

W & M Butler Mitigation Bank Instrument

Prepared by AshCreekForest Management, LLC

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Attachments:

- 1 Plan Set**
- 2 Title Report**
- 3 Functional Assessment**
- 4 Tile Map**

**MITIGATION BANK INSTRUMENT
FOR
W&M BUTLER MITIGATION BANK**

This Mitigation Bank Instrument (MBI), which describes the establishment, use, operation, maintenance and long-term management of the W&M Butler Mitigation Bank (herein after, Bank) is an agreement made and entered into by and among Wes and Marybel Butler Farm LLC (Sponsor), the U.S. Army Corps of Engineers, Portland District (Corps), the Oregon Department of State Lands (DSL), the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the Oregon Department of Environmental Quality (DEQ), the Oregon Department of Fish and Wildlife (ODFW), and Washington County. This MBI, including the following exhibits, constitutes the entire agreement:

- "Exhibit A", Property Legal Description and Vicinity Map
- "Exhibit B", Preliminary Title Report
- "Exhibit C", Mitigation Plan
- "Exhibit D", Crediting and Debiting Procedures
- "Exhibit E", Service Area Map and Description
- "Exhibit F", Property Protection Instrument
- "Exhibit G", Sample Credit Receipt
- "Exhibit H", Sample Credit ledger
- "Exhibit I", Definitions
- "Exhibit J", Financial Assurance
- "Exhibit K", Project Budget

I. PREAMBLE:

Whereas,

A. Purpose: The purpose of this MBI is to establish responsibilities and standards for the establishment, use, operation, and long-term maintenance of the Bank. The Bank will be used for compensatory mitigation for unavoidable impacts to waters of the United States and/or waters of the State that result from activities authorized under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, Oregon's Removal-Fill Law [Oregon Revised Statutes (ORS) 196.800-196.990 and Oregon Administrative Rules (OAR) 141-085] or to resolve enforcement cases resulting from activities subject to these regulations. Credits may also be used to compensate for impacts to waters of the U.S. for Corps Civil Works projects.

B. Goals and Objectives: The primary goals of the Bank are to create, enhance, and restore emergent, scrub, and forested wetland and protect surrounding buffer areas. The project will remove weeds and broaden the existing riparian fringe with dense plantings of appropriate riparian forest and scrub species. The project will convert existing agricultural fields to a complex of emergent wetland, wet prairie, wetland and upland scrub, and wetland and riparian forest. Wetland restoration and creation will generate most of the anticipated wetland credits, with lesser credit benefits from wetland enhancement and buffer development.

C. Bank Legal Description and Location: The Bank is located on a portion of that certain tax lot in Washington County, Township 2S, Range 2W, Section 11, Tax Lot 2S2110000200, Latitude 45° 24' 38.55" N (45.410708) and longitude 122° 54' 18.04" W (-122.905011). The address of the Bank is 22242 SW Scholls Ferry Road, near the City of Beaverton, Oregon. The total area of the Bank is approximately 91.3 acres and is further described in Exhibit A. Said parcels are hereinafter referred to as the "Property." If the bank boundary lines do not coincide with the parcel lines, a professional land survey of the bank boundary will be conducted prior to the first credit release.

D. Property Ownership: The Sponsor has provided proof of ownership of the Property. A preliminary title report is included in Exhibit B, Preliminary Title Report. Any and all liens or easements on the bank property must be disclosed by the Sponsor to the Corps and DSL in Exhibit B. Any liens or easements that conflict with the mitigation purposes of the bank shall be subordinated before the first credit release.

E. Establishment and Use of Credits: In accordance with the provisions of this MBI and upon satisfaction of the performance standards contained in Exhibit C, Mitigation Plan, and the mitigation credit ratio and schedule determined in Exhibit D, Crediting and Debiting Procedure, credits will be released to be used as mitigation in accordance with all applicable requirements of Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act and Oregon's Removal-Fill Law (ORS 196.800-196.990).

F. Interagency Review Team: The Corps and DSL serve as Co-Chairs ("co-chair agencies", collectively) of the Interagency Review Team (IRT). The following agencies have agreed to serve on the IRT:

U.S. Army Corps of Engineers, Portland District
U.S Environmental Protection Agency; and
U.S. Fish and Wildlife Service; and
Oregon Department of State Lands; and
Oregon Department of Environmental Quality; and
Oregon Department of Fish and Wildlife; and
National Marine Fisheries Service; and
Washington County Land Use and Transportation

G. Disclaimer: This MBI does not in any manner affect statutory authorities and/or responsibilities of the signatory parties.

NOW, THEREFORE, the parties hereto agree as to the following:

II. AUTHORITIES

The establishment, use, operation and maintenance of the Bank are carried out in accordance with the following authorities:

A. Federal:

1. Clean Water Act (33 USC 1251 et seq.);

2. Rivers and Harbors Act (33 USC 403);
3. Fish and Wildlife Coordination Act (16 USC 661 et seq.);
4. Regulatory Programs of the Corps of Engineers (33 CFR Parts 320-330);
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230);
6. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990); and
7. Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Part 332)
8. Regulatory Guidance Letter 08-03 - Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources

B. State of Oregon:

1. Oregon Revised Statutes 196.600-196.990. Oregon Administrative Rules, 141-85 and 141-090.

III. ESTABLISHMENT OF THE BANK

A. Scope of Work: The Sponsor agrees to perform all necessary work, in accordance with the provisions of this MBI, to establish and maintain wetlands and associated upland buffers, as described in the Exhibit C, Mitigation Plan, until it is demonstrated to the satisfaction of the co-chair agencies, considering the advice of the IRT, that the project complies with all provisions contained herein.

B. Permits: The Sponsor will obtain all appropriate permits or other authorizations needed to construct and maintain the Bank. This MBI does not fulfill or substitute for such authorization(s).

C. Approval: This MBI is effective upon the latter date of signature by the Sponsor and co-chair agencies.

D. Financial Assurance: A financial security instrument will be provided by the sponsor to DSL and Corps as required to guarantee that the bank will be constructed, monitored and maintained and meet the performance standards in accordance with this MBI. A description of the financial assurance instrument, amount and release schedule is provided in Exhibit J, Financial Assurance. DSL or the Corps may declare forfeiture of all or part of a financial security instrument for any mitigation obligation in the event the Bank fails to meet performance standards, the Sponsor fails to provide monitoring reports, or fails to follow other provisions of this MBI.

E. Real Estate Provisions: The bank sponsor shall permanently protect the bank land by recording a restrictive covenant and/or conservation easement following the DSL template or otherwise approved by the co-chair agencies, a draft of which is attached as Exhibit F, Property Protection Instrument. The sponsor shall also record an access easement granting to the co-chair agencies the right to access the bank site for compliance inspections, upon prior notice to the landowner. A copy of the recorded site protection document and access easement shall be provided to the co-chair agencies prior to the initial release of bank credit.

The sponsor agrees to notify the co-chair agencies in writing 60 days prior to taking or allowing any action that would transfer interest in the land or establish any other legal claims over the bank property.

