



SKAGIT ENVIRONMENTAL BANK

Skagit County, Washington

Wetland Mitigation Bank

Wetland Delineation Report

Prepared for

The Mitigation Bank Review Team

Prepared by

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Skagit Environmental Bank Wetland Delineation

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Introduction

The first draft of this delineation, dated December 10, 2004, described wetland boundaries and areas on the bank site. Since then, bank design changes made during the course of the bank design review process changed the boundary of the bank site. In addition, wetland areas and boundaries changed to reflect changes in the field that were verified by the corps and ecology during an on-site visit, May 24, 2005. The areas in this report were calculated using GIS technology. As a result, the acreages of bank area and delineated wetlands changed. The information in this report supersedes all information in the December 2004 report.

This report describes a wetland delineation of the 370-acre Skagit Environmental Bank site conducted by Kevin F. Noon, Ph.D. PWS of Sustainable Environments LLC on December 1, 2, 3, and 4, 2004. We met with the MBRT on the site on April 12, 2004 and with Gail Terzi (USACE) and Christina Merten (WADOE) on May 24, 2005, during the beginning of the growing season, for final field verification of the existence of hydric conditions due to spring ponding in those areas currently mapped and to include any additional areas based on evidence that they pond water for a consecutive number of days between 5 percent (12 days) and 12.5 percent (30 days) or more of the growing season.

The proposed Skagit Environmental Bank (Bank) site is located 1.5 miles northeast of the Mt. Vernon urban center in Sections 10, 11, 15, and 14, Township 34 North, Range 4 East on the Mount Vernon 7.5 minute USGS quadrangle map, Skagit County, and in the Washington State Water Resource Inventory Lower Skagit-Samish Watershed Area 03.

Methods

Several information sources were reviewed, for data pertinent to making the wetland determination, prior to conducting the site delineation, e.g., the site topographic map; site plan;

aerial photographs; *County Soil Survey*; U.S. Department of Agriculture, Natural Resource Conservation Service, *Hydric Soils of the United States*; and the U.S. Department of the Interior, Fish and Wildlife Service, *National List of Plant Species That Occur in Wetlands*.

Wetlands were delineated in the field using the 1987 *U.S. Army Corps of Engineers Wetland Delineation Manual* and the *Washington State Wetlands Identification and Delineation Manual* and mapped. Please see Figure: Skagit Environmental Bank Wetland Delineation.

The methods require the use of the three wetland parameter methodology (the presence of wetland hydrology, hydrophytic vegetation and hydric soils) on undisturbed wetlands when making determinations; this included the edges of the riverine wetlands. Transects were established perpendicular to the edge of the wetland plant communities approximately every 300 feet along the wetland edge or where plant communities changed. Observation points were established along the transects, and vegetation, soil, and hydrologic characteristics were located on the Wetland Delineation Map and recorded on Data Forms (the Data Forms are appended). Numerous sampling observations were taken along the wetland boundary and in-between the formal transect locations to verify the presence or absence of wetland conditions. Positive indicators of all three parameters were present, on site, in the areas delineated as vegetated wetlands or palustrine: persistent.

Methods for Initial Field Delineation (December 2004) of the Wetland Boundaries

On disturbed areas, where vegetation was removed by plowing or agricultural activity (palustrine: non-persistent and plowed) the delineation was based on one or more of the following indicators (where available):

- Predominance of hydrophytic vegetation, that pioneered into the plowed fields
- Evidence of ponding after a recent storm event. For example, there was a storm event (1.76 inches of recorded rainfall) on November 24, 2004 which was six days before the delineation and there was a significant storm event one day before the spring growing season follow-up site visit in May.
- Spring and fall precipitation data form 2003, and 2004
- The dairy farmer's understanding of areas that pond during the early part of the growing season
- Long-term hydric soil characteristics identified in the field
- Topography and the location of drainage ditches

Methods for Final Verification (May 2005) of the Wetland Boundaries

On disturbed areas, where vegetation was removed by plowing or agricultural activity, the following indicators were used to make the final wetland delineation:

- Evidence of ponding
- Spring and fall precipitation data form 2003, 2004, and 2005
- The dairy farmer's understanding of areas that pond during the growing season

- Topography

Results

Of the proposed 370-acre bank site area (including buffers and without the water line easement) the total area of existing wetlands is 53 acres comprised of: The vegetated wetlands (palustrine, persistent - 19 acres), the ditches (palustrine persistent - 7 acres) the plowed areas (palustrine, non-persistent and plowed - 21 acres) and the riverine (the area of the stream channel and wetland vegetation along the edges - 6 acres). Three different types of wetlands were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). The “ditch” classification was added as requested by the Corps representative.

