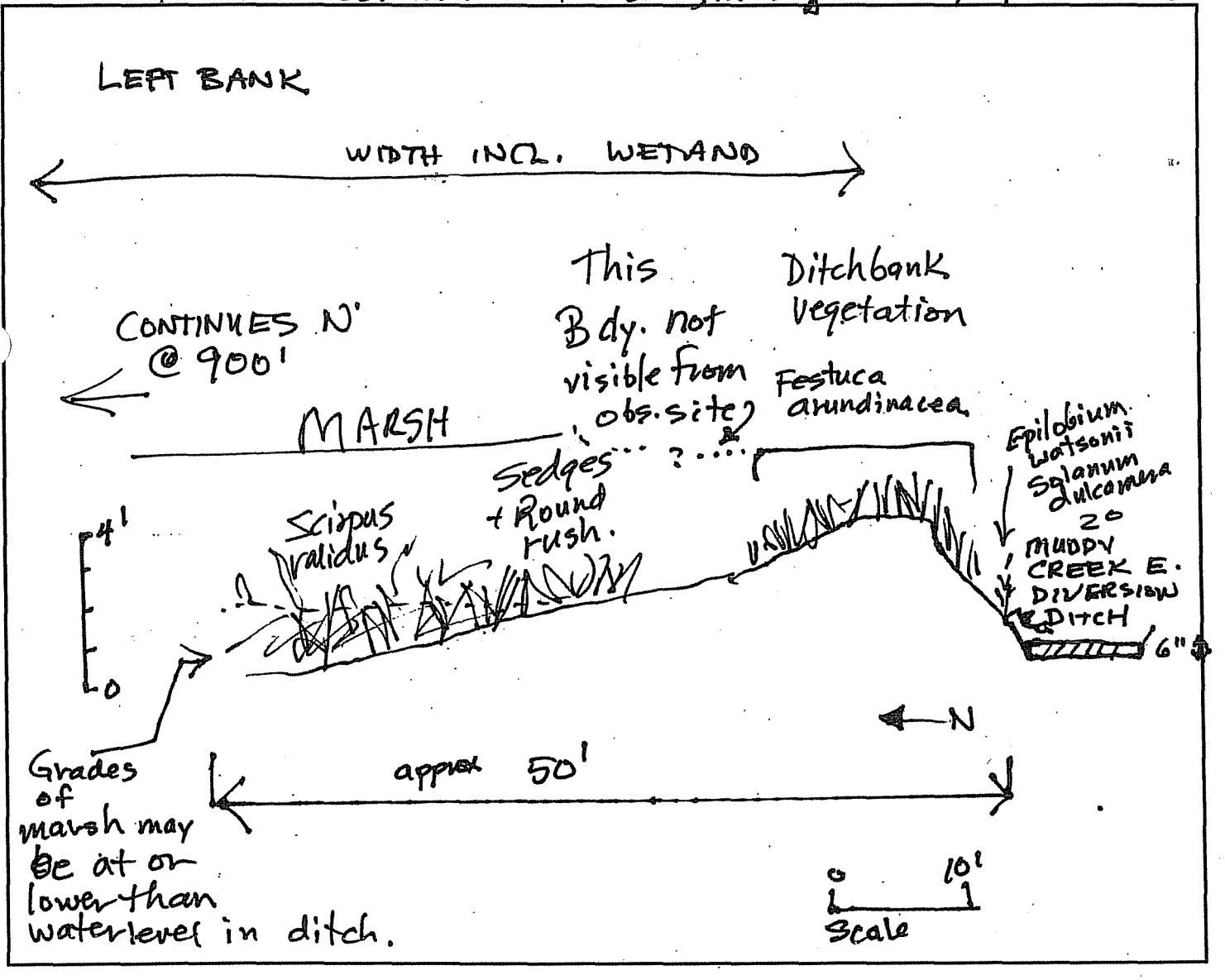
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN-7L
Date: 7/28/99
Investigators: ETHEN PERKINS
Dominant Tree Species: NONE PRESENT / Fraxinus latifolia potential

Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by ✓ On-site vegetation ___ Reference site (Code ___)
Comments: OPEN UNFARMED FIELD WITH APPARENTLY REGULARLY MAINTAINED IRRIGATION CHANNEL. LARGE AREAS FURTHER N: (W+E AS WELL IN THIS PARCEL) WITH EXCAVATED ELEVATIONS LOWER THAN CHANNEL BOTTOM + MORE OR LESS PERMANENT SURFACE WATER MARSHES OF TULE, RUSH + SEDGES.

Typical Cross Section (from stream center line)
Location of Sample Point: S. CENTRAL BDY. OF STREET (W. SIDE) + T.L. 16/03/28 0000 404



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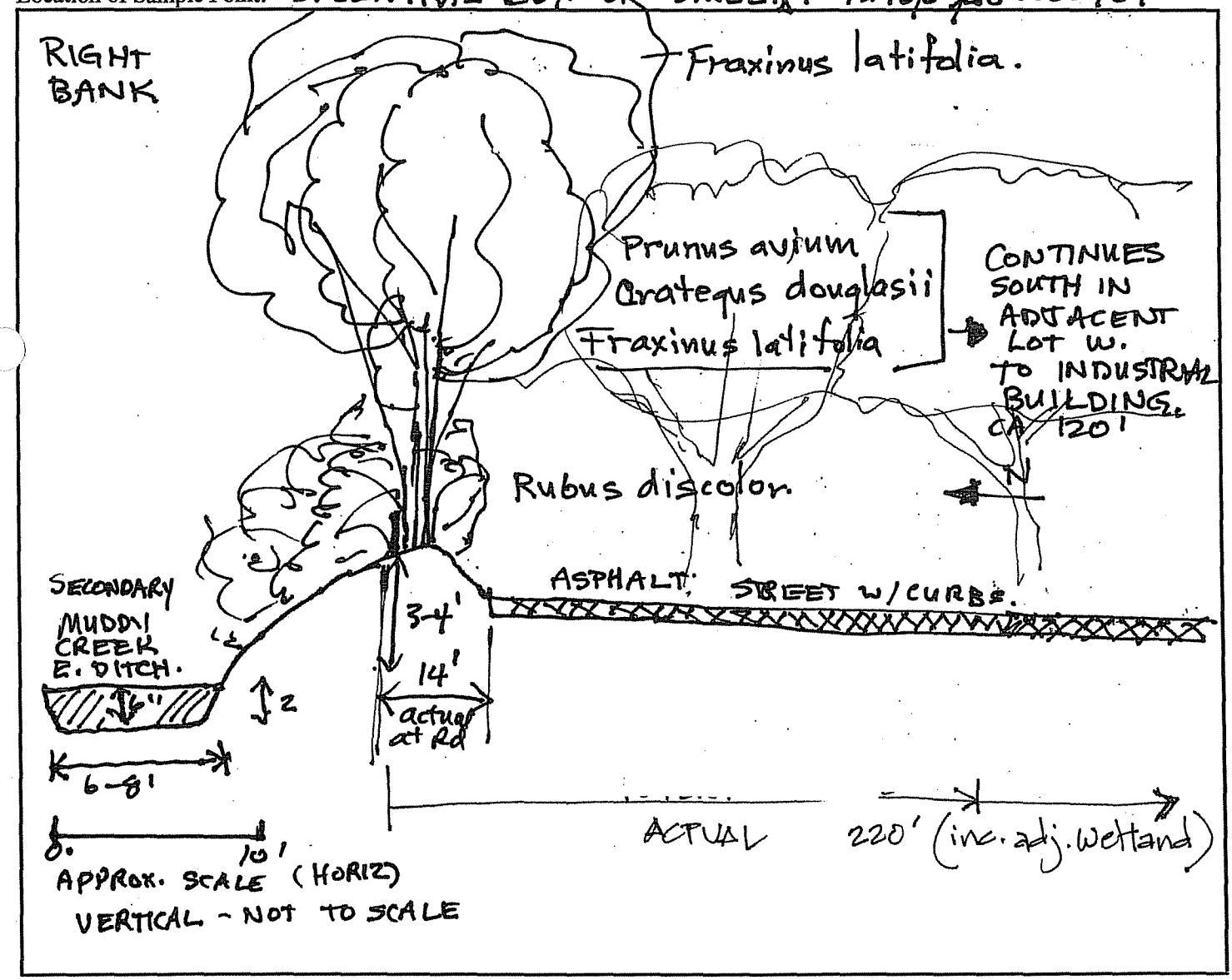
RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN-7R
Date: 7/28/99
Investigators: ETHEN PERKINS
Dominant Tree Species: FRAXINUS LATIFOLLA

Width of Riparian Area: 25 feet
(Width measured horizontally from edge of water resource)
PTH determined by ✓ On-site vegetation ___ Reference site (Code ___)
Comments: MUDDY CREEK IRRIGATION DIVERSION DITCH. AT W. EDGE OF TERMINUS OF INDUSTRIAL DRIVE N. - RIGHT BANK

ON-SITE VEGETATION

Typical Cross Section (from stream center line)
Location of Sample Point: S. CENTRAL BDY. OF STREET (N. SIDE) + T2. 16S 3W 28 0000404



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-7L
Reach Length: 340'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 8 ft — Bank Full Depth: 8 ft
Est Depth of OHW: 0.5 ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal
___ Lake/Pond — Width: ____ ft Name: _____
X Wetland — Width: 900 ft LWI Code: _____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes X No
Mapped soil series: (8) Bashaw
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads ___ Commercial/Industrial ___ Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Festuca arundinacea
	Epilobium watsonii
	Solanum dulcamera
	Scirpus validus

Average slope in riparian area: ___< 10:1 (10%) X Between 10:1 (10%) and 5:1 (20%) ___> 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? ___ Yes X No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: X <25% ___25-75% ___>75%
Comments: _____
Bank stability: ___Stable X Minor erosion ___Severe erosion
Comments: May have fish resources: otter family observed here in past visits

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
X On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: McN-7R
Reach Length: 340'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 8 ft Bank Full Depth: 8 ft
Est Depth of OHW: 0.5 ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other _____
Name: Muddy Creek Irrigation Canal

___ Lake/Pond Width: ____ ft Name: _____
___ Wetland Width: ____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes X No
Mapped soil series: (8) Bashaw
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial ___ Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Fraxinus latifolia	
Prunus avium	
Crataegus douglasii	
Populus trichocarpa	
Rubus discolor	

Average slope in riparian area: ___ < 10:1 (10%) X Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? X Yes ___No
Dominant vegetation layer in riparian area: X Woody vegetation ___Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable X Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/6/99

Riparian Code: MCN-7L
Investigators: Ethen Perkins

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant woody vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ✓ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** ✓**Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes
   - ___ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   - ___ 2 pts: Yes
   - ✓ 1 pt : No

6 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ✓**Medium (5-6 pts)** ___**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ___ 3 pts: More than 2 layers
   - ___ 2 pts: 2 layers
   - ✓ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ___ 2 pts: Yes
   - ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   - ___ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ✓ 3 pts: Greater than 40%
   - ___ 2 pts: Between 10% and 40%
   - ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes
   - ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ✓ 3 pts: Yes
   - ___ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ✓ 3 pts: Less than 25% Although created as material source excavation sites, these wetlands are relatively non-disturbed.
   - ___ 2 pts: Between 25% and 75%
   - ___ 1 pt: Greater than 75%

17 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ✓**Medium (13-18 pts)** ___**Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCN-7R
Date: 9/6/99
Investigators: ETHEN PERKINS

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts [EXCEPT STEEP CHANNEL + LEVEE BANKS]
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ____ 3 pts: Less than 10%
   - ✓ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

13 TOTAL POINTS **Function:** ✓ **High (12-14 pts)** ___ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - ✓ 1 pt : Yes

3 TOTAL POINTS **Function:** ___ **High (8-9 pts)** ___ **Medium (5-7 pts)** ✓ **Low (3-4 pts)**

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THERMAL REGULATION

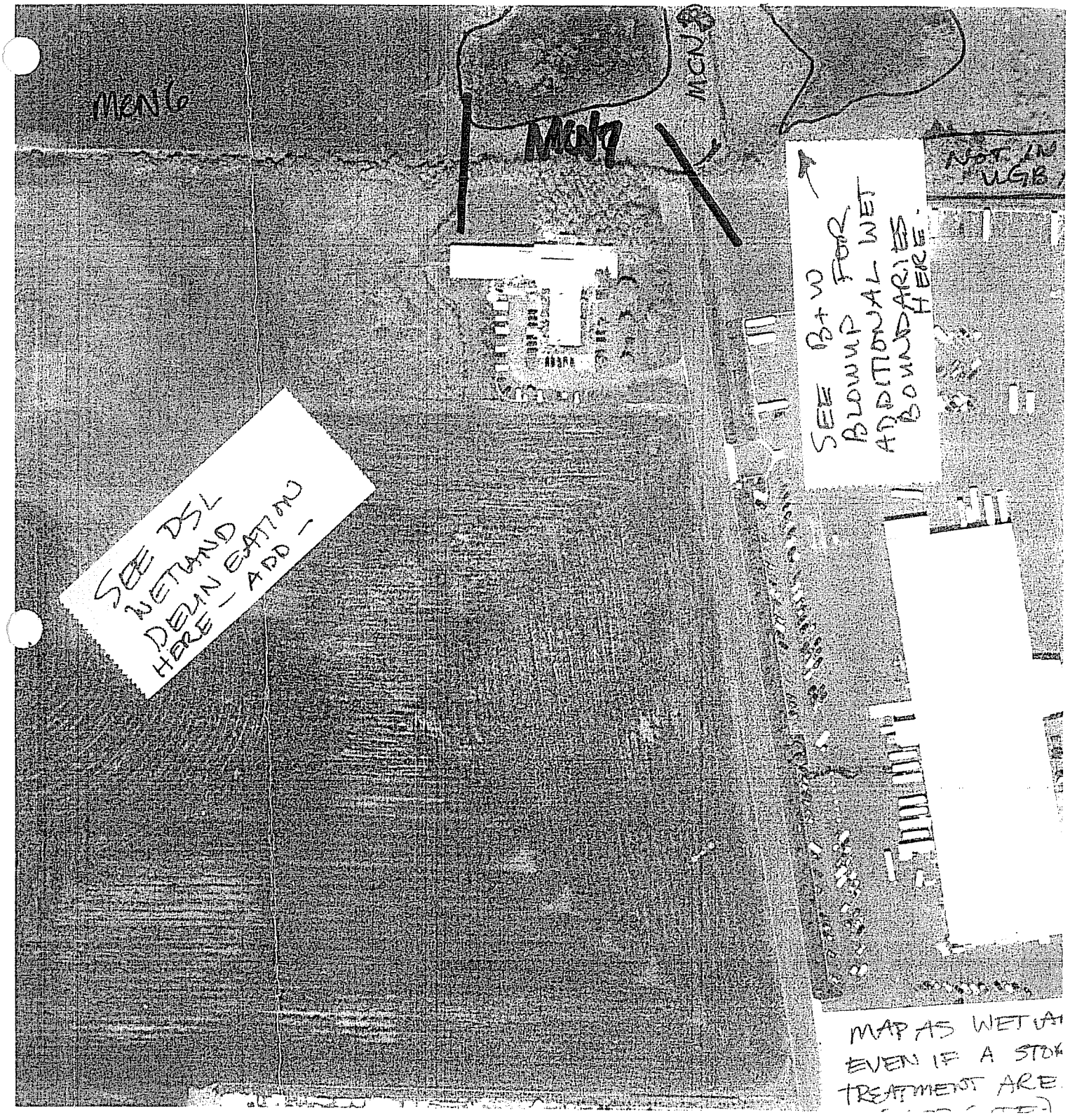
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
10. Dominant vegetation layer in riparian area:
   - ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   - ✓ 2 pts: Yes
   - ____ 1 pt : No

8 **TOTAL POINTS** **Function:** ✓ **High (7-8 pts)** ___ **Medium (5-6 pts)** ___ **Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   - ✓ 3 pts: More than 2 layers
   - ____ 2 pts: 2 layers
   - ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   - ✓ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   - ✓ 2 pts: Yes
   - ____ 1 pt : No
15. Is large woody debris present within riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   - ✓ 3 pts: Greater than 40%
   - ____ 2 pts: Between 10% and 40%
   - ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   - ✓ 3 pts: Yes [PRESUMABLY: MAY BE HEADGATED]
   - ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   - ✓ 3 pts: Less than 25%
   - ____ 2 pts: Between 25% and 75%
   - ____ 1 pt: Greater than 75%

21 **TOTAL POINTS** **Function:** ✓ **High (19-23 pts)** ___ **Medium (13-18 pts)** ___ **Low (8-12 pts)**



Scale: 1" : 200''

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCN-8

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL NORTH

RIPARIAN REACH: MCN-8

TAX LOTS: 16-03-28-00-00404

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORM
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORM
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCN-8L	1390	20	High	Medium	Low	Medium
MCN-8R	1390	21	High	Medium	Low	Medium

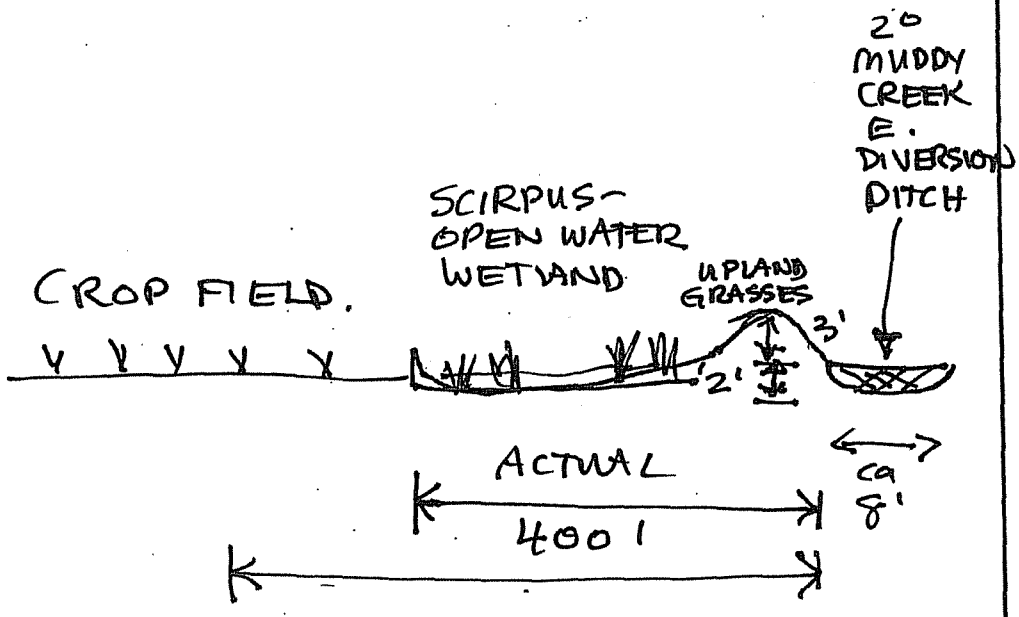
RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN - BL.
Date: 9/6/99
Investigators: ETHEN PERKINS
Dominant Tree Species: POPULUS TRICHOCARPA.

Width of Riparian Area: 20 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MCS-R-1)
Comments: POTENTIAL WIDTH IS GREATER DEPENDING UPON RESTORATION IN CROP FIELD TO WEST.

Typical Cross Section (from stream center line)
Location of Sample Point: (FROM AERIAL @150' N. OF END OF INDUSTRIAL RD.)

LEFT BANK.



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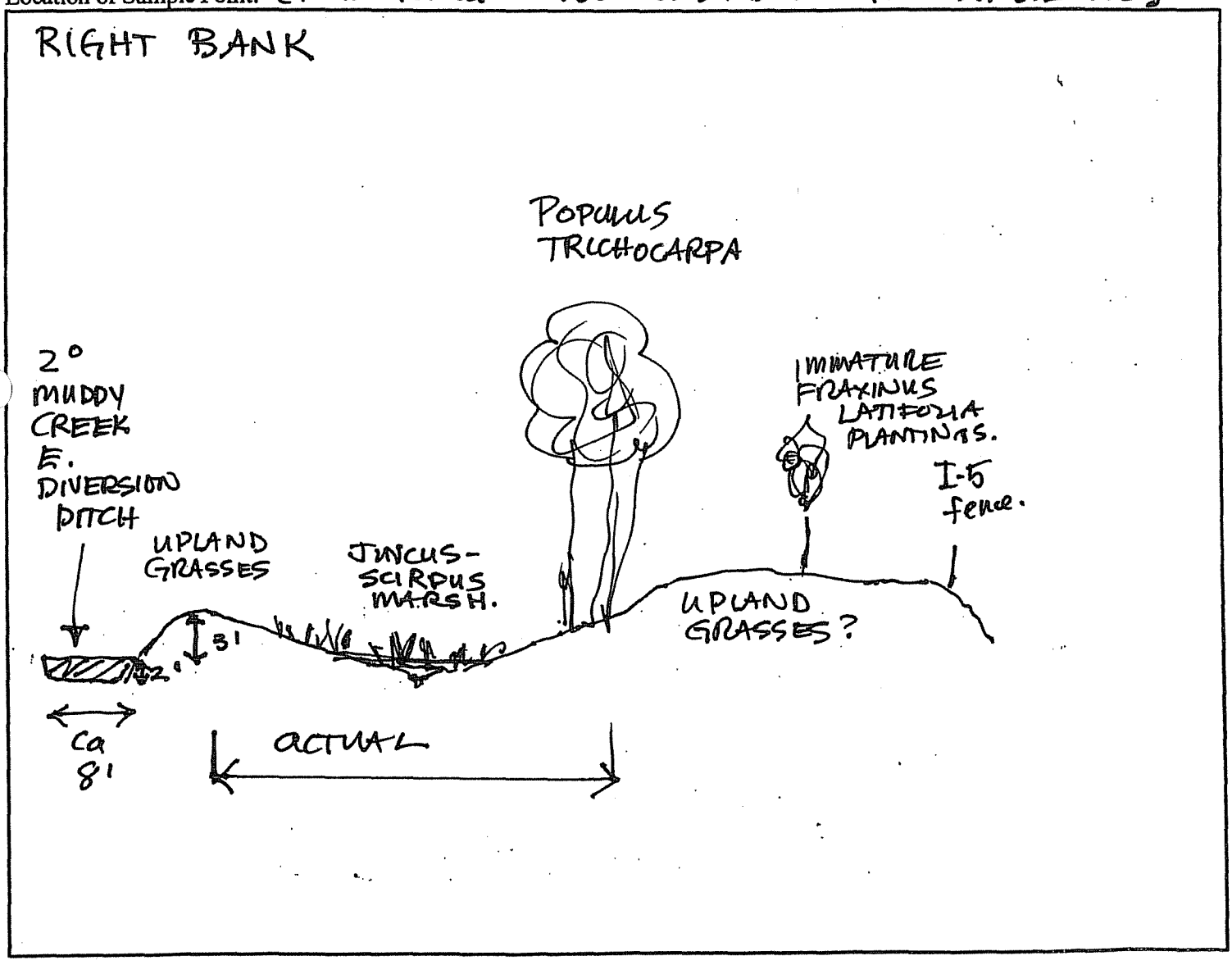
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCN - 8R
Date: 9/6/99
Investigators: ETHEN PERKINS
Dominant Tree Species: POPULUS TRICHOCARPA

Width of Riparian Area: 21 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___ Reference site (Code _____)
Comments: POTENTIAL WIDTH IS GREATER DEPENDING ON RESTORATION OF HYDRIC SOILS E. OF WETLANDS.