The sponsor agrees to defend the bank property from any future liens or easements that the Corps or DSL determine would be incompatible with the mitigation objectives of the bank.

F. Corps Authorization: The Corps will use the enforcement authority outlined in 33 CFR 326 for enforcing the success of the performance standards as necessary.

G. Reporting: The Sponsor agrees to submit an as-built report, containing a survey of the finished grades, to the co-chair agencies within 60 days following completion of the grading of the mitigation bank. The as-built report shall describe in detail any substantial deviation from the approved Mitigation Plan. If no grading is required, a brief construction completion report shall be submitted. Annual monitoring reports shall be submitted by January 31st of each year until bank closure to the co-chair agencies, documenting the management activities, monitoring results, and up-to-date credit ledger, as described in Exhibit C.

IV. OPERATION OF THE BANK

A. Service Area: The Bank is established to provide mitigation to compensate for impacts to waters of the United States and/or Waters of the State, within the service area depicted on Exhibit E, Service Area Map and Description. This service area shall include the Tualatin Sub-basin, within Washington and Clackamas Counties, as further described in Exhibit E, Service Area Map and Description. The Bank may be used to compensate for impacts beyond the designated service area, on a case-by-case basis, upon approval by the co-chair agencies.

B. Access: Upon reasonable prior notice, the Sponsor will allow, or otherwise provide for, access to the site by the co-chair agencies, the IRT, or their agents or designees at reasonable times as necessary to conduct inspections and compliance monitoring with respect to the requirements of this MBI. The Sponsor also will allow access to the co-chair agencies, their agents and designees to carry out Bank remediation using funds provided through the financial assurance requirements of this MBI to address deficiencies related to Bank performance standards, in the circumstances specified in Exhibit J, Financial Assurance. Inspecting parties shall not unreasonably disrupt or disturb activities on the property. The sponsor shall not transfer ownership of the bank property without first recording an access easement enabling compliance inspections and remediation by the co-chairs agencies.

C. Responsible Party: The Sponsor will assume the mitigation responsibility for permittees who purchase credits from the Sponsor. The Sponsor will be named as the party responsible for providing such mitigation in the respective permits. This will be formally documented for each transaction in a Credit Receipt, a sample of which is provided in Exhibit G, Sample Credit Receipt. Credits shall only be sold by the bank sponsor.

D. Number of Credits: The number of credits expected to be generated by this Bank is described in Exhibit C, Mitigation Plan, and the ratios and release schedule is described in Exhibit D, Crediting and Debiting Procedure. The actual number of credits will be determined based on the acreage and performance standards achieved. The amount to be debited for each impact is equivalent to the area of wetlands or waters to be impacted, or as specified in each permit issued by the Corps and/or DSL.

E. Performance Standards: Credits will be released based on the achievement of performance standards, as described in Exhibit C, Mitigation Plan.

V. MAINTENANCE AND MONITORING OF THE BANK

A. Maintenance Provisions: The Sponsor agrees to perform all necessary work to maintain the Bank consistent with Exhibit C, Mitigation Plan. The Sponsor shall continue with such maintenance activities until completion of the monitoring period described in Exhibit C. Deviation from the approved Mitigation Plan is subject to review and written approval by the co-chair agencies.

B. Monitoring Provisions: The Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate achievement of the performance standards established in Exhibit C, Mitigation Plan.

C. Accounting Procedure: The Sponsor shall submit a credit receipt to the Corps and DSL each time credits are sold. A sample of this receipt is included as Exhibit G, Sample Credit Receipt. In addition, the Sponsor shall submit a ledger to the co-chair agencies by January 31st of each year, per Exhibit H, Sample Credit Ledger. The credit ledger shall document all transactions of the Bank for the previous calendar year, with a cumulative tabulation of all transactions to date. Annual ledgers and credit receipts shall be submitted to the co-chair agencies until the last credit is sold, at which time a final credit ledger shall be submitted.

D. Contingency Plans/Remedial Actions: In the event the Bank, or a specific phase or portion of the Bank, fails to achieve the performance standards specified the Mitigation Plan (Exhibit C) for two growing seasons, the Sponsor shall develop a remedial action plan before the end of the second calendar year in which the standards were not met. The remedial action plan shall be reviewed and approved in writing by the co-chair agencies prior to being implemented. The remedial action plan shall be implemented according to the schedule included in such plan. In the event the Sponsor fails to submit a plan or to implement the remedial action plan within the time specified in such plan as approved, the bank may be subject to suspension or revocation of available mitigation credits and/or forfeiture of the financial security instruments, or other enforcement action, as allowed under the regulatory authorities of the co-chair agencies.

E. Default: Should the co-chair agencies determine that the Sponsor is in material default of any provision of this MBI, the co-chair agencies shall notify the Sponsor that the sale or transfer of any credits will be suspended until the claimed deficiencies have been remedied. Upon notice of such suspension, the Sponsor agrees to immediately cease all credit sales until the co-chair agencies inform the Sponsor that sales or transfers may be resumed. Should the Sponsor remain in default, the co-chair agencies may terminate the MBI and any subsequent Bank operations. Upon termination, the Sponsor agrees to perform and fulfill all obligations under this MBI relating to credits that were sold or transferred prior to termination.

F. Long-Term Management Plan: Prior to bank closure, and prior to release of the last 25% of the mitigation credits, the Sponsor shall develop a Long-term Management Plan for review and approval by the co-chair agencies, in consultation with the IRT. The Long-Term Management Plan shall include the following five components:

1) Identification of long term management needs and annual cost estimates for these needs;

- 2) A long term funding mechanism to meet these needs, such as a non-wasting endowment fund;
- 3) A site protection instrument such as transfer of title or a conservation easement conveyed to an appropriate long-term steward;
- 4) Identification of the party(s) responsible for ownership and all long-term management of the bank site; and
- 5) Procedures for future amendment of the Long Term Plan to allow for adaptive management, defining situations in which review and approval of regulatory agencies would be necessary.

Implementation of the Long-term Management Plan remains the responsibility of the bank sponsor until transfer to a land stewardship entity is approved by the Co-chair agencies. The site protection instrument must prohibit uses that are not compatible with the mitigation objectives, and must include a provision requiring 60-day advance notification to the co-chairs before any action is taken to void or modify the site protection instrument, or establish any other legal claims over the bank site.

G. Bank Closure: At the end of the monitoring period, upon satisfaction of the performance standards, upon the sale of all credits, and upon approval of a Long-Term Management Plan, the Corps and DSL shall issue a written “bank closure certification” to the Sponsor. DSL and the Corps will notify the financial security holder, and thereafter any remaining requirement for financial assurances will cease. Prior to bank closure, all elements of the Long Term Management Plan shall be established or activated such that there are no obstacles to its implementation.

VI. RESPONSIBILITIES OF CO-CHAIRS AND THE INTERAGENCY REVIEW TEAM

A. Participation in Development and Operation: The IRT members will participate, as necessary, to advise the co-chair agencies in ensuring the development and operation of the bank meets the compensatory mitigation requirements and policies of their respective agencies.