1. Palustrine Wetland: Persistent (19 acres within the bank site)

Classification:

System: Palustrine

Class: Emergent

Subclass: Persistent; Persistent not Plowed

This area is comprised of the reed canary grass meadows in the floodway of the Nookachamps and to the East Fork. The grass meadows are currently fallow. These areas are occasionally grazed or mowed.

The reed-canary-grass meadows areas have all three indicators of wetland condition throughout most of the growing season. The soil hydrology is beyond the influence of plowing or drainage ditches but closely tied to fluctuations in the river levels. They are “Regularly Inundated or Saturated” more than 61 but less than 182 (>25% - 75%) days of the growing season.

2. Palustrine Wetland : Non-Persistent and Plowed (21 acres within the bank site)

Classification:

System: Palustrine

Class: Emergent

Subclass: Non-Persistent and Plowed

These areas were graded level for row crop planting and are plowed and planted in corn or other upland cover crop during the dry part of the growing season but considered hydric - if left fallow, they would likely re-establish as wetlands. A few of these areas had wetland plant species pioneering after the corn was removed, in the late fall rainy season. The primary indicator was the presence of ponding or surface flow after rain storms in the spring. There were no hydric soil indicators present and there was no indication that these wetlands are connected to ground-water hydrology.

3. Riverine Wetland (6 acres within the bank site)

Classification:

System: Riverine

Subsystem: Lower Perennial

Class: Aquatic Bed

Subclass: Cobble, gravel, sand, organic

The riverine wetlands are those areas within the creek channels, within the ordinary high-water limits, along the Nookachamps and the East Fork of the Nookachamps. The area also includes the vegetated wetlands adjacent to the ordinary high water line, typically narrow strips of scrub/shrub habitat.

4. Ditches (7 acres within the bank site)

The area in the ditches was measured from top of bank to top of bank. Hydrologic indicators in the soils were not present along the sides or at the top of bank along any of the drainage ditches; therefore the actual wetland area is slightly overestimated. The bottom area of the ditches is "Regularly Inundated or Saturated" more than 61 but less than 182 (>25% - 75%) days of the growing season. The sides of the ditches are inundated periodically and the inundation depends directly on when the creeks rise and back up into the ditches.

Vegetation

According to the Soil Survey of Skagit County Area, Washington (Soil Conservation Service issued in 1989) the growing season is 242 days from March 14 through November 11.

The Palustrine Wetland (persistent but not plowed) areas have all three indicators of wetland condition throughout most of the growing season and are comprised primarily of *Phalaris arundinacea*, reed canary grass (facw); *Ranunculus repens*, creeping buttercup (facw); and *Alopecurus pratensis*, meadow foxtail (facw). The following are scattered throughout:

Rumex obtusifolius, bitter dock (fac)
Rumex crispus, curly dock (facw)
Ranunculus acris, tall buttercup (facw)
Packera indecora, mt. butterweed (facw)
Trifolium repens, white clover (facu)
Lolium arundinaceum, tall fescue (fac)
Juncus effusus, soft rush (facw+)
Juncus ensifolius, dagger-leaf rush (facw)

Some areas determined as wetland according to existence of surface water flow (located in the southern half of the bank site) are comprised primarily of *Trifolium repens*, white clover (facu); with *Dactalis glomerata*, orchard grass (facu); *Lolium arundinaceum*, tall fescue (facu-); and the following were scattered throughout:

Matricaria discoidea, pineapple weed (facu)
Plantago major, broadleaf plantain (facu)
Capsella bursa-pastoris, shepards purse (facu)
Equisetum sp. (fac)
Cirsium sp., thistle (facu)

Disacus fullonum, teasel (facu)
Stellaria crispa, chickweed (fac +)
Phalaris arundinacea, reed canary grass (facw)
Packera indecora, mt. butterweed (facw)