Typical Cross Section (from stream center line)
Location of Sample Point: (from aerial @ 150' N. END OF INDUSTRIAL RD)



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-8L
Reach Length: 1,390'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 8 ft — Bank Full Depth: 6 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___Other ____
Name: Muddy Creek Irrigation Canal
___ Lake/Pond — Width: ____ft Name: ____
___ Wetland — Width: ____ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes X No
Mapped soil series: (8) Bashaw
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads ____ Commercial/Industrial ___ Undeveloped X
Residential ____ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Scirpus sp
	Upland Grasses

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No CHANNELIZATION / LEVEE
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: X <25% ___25-75% ___>75%
Comments: ____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site __ Off-Site
Date: 10/7/99
Investigator(s): Ethen Perkins

Riparian Code: MCN-8R
Reach Length: 1,390'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 8 ft Bank Full Depth: 6 ft
Est Depth of OHW: 2 ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other_____
Name: Muddy Creek Irrigation Canal

___ Lake/Pond Width: ____ ft Name: _____
___ Wetland Width: ____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes X No
Mapped soil series: (8) Bashaw
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads ___ Commercial/Industrial ___ Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Populus trichocarpa	Juncus sp
Fraxinus latifolia (immature plantings)	Scirpus sp
	Upland Grasses

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No CHANNELIZATION / LEVEE
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: X <25% ___25-75% ___>75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/6/99

Riparian Code: MCN - 8L
Investigators: ETHEN PERKINS

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts [EXCEPT STEEP CHANNEL BANKS + LEVEES IN SOME LOCATIONS]
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ✓ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - ✓ 1 pt : Yes

5 TOTAL POINTS **Function:** ___**High (8-9 pts)** ✓ **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   ✓ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   ✓ 1 pt : No

4 **TOTAL POINTS** **Function:** ___**High (7-8 pts)** ___**Medium (5-6 pts)** ✓**Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ✓ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ✓ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ✓ 3 pts: Yes [PRESUMABLY: MAY BE HEADGATED]
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ✓ 3 pts: Yes
   ___ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ✓ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

7 **TOTAL POINTS** **Function:** ___**High (19-23 pts)** ✓**Medium (13-18 pts)** ___**Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 9/6/99

Riparian Code: MCN-BK
Investigators: Ethen Perkins

WATER QUALITY

1. Average slope in riparian area:
   - ✓ 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant woody vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ✓ 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - ✓ 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

12 TOTAL POINTS **Function: ✓ High (12-14 pts)** **___Medium (8-11 pts)** **___Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - ✓ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ✓ 3 pts: Yes
   - ____ 1 pt : No

7 TOTAL POINTS **Function: ___High (8-9 pts)** **✓ Medium (5-7 pts)** **___Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   ✓ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   ✓ 1 pt : No

4 **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) ✓Low (3-4 pts)**

WILDLIFE HABITAT

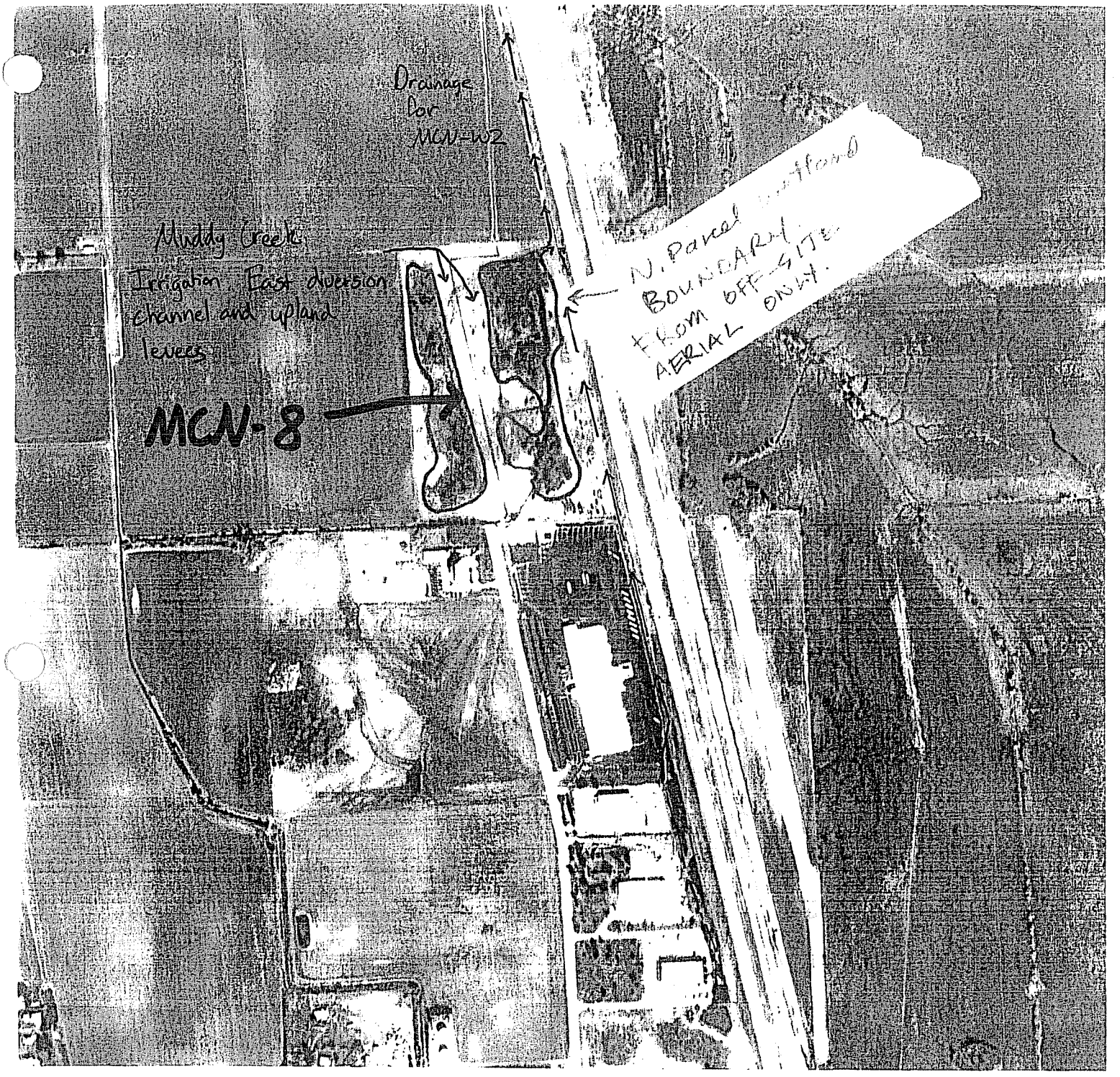
12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   ✓ 2 pts: 2 layers herb + shrub/small tree
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ✓ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   ✓ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   ✓ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ✓ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   ✓ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ✓ 3 pts: Yes
   ___ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ✓ 3 pts: Less than 25% Agriculture
   ___ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

13 **TOTAL POINTS** **Function: ___High (19-23 pts) ✓Medium (13-18 pts) ___Low (8-12 pts)**

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Scale: 1" = 600'

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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCS-1

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-1

TAX LOTS: 16-03-33-24-02900
16-03-33-00-00501

CONTENTS:

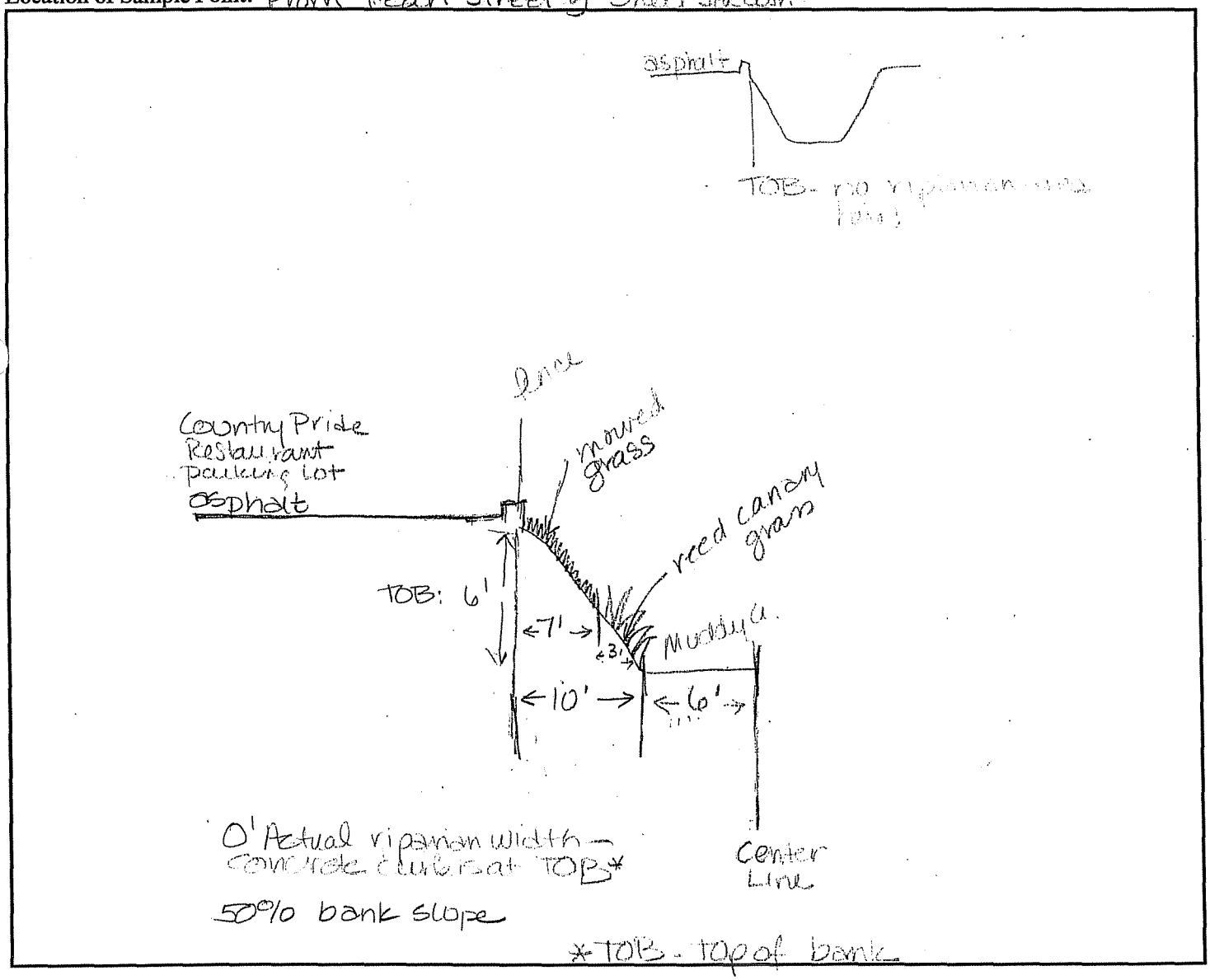
RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-1L	175	6.2	Low	Medium	Low	Low
MCS-1R	175	11	Low	Medium	Low	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-1L
Date: 7.28.99
Investigators: N. Holtzhauser
Dominant Tree Species: None - grasses
Use Cottonwood as potential tree from reference site
Width of Riparian Area: 6.2 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MC-R1)
Comments: Grass up steep bank to fence & parking lot -
N-S oriented channel
Asphalt & curb at TOB* (top of bank)

Typical Cross Section (from stream center line)
Location of Sample Point: From Pearl Street @ Shell Station



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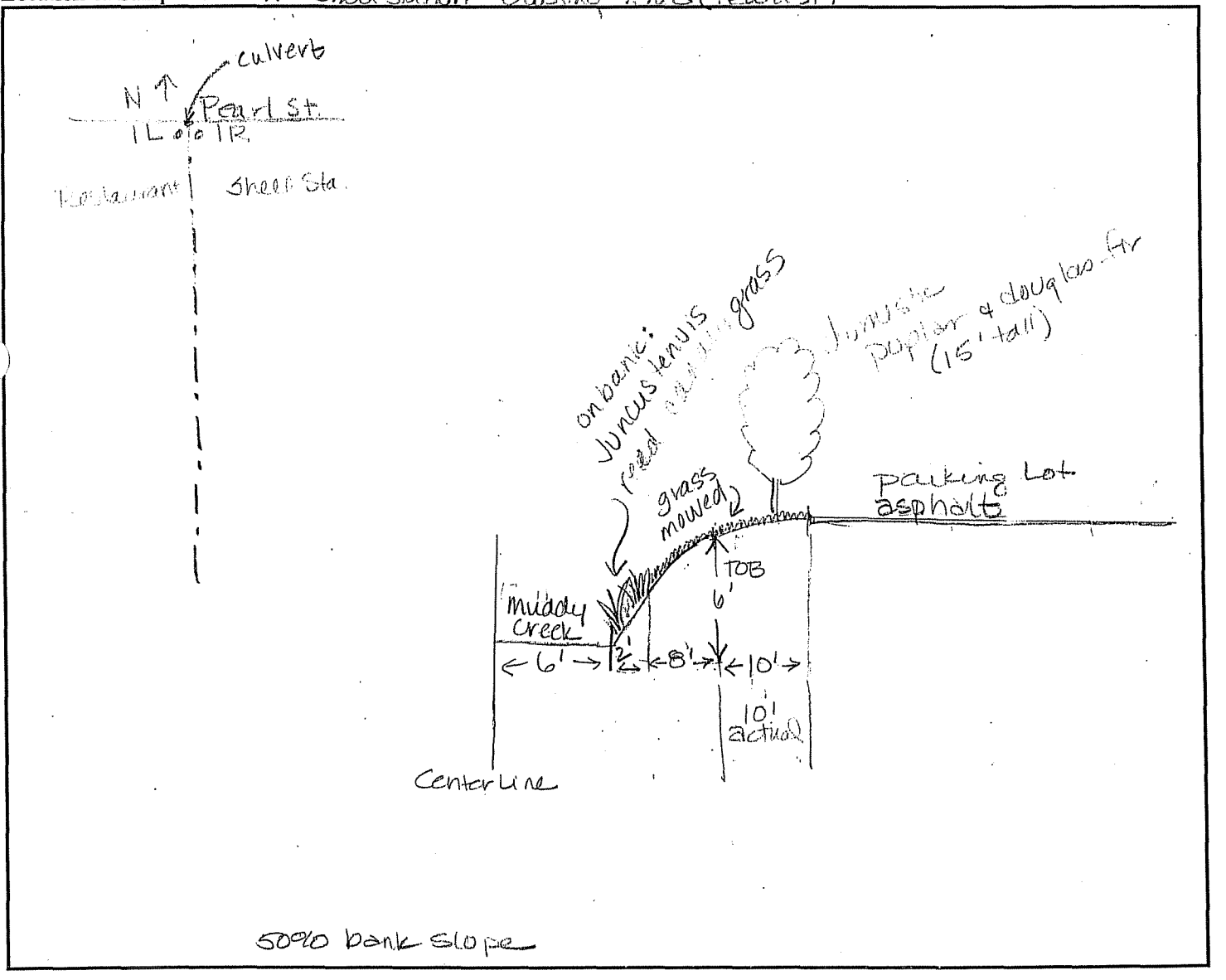
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-1R
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: Young horticultural poplar species
For Potential tree, use Cottonwood from Reference Site
Width of Riparian Area: 11 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____ On-site vegetation X Reference site (Code MC-R1)
Comments: Culvert 12" @ road crossing (Pearl St.)

Typical Cross Section (from stream center line)
Location of Sample Point: At Shell Station - crossing road (Pearl St)



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauer
Tax Lots: 1603332402900(L) & 1603330000501(R)

Riparian Code: MCS-1R & 1L
Reach Length: 1751'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12' ft; Bank Full Depth: 6 ft; Est Depth of OHW: ___ ft; Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ___; Name: Muddy Creek
___ Lake/Pond — Width: ___ ft Name: ___
___ Wetland — Width: ___ ft LWI Code: ___
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 15: Malabon Silty Clay Loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Populus spp.	Phalaris arundinacea
Pseudotsuga menziesii	Poa sp.
Rubus discolor	Agrostis tenuis
	Dactylis glomerata
	Juncus tenuis

Average slope in riparian area: ___ < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: ___ <10% ___ 10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No Channelization, culverts
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% ___ 10%-40% X <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: Surrounded by parking lot each side, gas station & restaurant
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments: Paved parking lots each side to within 10-15' of Muddy Cr., vegetated area is dominated by blackberry. Banks > 50% slope

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99

Riparian Code: MCS - IR & IL
Investigators: N. Holzhauer

WATER QUALITY

1. Average slope in riparian area:
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   _1_ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   _1_ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   _2_ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

_7_ **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** ___ **Medium (8-11 pts)** _X_ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   _3_ 3 pts: Yes
   ___ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   _1_ 1 pt : Yes

_5_ **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** _X_ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

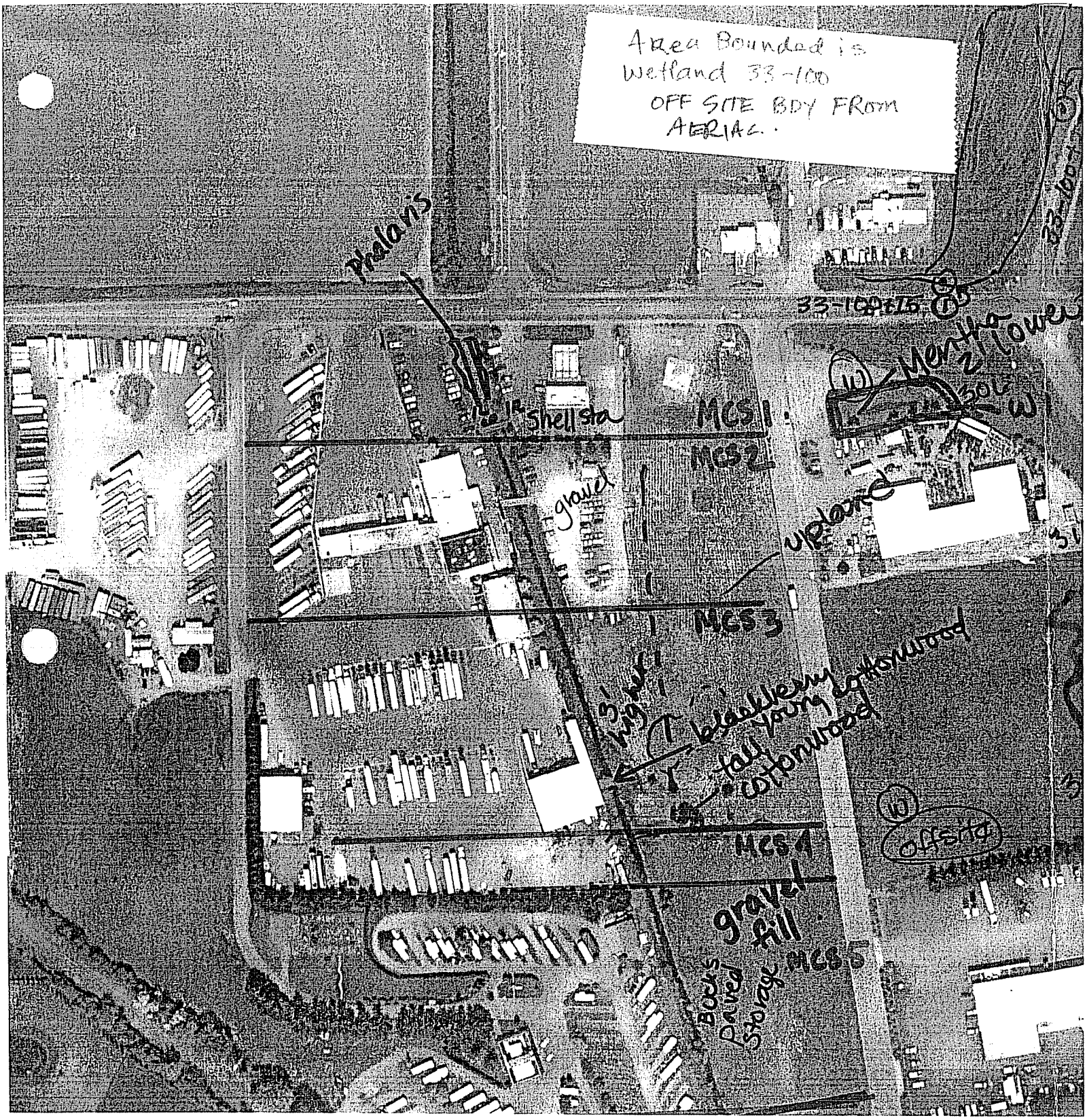
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No

__4__ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   __2__ 2 pts: 2 layers
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   __1__ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   __3__ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   __1__ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   __1__ 1 pt: Greater than 75%

__12__ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_Low (8-12 pts)**



Scale: 1" : 200'

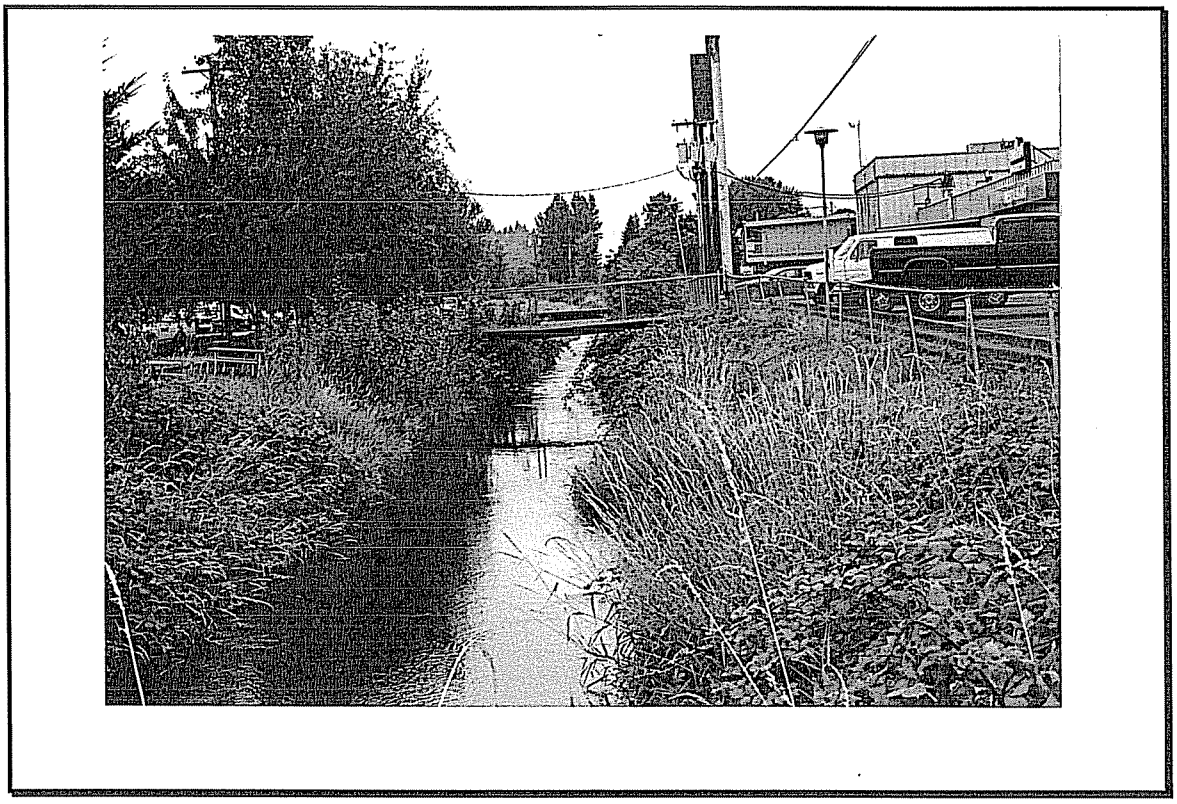
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPH
Coburg LWI
City of Coburg
October, 1999

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MCS-2

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-2

TAX LOTS: 16-03-33-00-00501
16-03-33-24-02900

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

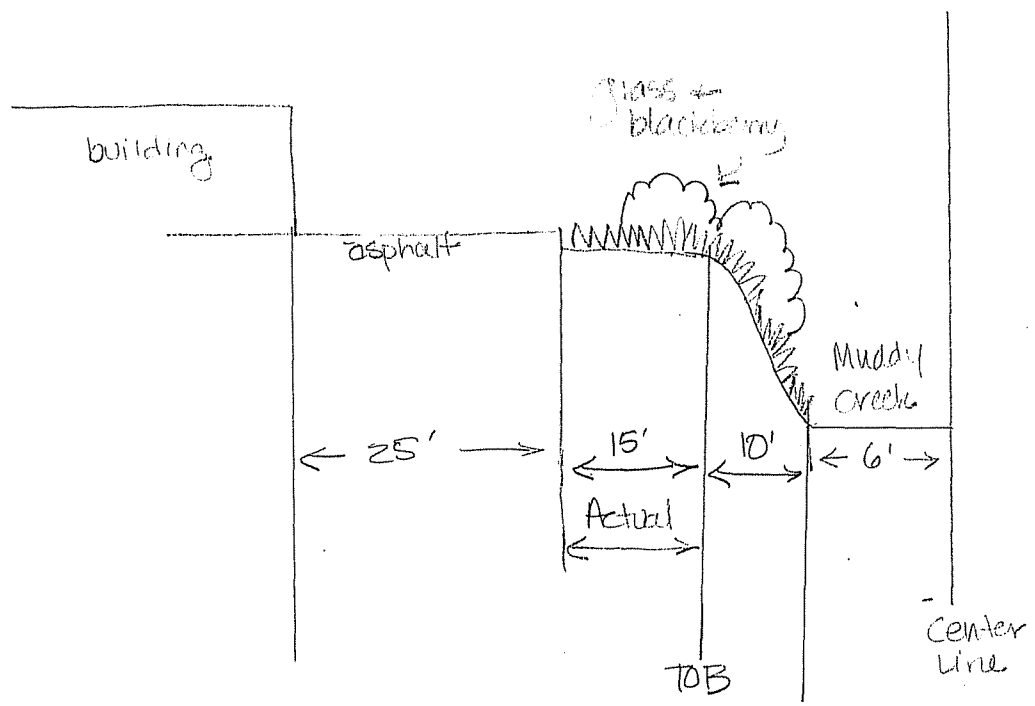
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-2L	225	5.5	Low	Medium	Low	Low
MCS-2R	225	9	Medium	Medium	Low	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-2L
Date: 7.28.99
Investigators: N. Holzhauer
Dominant Tree Species: None present - use cottonwood from reference site

Width of Riparian Area: 5.5 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____ On-site vegetation X Reference site (Code MCP1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: Off-site, from aerial photo & Roberts Atr.