B. Review and Comment: The IRT members will strive to review and provide comments in accordance with timelines specified by the co-chair agencies, on MBI drafts, mitigation plans, annual monitoring reports, requests for credit release, remediation plans, and the Long Term Management Plan for the Bank. In making decisions related to approval and credit release for the bank, the co-chair agencies shall consider all timely comments.

C. Site Inspections and Recommendations: The co-Chair agencies and IRT members will conduct inspections, as necessary, to verify the performance of the Bank. If the Bank is not meeting performance standards, the co-chair agencies, considering the advice of the IRT members, may direct the Sponsor to implement Contingency Plans or Remedial Actions per Section V.D

D. Signatures on the MBI: Signature of the IRT member agencies indicates consistency with current policy and intent to continue participation, but does not carry any liability. Any of the IRT members may terminate their participation upon written notification to all the signatory parties thirty (30) days in advance of date of termination.

E. The co-chair agencies shall coordinate as needed to ensure a predictable and timely process for review of documents by all parties to the bank. Each Co-chair agency shall strive to respond within 30 days to any written request for action by the sponsor or the other co-chairs.

VII. OTHER PROVISIONS

A. Force Majeure: The Sponsor will not be responsible for Bank failure that is attributed to natural catastrophes such as flood, drought, disease, or regional pest infestation, as determined by the co-chair agencies to be beyond the reasonable control of the Sponsor.

B. Dispute Resolution: Disputes related to the interpretation of this instrument may be referred to independent reviewers for advice, or the parties may participate in non-binding mediation. . The co-chair agencies will evaluate any such input in making final decisions relative to the dispute. Appeals of DSL decisions are governed by ORS 196.800-900 and OAR chapter 141, division 45.

C. Termination and Transfer of the MBI: This agreement may be terminated by the Sponsor prior to incurring any mitigation obligations (prior to any credit sales) or if all mitigation obligations are met elsewhere, to the satisfaction of the co-chair agencies. Any transfer or assignment of any portion of or interest in the Bank shall be subject to the requirement that the successor or assign assume all obligations pursuant to this Instrument and have sufficient financial capacity to carry out those obligations. Transfer or assignment of this Instrument shall also be subject to the requirement that any funds pledged toward the long-term management fund shall continue to be accrued and expended in a manner consistent and in accordance with this Instrument and the Long Term Management Plan. The bank sponsor must notify the co-chair agencies prior to changing the membership or management of the sponsorship entity (such as an LLC) and must providedocumentation to the co-chair agencies that the sponsor, the party covered by the financial assurance, the land owner, and the signatory on credit receipts are all the same entity.

If the initiation of construction as described in the mitigation plan (Exhibit C), to include planting of vegetation, has not occurred within three (3) years from the signing of this MBI by the co-chair agencies, this MBI shall be considered terminated, unless the co-chairs determine that circumstances warrant an extension. Any extensions must be approved by the co-chair agencies in writing.

D. Specific Language of MBI Shall Be Controlling: To the extent that specific language in this document changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the MBI by reference, the MBI shall be controlling.

E. Notice: Any notice required or permitted hereunder shall be deemed to have been given either (i) when delivered by hand, or (ii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (iii) sent by Federal Express or similar next day nationwide delivery system, addressed as follows (*or addressed in such other manner as the party being notified shall have requested by written notice to the other party*):

Wes and Marybel Butler Farm LLC
Jay Hoffman, Trustee
22307 SW Munger Lane

Sherwood, OR 97140

U.S. Army Corps of Engineers
CENWP-OD-G Mitigation Program Manager
P.O. Box 2946
Portland Oregon 97208-2946

Oregon Department of State Lands
775 Summer Street NE, Suite 100
Salem, Oregon 97301-1279

F. Entire MBI: This MBI constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior agreements or undertakings.

G. Modifications: This MBI may only be amended or modified with the written approval of the Sponsor and co-chair agencies. In the event the Sponsor determines that modifications must be made in the Mitigation Plan to ensure successful establishment and operation of the Bank, the Sponsor shall submit a written request for such modification to the co-chair agencies, for approval. The co-chair agencies will distribute this request to the IRT to seek their recommendations.

H. Invalid Provisions: In the event any one or more of the provisions contained in this MBI are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof, and this MBI shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein.

I. Headings and Captions: Any paragraph heading or captions contained in this MBI shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this MBI.

J. Counterparts: This MBI may be executed by the parties in any combination, in one or more counterparts, all of which together shall constitute but one and the same instrument.

K. Binding: This MBI shall be immediately, automatically, and irrevocably binding upon the Sponsor and its heirs, successors, assigns and legal representatives upon signing by the Sponsor, the Corps, and DSL even though it may not, at that time or in the future, be executed by the other potential parties to this MBI. The signing of this MBI by EPA, DEQ, ODFW, or the USFWS, or other agency, city or county shall cause the signing agency to become a party to this MBI upon signing, even though all or any of the other potential parties have not signed the MBI.

L. Liability of Regulatory Agencies: The responsibility for financial success and risk to the investment initiated by the Sponsor rests solely with the Sponsor. The regulatory agencies (Corps and DSL) that are parties to this MBI administer their respective regulatory programs and make no guarantee of the financial success of mitigation banks, specific individuals, or entities. Accordingly, there is no guarantee of profitability for any individual mitigation bank. Sponsors should not construe this MBI as a guarantee in any way that the regulatory agencies will ensure sale of credits from this Bank or that the regulatory agencies will forgo other mitigation options that may also serve the public interest. Because

the regulatory agencies do not control the number of mitigation banks proposed nor the resulting market impacts upon success or failure of individual banks, market studies of the potential and future demand for bank credits are the sole responsibility of the sponsor.

M. Grant Program Participation: State and Federal funds designated for voluntary restoration projects shall not be used to generate mitigation credits sold for profit.

N. Suspension of Credits: The co-chair agencies may suspend the sale of credits upon a determination that information contained in this MBI was falsely represented, that the bank is not performing in accordance with this MBI, or in the event of default of this MBI.

O. Sale of Bank Property or Conveyance of Property Interests: The Sponsor shall not transfer title or otherwise convey interests in the Property without 60 day prior notice and written approval by the co-chair agencies. The sponsor shall notify the receiving party of the site protection instrument and access rights of the co-chair agencies.

IN WITNESS WHEREOF, the parties hereto have executed this MBI on the date herein below last written by the Co-Chairs.

Robert Jay Hoffman Jr., Trustee
Wes and Marybel Butler Farm LLC

Date

INTERAGENCY REVIEW TEAM

By the IRT Co-Chairs:

John W. Eisenhauer, P.E.
Colonel, Corps of Engineers
District Commander

Date

+

Louise Solliday, Director
Oregon Department of State Lands

Date

The signatories of the Interagency Review Team (IRT) parties below indicate their participation in development of, and review of this document for consistency with their current policies. The signatories will continue to participate in compliance review and adaptive management of the Bank after approval as staffing priorities allow.