There are individuals, or patches of, woody plant species scattered throughout the vegetated wetland areas (primarily as scrub/shrub edges to the riverine systems) and found along the upland edges of the riverine areas. These species include the following:

Populus balsamifera, black cottonwood (fac)
Alnus rubra, red alder (fac)
Rubus spectabilis, salmon berry (fac +)
Spirea douglasii, hardhack (facw)
Salix rigida, heartleaf willow (obl)
Salix scouleriana, scouler willow (fac)
Salix sitchensis, sitka willow (facw)
Rosa nutkana, nootka rose (fac)
Sambucus racemosa, red elderberry (facu)
Rubus procerus, Himalayan blackberry (facu)
Corylus cornuta, beaked hazelnut (facu)
Cornus sericea, red-osier dogwood (facw)
Rubus laciniatus, evergreen blackberry (facu+)
Crataegus douglasii, black hawthorn (fac)
Thuja plicata, cedar (fac)

The few plants that were found in the river channel (in very small patches), that could out compete the *Phalaris arundinacea*, reed canary grass (facw) include:

Iris pseudacorus, yellow iris (obl)
Nuphar luteum, yellow pond lilly (obl)

Most of the plants common in the plowed fields (palustrine, non-persistent and plowed) are grasses planted by the farmer as over-winter crops (primarily *Dactalis glomerata*, orchard grass, facu; and *Trifolium repens*, white clover, facu). Upland and wetland pioneer plants established in between the planted species. Where present, plant dominance was one factor used in determining the wetland boundaries in the plowed areas. However, most of the plowed areas had no plants growing, in one fallow field area in the southern portion of the site the wetland contained all upland plants – the wetland was defined by the area of recent precipitation runoff. The vegetation that was present in some of the plowed wetlands or uplands (depending on dominance) included the following:

Ranunculus repens, creeping buttercup (facw)
Plantago major, broadleaf plantain (facu)
Phalaris arundinacea, reed canary grass (facw)

Stellaria crispa, chickweed (fac+)
Festuca rubra, red fescue (fac+)
Lolium arundinaceum, tall fescue (fac)
Cirsium sp., thistle (facu)
Disacus fullonum, teasel (fac)
Rumex crispus, curly dock (facw)

Soils

According to the Soil Survey of Skagit County Area, Washington (Soil Conservation Service compiled in 1980) there are five mapped silt-loam soil series on the bank site.

The southern portion of the bank site consists primarily of the:

- Bellingham silt-loam series (which is a deep, poorly drained and formed in old alluvium and lacustrine material) where drainage ditches are used to lower the water table, and the
- Nookachamps silt-loam series (which consists of very deep, poorly drained floodplain soils formed in alluvium), where drainage has been altered by tilling and ditches are used to lower the water table during the growing season, with portions of the
- Skipopa silt-loam series (which is a very deep and somewhat poorly drained, formed on the floodplain terraces).

The central portion of the bank site consists of the:

- Sumas silt-loam series (which is a very deep, poorly drained floodplain soil formed in alluvium) where drainage has been altered by tilling, and of the
- Field silt-loam series (which is a very deep, moderately well drained soil on the floodplain).

The northern portion of the bank site consists of the:

- Sumas silt-loam series (which is a very deep, poorly drained floodplain soil formed in alluvium) where drainage has been altered by tilling, and of the
- Nookachamps silt-loam series (which consists of very deep, poorly drained floodplain soils formed in alluvium), where drainage has been altered by tilling and ditches are used to lower the water table during the growing season.

Hydric soil indicators were identified and hydric soils were delineated in the field using the *Field Indicators of Hydric Soils in the United State, Guide for Identifying and Delineating Hydric Soils, Version 5.01* (NRCS and the National Technical Committee for Hydric Soils 2003).

Field samples from plowed areas suggest that the soils have been modified by tilling and drainage ditching. Variations in these soil conditions are described on the field data sheets. Despite the affects of plowing, some soils still contain hydric characteristics. Those areas were mapped as wetlands (palustrine, non-persistent and plowed).

Most of the soils sampled during the delineation process, and delineated as palustrine: persistent wetlands, where plowing has not occurred in the last 8 years, exhibited hydric characteristics typical of the soil series descriptions.