*TOB - Top of bank

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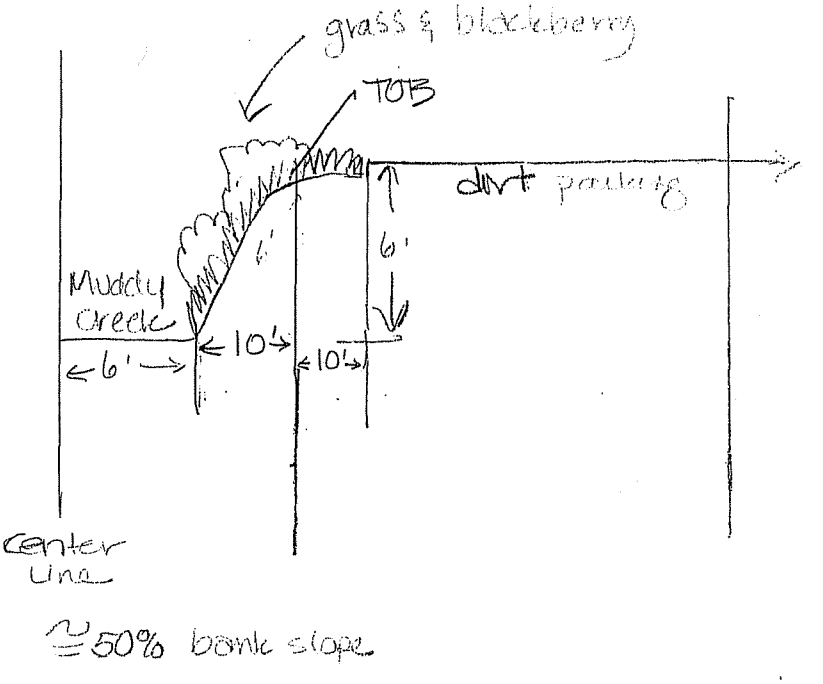
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-2R
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: None present. Use cottonwood from Reference Site

Width of Riparian Area: 9 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____ On-site vegetation X Reference site (Code MCRI)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: off-site. from aerial photo



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033324 02900

Riparian Code: MCS 2-L
Reach Length: 225'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12' ft — Bank Full Depth: 6' ft
Est Depth of OHW: ___ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ___
Name: Muddy Creek

___ Lake/Pond — Width: ___ ft Name: ___

___ Wetland — Width: ___ ft LWI Code: ___

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 75- Malabon silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	unidentified grass species
	Rubus discolor

Average slope in riparian area: ___ < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: ___ <10% ___ 10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% ___ 10%-40% X <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: ___
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments: Buildings & paved parking to within 15' TOB, vegetated from here to Muddy Cr. (blackberry). Bank > 50% slope, approx 6' high vegetated

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 1603330000501

Riparian Code: WCS2R
Reach Length: 225'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 12' ft Bank Full Depth: 6' ft
Est Depth of OHW: ___ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ___
Name: Muddy Creek
___ Lake/Pond Width: ___ ft Name: ___
___ Wetland Width: ___ ft LWI Code: ___
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 75 - Malabon silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Unidentified grass species
	Rubus discolor

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___ 10%-25% ___ >25% Dirt parking lot
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___ Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% ___ 10%-40% X <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: ___
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments:
Dirt/gravel parking lot to within 10' TOB. Vegetated from here to Muddy Creek (Cold/Blackberry). Bank is 75%, approx 6' high vegetated

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS-2L
Date: 7.28.99
Investigators: N. Holzmuller

ATER QUALITY

1. Average slope in riparian area:
   ____ 3 pts: Less than 10:1 (10%): 3 pts
   ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   __1__ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __1__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ____ 3 pts: Less than 10%
   ____ 2 pts: Between 10% and 25%
   __1__ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   __2__ 2 pts: Low, moderate, slight
   ____ 1 pt: High, severe, very high

__7__ **TOTAL POINTS** **Function: ___ High (12-14 pts) ___Medium (8-11 pts) __X__ Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   __3__ 3 pts: Yes
   ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ____ 3 pts: No
   __1__ 1 pt : Yes

__5__ **TOTAL POINTS** **Function: ___High (8-9 pts) __X__ Medium (5-7 pts) ___Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   _1_ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_11_ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99

Riparian Code: MCS-ZR
Investigators: N. Holzhauser

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

10 TOTAL POINTS **Function: ___ High (12-14 pts)** **X Medium (8-11 pts)** **___Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 TOTAL POINTS **Function: ___High (8-9 pts)** **X Medium (5-7 pts)** **___Low (3-4 pts)**

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THERMAL REGULATION

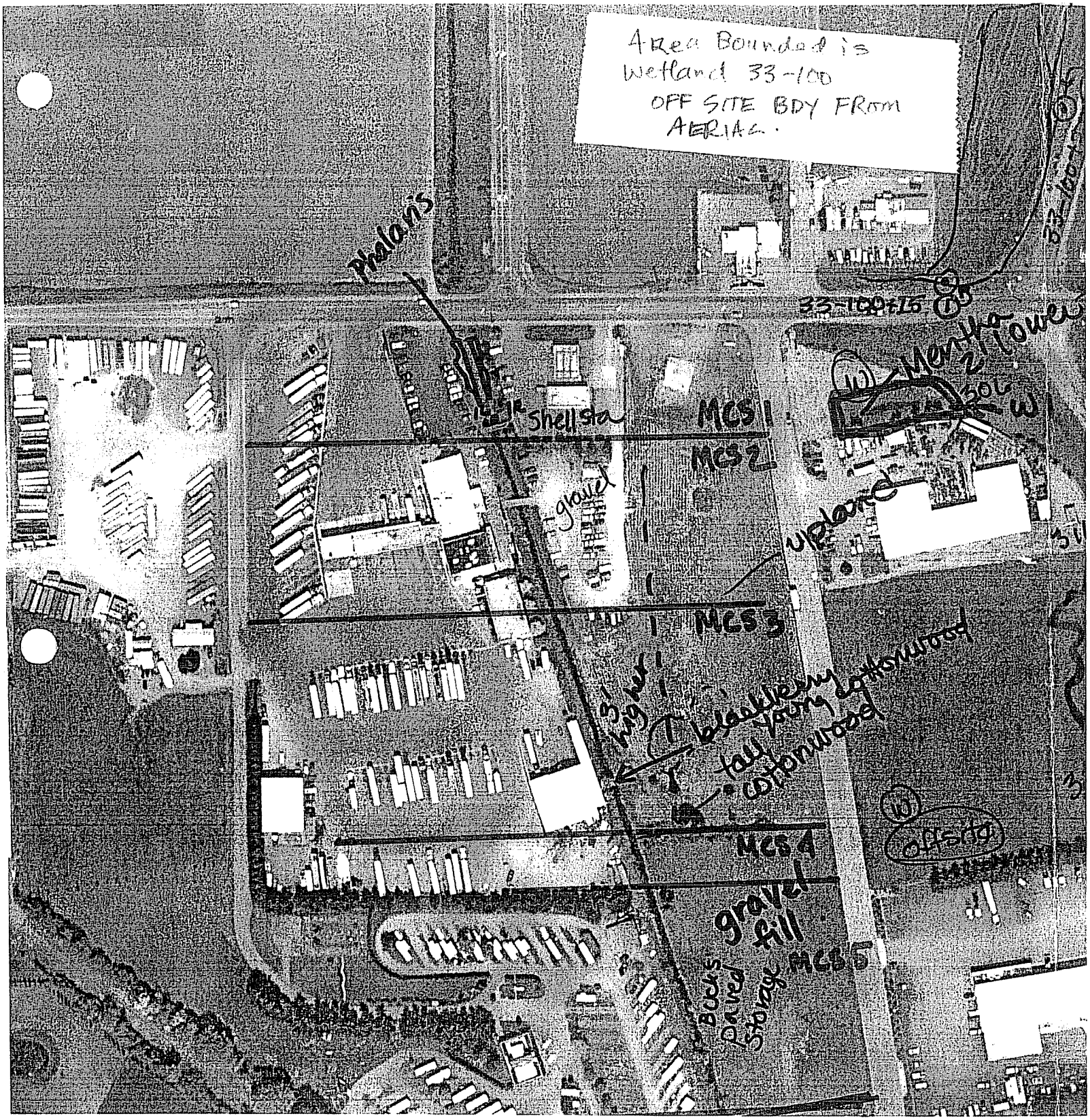
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No

_3_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   _1_ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_10_ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_ Low (8-12 pts)**



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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Eugene, Oregon 97401 (541) 465-4722 fax

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MCS-3

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-3

TAX LOTS: 16-03-33-00-00501
16-03-33-24-02900, -03000

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORM
SITE PHOTOGRAPHS AND MAPS

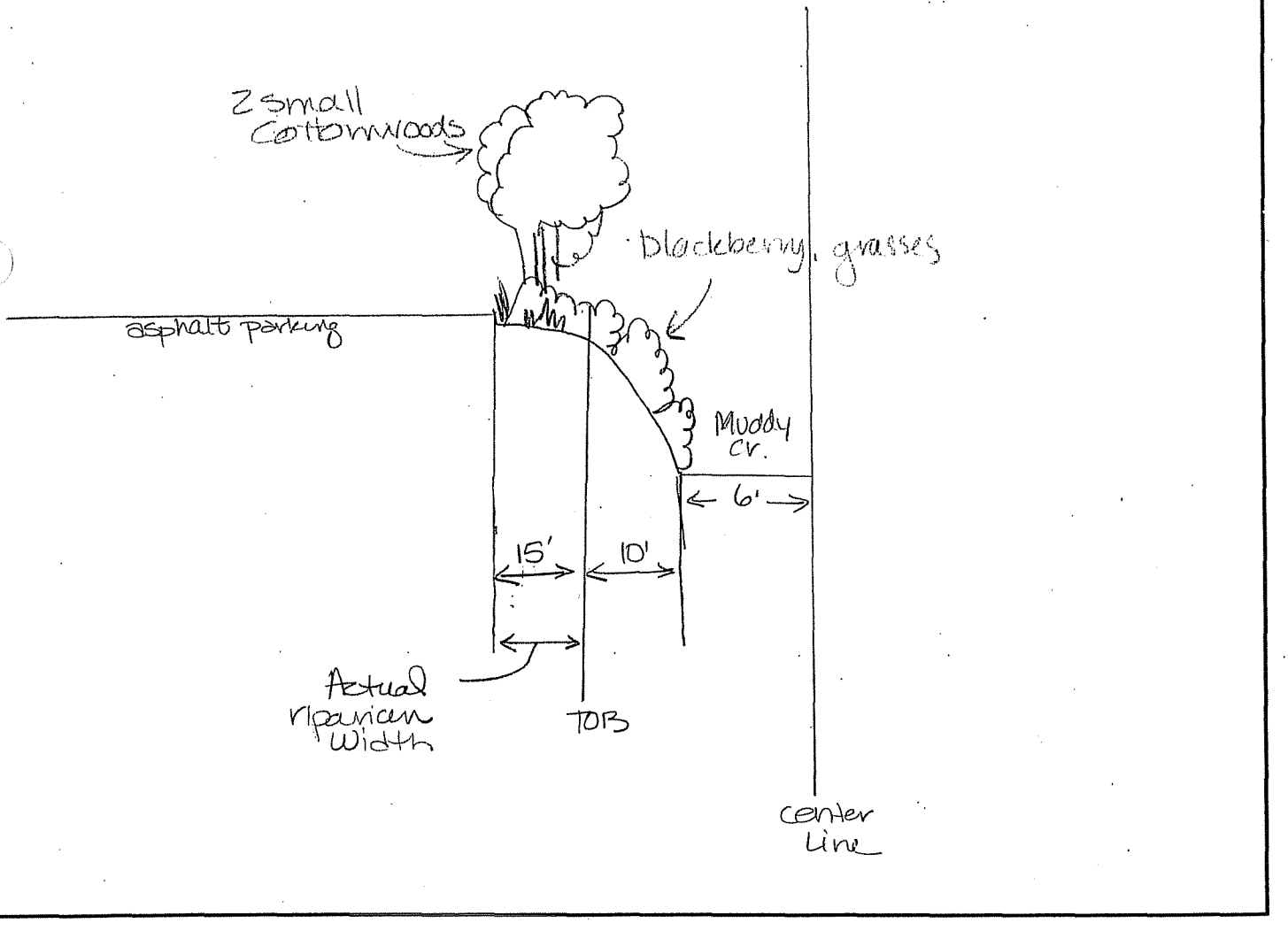
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-3L	350	9	Medium	Medium	Low	Low
MCS-3R	350	10	High	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-3L
Date: 7.29.99
Investigators: N. Holzhauser
Dominant Tree Species: Cottonwood

/Width of Riparian Area: 9 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: 2 small cottonwoods on the bank

Typical Cross Section (from stream center line)
Location of Sample Point: Off-site: from aerial photo; Roberts Ave.



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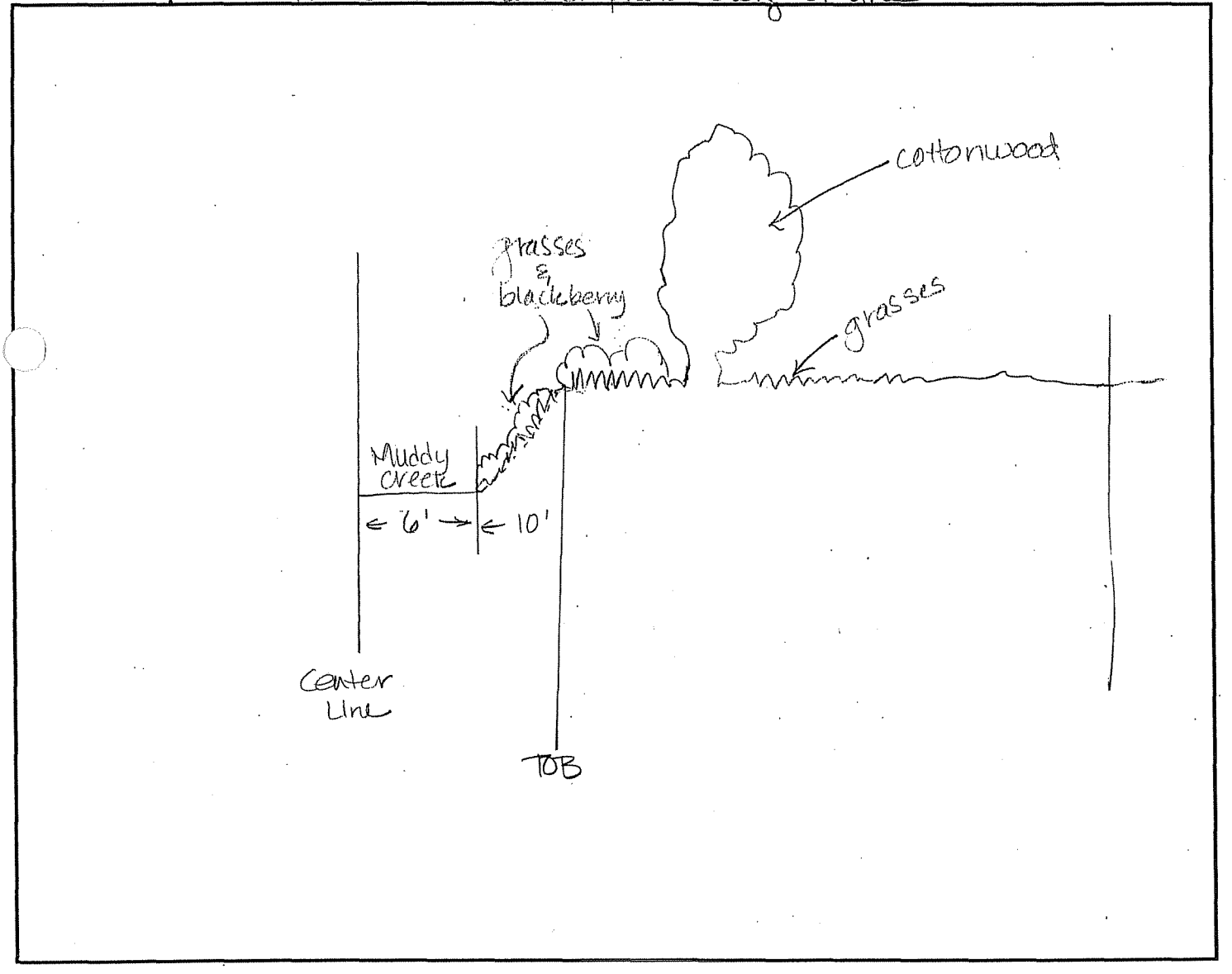
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-3R
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: Cottonwood

Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: 1 tall cottonwood on property! (80' tall)

Typical Cross Section (from stream center line)
Location of Sample Point: Offsite - from aerial photo - along S. Line



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033324030000

Riparian Code: MCS3-L
Reach Length: 350'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ____
Name: Muddy Creek
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 118 - Salem gravelly silt loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Unidentified grasses & forbs
Populus trichocarpa	

Average slope in riparian area: ___ < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: ___ <10% ___ 10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% ___ 10%-40% X <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: Parking area for TWC stop
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments: Buildings & paved parking to within 10' TOB, vegetated from here to Muddy Cr. (Cloackberry). Bank is > 50%, approx 6' high vegetated

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 1603330000501

Riparian Code: MCS 3-R
Reach Length: 350'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12' ft — Bank Full Depth: _____ ft
Est Depth of OHW: ____ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other _____
Name: Muddy Creek

___ Lake/Pond — Width: _____ ft Name: _____
___ Wetland — Width: _____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 118 - Salem gravelly silt loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ____ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Populus trichocarpa	Festuca arundinacea
Rubus discolor	Dactylis glomerata
	Daucus carota

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Mowed grass
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Grass to TOB, blackberry on bank, to Muddy Cr. Bank is ~50% slope approx 6' high vegetated

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99
Riparian Code: MCS-3L
Investigators: N. Holzhauer

ATER QUALITY

1. Average slope in riparian area:
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   _1_ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   _1_ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   _2_ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

_8_ **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** _X_ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   _3_ 3 pts: Yes
   ___ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   _1_ 1 pt : Yes

___ **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** _X_ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No

__4__ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) __X__ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   __1__ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   __1__ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   __3__ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   __1__ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   __1__ 1 pt: Greater than 75%

__11__ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) __X__ Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99

Riparian Code: MCS-312
Investigators: N. Hotchkiss

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_Low (3-4 pts)**

WILDLIFE HABITAT

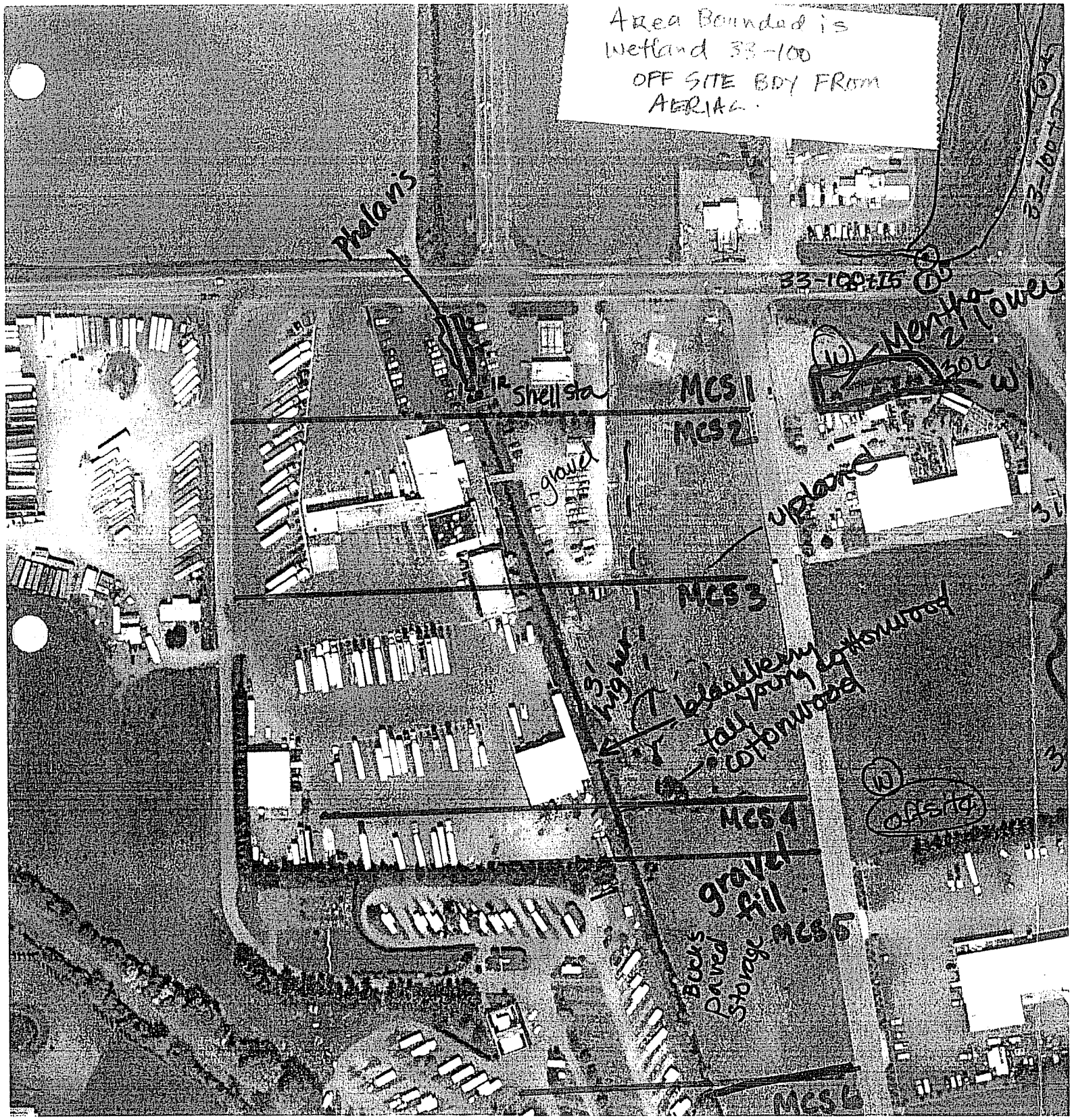
12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   _2_ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_14_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_Medium (13-18 pts) ___Low (8-12 pts)**

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Scale: 1" : 200'

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Coburg LWI
City of Coburg
October, 1999

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MCS-4

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-4

TAX LOTS: 16-03-33-00-00300
16-03-33-24-03000

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORM
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

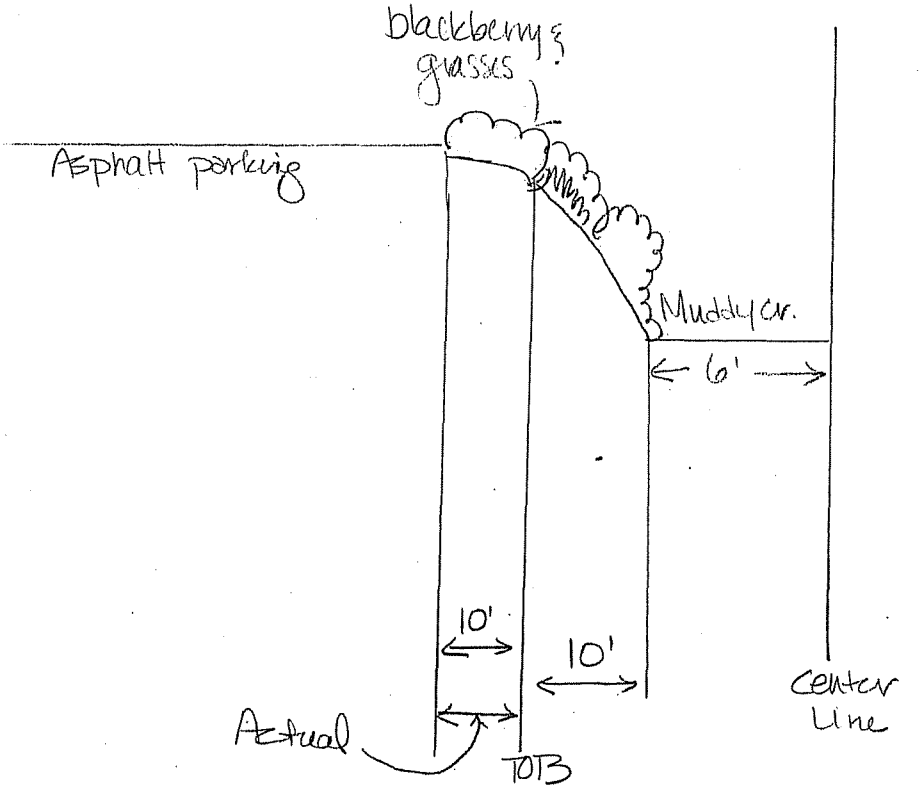
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-4L	80	10	Medium	Medium	Low	Low
MCS-4R	80	10	Medium	Medium	Low	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-4L
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: None present- use cottonwood from reference site

Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____ On-site vegetation X Reference site (Code MC-R1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point:



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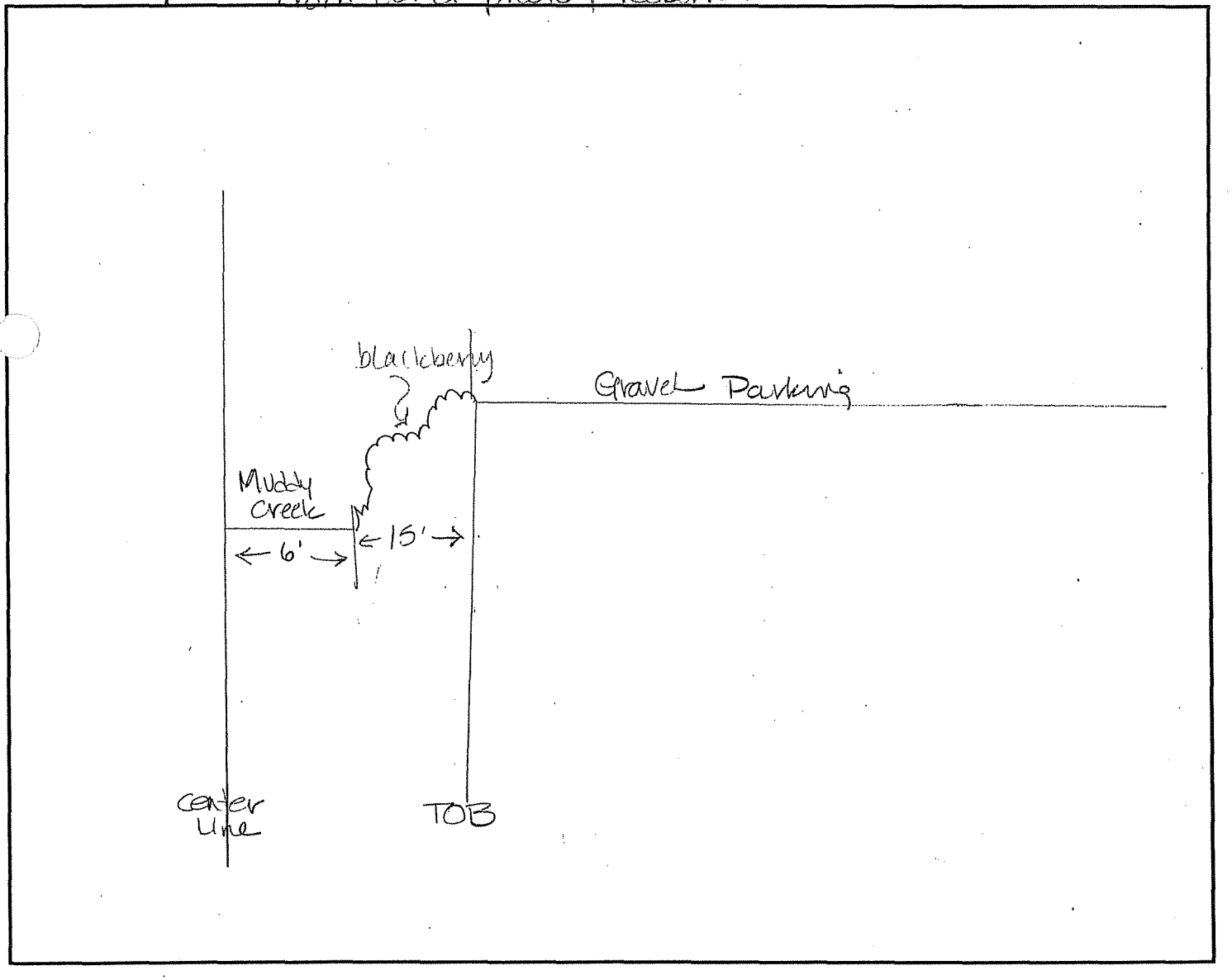
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory — Riparian Code: MCS-4R
Date: 7.28.99 — Investigators: N. Holzhauser
Dominant Tree Species: None present - Use cottonwood from reference site

Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MC-R1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: From aerial photos, Roberts Dr.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033324030000

Riparian Code: MCS 4-L
Reach Length: 80'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other ____
Name: Muddy creek
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 118-Salem gravelly silt loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Unknown grasses & forbs

Average slope in riparian area: ___< 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: ___<10% ___10%-25% X >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Parking lot to top of bank
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:
Paved parking to within 10' TOB, blackberries from here down bank to Muddy Cr. Bank is steep (>50%), approx. 6' high. Vegetated

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033300000300

Riparian Code: MCS 4-R
Reach Length: 80'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 12 ft Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other ____
Name: Muddy Creek

___ Lake/Pond Width: ____ft Name: ____

___ Wetland Width: ____ft LWI Code: ____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 118-Salem gravelly silt loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	

Average slope in riparian area: ___< 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25% Gravel
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Gravel fill
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Gravel lot between Roberts St. & TOB, blackberries on bank to Muddy Cr. Steep bank, approx. 6' high Vegetated

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.29.99

Riparian Code: WS-4L
Investigators: N. Holshauser

WATER QUALITY

1. Average slope in riparian area:
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   _1_ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   _1_ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   _2_ 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

_8_ **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** _X_ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   _3_ 3 pts: Yes
   ___ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   _1_ 1 pt : Yes

_5_ **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** _X_ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No

__4__ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) __X__Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   __1__ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   __1__ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   __3__ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   __1__ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   __1__ 1 pt: Greater than 75%

__11__ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) __X__Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99

Riparian Code: MCS 4R
Investigators: N Holzhauser

/ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

10 **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** X **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No

_3_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

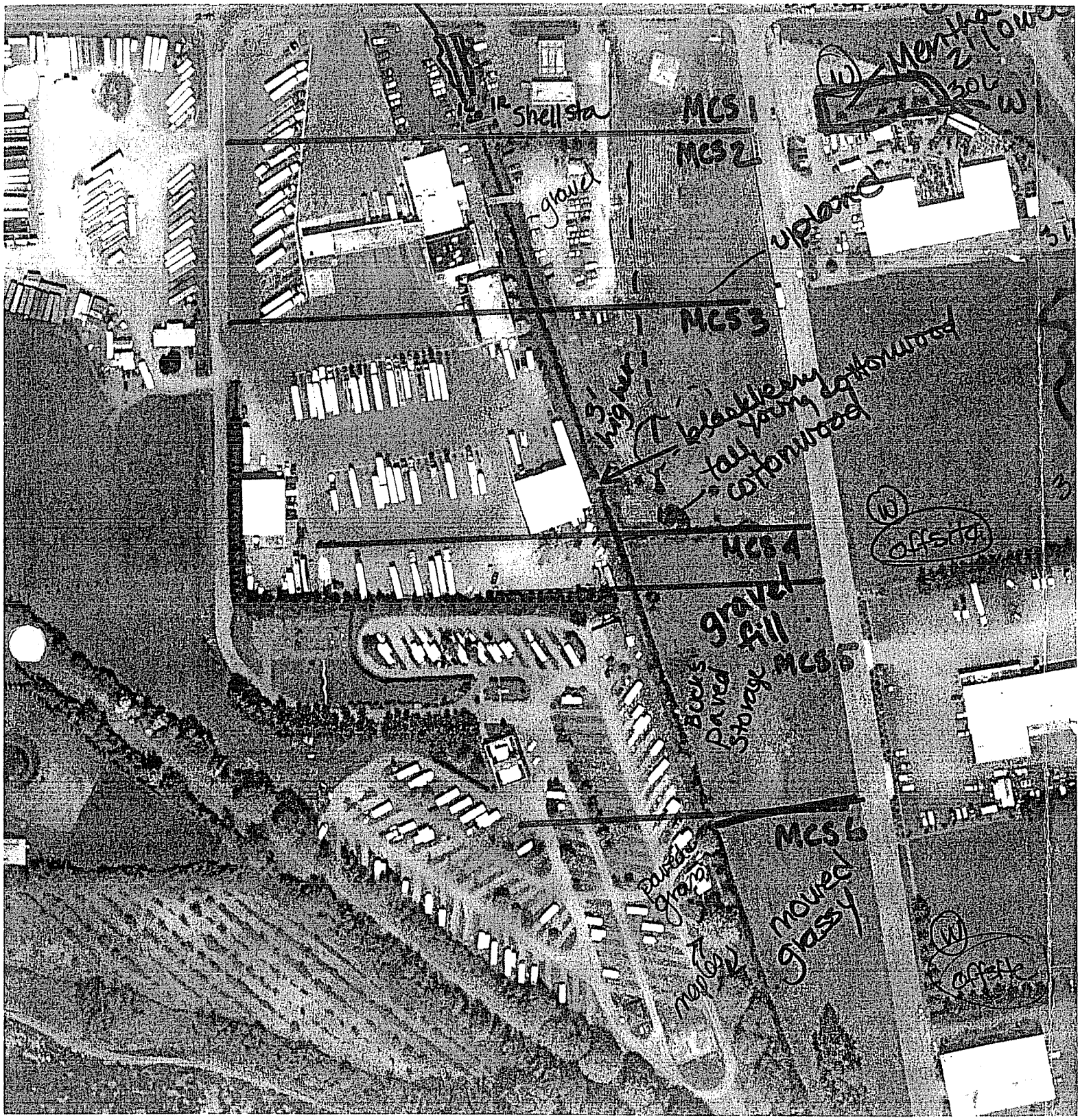
12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   _1_ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_10_ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_ Low (8-12 pts)**

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Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCS-5

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-5

TAX LOTS: 16-03-33-00-00300
16-03-33-24-03000

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

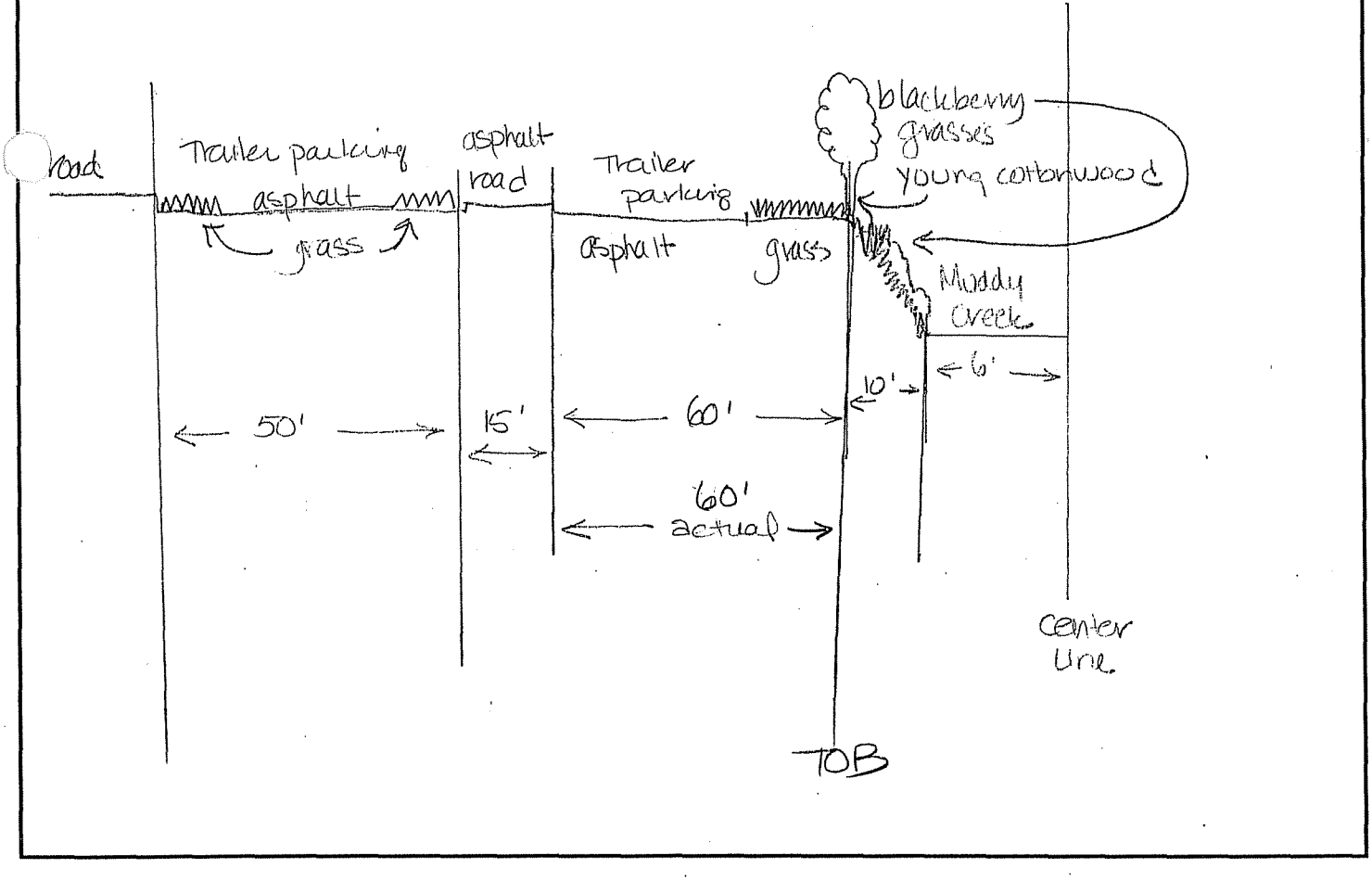
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-5L	180	10	Medium	Medium	Low	Low
MCS-5R	180	10	Medium	Medium	Low	Low

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: M/S-5L
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: Young cottonwood

/Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: Strip of grass, blackberry, young trees & shrubs - ~20' wide, beyond is trailer parking - a combination asphalt & grass strips.

Typical Cross Section (from stream center line)
Location of Sample Point: From aerial photos.



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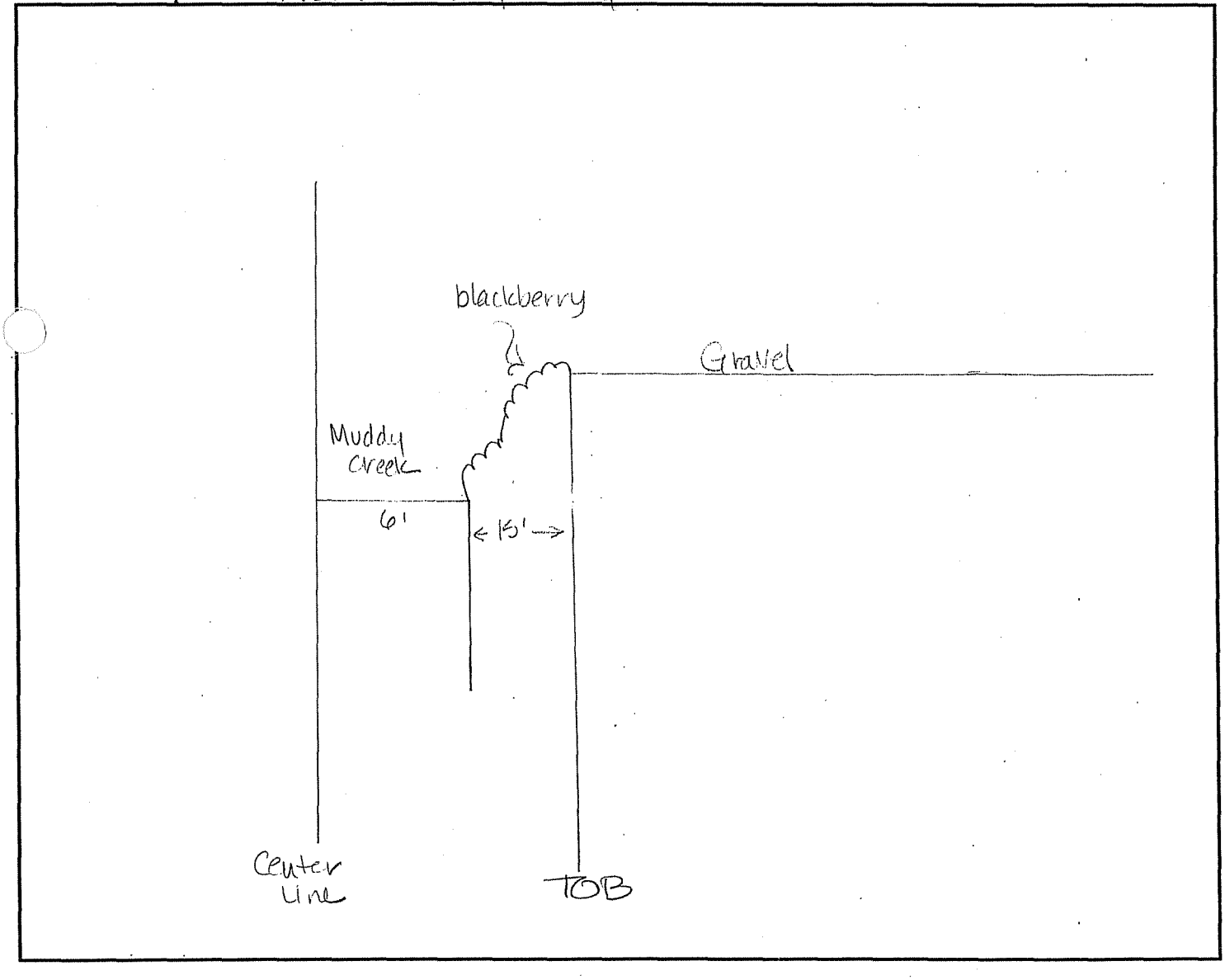
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-512
Date: 7.28.99
Investigators: N. Holzhauser
minant Tree Species: None present - use cottonwood from reference site

/Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____On-site vegetation X Reference site (Code MC-R1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: From aerial photo & Roberts Dr.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033300006 03

Riparian Code: MCS-5L
Reach Length: 1801
Hydrologic Basin: Muddy creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ____
Name: Muddy creek
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 118 - Salem gravelly silt loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Unidentified grasses & forbs

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: ___ <10% X 10%-25% ___ >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___ >40% ___ 10%-40% X <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: ____
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments: Trailer Park - grasses & paved trailer pads to w/in 25' TOB, Vegetated (grasses & blackberry) to Muddy Cr. Bank >50% slope.

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 1603330000300

Riparian Code: MCS-SR
Reach Length: 180'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___Other ____
Name: Muddy Creek
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 118 Salem gravelly silt loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Gravel storage lot.
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Gravel fill to TOB. Vegetated down bank to Muddy Cr. Bank ~ 50% slope, 6' high Vegetated.

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99
Riparian Code: MCS-SL
Investigators: N. Holzhauser

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - ____ 3 pts: Less than 10%
   - 2 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ___ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   _1_ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_11_ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_ Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99

Riparian Code: MCS-SR
Investigators: N. Holzhauer

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

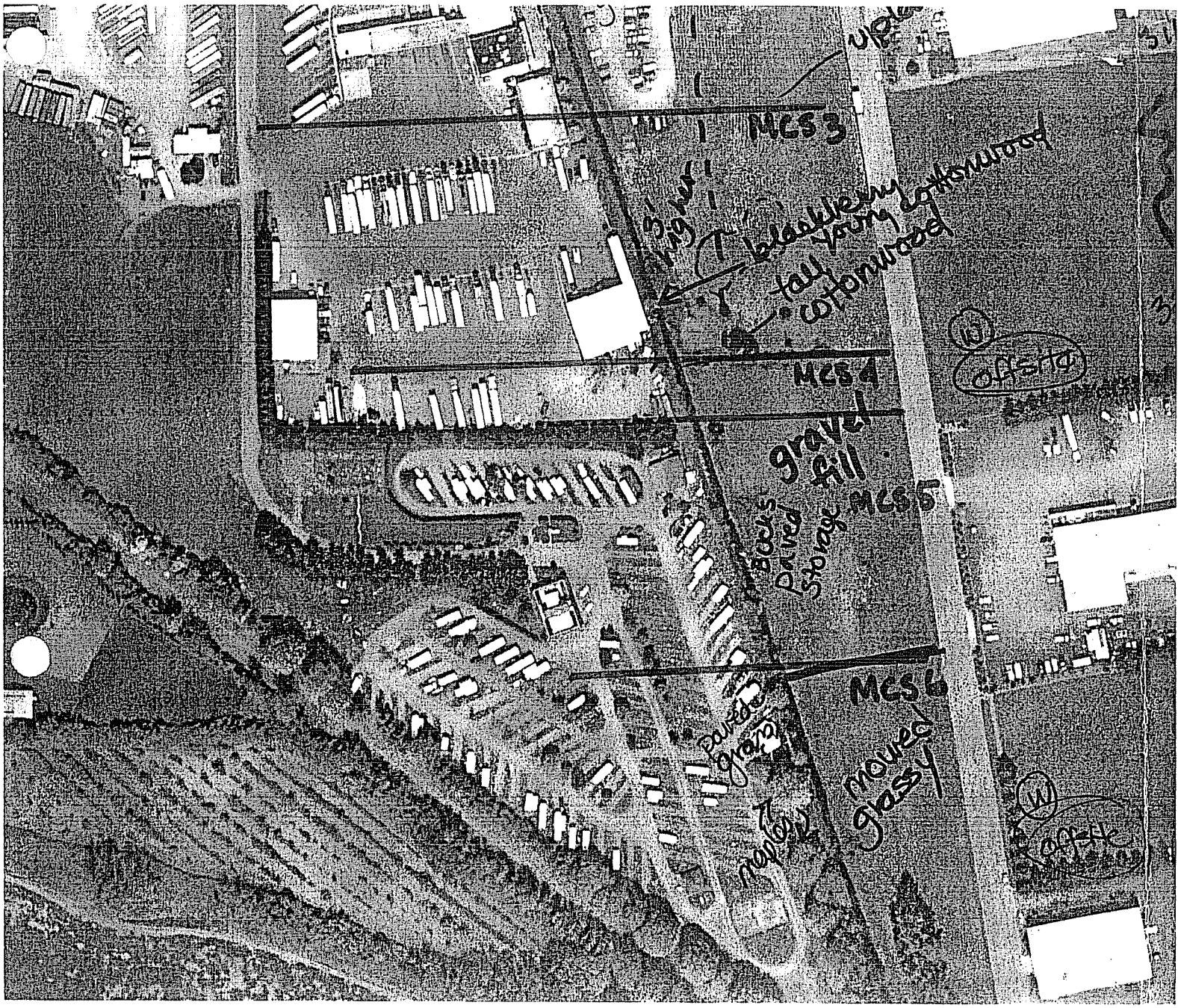
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_3_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ___ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   _1_ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_10_ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_ Low (8-12 pts)**



Scale: 1" : 200'