Date
Paul Henson
State Supervisor
Oregon Fish and Wildlife Office
U.S. Fish and Wildlife Service

Date
Richard Parkin
Director, Office of Ecosystems, Tribal, and Public Affairs
U.S. Environmental Protection Agency, Region 10

Date
Dick Pedersen,
Director
Oregon Department of Environmental Quality

Date
Roy Elicker
Director
Oregon Department of Fish and Wildlife

Exhibit A
Property Legal Description and Vicinity Map



Exhibit B
Preliminary Title Report
(see attached)

Exhibit C Mitigation Plan

1. Bank Goals and Objectives.

The goal of the W&M Butler Wetland Mitigation Bank (Bank) is to restore natural wetland functions and processes on currently farmed land and degraded riparian fringe. The project will remove weeds and broaden the existing riparian fringe with dense plantings of appropriate forest and scrub species. The project will convert existing agricultural fields to a complex of emergent wetland, wetland scrub, forested wetland, and non-agricultural buffers. Wetland restoration will generate most of the anticipated wetland credits, with lesser credit benefits from wetland creation, enhancement, and buffer development.

Table 1. *Estimated Pre- and Post-Implementation Wetland Classes*

Existing Acres		Proposed Acres				
Cowardin/HGM Class		Restoration	Creation	Enhance- ment	Buffer	Total
Farmed Upland	62.57					0
Farmed Wetland	14.20					0
PEM/Riverine		13.80	21.40	12.80		48.00
PSS/Riverine-slope		1.68	0.81	0.19		2.68
PFO/Riverine		3.50	2.40	0.69		6.59
Non-Agricultural Forested Buffer	14.20				33.70	33.70
TOTALS	90.97	18.98	24.61	13.68	33.70	90.97

If revisions to the pre-project delineation result in changes to the restoration, creation, enhancement, or buffer categories, the same ratios will apply to the revised acreage figures. The actual number of credits generated will be determined based on the post-project delineation achievements.

Figure 1: Project Restoration, Creation, Enhancement and Buffer Areas



1.1 Purpose and Need

Human settlement in the Tualatin basin began in the late 1800's and with it came extensive drainage and conversion of wetlands to agricultural and urban uses. The conversion resulted in diminished wildlife habitat, native plant cover, summer stream flows, groundwater recharge, and other ecosystem functions of wetlands. Analysis of current and historic aerial photos of the sub-basin demonstrates that nearly every acre at low elevation has been converted to agricultural or urban use at some time in the past 120 years. Significant wetland tracts in the sub-basin today, such as Jackson Bottom and Metro's Killin Swamp, are formerly drained agricultural fields where drainage features have failed or been disrupted. For the most part, these wetland areas remain highly disturbed and ridden with exotic plants and other pests. In all, Tualatin Valley wetlands are a mere shadow of their former extent and function.

In total, analyses of the five watersheds comprising the Tualatin sub-basin conservatively estimate that prior to settlement, there were nearly 30,000 acres of wetlands at low elevations in the Tualatin Valley. While a thorough inventory of Tualatin sub-basin wetlands has not been completed, we estimate that perhaps 6,000 to 8,000 acres of mostly severely degraded farmed wetlands remain, based on ratios of wetlands to hydric soils in recent wetland delineations of farmed fields (Clean Water Services, SWCA Data 2010).

The proposed wetland mitigation bank is located in the WV-05 "Conservation Opportunity Area" as defined by the Oregon Conservation Strategy. The Tualatin River Watershed is also considered a High Priority Watershed by the Oregon Department of State Lands Fee-in-Lieu program. The limiting conditions in the basin include: low summertime flows, increased peak flows, channelization of streams and disconnected floodplains, reduced riparian vegetation composition and extent, fragmented habitat, and reduced water quality. The Tualatin basin currently has TMDL's for temperature, bacteria, dissolved oxygen, ammonia-nitrogen, phosphorous, and chlorophyll a.

The Oregon Conservation Strategy recommends priority conservation actions in the Tualatin River Watershed to address significant losses of wetlands and habitat fragmentation. Recommended actions include preservation, restoration and enhancement of wetlands and floodplains; including emergent wetlands, scrub-shrub, wet prairies, and riparian forests. The proposed bank seeks to reverse wetland losses in a critical portion of the Tualatin sub-basin, near other ongoing restoration efforts of Metro and the Tualatin National Wildlife Refuge. Once established, the Bank will improve water quantity and quality in the Tualatin River. The wetland will provide surface water storage, thus contributing to flood flow alteration and attenuation, groundwater recharge and enhancement of late-season flows. The additional buffer vegetation will also provide greater long-term bank stability to the river. Furthermore, the proposed mitigation bank will reduce the overall area of fertilized and chemical-laden agricultural land in the Tualatin floodplain.

In addition to water quality benefits, a major objective of the proposed bank is to restore diversity, richness, and structure to emergent, scrub, and forested wetland plant communities similar to that which existed in the area prior to conversion into agriculture. The proposed

mitigation bank will dramatically improve breeding, nesting and feeding habitat for a wide variety of macro invertebrates, waterfowl, songbirds, amphibians, fish, small mammals, and other species dependent on grassland, wetland, and riparian vegetation.

2. Site Selection.

Each of the five current watershed analyses in the Tualatin sub-basin identifies the importance of wetlands, floodplains, and riparian areas for maintaining healthy watershed function. These analyses also ascribe much of the current poor water quality and habitat conditions in the sub-basin to the loss of wetlands and functional floodplains. Specific limiting factors and environmental concerns identified in the *Lower Tualatin Watershed Analysis* (Hawksworth, 2001) include erosion issues, hydrology and water quantity issues, poor stream channel condition and function, water quality issues (temperature, excess phosphorous, bacteria), declining aquatic species, and loss and degradation of wetland habitats.

The Bank will address several specific watershed recommendations in the *Lower Tualatin Watershed Analysis*. These recommendations include revegetation of riparian areas, disconnection of agricultural ditches, creation and re-establishment of wetlands, placement of large wood in stream channels, creation of vegetated buffers, reduction of tillage in erodible areas, and application of agricultural best management practices on adjacent farmland.

2.1 *Historic Wetland Losses*

Based on ratios of remnant wetland to wetland soils, a conservative estimate of losses indicates 20,000 to 25,000 acres of wetlands in the Tualatin Sub-basin have disappeared over the past 150 years. Due to tiling, ditching, cultivation, and weed encroachment, many of the remaining acres of wetland within the basin are significantly degraded. Historic accounts of the sub-basin describe great expanses of beaver marsh, wet prairie, scrub, and forested wetland throughout the sub-basin. These landscape-scale features no longer exist. The Bank, as part of a landscape-level approach to wetland restoration in the Tualatin sub-basin, seeks to address these landscape-level wetland losses.

2.2 *Anticipated Future Impacts*

Local wetland inventories (LWI's) from nearby communities including Hillsboro, Forest Grove, Beaverton, Tualatin and Tigard identify over 3,400 acres of wetlands within the Metro urban growth boundary in the Tualatin Basin. Surrounding near-urban areas contain many additional wetland areas, some of which will soon be designated as Urban Reserve Areas. Most of these wetlands are riverine, occurring within or near the floodplain of the Tualatin River and its tributaries, including large areas of open emergent, scrub, and forested wetland. Overall, palustrine-emergent marsh is the most prevalent wetland habitat identified in the Tualatin sub-basin, along with significant areas of forested and shrub-dominated wetlands.