Hydrology

Two hydrologic sources are at work which affect the soil hydrologic conditions on the Skagit bank site during the growing season. Evidence of the affects of both sources was used to delineate all wetlands.

1. Precipitation drainage areas and/or ponding from above-ground sources such as rainfall and river bank overtopping, and
2. Shallow ground-water fluctuation.

The following are the three hydrologic categories that distinguish wetlands from non-wetlands.

- Areas which are inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 percent (30 days) of the growing season are wetlands, provided the soil and vegetation parameters are met.
- Areas inundated or saturated to the surface for a consecutive number of days between 5 percent (12 days) and 12.5 percent (30 days) of the growing season in most years may or may not be wetlands.
- Areas inundated or saturated to the surface for less than 5 percent of the growing season are non-wetlands.

Evidence of soil saturation, evidence of surface ponding, 2003,2004 and 2005 spring and fall precipitation data, the farmers opinions, and well data were used to identify evidence of hydric of non-hydric conditions and to determine the timing and duration of inundation. The evidence suggests that the palustrine (non-persistent and plowed) wetland areas are inundated or saturated to the surface for a consecutive number of days between 5 percent (12 days) and 12.5 percent (30 days) of the growing season in most years.

Soil, hydrology, and vegetation conditions in the palustrine (persistent) wetlands suggest that they are areas which are inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 percent (30 days) of the growing season.

Precipitation or Ponding from Above-Ground Sources

Artificial drains and graded surface conditions are reducing the affects of precipitation and ponding. The farm fields have been graded to form levees which are elevated edges along the portions of the Nookachamps and the East Fork. These edges serve to confine the flow of the river to certain elevations in specific reaches of the creeks. Because they are not contiguous levees along all sides of the creeks, extreme high water can access the adjacent fields from banks that are not leveed. Therefore, the term “levee” is incorrect; they function as graded berms or elevated edges.

Field observations suggest that floodplain configuration may significantly affect the duration of inundation. The elevated riverine edges form slopes in the field that effectively drain surface water away from the creeks and toward the drainage ditches. The plowed floodplain fields have also been graded to slope towards a network of drainage ditches that are strategically located through low areas in the fields. Where the floodplain configuration is conducive to rapid runoff towards the ditches, the duration of ponding appears to be reduced. According to the dairy farmer, this system effectively drains most, but not all, surface water and prevents most ponding in the spring.

There are several swales within the proposed bank site that are plowed annually and serve to convey surface drainage. These areas are included within the Palustrine **Wetland : Non-Persistent and Plowed** acreage tally. The **Ditch** wetlands are permanent and deeply cut (from 4 to 12 feet deep). The total length of the ditches within the bank site is 6,400 feet.

- North-half Ditch (3,430 feet long) is a series of three ditches connected in a “T” formation that drain north into the Nookachamps. The western ditch varies in depth from 4 to 5 feet down its length. The eastern ditch varies in dept from 6 feet to 10 feet down its length. The northern ditch also serves as the lowest end of Mud Lake Creek and connects with the Nookachamps. This ditch varies in depth from 10 to 12 feet down its length.
- South-half Ditch (2,970 feet long) is located in the south-central portion of the bank site area. The depth varies from 4 feet at the eastern end to more than 6 feet before draining west into the Nookachamps.

Shallow Ground-Water Fluctuation

In addition to draining surface water, the ditches serve as conduits that drain ground water. They are hydrologic boundaries which are deep enough to intercept ground water levels during the growing season. As the creeks recede, the ground water is drawn into the ditches and flows out into the creek channels. The water levels in the wells correlated with the water levels in the adjacent ditches during the time of the delineation. The ditches are functioning for the farmer by intercepting the ground water and diverting it to the creeks.