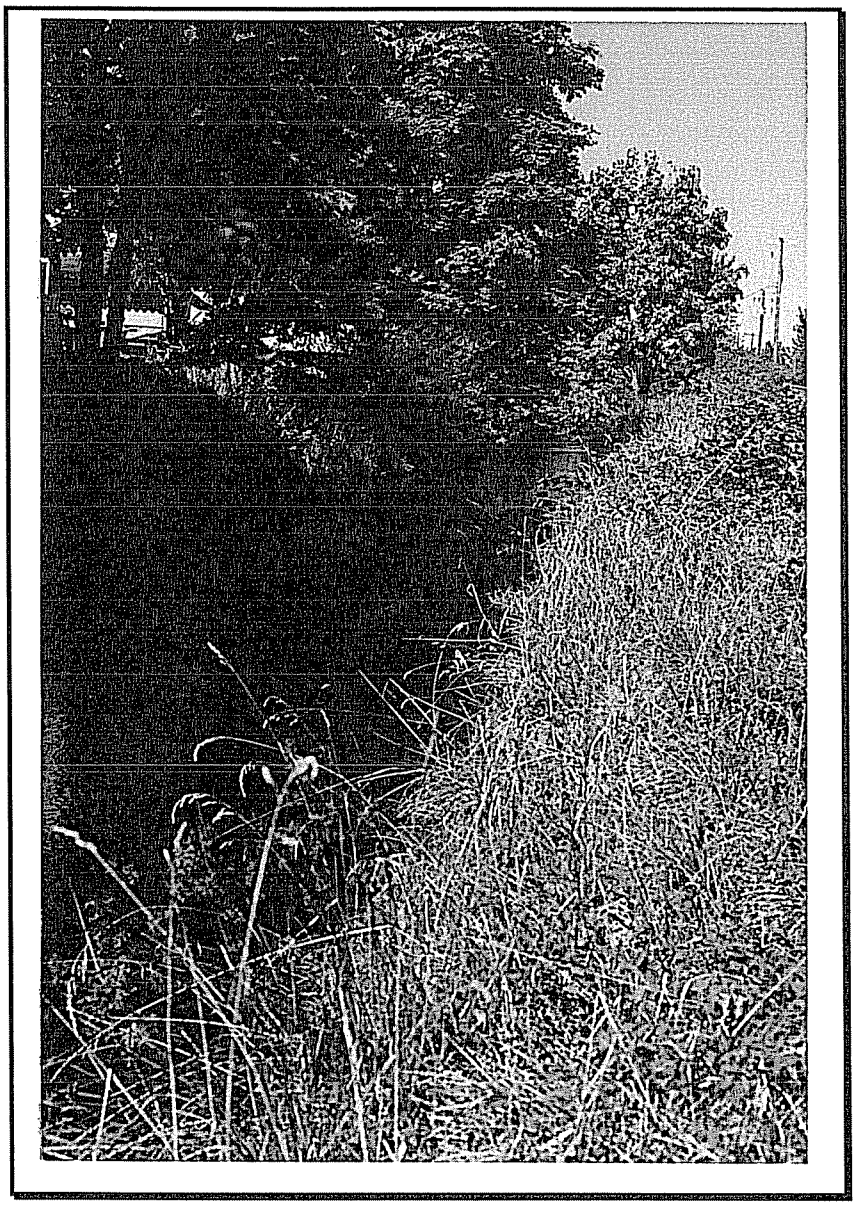
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPH
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City of Coburg
October, 1999

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MCS-6

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-6

TAX LOTS: 16-03-33-00-00300, -00603

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

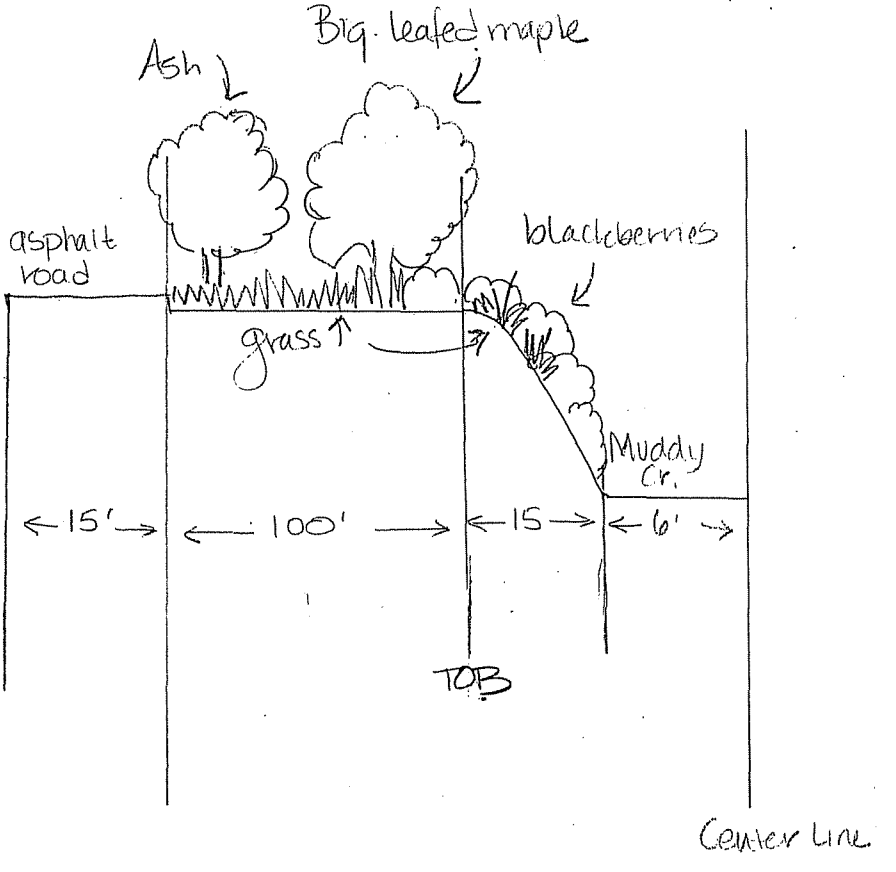
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-6L	525	22	High	Medium	Medium	Medium
MCS-6R	525	10	High	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MC5-6L
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: Big-leaf maples

Width of Riparian Area: 221 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: _____

Typical Cross Section (from stream center line)
Location of Sample Point: From aerial photo @ Roberts Dr.



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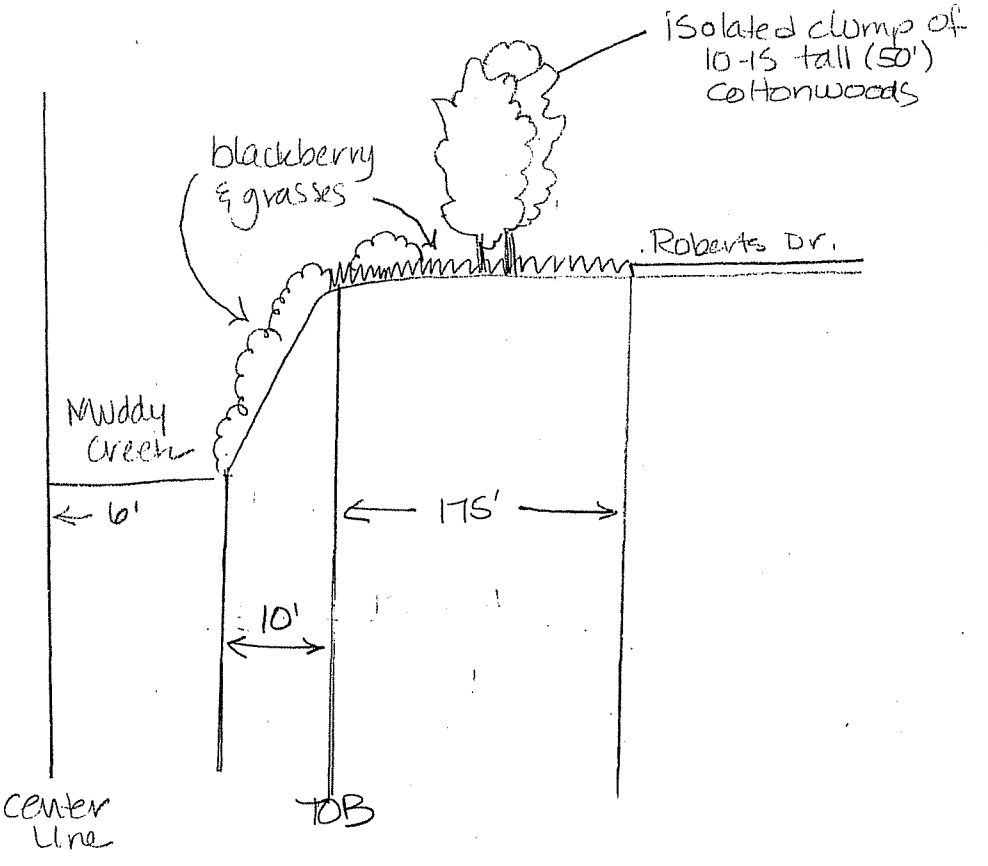
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MC5-6R
Date: 7.28.99
Investigators: N. Holzhausen
Dominant Tree Species: Cottonwood

/Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by X On-site vegetation ___Reference site (Code _____)
Comments: Clump of cottonwoods on property

Typical Cross Section (from stream center line)
Location of Sample Point: From aerial photos Roberts Dr.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date:
Investigator(s): N. Holzhauser
Tax Lots: 16033300000603

Riparian Code: MCS 6-L
Reach Length: 525'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ____
Name: Muddy Creek
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 75 - Malabon Silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Acer macrophyllum	Rubus discolor
Fraxinus latifolia	Festuca arundinacea
Populus trichocarpa	Dactylis glomerata

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___ 10%-25% ___ >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation ___ Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___ 10%-40% ___ <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: ____
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments:
Trailer park - vegetated within 75' TOB, big-leaf maples, bank vegetated with blackberries

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033300000300

Riparian Code: MCS 6-R
Reach Length: 525'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other ____
Name: Muddy Creek
___ Lake/Pond — Width: ____ft Name: ____
___ Wetland — Width: ____ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 75- Malabon silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Populus trichocarpa	Festuca arundinacea
	Dactylis glomerata
	Daucus carota
	Taraxacum officinale

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X<10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Mowed grass
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Grass from Roberts St. to TOB, vegetated with blackberries down bank to Muddy Cr. Bank ≥50% slope. One patch cottonwoods 50' tall.

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99
Riparian Code: MCS-6L
Investigators: N. Holzhauser

/ATER QUALITY

1. Average slope in riparian area:
   3 3 pts: Less than 10:1 (10%): 3 pts
   ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   3 3 pts: Less than 10%
   ____ 2 pts: Between 10% and 25%
   ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   2 2 pts: Low, moderate, slight
   ____ 1 pt: High, severe, very high

13 **TOTAL POINTS** **Function:** X **High (12-14 pts)** ___**Medium (8-11 pts)** ___**Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   3 3 pts: Yes
   ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   3 3 pts: Yes
   ____ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   1 3 pts: No
   ____ 1 pt : Yes

7 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   _3_ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_5_ **TOTAL POINTS** **Function: ___High (7-8 pts) _X_ Medium (5-6 pts) ___Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   _3_ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   _3_ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_16_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99
Riparian Code: MCS-6R
Investigators: N. Holzhauser

ATER QUALITY

1. Average slope in riparian area:
   3 3 pts: Less than 10:1 (10%): 3 pts
   ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   3 3 pts: Less than 10%
   ____ 2 pts: Between 10% and 25%
   ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   2 2 pts: Low, moderate, slight
   ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   3 3 pts: Yes
   ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ____ 3 pts: Yes
   1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ____ 3 pts: No
   1 1 pt : Yes

5 TOTAL POINTS **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

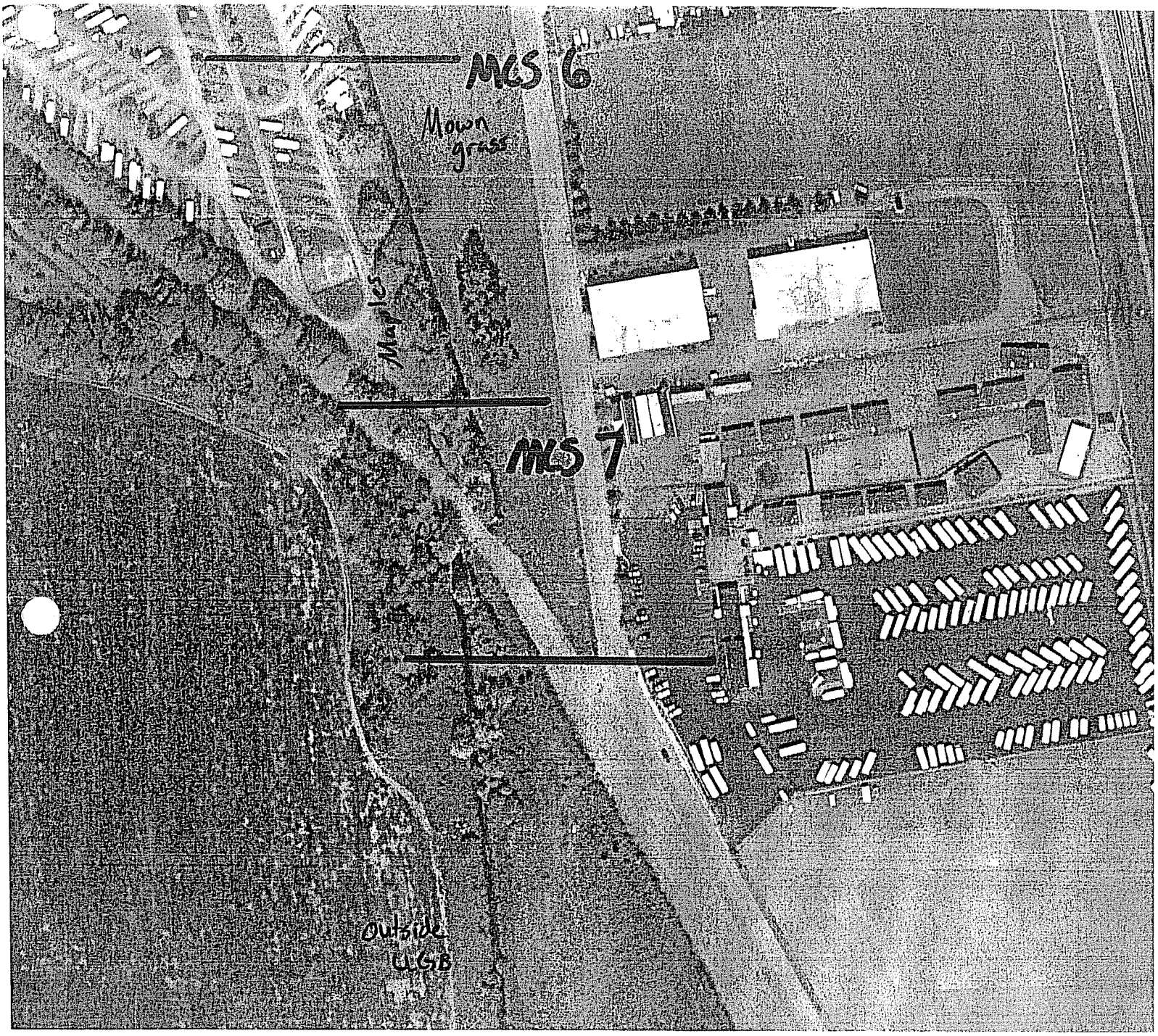
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   1 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   1 1 pt : No

4 **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) X Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   2 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   1 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   1 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   3 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   3 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   1 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   1 1 pt: Greater than 75%

14 **TOTAL POINTS** **Function: ___High (19-23 pts) X Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

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MCS-7

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-7

TAX LOTS: 16-03-33-00-00300, -00303, -00603

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-7L	150	35	High	Medium	High	High
MCS-7R	150	10	High	Medium	Low	Medium

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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory — Riparian Code: MCS7-L

Date: 7.28.99 — Investigators: N. Holzhauer

Dominant Tree Species: Acer macrophyllum (up to 60' tall, 20" dbh, multistemmed)

Width of Riparian Area: 135 feet

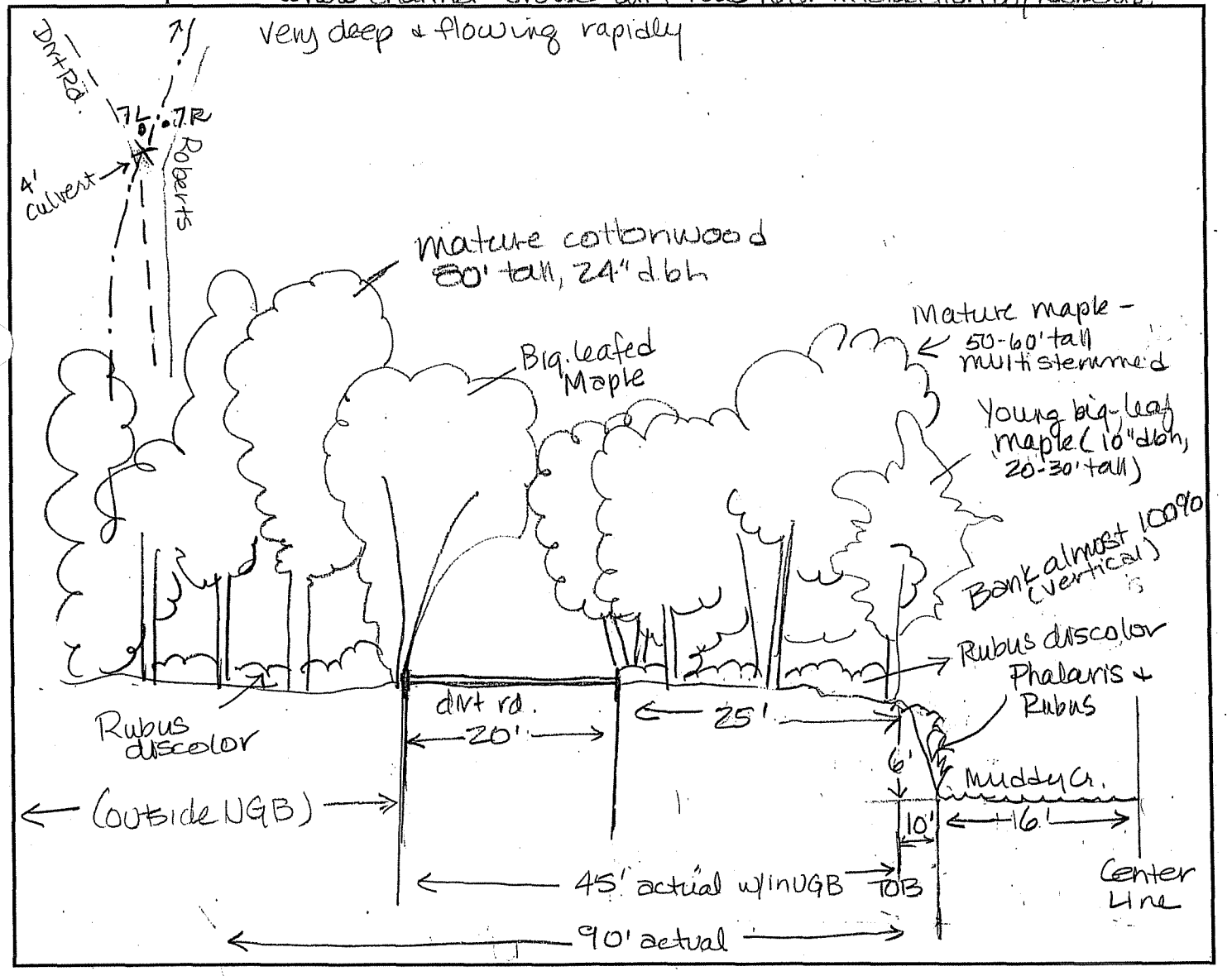
(Width measured horizontally from edge of water resource)

PTH determined by X On-site vegetation ___Reference site (Code _____)

Comments: Only "natural" vegetation, mature vegetation, in area along channel. Newer fill along this area. Dirt road considered part of riparian because trees overhang - canopy cover entire here. (also - dirt road is not an impervious surface)

Typical Cross Section (from stream center line)

Location of Sample Point: Where channel crosses dirt road near intersection w/ Roberts.



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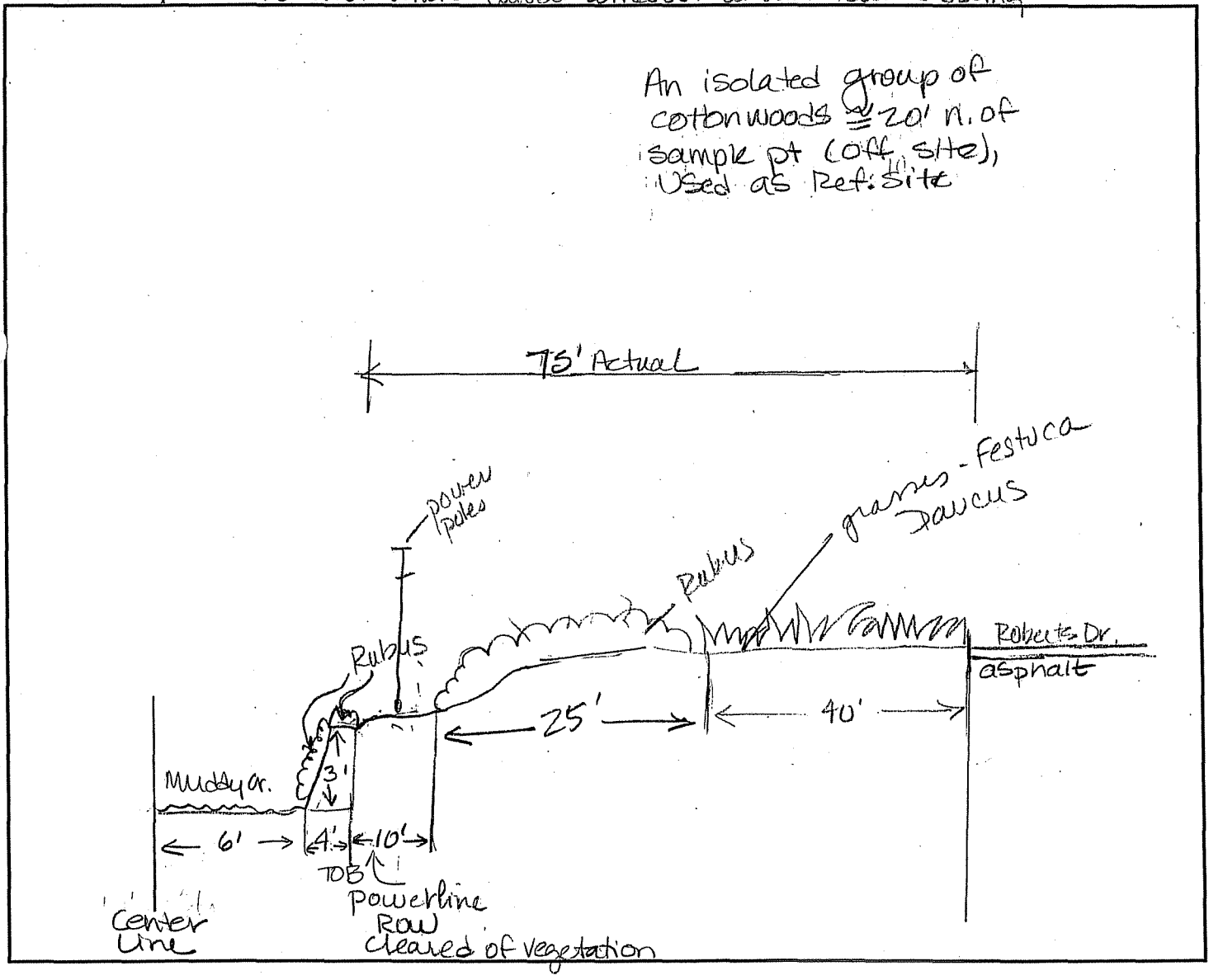
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Eugene, Oregon 97405

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-TR
Date: 7.28.99
Investigators: N. Holthouser
Dominant Tree Species: None - cottonwood patch approx. 10 @ 60' tall just N. of this tax lot
Width of Riparian Area: 10 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____ On-site vegetation X Reference site (Code MC-R1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: 20' N. of where culvert comes out at dirt road crossing



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
X On-Site __ Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 1603330000603

Riparian Code: MCS-7L
Reach Length: 150'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: 6 ft
Est Depth of OHW: ___ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other ___
Name: Muddy Creek
___ Lake/Pond — Width: ___ ft Name: ___
___ Wetland — Width: ___ ft LWI Code: ___
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 75 - Malabon Silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Acer macrophyllum	Rubus discolor
Fraxmus latifolia	Phalaris arundinacea
Populus trichocarpa	Rubus discolor
	Dactylis glomerata

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___ 10%-25% ___ >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: X Woody vegetation ___ Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? X Yes ___ No
Is large woody debris present in riparian area? X Yes ___ No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___ 10%-40% ___ <10%
Degree of development or human-caused disturbance: ___ <25% X 25-75% ___ >75%
Comments: Dirt road within 10-20' of channel.
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments: Only stretch of tall deciduous trees between Pearl & S. end of UGB. Birds using area: flycatchers, kinglets.