In terms of total population growth, Washington County is the fastest growing county in Oregon. Though currently depressed by the ongoing economic recession, residential, commercial and industrial development in the county is expected to continue. Future real-estate development and attendant infrastructure will impact wetlands and streams within the service areas of the proposed bank. The service area encompasses essentially all of the Metro UGB that lies within Washington County and a small portion of the UGB in Clackamas County. Significant future additions to the UGB in Clackamas County are expected in the Stafford Road area. The Butler Mitigation Bank will restore high quality habitats in landscape positions and of types comparable to most of the wetlands currently being displaced in the watershed by development.

2.3 Locally Significant Functions and Services

Tualatin Sub-basin watershed analyses list a wide array of ecosystem functions and services related to healthy wetlands, floodplains and riparian areas, including improved water quality, increased water quantity, healthy fisheries and fish habitat, high-quality habitat for waterfowl, amphibians, and other wildlife species, overall biotic diversity, and flood abatement. Through restoration of healthy, diverse habitats, the Bank is expected to provide all of these services.

2.4 Rare and Uncommon Plant Communities

We performed a plant survey across the entire site through the 2010 growing season. Most of the area is in active cultivation, and plant life is limited to cultivated grasses and agricultural weeds. Remnant native plant populations persist along the west-east ditch, including American sloughgrass, water foxtail, and Scouler's popcornflower. Greater native plant diversity is confined to the riparian strip along the Tualatin River. None of the plant species located in the riparian corridor or along the west-east ditch are listed sensitive, rare or endangered. Please see section 3.3 for a complete list of plants located in the riparian corridor. A list of plants located within the field portion of the site is included in the wetland delineation report.

In the future, several plant communities will be represented at the mitigation bank, some of which are considered imperiled at both a state and global level. Imperiled plant communities that will be emphasized include the following:

- One-sided sedge/meadow barley marsh
- Tufted hairgrass prairie
- Water purslane/water-pepper marsh
- Wapato marsh
- Downingia/spikerush vernal pool

2.5 Connectivity and Support of Other Resource Initiatives

The project supports several key recommendations of the *Lower Tualatin Watershed Analysis*, including wetland re-establishment and riparian buffer development as well as the *Oregon Conservation Strategy*, as previously described. In addition, the Bank site occupies a critical position in the Tualatin Valley landscape. Directly adjacent to the Tualatin River, the site is less than one-half mile from the Tualatin River National Wildlife Refuge. The 120-acre Gotter Prairie Wetland site is 1.6 miles upstream of the Butler site and the 70-acre Munger Prairie

Wetland site lies less than one-half mile downstream. Intervening areas of floodplains have been identified as priorities for acquisition and restoration by Metro, the Tualatin Riverkeepers, and the Tualatin National Wildlife Refuge. An existing, continuous riparian corridor along and including the Tualatin River currently links the Butler site with each of these nearby significant natural areas. The long-term goal for this reach of the Tualatin River is to expand this existing corridor to include continuous, broad swaths of wetland and floodplain habitats.

2.6 Landscape Position Rationale

The Bank will restore high quality habitats in landscape positions and of types comparable to most of the wetlands currently being displaced in the watershed by development.

The Butler site is an excellent location for restoration and enhancement because of favorable soils, topography, and hydrology. The site encompasses a large area of hydric soils (mapped by the NRCS as Wapato silty clay loam and Cove silty clay loam), as well as transitional soils (McBeesilty clay loam, occasional overflow). Hydrology on the site will be driven by periodic flooding of the Tualatin River, inputs from three ditches flowing from nearby Clark Hill, and overland flow during rain events.

The western and southern portions of the site are distinctly bowl-shaped, with natural ponding behind the natural levee of the Tualatin River. The eastern portion of the site is characterized by broad swales and shallow depressions that were formerly wet due to drainage from nearby Clark Hill. Dismantling the tiles and ditches that currently drain the site is expected to restore historic hydrology and facilitate the restoration of emergent, forested, and scrub wetland habitats. Extensive seasonal ponding is anticipated on this site, with gradual dry-down through the growing season, resulting in an increase in depressional features and a diverse complex of vegetation types. Periodic rain events throughout the growing season are also expected to provide occasional partial recharge of the system adding to the dynamics and complexity of site hydrology.

2.7 Site Contamination

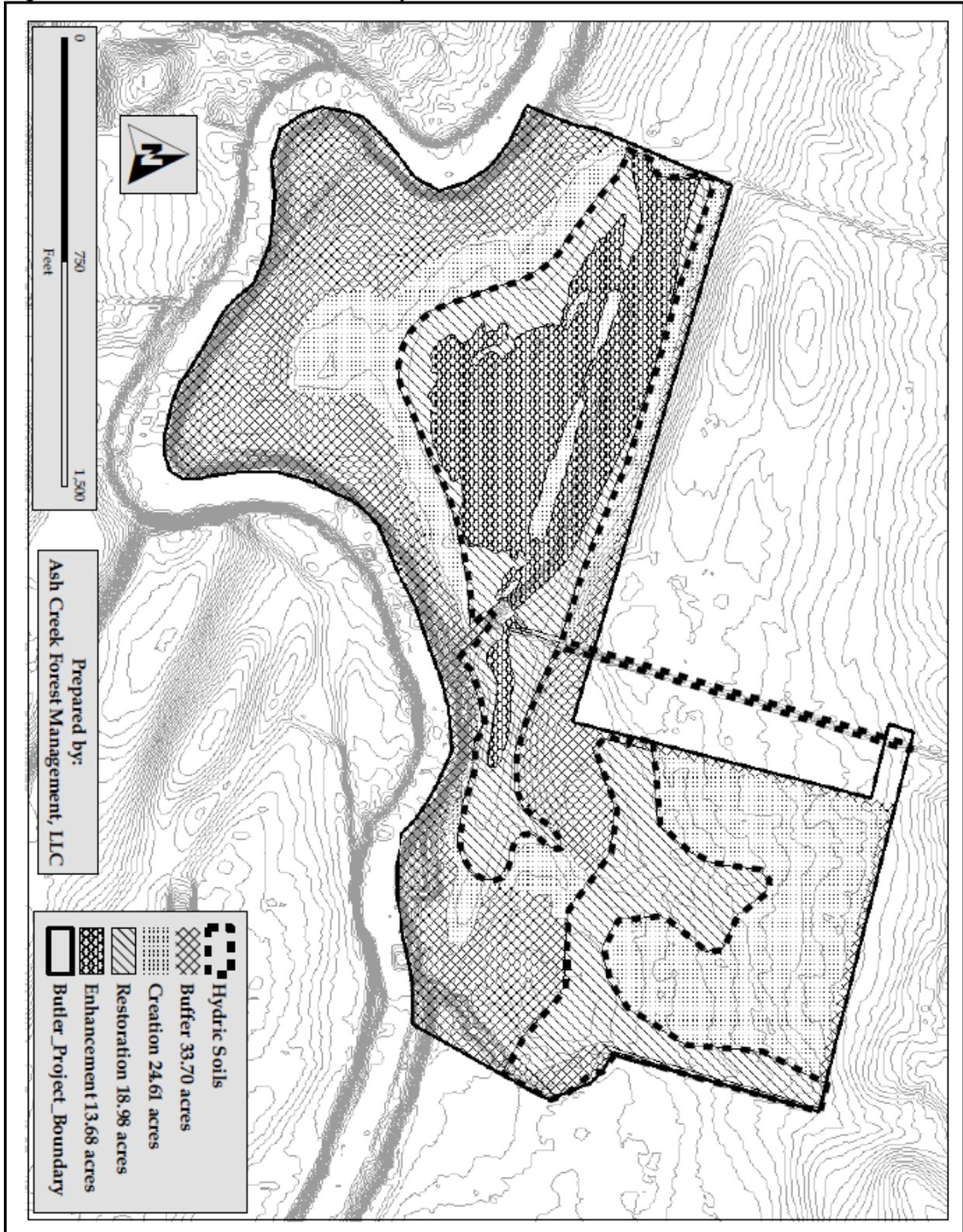
The site has been in continuous agricultural production for nearly 150 years. Except for the riparian fringe, the entire subject site is in open, cultivated fields. There are no visible or known tanks, dumps, spills or other site contaminants that would compromise the function of the proposed wetland habitats.