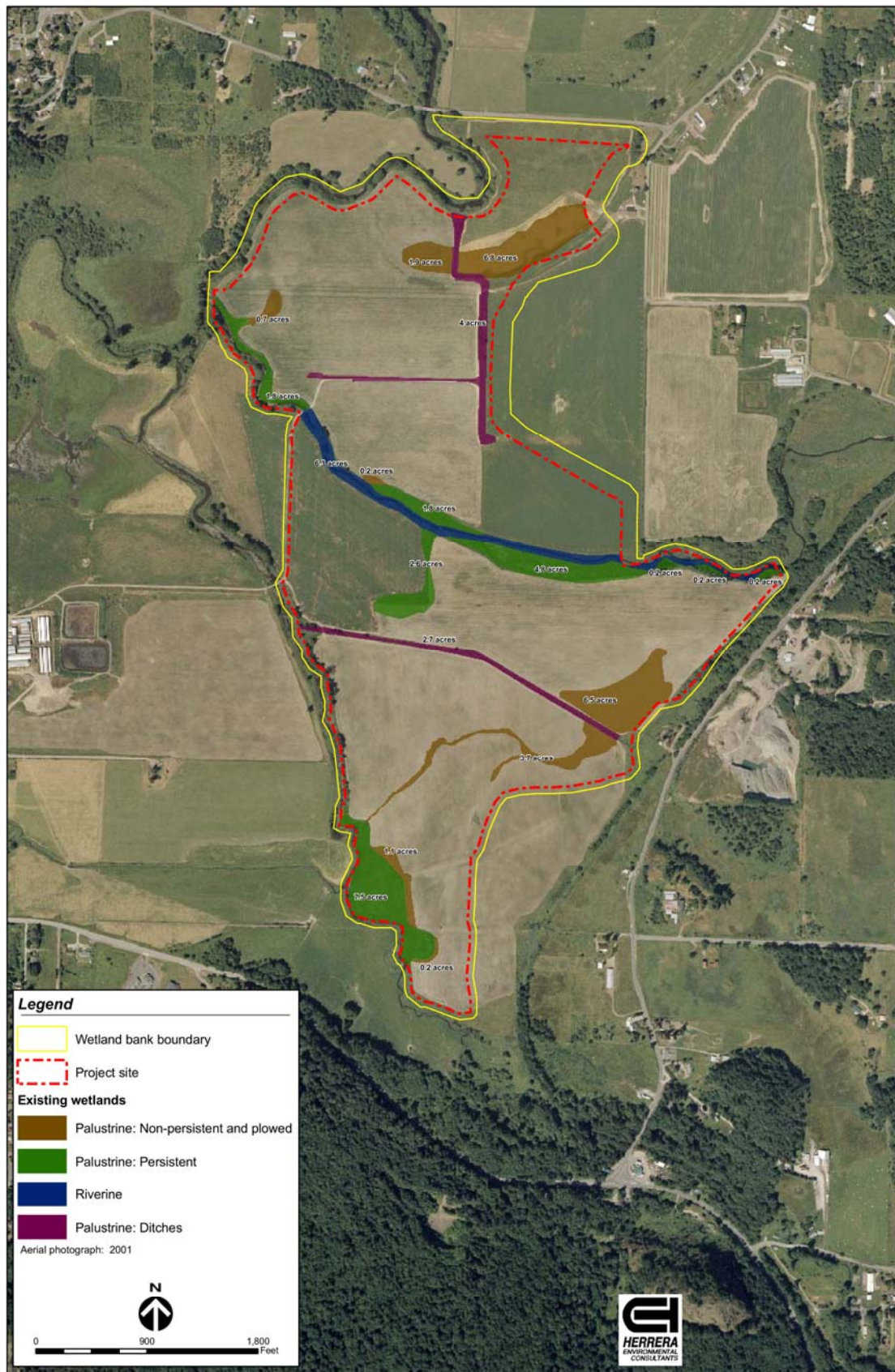
Assumptions

The current assumption (which is based on observation of field conditions and comparison of conditions in historic aerial photographs) is that plowing and grading coupled with the network of drainage ditches has significantly altered the hydrology of the plowed fields.

The drainage ditch system, if left in place and if the plowed fields were left fallow, would continue to effectively drain major portions of the fields and maintain the soils in non-hydric conditions during the growing season.

- The soils survey aerial photograph (1971) and the aerial photographs from the NRCS (taken in the 1940's) show that the plowed fields had areas with distinct natural drainage features and no artificial drainage ditches.
- Recent aerial photographs and field observations show no evidence of natural drainage in the farmed fields. Berms were created along the edges of most fields and the fields were graded to drain surface water into major drainage ditches.
- Soils in areas where the ditches and grading are ineffective, in draining the surface water or shallow ground water flows, contain hydric soil characteristics and some pioneer hydrophytic plants. Those areas are mapped as palustrine non-persistent and plowed wetlands.