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
X On-Site __Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033300003303, 1603300-00300

Riparian Code: MCS-TR
Reach Length: 150'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: 3 ft
Est Depth of OHW: ___ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other ___
Name: Muddy Creek
___ Lake/Pond — Width: ___ ft Name: ___
___ Wetland — Width: ___ ft LWI Code: ___
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 15 - Malabon silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
Rubus discolor	Rubus discolor
	Holcus lanatus
	Phalaris arundinacea
	Dactylis glomerata

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Mowed grasses
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Mowed field to within 25' TOB

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS.7L
Date: 7.28.99
Investigators: N. Holzhauser

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - 3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - 3 3 pts: Yes
   - ____ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - 1 3 pts: No
   - ____ 1 pt : Yes

7 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   3 3 pts: Yes
   ___ 1 pt : No
10. Dominant vegetation layer in riparian area:
   3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   2 2 pts: Yes
   ___ 1 pt : No

8 **TOTAL POINTS** **Function: X High (7-8 pts) ___Medium (5-6 pts) ___Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   3 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   3 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ___ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   2 2 pts: Yes
   ___ 1 pt : No
15. Is large woody debris present within riparian area:
   3 3 pts: Yes
   1 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   3 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   3 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   1 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   3 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   ___ 1 pt: Greater than 75%

21 **TOTAL POINTS** **Function: X High (19-23 pts) ___Medium (13-18 pts) ___Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS-7R
Date: 7.28.99
Investigators: N. Holzhauser

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** X **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

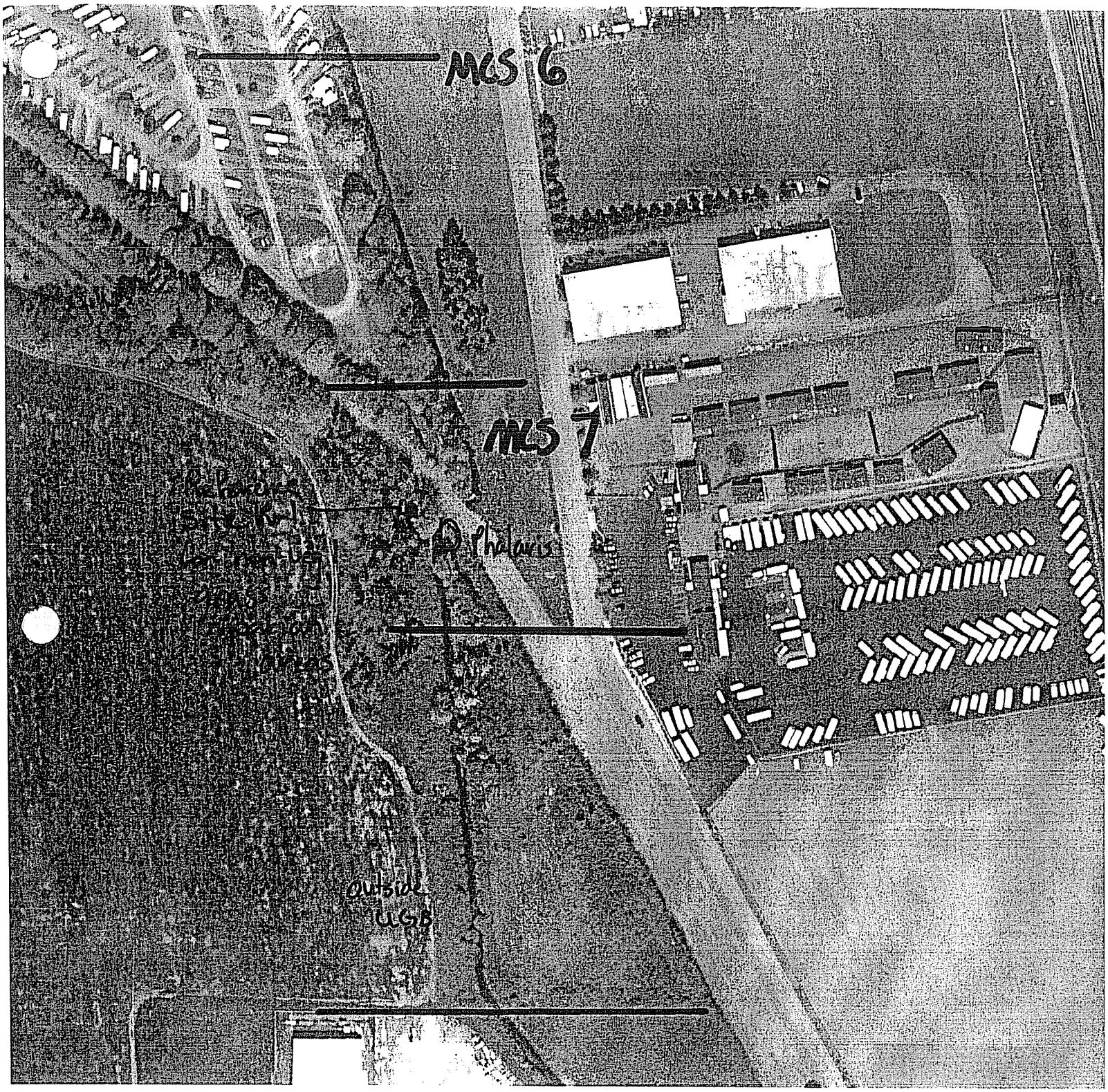
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No

__4__ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   __2__ 2 pts: 2 layers
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   __3__ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   __3__ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   __1__ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   __1__ 1 pt: Greater than 75%

__14__ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

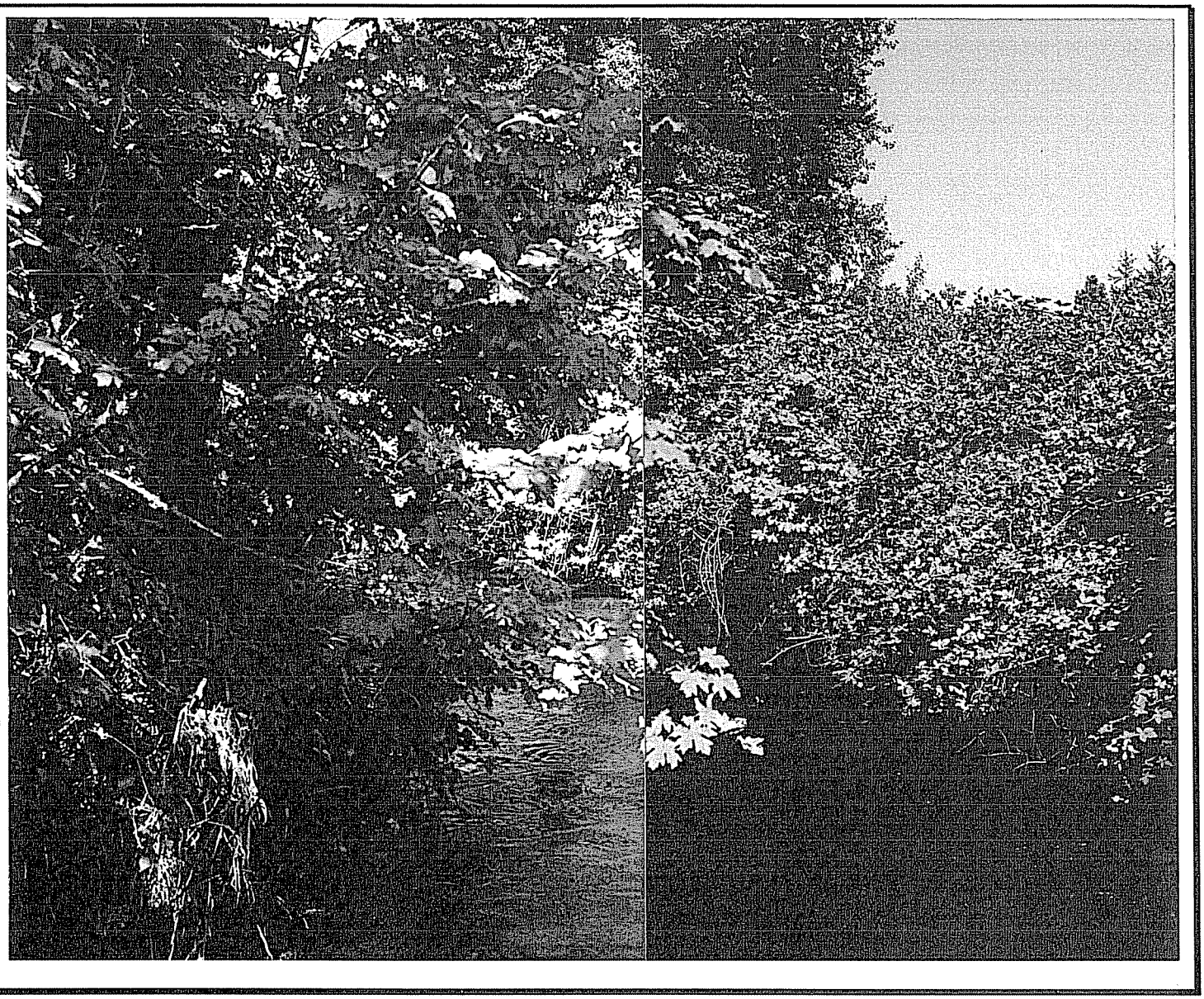
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPH
Coburg LWI
City of Coburg
October, 1999

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MCS-8

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-8

TAX LOTS: 16-03-33-40-02100, -02200

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

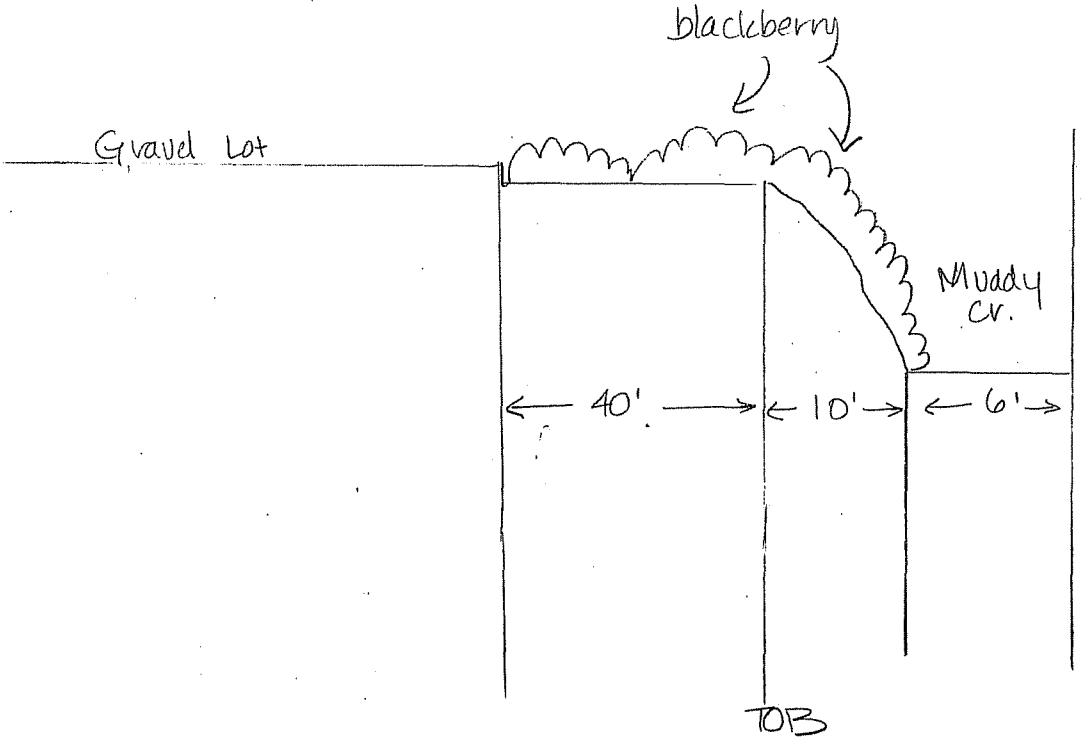
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-8L	575	32.5	Medium	Medium	Low	Medium
MCS-8R	575	9	High	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-BL
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: None present - use cottonwood from reference site

Width of Riparian Area: 132.5 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____On-site vegetation X Reference site (Code MC-R1)
Comments: _____

Typical Cross Section (from stream center line)
Location of Sample Point: From aerial photo



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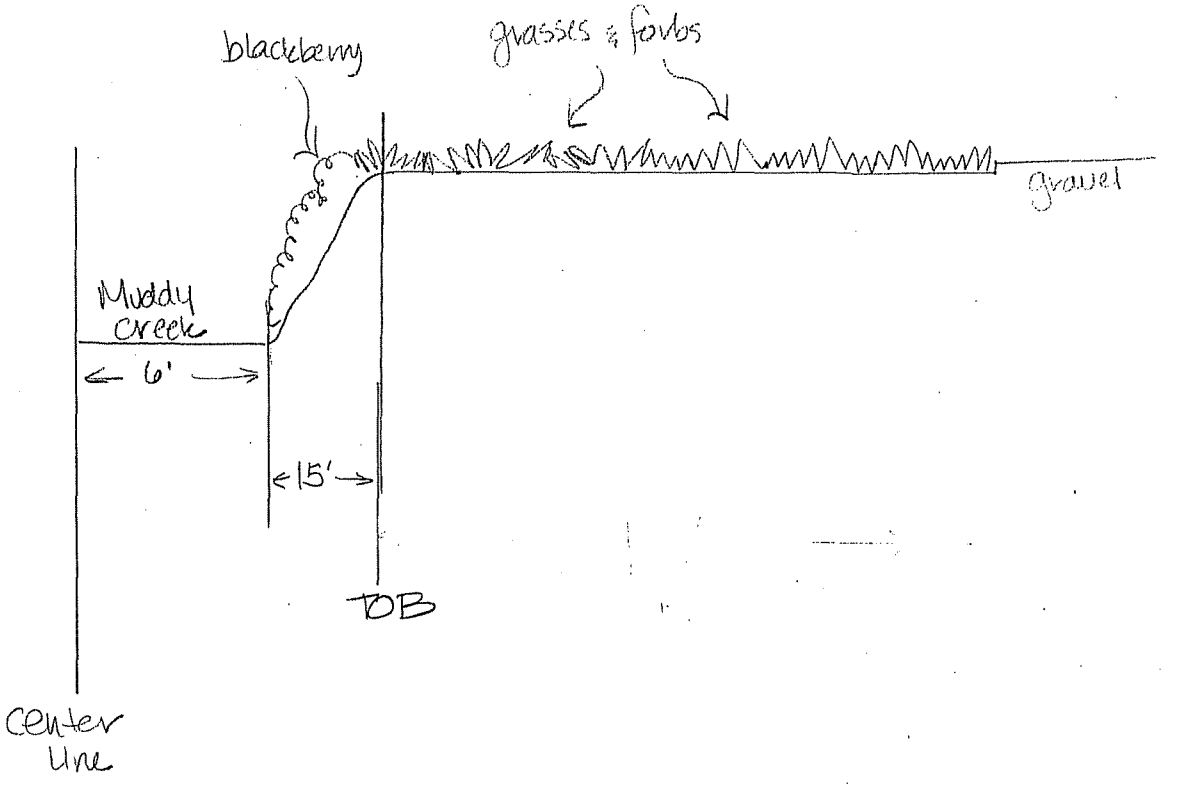
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory — Riparian Code: MCS - 8R
Date: 7.28.99 — Investigators: N. Holzhauser
Dominant Tree Species: None present - use cottonwood from reference site

Width of Riparian Area: 91 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____ On-site vegetation X Reference site (Code MC-R1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point:



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033340-02200

Riparian Code: MCS-SL
Reach Length: 575'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River
Channel Width: 12 ft Bank Full Depth: _____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other _____
Name: Muddy Creek

___ Lake/Pond Width: _____ ft Name: _____
___ Wetland Width: _____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 31 · Coburg Silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped X
Residential ____ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Rubus discolor

Average slope in riparian area: ___ < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: _____
Bank stability: ___Stable ___Minor erosion ___Severe erosion
Comments: 50' Wide vegetated strip, remainder is paved parking/storage area.

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033340-02100

Riparian Code: MCS-BR
Reach Length: 575'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12' ft — Bank Full Depth: _____ ft
Est Depth of OHW: ____ ft
Substrate: ___ Organic ___ Sand X Silt ___ Gravel ___ Other _____
Name: Muddy Creek

___ Lake/Pond — Width: _____ ft Name: _____
___ Wetland — Width: _____ ft LWI Code: _____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: ___ Yes ___ No
Mapped soil series: 31 - Coburg Silty Clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped X
Residential ____ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Rubus discolor
	Festuca arundinacea
	Dactylis glomerata
	Daucus carota

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___ 10%-25% ___ >25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___ 10%-40% ___ <10%
Degree of development or human-caused disturbance: ___ <25% ___ 25-75% X >75%
Comments: _____
Bank stability: X Stable ___ Minor erosion ___ Severe erosion
Comments: Blackberry & grasses

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS-8L
Date: 7.28.99
Investigators: N. Holzhausen

ATER QUALITY

1. Average slope in riparian area:
   ____ 3 pts: Less than 10:1 (10%): 3 pts
   ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   __1__ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   __3__ 3 pts: Less than 10%
   ____ 2 pts: Between 10% and 25%
   ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   __2__ 2 pts: Low, moderate, slight
   ____ 1 pt: High, severe, very high

__10__ **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** __X__ **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   __3__ 3 pts: Yes
   ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ____ 3 pts: No
   __1__ 1 pt : Yes

__5__ **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** __X__ **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   _2_ 2 pts: 2 layers
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_14_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Date: 7.28.99

Riparian Code: MCS-8R
Investigators: N. Holzhauser

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

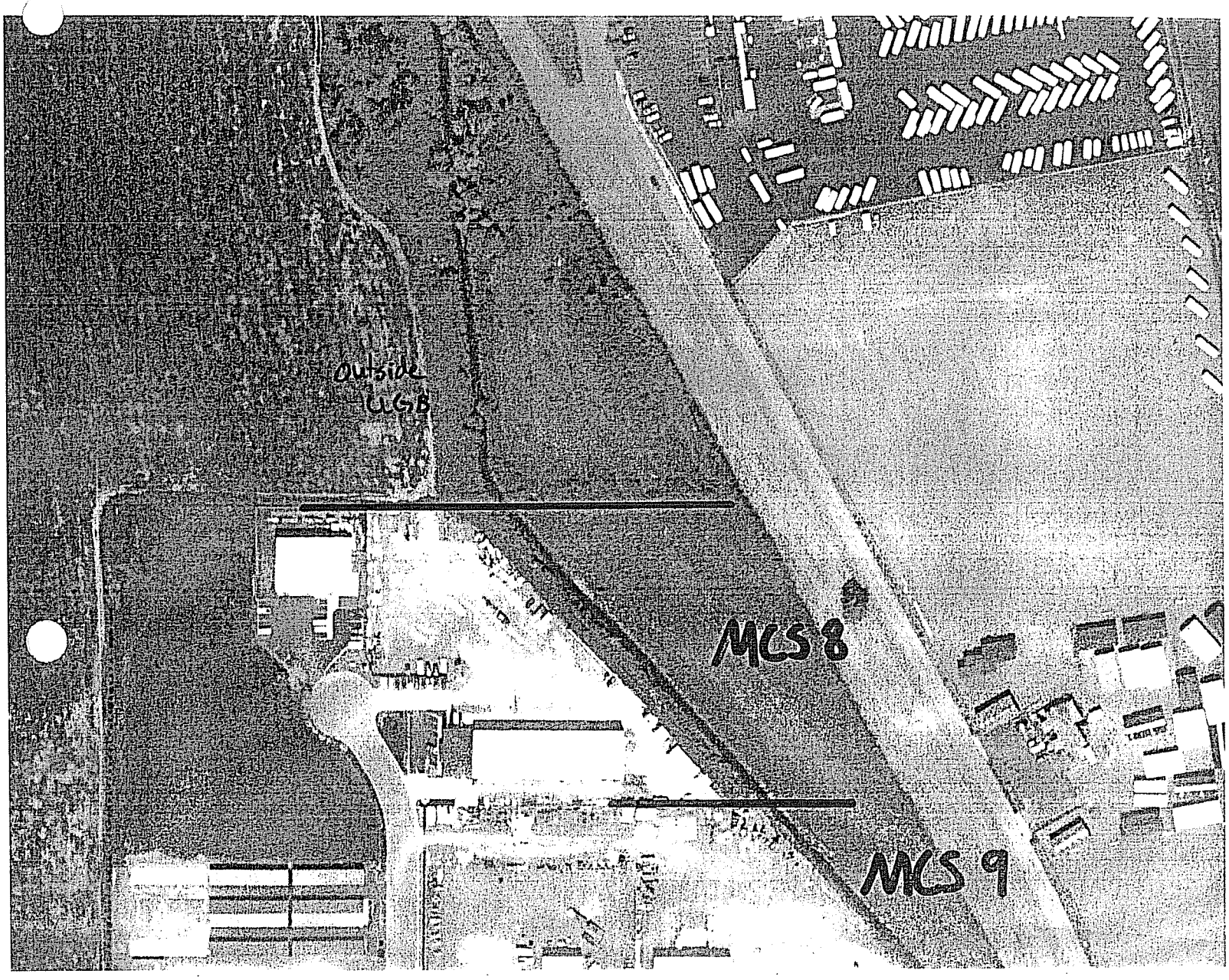
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No

__4__ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   __2__ 2 pts: 2 layers- grass, blackberry
   ____ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   __2__ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ____ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   __3__ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   ____ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   __3__ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   __1__ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   __1__ 1 pt: Greater than 75%

__14__ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

N

AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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MCS-9

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-9

TAX LOTS: 16-03-33-40-01400, -02200

CONTENTS:

RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

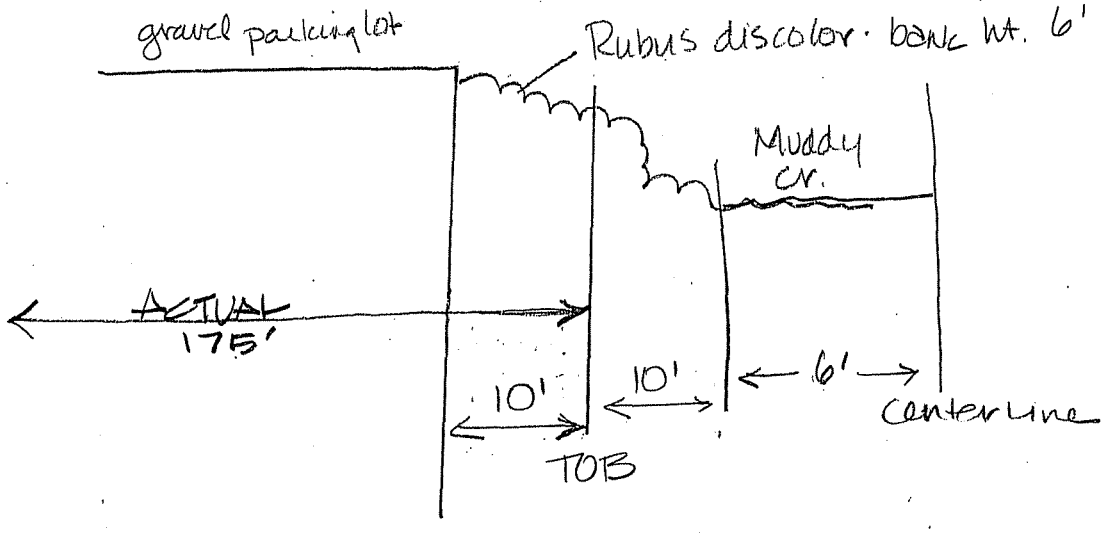
Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-9L	350	11	High	Medium	Low	Low
MCS-9R	350	5.5	Medium	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-9L
Date: 7.29.99
Investigators: N. Holzhauser
Dominant Tree Species: None - use Populus trichocarpa from Ref. site

/Width of Riparian Area: 111 feet
(Width measured horizontally from edge of water resource)
PTH determined by ____On-site vegetation X Reference site (Code MC-R1)
Comments:

Typical Cross Section (from stream center line)
Location of Sample Point: From Roberts Ct., looking N



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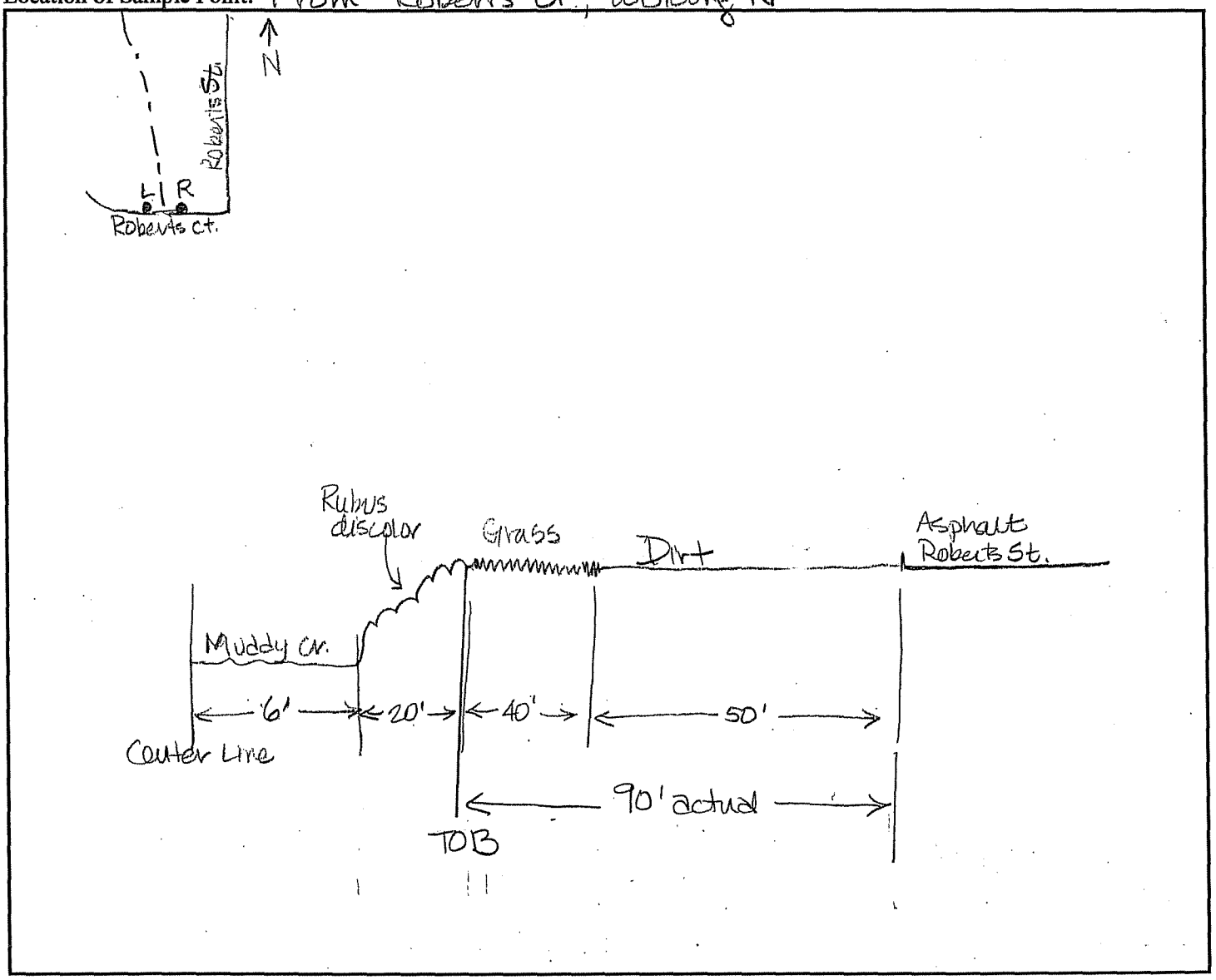
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-9R
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: None present - use Cottonwood from Ref. site

Width of Riparian Area: 5.5/0 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MC-R1)
Comments: Bank ht 6'

Typical Cross Section (from stream center line)
Location of Sample Point: From Roberts Ct, looking N



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033340-01400

Riparian Code: MC5-9 L.
Reach Length: 350'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other ____
Name: Muddy Creek

___ Lake/Pond — Width: ____ft Name: ____
___ Wetland — Width: ____ft LWI Code: ____

Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 31 - Coburg Silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped X
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Rubus discolor

Average slope in riparian area: ___< 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) X > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25% Gravel parking
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% X 10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: ____
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Gravel parking area to within 10' TOB

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots: 16033340-02200

Riparian Code: MCS-9R
Reach Length: 350'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

Water Resource: X Stream/River — Channel Width: 12 ft — Bank Full Depth: ____ ft
Est Depth of OHW: ____ ft
Substrate: ___Organic ___Sand X Silt ___Gravel ___ Other ____
Name: Muddy Creek
___ Lake/Pond — Width: ____ ft Name: ____
___ Wetland — Width: ____ ft LWI Code: ____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 31: Coburg silty clay loam
Adjacent Land Uses (Check as many as needed):
Agricultural ___ Roads X Commercial/Industrial X Undeveloped ___
Residential ___ Forestry ___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Rubus discolor
	Festuca arundinacea
	Dactylis glomerata

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: ____
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments: Muddy Creek is culverted south of here.