3. Existing Conditions

3.1 Project Area

The total area within the Butler Mitigation Bank is 91.3 acres, of which 14.2 acres are currently delineated as wetland. The preliminary mapping of hydric soils covers 32.9 acres, indicating that a significant number of acres of former wetland have been effectively drained by ditches and tile.

Figure 2: Wetland Areas and Drained Hydric Soils



3.2 Site History

Early descriptions of the Flint Homestead, which includes the Butler Property, indicate the presence of large areas of fern flats and wet meadow. The fern flats presumably refer to upland areas of bracken meadow, while the bulk of the project area was wet prairie. These descriptions are confirmed in Metro’s historic vegetation maps compiled from GLO survey notes and soils maps.

The site was one of the earliest recorded homesteads in the Tualatin Valley, dating to a land claim in the 1840’s. Because of the predominant prairie vegetation, the site was easily converted to agriculture, and has been in continuous agricultural production for nearly 150 years.

Over the past ten years, both the east and west fields have produced a variety of annual and perennial crops, including grass seed, hay, red clover, spring and fall wheat, and potatoes. Table 2 below shows the cultivation history of both fields since 2005.

Table 2: Cultivation record

	East Field	West Field	West Field Crop
2005	Subsoiled, plowed, disced	Subsoiled, plowed, disced	Red clover
2006	Subsoiled, plowed, disced	Subsoiled, plowed, disced	Grass seed
2007	Subsoiled, plowed, disced	Subsoiled, plowed, disced	Grass seed
2008	Subsoiled, plowed, disced	Subsoiled, plowed, disced	Grass seed
2009	Perennial grass crop	Perennial grass crop	Grass seed
2010	Perennial grass crop	Subsoiled, disced	Timothy hay
2011	disced X3, to be subsoiled and plowed	Disced three times	Fallow
subsoiling to depth of 24-30"			
Discing combination of cover-crop and finish discs			
plow depth 12-14"			

3.3 Existing Plant Communities

In 2009, the western field was subsoiled, plowed, disced, and drilled with cultivated grass hay, including timothy (*Phleum pratense*), tall fescue (*Schedonorus phoenix*), orchardgrass (*Dactylis glomerata*), and perennial ryegrass (*Lolium perenne*). The eastern field is in tall fescue. Both fields are very well maintained, with minimal weeds. Weeds in the eastern field are mostly limited to small amounts of white clover (*Trifolium repens*) and dogfennel (*Anthemis cotula*). Clover, dogfennel, wild radish (*Raphanussativus*), wild carrot (*Daucus carota*) and meadow foxtail (*Alopecurus pratensis*) are minor weed constituents of the western field. A narrow strip along the east-west ditch contains small, remnant populations of Scouler’spopcornflower (*Plagiobothrys scouleri*), American sloughgrass (*Beckmannia syzygachne*) and water foxtail

(*Alopecurus geniculatus*). A narrow band encompassing less than one-quarter acre along the east-west ditch is dominated by reed canary grass, which is currently being removed and controlled.

The existing riparian fringe along the Tualatin contains a wide diversity of native trees, shrubs and herbs, as well as two invasive weeds, as shown in Table 3. Generally, this fringe provides some riparian functions, but is too narrow to provide stable cover and support for water quality and stream habitat parameters. Furthermore, encroaching weeds, especially Himalayan blackberry (*Rubus discolor*), threaten native cover and diversity if left unmanaged.

Table 3. Pre-treatment plant list for the riparian fringe

TREES	HERBS	NON-NATIVE INVASIVE
<i>Abies grandis</i>	<i>Actaea rubra</i>	<i>Prunus avium</i>
<i>Acer macrophyllum</i>	<i>Aquilegia formosa</i>	<i>Rubus discolor</i>
<i>Crataegus douglasii</i>	<i>Cardamine oligosperma</i>	
<i>Fraxinus latifolia</i>	<i>Carex deweyana</i>	
<i>Pseudotsuga menziesii</i>	<i>Disporum hookeriana</i>	
<i>Quercus garryana</i>	<i>Erythronium oregonum</i>	
<i>Rhamnus purshianus</i>	<i>Hydrophyllum tenuipes</i>	
<i>Salix scouleriana</i>	<i>Lilium columbianum</i>	
<i>Taxus brevifolia</i>	<i>Nemophila parviflora</i>	
<i>Thuja plicata</i>	<i>Polystichum munitum</i>	
	<i>Pteridium aquilinum</i>	
SHRUBS	<i>Rubus ursinus</i>	
<i>Acer circinatum</i>	<i>Smilacina racemosa</i>	
<i>Amelanchier alnifolia</i>	<i>Smilacina stellata</i>	
<i>Cornus stolonifera</i>	<i>Stachys neo-mexicana</i>	
<i>Corylus cornuta</i>	<i>Tellima grandiflora</i>	
<i>Holodiscus discolor</i>	<i>Thallictrum occidentale</i>	
<i>Mahoniaa quifolium</i>	<i>Tolmiea menziesii</i>	
<i>Oemleria cerasiformis</i>	<i>Trientalis borealis</i>	
<i>Philadelphus lewisii</i>	<i>Trillium chloropetalum</i>	
<i>Physocarpus capitatus</i>	<i>Trillium ovatum</i>	
<i>Rosa gymnocarpa</i>	<i>Urtica dioica</i>	
<i>Rubus parviflorus</i>	<i>Vancouveria hexandra</i>	
<i>Spiraea douglasii</i>	<i>Viola glabella</i>	
<i>Symphoricarpos albus</i>		

3.4 Existing Hydrology and Soils

Extensive areas of drained hydric soils have been identified through a combination of analysis of field soil conditions and NRCS mapping. The delineation report, as amended by DSL concurrence, describes site soils and hydrology in detail. The site is extensively tiled. Historical

photography from 1936 suggests extensive shallow tiling to the south of the east-west ditch in the west field, and shards of terra cotta tile are evident throughout the bank area. More recent, deeper tiles have been installed in both east and west fields. Estimated tile locations are shown in attachment 5, Tile Map.