FIGURES



Skagit Environmental Bank Wetland Delineation

FIELD DATA SHEETS

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 1a wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Phalaris arundinacea</i> , reed canary grass	100%	FACW	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100					
Remarks					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> ● Stream, part of Mud Lake Drain <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<p style="text-align: center;">WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <input type="checkbox"/> Inundated <ul style="list-style-type: none"> ● Saturated in Upper 12 Inches ● Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	FLOWING FROM SURFACE SPRING	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
9"		2.5 y 4/4	5y 5/1	numerous	Silt loam
12"		2.5y 6/1	10yr 5/8	numerous	
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Typical Nookachamp series. Organic layer					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks		

End 1a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 1b upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Lolium arundinaceum</i> , tall fescue	60%	FACU	9		
2 <i>Dactalis glomerata</i> , orchard grass	20%	FACU	10		
3 <i>Phalaris arundinacea</i> , reed canary grass	20%	FACW	11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 20					
Remarks Plowed area					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES <u>NO</u>		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 4/2	No mottling, pore coatings or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </div> <div style="width: 50%;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
Remarks: Area is plowed occasionally, No evidence of old stream channel shown in 1940's aerial photo suggests this area was graded to force Mud Lake Creek into arch around south edge of field.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Entier field graded, no evidence of former creek channel. Plowed occasionally.		

End 1b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 2a wetland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)					
Remarks Plowed soils, 100%					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> ● Stream, part of Mud Lake Drain <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4>WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <ul style="list-style-type: none"> ● Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	FLOWING FROM SURFACE SPRING	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? <u>YES</u> NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
9"		2.5 y 4/4	5y 5/1	occasional	Silt loam
12"		2.5y 6/1	10yr 5/8	occasional	
HYDRIC SOIL INDICATORS: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </div> <div style="width: 50%;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <ul style="list-style-type: none"> ● Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
Remarks: Typical Nookachamp series.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks Plowed Conditions and likely wet. Same landscape position as Sample Point 1a		

End 2a Wetland Determination Page 2

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 2b upland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 20					
Remarks Plowed soils, 100%					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4>WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES <u>NO</u>		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 4/2	No mottling, pore coatings or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: Area is plowed annually, No evidence of old stream channel shown in 1940's aerial photo suggests this area was graded to force Mud Lake Creek into arch around south edge of field.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Entier field graded, no evidence of former creek channel. Plowed annually. Same landscape position as 1b.		

End 2b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 3a wetland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil	100%		9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks Bare Soil plowed 2 weeks earlier. On Oct 3, 04 the ground water was -4 feet.					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> In the swale that drains precip. and ground water <input type="checkbox"/> No Recorded Data Available	<h4 style="text-align: center;">WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? <u>YES</u> NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 3/2	What appears to be short-term redoximorphic feature: pore coatings		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Within swale. Looks like disturbed sumas.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks		

End 3a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 3b upland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil	100%		9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks Bare soil plowed 2 weeks earlier. On Oct 3, 04 the ground water was -4 feet.					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other – Nearby swale drains precip. and ground water <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES <u>NO</u>		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 3/2	No redoximorphic features: No mottling, pore coatings or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: No hydric soil characteristics – looks like drained Sumas. Adjacent swale.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks		

End 3b Wetland Determination Page 2

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 4 upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Dactalis glomerata</i> , orchard grass	40%	FACU	9		
2 <i>Festuca rubra</i> , red fescue	20%	FAC+	10		
3 Bare soil	40%		11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0

Remarks
Check well #17 data early spring. On Oct 3, 04 the ground water was -4 feet.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other – Ditch drains precip. and ground water <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES <u>NO</u>		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 4/3	No mottling, pore coatings or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </div> <div style="width: 50%;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
Remarks: No hydric solis. Adjacent ditch.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Well #21 cap missing Pump + replace Stick up popped open.		

End 4 Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 5 upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Dactalis glomerata</i> , orchard grass	30%	FACU	9		
2 <i>Festuca rubra</i> , red fescue	2%	FAC+	10		
3 Bare soil	68%		11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other – Ditch drains hydrology <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 4/3	No		Silt loam
HYDRIC SOIL INDICATORS: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </div> <div style="width: 50%;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
Remarks: No hydric soils. Adjacent ditch.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks In the same landscape position as this test plot , in the area located east of the drain and off of the bank site, the area does not have a ditch through it, however the area has standing water and hydric soils. Suggests that the ditches are effectively draining hydric soils around plot 5.		