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS-9L
Date: 7.28.99
Investigators: N. Hotzhauser

ATER QUALITY

1. Average slope in riparian area:
   ___ 3 pts: Less than 10:1 (10%): 3 pts
   ___ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   1 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   ___ 3 pts: Less than 10%
   ___ 2 pts: Between 10% and 25%
   1 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   2 2 pts: Low, moderate, slight
   ___ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   3 3 pts: Yes
   ___ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   ___ 3 pts: Yes
   1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   ___ 3 pts: No
   1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   __1__ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   __1__ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No

__3__ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) __X__ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   __1__ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   __1__ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   __1__ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   __1__ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   __1__ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   __3__ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   __1__ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   __1__ 1 pt: Greater than 75%

__10__ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) __X__ Low (8-12 pts)**

RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS-9R
Date: 7.28.99
Investigators: N. Holzhauser

ATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

6 TOTAL POINTS **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

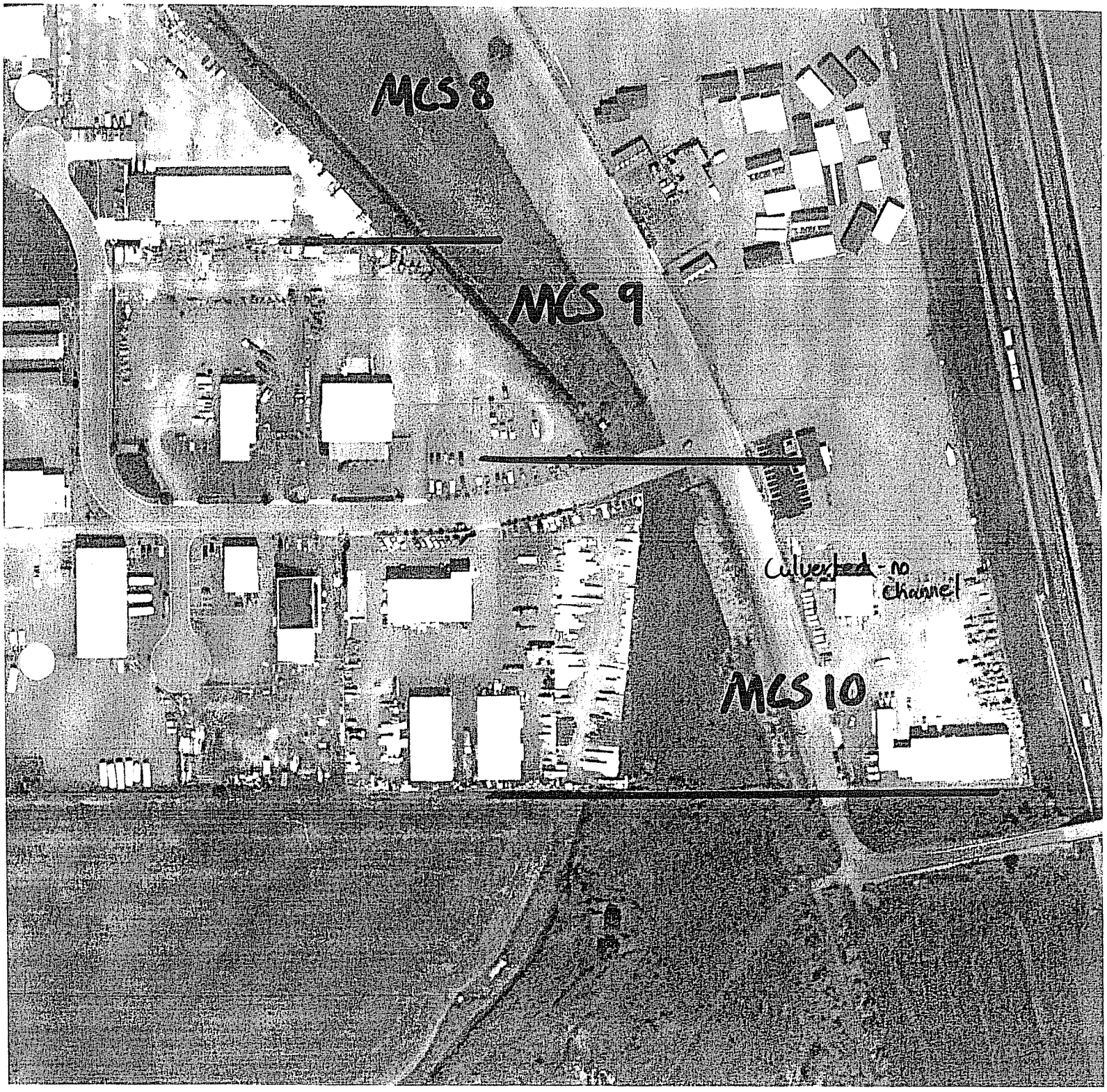
_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   _2_ 2 pts: 2 layers – blackberry, grass
   ___ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_14_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**

MCS-9



Scale: 1" : 200'

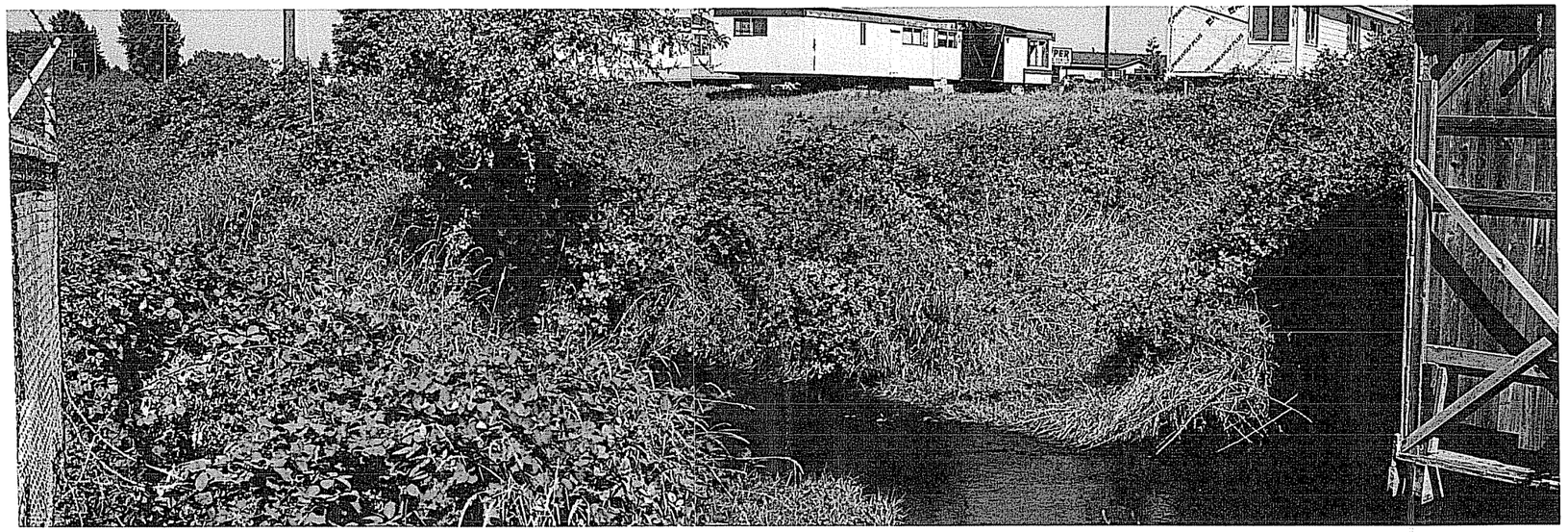
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AERIAL PHOTOGRAPHS
Coburg LWI
City of Coburg
October, 1999

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SITE PHOTOGRAPHS
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MCS-10

DRAINAGE BASIN: MUDDY CREEK IRRIGATION CANAL SOUTH

RIPARIAN REACH: MCS-10 (CULVERTED)

TAX LOTS: 17-03-04-12-00100
16-03-33-40-01300

CONTENTS:

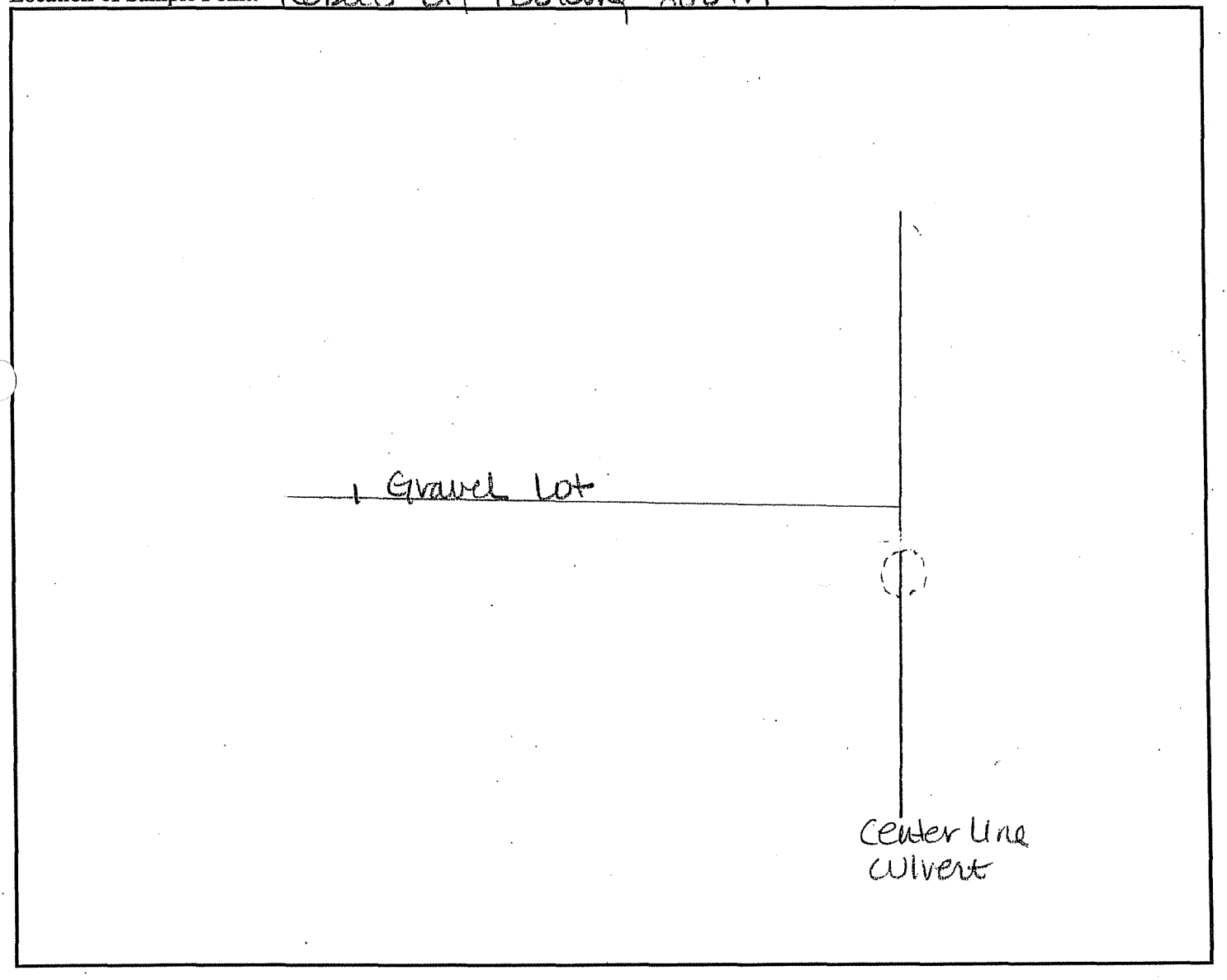
RIPARIAN WIDTH DETERMINATION FORMS
RIPARIAN CHARACTERIZATION FORMS
RIPARIAN FUNCTION ASSESSMENT FORMS
SITE PHOTOGRAPHS AND MAPS

Riparian Code	Riparian Reach Length (feet)	Average Actual Riparian Width (feet)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
MCS-10L	500	0	Medium	Medium	Low	Low
MCS-10R	500	0	High	Medium	Low	Medium

RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-10L
Date: 7.28.99
Investigators: N. Holzhauser
Dominant Tree Species: None - entire reach is culverted - use cottonwood from Ref. site
Width of Riparian Area: 0 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MC-R)
Comments: Gravel parking area from culvert West.

Typical Cross Section (from stream center line)
Location of Sample Point: Roberts Ct, looking south



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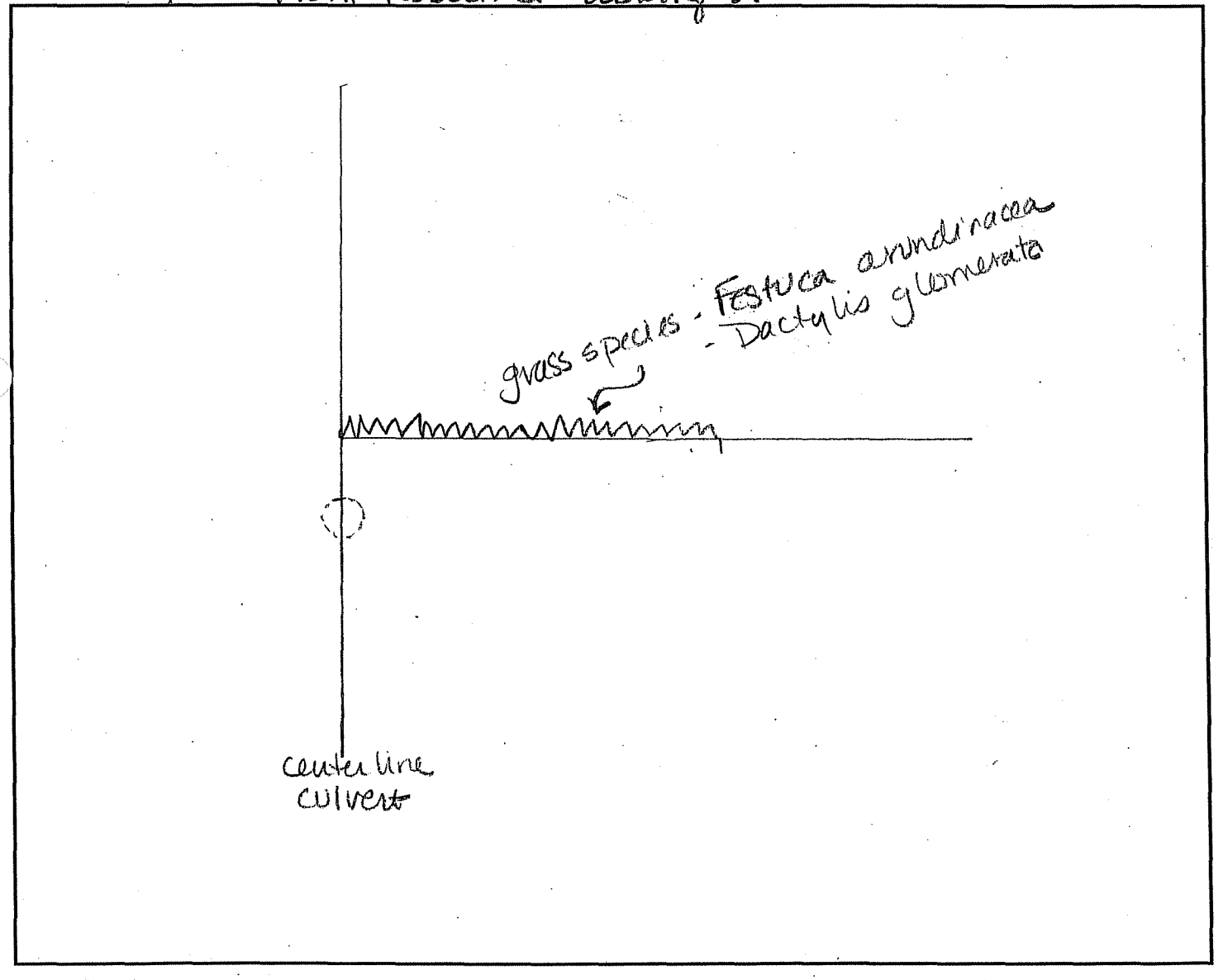
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RIPARIAN WIDTH DETERMINATION FORM

Project/ Site: Coburg Local Wetland Inventory
Riparian Code: MCS-10R
Date: 7.28.99
Investigators: N. Holzhausen
Dominant Tree Species: None - reach is culverted here - use cottonwood from Ref. Site
Width of Riparian Area: 100 feet
(Width measured horizontally from edge of water resource)
PTH determined by ___ On-site vegetation X Reference site (Code MC+R1)
Comments: Ditch goes underground here -

Typical Cross Section (from stream center line)
Location of Sample Point: From Roberts Ct looking S.



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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N. Holzhauser
Tax Lots:

Riparian Code: MCS-10L
Reach Length: 500'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

X culverted

Water Resource: ___ Stream/River Channel Width:_____ft Bank Full Depth:_____ ft
Est Depth of OHW:____ft
Substrate: ___Organic ___Sand ___Silt ___Gravel___ Other_____
Name:
___ Lake/Pond Width:_____ft Name:
___ Wetland Width:_____ft LWI Code:_____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 31: Coburg Si Hy Clay Loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped ___
Residential X Forestry___

EXISTING VEGETATION None

Woody Vegetation (Trees, shrubs, vines > 3')	**Herbaceous Vegetation** (Trees, shrubs, vines <3')

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25% Gravel Lot
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation ___Herbaceous vegetation X Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: ___>40% ___10%-40% X <10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments:
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:

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RIPARIAN CHARACTERIZATION FORM

Project/Site: Coburg Local Wetland Inventory
__ On-Site X Off-Site
Date: 7.28.99
Investigator(s): N Holzhauser
Tax Lots:

Riparian Code: MCS-10R
Reach Length: 500'
Hydrologic Basin: Muddy Creek

WATER RESOURCE INFORMATION

X culverted

Water Resource: ___ Stream/River Channel Width:_____ft Bank Full Depth:_____ ft
Est Depth of OHW:____ft
Substrate: ___Organic ___Sand ___Silt ___Gravel___ Other_____
Name: _____
___ Lake/Pond Width: _____ft Name:_____
___ Wetland Width: _____ft LWI Code:_____
Water Present Year-round: X Yes ___ No
Salmonids present: ___ Yes X No
Is water resource listed for temperature on DEQ's 303(d) list: X Yes ___ No

Within FEMA-mapped 100-year floodplain: X Yes ___ No
Mapped soil series: 31: Coburg Silty clay Loam
Adjacent Land Uses (Check as many as needed):
Agricultural X Roads X Commercial/Industrial X Undeveloped ___
Residential X Forestry___

EXISTING VEGETATION

Woody Vegetation (Trees, shrubs, vines > 3')	Herbaceous Vegetation (Trees, shrubs, vines <3')
	Festuca arundinacea
	Dactylis glomerata

Average slope in riparian area: X < 10:1 (10%) ___ Between 10:1 (10%) and 5:1 (20%) ___ > 5:1 (20%)
Extent of impervious surface within riparian area: X <10% ___10%-25% ___>25%
Is the reach constricted by human-caused features? X Yes ___ No
Does the orientation of the riparian area allow for shading of the water resource at midday in summer? ___ Yes X No
Dominant vegetation layer in riparian area: ___ Woody vegetation X Herbaceous vegetation ___ Bare ground
Does woody vegetation hang over edge of water? ___ Yes X No
Is large woody debris present in riparian area? ___ Yes X No
Percent of water resource bordered by vegetated riparian area at least 30' wide: X >40% ___10%-40% ___<10%
Degree of development or human-caused disturbance: ___<25% ___25-75% X >75%
Comments: Potential riparian area (aboveground) mowed grasses
Bank stability: X Stable ___Minor erosion ___Severe erosion
Comments:
Entire reach is culverted

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory
Riparian Code: MCS-10L
Date: 7.28.99
Investigators: N. Holzhauser

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - 1 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

10 **TOTAL POINTS** **Function:** ___ **High (12-14 pts)** X **Medium (8-11 pts)** ___ **Low (5-7 pts)**

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___ **High (8-9 pts)** X **Medium (5-7 pts)** ___ **Low (3-4 pts)**

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THERMAL REGULATION

9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ____ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No

_3_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ____ 3 pts: More than 2 layers
   ____ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   ____ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   _1_ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ____ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ____ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   ____ 3 pts: Greater than 40%
   ____ 2 pts: Between 10% and 40%
   _1_ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ____ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ____ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ____ 3 pts: Less than 25%
   ____ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_10_ **TOTAL POINTS** **Function: ___High (19-23 pts) ___Medium (13-18 pts) _X_Low (8-12 pts)**

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RIPARIAN FUNCTION ASSESSMENT FORM

Project/Site: Coburg Local Wetland Inventory Riparian Code: MSC-10R
Date: 7.28.99 Investigators: N. Holzhauer
Entire reach is culverted - this pertains to above-ground conditions

WATER QUALITY

1. Average slope in riparian area:
   - 3 3 pts: Less than 10:1 (10%): 3 pts
   - ____ 2 pts: Between 10:1 (10%) and 5:1 (20%)
   - ____ 1 pt: Greater than 5:1 (20%)
2. Dominant vegetation cover in riparian area:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
3. Dominant vegetation at top of bank (if defined) or edge of water resource:
   - ____ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   - 2 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   - ____ 1 pt: Bare ground
4. Extent of impervious surfaces within the riparian area:
   - 3 3 pts: Less than 10%
   - ____ 2 pts: Between 10% and 25%
   - ____ 1 pt: Greater than 25%
5. Natural Resources Conservation Service soil survey rank of water erosion hazard of dominant mapped unit in riparian area: (select highest water erosion hazard description if more than one is listed)
   - 2 2 pts: Low, moderate, slight
   - ____ 1 pt: High, severe, very high