The current delineation shows extensive areas of wetland, mainly in the west field and the lower portion of the east field. Wetlands also occur at the bottom of the middle and east ditches. These wetlands are extensively disturbed by regular farming practices, and are drained by tiles and ditches. The entire site is typically arable by mid-March of the average year.

Figure 3. West field 1936



Remnant areas of farmed wetland exist and are proposed for enhancement. Wetland function in these areas is severely compromised by drainage structures and annual farming, which has homogenized the site, eliminated most native vegetation, and reduced wetland hydrology to marginal levels.

3.5 Surrounding Land Uses

The site is bounded east, north, and west by agricultural fields and on the south by the Tualatin River. Current surrounding crops are wheat, berries, and tall fescue, but these are subject to regular change. The field upslope to the north is scheduled for conversion to blueberries, which is a stable, low-weed crop that will be a low-impact neighboring use. Land uses across the Tualatin from the site are exclusively agricultural. Much of the property to the east of the Bank is very poorly drained clay that may serve as future mitigation bank or habitat restoration area. Conversion of this property to wetland use would provide a broad and direct linkage to the

Tualatin National Wildlife Refuge. All surrounding lands are zoned EFU, and no changes in zoning are anticipated.

3.6 Water Sources and Duration

Water enters the proposed site via overland flow, seasonal ditches, and seasonal overbank flooding of the Tualatin River. The site lies at the base of a long escarpment leading to Clark Hill, a basalt ridge which lies to the north of the project area. Currently, much of the flow from south slope of Clark Hill is channeled into three agricultural ditches, one on the west, one in the center and one on the east edge of the property. Mid-spring flows in the middle ditch (Ditch 3) were measured at .3 to .5 cfs. Once reconnected to the wetland landscape, flows from these ditches can be expected to provide significant support to wetland hydrology. In addition, winter and spring rain events and overbank flooding of the river can be expected to provide significant pulses of water into wetland bowls.

None of the ditches flowing along or through the project area currently provide habitat for steelhead or other salmonids, or any other species of fish. Due to the lack of bedrock, gravel or other critical stream structure, it is unlikely that the ditches, even in improved, natural channels, will provide quality habitat for salmonids, although other stream functions, such as temperature attenuation, water filtration, and amphibian and invertebrate habitat, may be achieved.

3.7 Wetland Enhancement Rationale

The proposed project will significantly enhance functions and values in remnant areas of farmed wetland. Decommissioning tiles and filling drainage ditches will result in permanent increases in depth and duration of wetland hydrology. Conversion of agricultural fields to emergent, scrub, and forest habitats will yield lasting wetland habitat and water quality benefits. Long-term stewardship of the project will ensure that these habitat gains will be sustained in perpetuity.

3.8 Wetland Creation Rationale

Wetland creation will be sustainably supported by diverting water out of existing ditches and into swales and ponded areas, and by raising groundwater levels. Where water is re-directed or impounded over soils determined to be upland in nature, wetland hydrology is expected to result in creation of wetland habitats. This is especially true in upper portions of the east field where water from the ditches will be diverted into a large pond to be excavated in uplands, and where water will seep across mapped upland soils. In addition, the seasonal pool created by the proposed water control structure (see sections 4.1 and 4.2) is expected to raise groundwater levels in areas currently mapped as upland soils. Where this results in soil saturation within twelve inches of the soil surface, soils are expected to support wetland vegetation.

3.9 Site Constraints and Limitations

In-flow via ditches contains run-off from agricultural sources and Highway 210. Contaminating spills are possible. The greatest anticipated challenge to successful establishment of wetland vegetation at the mitigation bank site is weed infestations from upstream sources, both from the

Tualatin River and the three agricultural ditches. While import of weed seed by Tualatin floodwaters is inevitable, experience at Gotter Prairie and other nearby sites has shown that once established, native prairie vegetation and natural hydrology are less susceptible to invasion by weeds. When invasive weeds do appear on these sites, periodic spot-treatments with herbicides and hand tools have successfully eliminated them.