End 5 Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.04.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 6a wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Phalaris arundinacea</i> , reed canary grass	100%	FACW	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 75%					
Remarks About 25% of this area is plowed but included here with the persistent, emergent RCG wetland.					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4>WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated ● Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
--	--

FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves • Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Field				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 3/2	5y 5/1	numerous	
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Part of the ditch system					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks Central collection area for surface drainage		

End 6a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.04.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? <div style="text-align: right;">YES NO</div>	Community ID
Is the site significantly disturbed (Atypical Situation)? <div style="text-align: right;">YES NO</div>	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <div style="text-align: right;">YES NO</div>	Plot ID 6b upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Dactalis glomerata</i> , orchard grass	20%	FACU	9		
2 <i>Trifolium repens</i> , white clover	10%	FACU	10		
3 <i>Lolium arundinaceum</i> , tall fescue	20%	FACU-	11		
4 Bare soil	50%		12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0

Remarks

Plowed. Vegetation is volunteer in between corn growing seasons.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <div style="margin-left: 20px;"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other </div> <input type="checkbox"/> No Recorded Data Available	<h4 style="text-align: center;">WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <div style="margin-left: 20px;"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits </div>
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Field				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/3	No		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Probably Field series					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks		

End 6b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? <div style="text-align: right;">YES NO</div>	Community ID
Is the site significantly disturbed (Atypical Situation)? <div style="text-align: right;">YES NO</div>	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <div style="text-align: right;">YES NO</div>	Plot ID 7a wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Stellaria crista</i> , chickweed	10%	FAC+			
2 <i>Dactalis glomerata</i> , orchard grass	10%	FACU			
3 Bare soil	80%				
4					
5					

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0

Remarks

Located near ditch by the State Highway 9 house.
Ground water is 4' down in top end of ditch.
No soils in field
Lots of ponding between furrows.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <div style="margin-left: 20px;"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other </div> <input type="checkbox"/> No Recorded Data Available	<h4 style="text-align: center;">WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> ● Inundated, ponding (between furrows) <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines
---	---

FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	5y 5/1	numerous	Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Looks like Sumas series					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks Likely hydric. No evidence of surface drainage to the ditch. Hydric soils and ponding but no hydrophytes due to plowing.		

End 7a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 7b wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Stellaria crispa</i> , chickweed	10%	FAC+			
2 <i>Dactalis glomerata</i> , orchard grass	30%	FACU			
3 Bare soil	60%				
4					
5					
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks More upland vegetation than adjacent sample plot 20-a					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4>WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> ● Inundated, ponding <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
--	--

FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	No mottling, pore coatings or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Looks like drained Sumas series					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> ** NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	YES <u>NO**</u>	
Remarks Ground water is 4' down in top end of ditch. ** No hydric soils in field but Lots of ponding, since no veg or soils the boundary defined by extent of ponding in furrows. Likely hydric. No evidence of surface drainage to the ditch.		

End 7b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 8 upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Trifolium repens</i> , white clover	30%	FACU			
2 <i>Phalaris arundinacea</i> , reed canary grass	10%	FACW			
3 Bare soil	60%				

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 10%

Remarks
Plowed. Water level in nearby ditch (ground water) is 5.8' below surface on Dec 3. Depth in ditch correlates with depth in well 23. Obviously drains surrounding groundwater, former soils are listed as hydric.
Some surface ponding in small spots probably from rain that day. No evidence on soils or veg of long term

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Field				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? <u>YES</u> NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10 yr 4/2	No mottling, pore coatings, or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </div> <div style="width: 50%;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
Remarks: No hydric soils.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks		

End 8 Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? <div style="text-align: right;">YES NO</div>	Community ID
Is the site significantly disturbed (Atypical Situation)? <div style="text-align: right;">YES NO</div>	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <div style="text-align: right;">YES NO</div>	Plot ID 9a wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Stellaria crista</i> , chickweed	10%	FAC+			
2 <i>Dactalis glomerata</i> , orchard grass	40%	FACU			
3 Bare soil	10%				
4 <i>Trifolium repens</i> , white clover (facu)	40%	FACU			
5					
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks Located near ditch by the State Highway 9 house. Ground water is 4' down in top end of ditch.					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <div style="margin-left: 20px;"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other </div> <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> ● Inundated, serving as a drainage way for recent precipitation <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	No redoximorphic features		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Looks like Sumas series. Plowed previous year but left fallow this year.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Likely hydric. No evidence of surface drainage to the ditch. Delineated based on evidence of recent precipitation drainage only. Supported by topographic configuration – swale.		