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

FLOOD MANAGEMENT

6. Are flood prone areas (adjacent flat areas, depressions, swales, FEMA-mapped 100-yr floodplain, etc) beyond top of bank or edge of water resource?
   - 3 3 pts: Yes
   - ____ 1 pt : No
7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter high dominant in flood prone riparian area:
   - ____ 3 pts: Yes
   - 1 1 pt : No or no flood prone area present
8. Is stream or water resource constricted by human-made features (channelization, riprap, concrete wall)?
   - ____ 3 pts: No
   - 1 1 pt : Yes

5 **TOTAL POINTS** **Function:** ___**High (8-9 pts)** 5 **Medium (5-7 pts)** ___**Low (3-4 pts)**

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THERMAL REGULATION

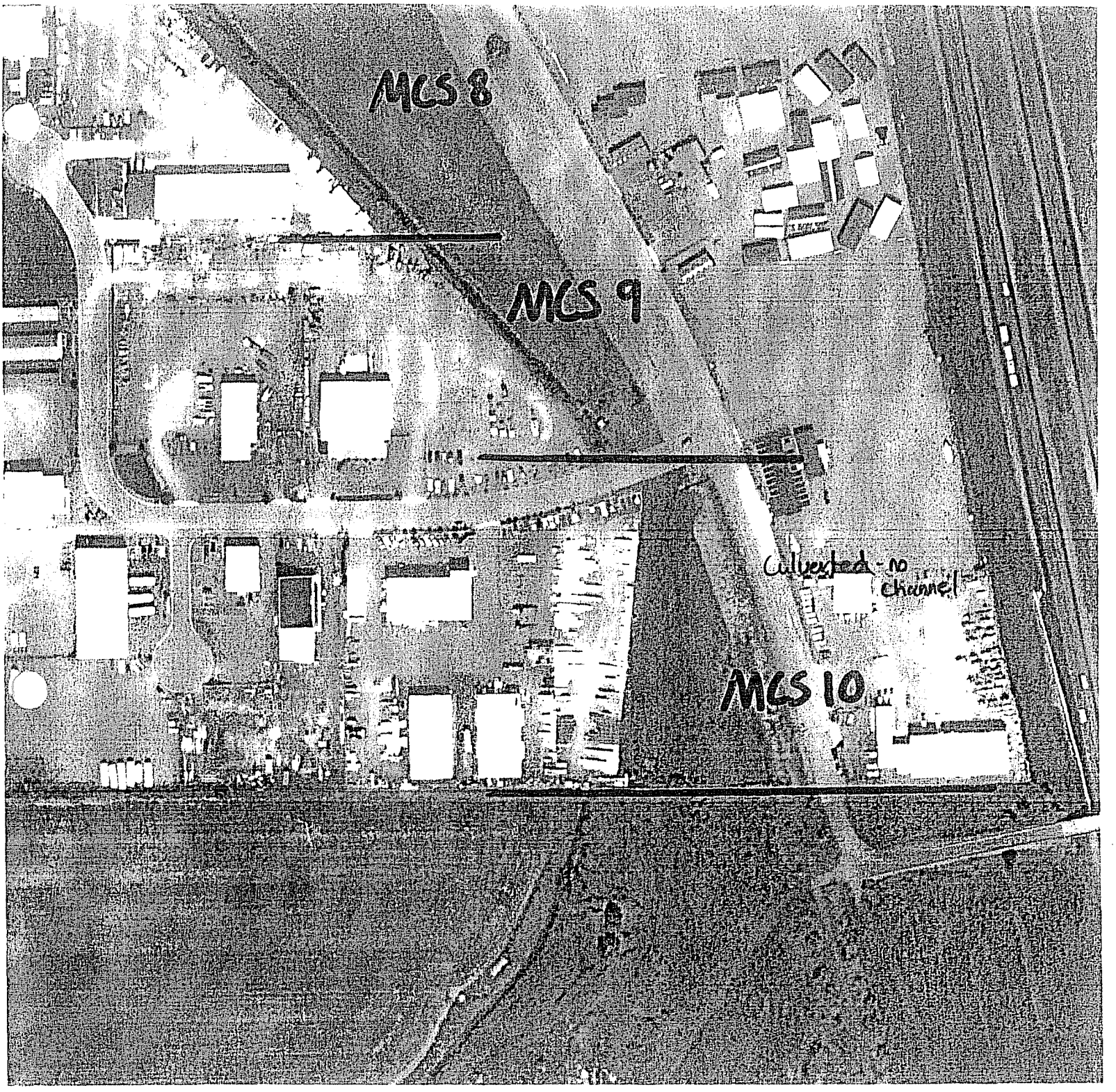
9. Does the aspect or orientation of riparian area allow for shading of water at midday in summer?
   ___ 3 pts: Yes
   _1_ 1 pt : No
10. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
11. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No

_4_ **TOTAL POINTS** **Function: ___High (7-8 pts) ___Medium (5-6 pts) _X_ Low (3-4 pts)**

WILDLIFE HABITAT

12. How many vegetation layers (ie: canopy, mid-story, groundcover) are present?
   ___ 3 pts: More than 2 layers
   ___ 2 pts: 2 layers
   _1_ 1 pt: 1 layer, or unvegetated
13. Dominant vegetation layer in riparian area:
   ___ 3 pts: Woody vegetation (trees, shrubs, vines) > 1 meter high
   _2_ 2 pts: Herbaceous vegetation or woody vegetation < 1 meter high
   ___ 1 pt: Bare ground
14. Does woody vegetation hang over edge of water?
   ___ 2 pts: Yes
   _1_ 1 pt : No
15. Is large woody debris present within riparian area:
   ___ 3 pts: Yes
   _1_ 1 pt : No
16. Percent of water resource edge bordered by vegetated riparian area at least 30 feet wide:
   _3_ 3 pts: Greater than 40%
   ___ 2 pts: Between 10% and 40%
   ___ 1 pt: Less than 10%
17. Is surface water present throughout the year?
   _3_ 3 pts: Yes
   ___ 1 pt : No
18. Is there more than one type of water resource (ie. Stream, wetland, lake/pond) within or immediately adjacent to riparian reach?
   ___ 3 pts: Yes
   _1_ 1 pt : No
19. Degree of development or human-caused disturbance (ie. buildings, impervious surfaces, lawns, agriculture) in riparian area:
   ___ 3 pts: Less than 25%
   ___ 2 pts: Between 25% and 75%
   _1_ 1 pt: Greater than 75%

_13_ **TOTAL POINTS** **Function: ___High (19-23 pts) _X_ Medium (13-18 pts) ___Low (8-12 pts)**



Scale: 1" : 200'

N

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APPENDIX 8.5.

PROJECT TEAM QUALIFICATIONS

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Statement of Qualifications

MICHAEL W. SHIPPEY, MLA
ASSOCIATE / NATURAL RESOURCES MANAGER

Education	Master of Landscape Architecture, Landscape Ecology focus, University of Oregon, 1991 Bachelor of Landscape Architecture, University of Oregon, 1989 Bachelor of Fine Arts (Visual Arts), Biological Sciences minor, Or. State Univ., 1976
Professional Affiliations	Member, *Society of Wetland Scientists* Member, *Society for Ecological Restoration*
Professional Experience	1999 - present, Associate / Natural Resources Manager, Satre Associates, P.C. 1998-1999, Senior Natural Resources Specialist, Satre Associates, P.C. 1991-1998, Wetland Resource Specialist, Oregon Dept. of Transportation 1995, Adjunct Faculty, Graduate Design Studio, University of Oregon 1987-1990, Parks Designer, City of Eugene Parks Planning and Development 1989-1991, Wetland Field Researcher, Scientific Resources Inc.
Supplemental Coursework	Feb. 1999, Stormwater Solutions, Implementation of NPSP Control, City of Medford May 1997, Designing and Implementing Habitat Mod. for Salmon and Trout, O.D.O.T. May 1997, Integrating Stormwater Management & Wetlands, Soc. of Wetland Scientists Feb. 1997, The Hydrogeomorphic Functional Assessment Method, CTE Teleconference July 1996, Hydric Soil Geomorphology and Identification, Oregon State University July 1994, Grasses, Sedges and Rushes, Hortus Northwest June 1994, Streambank Protection using Vegetation, Wash. Dept. of Ecology Sept. 1993, Visual Impact Assessment, Federal Highway Administration Feb. 1993, Stream Habitat Restoration: App. of Geomorphic Principles, Or. State Univ. Oct. 1992, Wetland Delineation, 1987 Manual, Wetland Training Institute July 1992, Wetland Plant Identification, Salix Associates April 1992, Constructed Wetlands for Wastewater Treatment, Unified Sewerage Agency

Through the combination of interests, experience and education, Mike has developed a strong reputation for solid natural resource research, innovative environmental design solutions, thorough construction inspection and insightful post-construction monitoring. He has shown an ability to deliver complex projects within the estimated timeframe, and has developed strong working relationships with a wide variety of regulatory and resource agency staff members. Additionally, Mike also provides an enthusiastic and creative approach to problem-solving, based upon knowledge of the regulations and regulatory processes, integrated with the needs of the client and optimum stewardship of the resource.

In his 11+ years personally conducting or providing consulting oversight for wetland delineations, Mike has successfully received both State and Federal concurrence for all of his delineation projects. Mike's compensatory mitigation designs have often integrated wetland needs with other resource needs, such as threatened and endangered plant population conservation zones and fish habitat mitigation. Mike has participated in many major projects of local and statewide importance, such as providing delineation services for 170 acres in the West Eugene Wetland Program area; providing delineation and compensatory design services for widening of 15 miles of Interstate 5 for the Oregon Department of Transportation; providing compensatory design services for realignment of 7 miles of State Highway 20, which integrated coastal salmon habitat needs with wetland mitigation requirements; and providing compensatory design and construction monitoring services for a 46 acre wetland mitigation bank site.

In addition, Mike has co-authored the *Guide to Wetland Issues for Transportation Designers* for the American Association of State Highway and Transportation Officials. This publication was issued in September 1996 and has been distributed nationally, receiving very strong praise from a varied audience. While at ODOT, he also served on the Department of State Lands Technical Advisory Committee, currently developing a manual for implementing the recently authorized *Administrative Rules for Wetland Mitigation Banking.*

Environmental Solutions
Nancy Holzhauser: Consultant
2540 Pierce Street
Eugene, Oregon 97405
(541) 343-6585

Statement of Qualifications

Education: University of California, Davis. B.S. 1974: Wildlife and Fisheries
University of California, Davis. M.S. 1976: Ecology
1976: Publication of Masters Thesis in Journal of the American Fisheries Society

Accreditation: 1997: Wetland Delineation Training Certification from the Wetland Training Institute
1998: Wetland Mitigation, Construction, and Installation from the Wetland Training Institute

Memberships: Society of Wetland Scientists
The Wildlife Society
The Native Plant Society of Oregon

Representative Projects:

- *Wetlands Determination and Delineation Projects* including permit applications and mitigation plans. Clients include the Union Pacific Railroad, the City of Burns, and the Fern Ridge Public Library.
- *Wetland Inventories and Assessments (using the OFWAM Methodology), including Riparian Corridor Assessments.* Clients include the cities of Madras and Burns.
- *Biological Assessments and Evaluations* for Federally-listed threatened, endangered, and sensitive species for various projects, including timber sales and road improvement projects. Clients include the City of Eugene and Systems West Engineering for the City of Veneta.
- *Streamside Management Plans and Projects* including surveying, mapping, and designing instream projects for fisheries habitat improvement for various anadromous and resident fish species. This included coordinating with timber sale plans and logging operations to ensure that Federal regulations in terms of stream and water quality protection measures were met.
- *Fisheries Assessments* for anadromous and resident fish species, including evaluation of stream quality, and recommendations for habitat improvement projects.
- *Wildlife and Plant Management Plans* for threatened, endangered, sensitive, and species of concern that included cavity nesters, goshawk, osprey, and big game.
- *Interdisciplinary team member* to assist in preparation of Environmental Analyses for timber sales and other large projects that address impacts to wildlife, fish, and sensitive species.

- Jim Aho, City Manager, City of Burns
  Project: Wetland Delineation and Wetland Inventory and Assessment for the City of Burns
  Phone: (541) 573-6451

- Dan Meader, Planner for Tenneson Engineering
  Project: Wetland Inventory and Assessment, Riparian Corridor Assessment for the City of Madras
  Phone: (541) 296-9177

- Richard Romanek, Fern Ridge Library Board Member, Veneta, Oregon
  Project: Wetland Delineation, Removal/Fill Permit Application, Mitigation Plan
  Phone: (541) 935-7512

- Larry Tucker, Fire Chief for Scio Rural Fire District
  Project: Wetland Delineation
  Phone: (503) 394-3000

- Gordon Anslow, Owner of Anslow and Degenault, Eugene, Oregon
  Project: Wetland Determination
  Phone: (541) 484-0070

Ethen Perkins

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2410 Monroe
Eugene, Or. 97405
(503) 345-3944

Personal Data
Born: 2/15, 1950
NE, US Citizen
Excellent Health
4 dependents
SSN 431-94-6747

Biographic Sketch

EDUCATION:

B.Sc. 1973 University of Oklahoma, Norman Oklahoma. Botany, ecology, .
Ph.D. 1978 University of British Columbia, Canada. Plant systematics
Thesis: Systematics of *Saxifraga occidentalis* complex in the Pacific Northwest.

PROJECTS

Ecological Consultant/Botanical Surveyor 1991-present

Clients: S.R.I./Shapiro/AGCO, City of Eugene, Salix Associates, EnviroScience, Inc., Eugene B.L.M., Willamette National Forest; Save Our ecoSystems, Inc., Western Bridge, Wetland Specialties, U.S. Corps of Engineers, U.S. Forest Service, U.S. Bureau of Land Management, & numerous owners & realtors.

*__Botanical inventories__, sensitive species surveys for Eugene & Medford BLM Districts, Grants Pass
*__Plant community & habitat analysis__ Scappoose & Lake Umatilla [USCOE].
*__Wetlands Delineations, Determinations & Mitigation projects__ in 12 urban areas of the Pacific Northwest.
*__Wildlife, hydrology, site concept development plan__ for Delta Ponds landowner, two subcontractors.

Herbarium Research Assistant 1990-1991

University Herbarium, University of Oregon, Eugene, Oregon
*Type Specimen Catalog computerization; Three Sisters Wilderness Flora - Saxifragaceae,

Director of Science and Land Stewardship 1986-1990

The Nature Conservancy, Iowa Field Office, Des Moines, Iowa.
*__Wildlife area management__; prescribed burning leader; vegetation & rare species monitoring
*Acting State Directorship; __real estate negotiations__, landowner contact, appraisals, fundraising
*__Natural area restorations__; tallgrass, midgrass, savannah restoration projects
*Preserve __volunteer coordination__. __Supervision__ of staff, interns & subcontractors

Program Director 1982-86

Malheur Field Station, Burns, Oregon.
*__Curriculum development & promotion__ for seasonal environmental coursework
*__Research project & interagency coordination__, promotion, grantsmanship
*__Operational oversight__ for $150,000/ year program focused on natural history hosteling

Ecological Consultant 1981

Western Resources Development, Boulder Colorado.
*Mining reclaimation natural __vegetation studies__, west slope Rocky Mountian communities

Assistant & Adjunct Professor of Biology 1978-81

University of Denver, Colorado. & Austin College, Sherman, Texas, & Univeristy of Oklahoma Biological Station . __College level courses and undergraduate research projects__ in floristics and plant ecology.

Other interests: Watsu Aquatic Body Work, Facilitation of Non-Violence Workshops, Volunteer Visitation of Juvenile Offenders, Co-Counseling

Ethen Perkins, Ph.D.
2410 Monroe, Eugene,
OR 97405
(541) 345-3944 FAX 334-0980

Statement of Qualifications

Area Wetland Inventories-

- West Eugene Wetlands Supplemental Inventory- principle field botanist approximately 50 sites 5000 acres, site inspections, field data collection, botanical identifications, mapping.

Rare species Inventories-

- Eugene District BLM timber sales clearances for T & E plants, 5 seasons in joint venture projects more than 100 sites on estimated 20,000 acres at 40 acres/day.
- Inventories for Willamette National Forest timber sales clearances and burning projects, 20 sites, 300 acres
- Medford District BLM Serpentine plant surveys on about 1,000 acres over two seasons, estimated number of occurrences: 200 for about 20 species of endemic serpentine flora
- Bradshaw's lomatium population survey in Amazon Park raising number of known plants from 400 to about 20,000 and recommending management designs; later successful transplantation of an outlier in footprint of proposed parking lot.
- Amazon basin survey for rare plant occurrences, approximately 3 miles of valley floor survey in public areas along Amazon channel.
- Approximately 20 smaller inventories for private interests related to wetlands, or development issues.

Plant Community Inventories

- John Day Reservoir plant community study of impacts from proposed reservoir elevation lowering to protect migrating salmon runs. About 30 transects at 15 sites using GPS 15 cm resolution location methods.
- Hyundai Semiconductor of America plant community mapping. 20 transects on about 100 acres to fine wet prairie and disturbance prairie mapping resolutions of roughly 1 meter.

Wetland & Natural Areas Restoration Projects

- Hyundai Semiconductor of America wetlands restoration project including design considerations, field management of recontouring, replanting and monitoring of project. 30 acres of wet prairie, stream channel and recontoured pond habitats
- Bendix, Wyatt Meadows projects, designs, plantings and monitoring of wet prairie and buffer areas

Wetland delineations

- 40 on-site determinations and 30 on-site delineations in past 8 years for parcels ranging from 200 acres to 1 Oregon Coast to vernal pool wetlands in Sacramento California; most sites in Willamette Valley

Ethen Perkins, Ph.D. Ethen Perkins

GRETA MURDOFF
BIOLOGIST / INTERN

Education Bachelor of Science, Biology major, University of Oregon, 1999.

Professional Affiliations Member, *Native Plant Society of Oregon*
Member, *Society of Wetland Scientists*

Professional Experience 1999 - present, Biologist / Intern, Satre Associates, P.C.
1998-1999, Technical Assistant, Wetland Specialties, Inc.

Supplemental Coursework

Oct. 1999	Best Management Practices for Reclaiming Surface Mines, Oregon Dept. of Geology and Mineral Industries
Aug. 1999	Wetland Ecology of the Northern Great Basin, Pacific University

A native Oregonian with a keen interest in her natural surroundings, Greta's interests in the fields of wetland ecology and botany led her to extensive studies in biology at the University of Oregon. The studies culminated in her completion of the Bachelor of Science degree in Biological Sciences. Greta continues to pursue these environmental interests in the Willamette Valley and beyond, participating in educational opportunities as they arise.

In the time she has been with Satre Associates, Greta has proven herself to be a quick learner and an enthusiastic worker, assisting with field and office work on many varied projects. She has assisted in the collection of wetland field data for many wetland projects, including the Local Wetland Inventory for the City of Coburg, the Autzen Stadium Expansion Project, and the East Bank Trail project for the City of Eugene, and conducted wetland delineation field work for many other projects in the area. She has applied her excellent computer skills in the production of Reports of Findings for Rare Plant Surveys, Wetland Delineations and Joint Permit Applications, as well as mapping using ArcView GIS.

Ron Funke
2595 Charnelton St.
Eugene, OR 97405
phone(541) 342-5009
email:rrfunke@pond.net

SKILLS & QUALIFICATIONS

Good communication and team work skills
Good visual, analytical and technical writing skills
Strong community involvement
Proficient in Arcview, Autocad, & Web development programs
Proficient in Microsoft Word, Excel, PowerPoint, & Access

EDUCATION

Masters Candidate, Community & Regional Planning, UofO, graduate Spring, 2000
B.S. Planning & Public Policy Management, UofO, Summer 1998

EMPLOYMENT

Planning, Public Policy &Management Webmaster, Internship Program
1209 University (541) 346-3604 *Dates* Sept.'99 – June '00
University of Oregon *Supvr* Charlene Phipps
- Develop and manage Internship Program website, develop Access database for records & management

Custom Technical Services Self-emply'd & Union Carpenter Contractor/Designer/Builder
2595 Charnelton St. (541) 342-5009 *Dates* July. '95 – Sept. '97
Eugene, OR 97403 *Supvr* Self
- Over year work at Hyundai Wafer Plant, for various contractors from beginning to nearly complete. Concrete, steel studs, waffle deck, sheet rock and computer room floor.
- Other industrial and residential construction involving concrete, steel and wood. References on request.

Bulk Handling Systems Fred Austin, President Designer / Draftsman
1040 Arrowsmith Rd. (541) 485-0999 *Dates* Aprl. '95 - July. '95
Eugene, OR 97403 *Supvr* Roy Meyers
- Detailed and designed shed addition to Bulk Handling machine and manufacturing shop.
- Designed and detailed mechanical and shop drawings for conveyor systems on AutoCad, Ver.12®.

Evergreen Engineering John Solvason, PE, Past Pres. Draftsman / Designer
860 Conger St. (541) 484-4771 *Dates* July '94 - Feb. '95
Eugene, OR 97402 *Supvr* John Solvason
- Structural, architectural, mechanical, piping, flow & detail drawings for MDF plants, and related equipment (piping, concrete, decks, conveyors) on AutoCad, Ver.12®..

CE/Western Engineering Brain Downs, PE, Vice Pres. Draftsman / Designer
1020 Bain St. Ceased operations *Dates* Feb. '93 - Jan. '94
Albany, OR 97321 *Supvr* Brain Downs
- Structural, architectural, mechanical, piping, detail & flow for MDF plants, and related equipment (decks, conveyors, concrete) on Autocad 11®.
- Excel®, Ascend® & other time/production management tools

Associated Design, Inc. Rick MacAlexander, Pres. Draftsman
1100 Jacobs Dr. (541) 461-2082 *Dates* Aug. '92 - Feb. '93
Eugene, OR 97401
- Floor plans, elevations, foundations and details for custom homes and kit market.
- Presentation drawings for syndicated weekly newspaper housing column

Willowgreen Nursery/Funky Fruit & Flower Co. Ron Funke, Owner
34072 Seavey Loop Rd (541) 747-1881 *Dates* Feb. '73 - Oct. '82
Eugene, OR 97405
- Raised bedding plants, hanging baskets and specialty crops for other growers
- Organic truck farm/U-pick tomatoes, peppers, cherries and blueberries

Ron Funke

Professional References

Michael Hibbard	Dept. Head, Community & Regional Planning, UofO.	Work phone: 346-3081
1867 Fircrest Dr.	Eugene, OR 97403	Home phone: 484-5567
Robert Parker	Director, Community Planning Workshop, UofO.	Work phone: 346-3801
2190 Cleveland St.	Eugene, OR 97405	
Richie Weinman	Planning & Development, City of Eugene	Work phone: 343-8029
55 W 31st Place	Eugene, OR 97403	Home phone: 485-7120

Education

University Of Oregon — 1997-Current
- Masters Community & Regional Planning — To be completed - June '00
- B.S. Planning & Public Policy Management — Grad. Summer '98

Lane Community College
- Pre-engineering oriented mathematics classes — 1993-1995
- Degree Requirements Completed - Technical Drafting — Winter - 1992

University Of Oregon — 1966-1969 1971-1973
- Major: English with Creative Writing & Folklore Studies emphasis
- Technical & Creative Writing courses (other than core req.) 15 Hours @ 3.60 GPA

Otero Junior College, La Junta, Colorado
- Associate Degree - English — 1971

Sheldon Senior High School, Eugene, Oregon — Graduate 1966

Community Activities

Friends Of Hendricks Park, Vice President — Jan '98 - Current
- Natural area oversight & protection organization

Institute for Science, Engineering and Public Policy — 1993-1995
- Promoted and publicized ISEP lectures at Lane Community College
- Successfully obtained student senate subsidies for lecture series tickets — 1993-1995

Kids Sport - 3rd Grade Baseball Coach — Spring - Summer 1991
- 7th Grade Basketball Coach — Winter 1973 - '74

"City Pride" City Beautification Committee — 1986 - 1988
- Co-Chair - 6th and 7th Beautification Project
- Coordinated & promoted curb-side plantings on rebuilt 6th & 7th streets

Community Development/Neighborhood Improvement — 1984 - 1988
- Scobert Neighborhood Park - 1100 W. 4th
- Designed secondary landscaping, major role in planting perennial beds and lawn

Goshen Rural Fire Department, Goshen, Oregon — 1978 - 1982
- Vice President - Board of Directors
- Helped pass $350,000 bond levy for new fire station & fire truck — 1980

Hobbies

Hiking, Birding, Gardening, Skiing, & Mountain Climbing