End 9a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 9b upland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Stellaria crista</i> , chickweed	10%	FAC+			
2 <i>Dactalis glomerata</i> , orchard grass	40%	FACU			
3 Bare soil	10%				
4 <i>Trifolium repens</i> , white clover (facu)	40%	FACU			
5					

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0

Remarks

**Located near ditch by the State Highway 9 house.
Ground water is 4' down in top end of ditch.
Likely planted in fall with upland seed mix.**

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
--	--

FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	No redoximorphic features		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks: Looks like drained Sumas series. Plowed previous year but left fallow this year.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Not part of the swale system, no surface water drainage.		

End 9b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 10a wetland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil	100%				
2					
3					
4					
5					
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks Located near ditch by the State Highway 9 house. Ground water is 4' down in top end of ditch.					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> ● Inundated, serving as a drainage way swale for recent precipitation <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines
--	--

FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas				Drainage Class:	
Taxonomy (Subgroup)		Field Observations Confirm Mapped Type? YES NO			
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	No redoximorphic features		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: Looks like drained Sumas series. Plowed two weeks earlier.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Likely hydric. Delineated based on evidence of recent precipitation drainage only. Supported by topographic configuration – swale.		

End 10a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 10b wetland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil	100%				
2					
3					
4					
5					
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	WETLAND HYDROLOGY INDICATORS Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
--	--

FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Sumas - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	No redoximorphic features		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: Looks like Sumas series. Plowed two weeks earlier.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Not part of the swale system, no surface water drainage.		

End 10b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 11a wetland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 bare soil	100%		9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, flooded frequently <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4 style="text-align: center;">WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> ● Inundated, serving as a drainage way swale for recent precipitation <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/2	No redoximorphic features		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Boundary determined by soil saturation only.		

End 11a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 5.22.05
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 11b upland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 bare soil	100%		9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, flooded frequently <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4 style="text-align: center;">WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	(IN)	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		10yr 4/3	No redox features: No mottling, pore coatings or redox concentrations		Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: No hydric indicators. Most likely frequently covered with eroded Skipopa series from adjacent plowed area.					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks		

End 11b Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 12a wetland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil	100%		9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks Heavily used area for plow and harvesting equipment, essentially a road					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4>WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated ● Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	FLOWING FROM SURFACE SPRING	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
9"		2.5 y 4/4	5y 5/1	infrequent	Silt loam
12"		2.5y 6/1	10yr 5/8	numerous	
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES_ <u>NO</u>	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks		

End 12a Wetland Determination

DATA FORM

ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site Skagit Environmental Bank	Date 12.02.04/12.03.04
Applicant / Owner Sustainable Environments LLC	County Skagit
Investigator Kevin F Noon	State WA
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID 12b upland

VEGETATION

<i>Dominant Plant Species</i>	Stratum	Indicator	<i>Dominant Plant Species</i>	Stratum	Indicator
1 Bare soil	100%		9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0					
Remarks Heavily used area for plow and harvesting equipment, essentially a road					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<h4>WETLAND HYDROLOGY INDICATORS</h4> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits
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FIELD OBSERVATIONS		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
DEPTH OF SURFACE WATER	FLOWING FROM SURFACE SPRING	
DEPTH TO FREE WATER IN PIT	(IN)	
DEPTH TO SATURATED SOIL	(IN)	

SOILS

Map Unit Name (Series and Phase): Nookachamps - hydric				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? YES NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
12"		2.5 y 4/4		none	Silt loam
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input checked="" type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)		
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES_ <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	YES <u>NO</u>	
Remarks Part of annually plowed field adjacent to RCG wetland but higher up slope and no evidence of ponding or redox features		

End 12b Wetland Determination