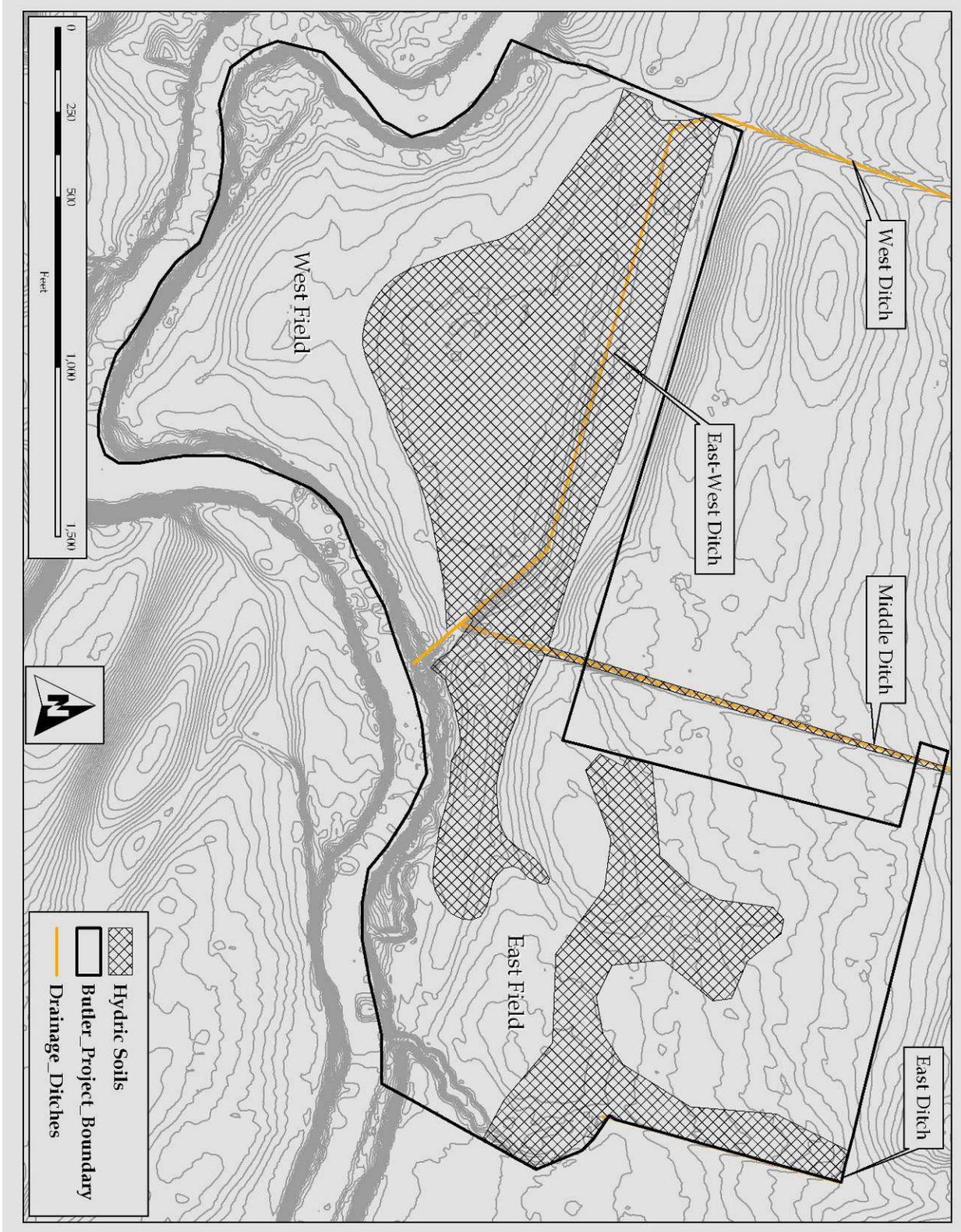
3.10 Functional Assessment

A function assessment was conducted of the proposed mitigation bank site by Paul Adamus, principal author of the Oregon Rapid Wetland Assessment Protocol ORWAP. Results of the assessment show that in its present condition, the Butler site wetland functions include (on a low to moderate level) exportation of organic matter to the Tualatin River and retaining of phosphorus. Other low level functions presently occurring and expected to increase with the proposed mitigation bank are Anadromous Fish Habitat, Thermoregulation, Water Storage, and Native Plant Diversity. The following table lists all of the current functions performed by the project area as well as potential for increases post project implementation. (See Attachment 4 for the full report.)

Table 4. Functional lift for the Butler Mitigation Bank site as estimated for 5-year post-restoration condition based on Prospectus description and ORWAP application.

	PRE	POST	Functional LIFT (if all Enhancement)	Functional LIFT (if all Restoration)
Water Storage & Delay (WS)	2.72	3.73	1.01	3.73
Sediment Retention & Stabilization (SR)	1.96	4.63	2.67	4.63
Phosphorus Retention (PR)	7.09	7.40	0.31	7.40
Nitrate Removal & Retention (NR)	3.78	4.05	0.27	4.05
Thermoregulation (T)	2.78	3.89	1.11	3.89
Carbon Sequestration (CS)	2.21	1.84	-0.37	1.84
Organic Matter Export (OE)	7.74	7.76	0.02	7.76
Aquatic Invertebrate Habitat (INV)	3.72	5.49	1.77	5.49
Anadromous Fish Habitat (FA)	5.15	7.28	2.13	7.28
Non-anadromous Fish Habitat (FR)	2.61	3.13	0.52	3.13
Amphibian & Reptile Habitat (AM)	3.24	5.52	2.28	5.52
Waterbird Feeding Habitat (WBF)	5.49	6.52	1.03	6.52
Waterbird Nesting Habitat (WBN)	0.00	0.00	0.00	0.00
Songbird, Raptor, & Mammal Habitat (SBM)	5.38	6.24	0.86	6.24
Pollinator Habitat (POL)	2.51	4.95	2.44	4.95
Native Plant Diversity (PD)	2.36	5.79	3.43	5.79
GROUPED FUNCTIONS				
Hydrologic Function (WS)	2.72	3.73	1.01	3.73
Water Quality Group (WQ)	7.09	7.40	0.31	7.40
Carbon Sequestration (CS)	2.21	1.84	-0.37	1.84
Fish Support Group (FISH)	5.15	7.28	2.13	7.28
Aquatic Support Group (AQ)	7.74	7.76	0.02	7.76
Terrestrial Support Group (TERR)	5.38	6.24	0.86	6.24

Figure 4. Field and ditch locations



4. Mitigation Work Plan

In general, the project work plan will follow the prescriptions applied at the nearby Gotter Prairie and Munger wetland restoration sites which now support a rich diversity of native habitats. The work plan includes integrated treatments for site preparation, construction, initial seeding and planting, and establishment.

4.1 Construction Methods

Construction of the Bank will involve locating and disrupting tiles throughout the project area, plugging agricultural drainage ditches, and re-routing waters from these ditches into pools and shallow, meandering swales, resulting in dispersed flow and filtration of water through dense wetland vegetation. Enhancements of the natural levee and construction of a water control structure will restore a large ponded wetland at the base of the site.

In the west field, the east-west ditch will be filled and most of the tiles leading into it will be broken and where possible, removed. One tile, which captures a portion of the low-flow from the west ditch, will remain. In the east field, both the middle and east ditches will be plugged with clay plugs, and waters diverted into roughened swales designed to decrease water velocity and filter sediment. From the roughened swales, water will flow into a broad, shallow pond which will help disperse water across the top of the field. The east field is gently sloped, with multiple broad, indistinct natural swales and ponded areas formerly watered by upslope flow from Clark Hill. Rock-lined notches in the constructed pond will feed water back into these swales. Rock notches and rock piles will also provide habitat for invertebrates, and will be installed so that portions of the rock occur in areas that are not regularly flooded. Shallow pools and leads will be excavated to help direct flows and disperse energy, reducing erosion potential of the re-directed flows while vegetation establishes.

Two large tiles underlying the east field will be disrupted, further re-watering the east field. The resulting network of pools and swales will gradually lead to the large pool at the base of the field formed by construction of the water control structure. This structure will be installed at the site of the existing drainage culverts and will be constructed of concrete, a metal screw-type low-flow weir gate, metal guide channels, and wooden weir boards. A concrete lined plunge pool below the structure will surround the upper ends of the existing culverts.

The middle ditch below the point of diversion will be filled with material excavated from the east field. The east-west ditch will be filled with nearby sidecast material. Small fills around the perimeter of the wetland pool, designed to protect the integrity of the natural levee from effects of wind waves and erosion, will be constructed from nearby excavated material. The east and west ditches will be left in place to accommodate excess flows, although a plug will be installed in the east ditch, as mentioned above, to divert flows into the field. All areas of cut and fill within the bank boundary will be re-vegetated with native vegetation. The middle ditch below the diversion point will become part of the adjacent blueberry field.

Grading activities will occur in late summer and early fall. No grading is expected to take place within 100 feet of the Tualatin River. Excavation equipment will include excavators, bulldozers, and dump trucks. Since wildlife habitat elements such as brush piles and rock piles impede activities such as mowing and spraying, installation of these elements may be delayed until year 5 to facilitate management of the site during the establishment phase.

Table 5.*Implementation Schedule*

Treatment	Date
Perimeter Spray	May-12
Broadcast spray	May-12
Disc	May-12
Perimeter Spray	Jul-12
Broadcast spray	Jul-12
Tile Disruption	Aug-12
Ditch filling and stream channel construction	Aug-12
Water Control construction	Aug-12
Irrigation (induce weed sprout)	Aug-12
Perimeter Spray	Sep-12
Broadcast spray	Sep-12
Perimeter Spray	Oct-12
Broadcast spray	Oct-12
Seed spreading	Oct-12
Harrow	Oct-12
Plug and bulb planting	Oct-12
Bare-root planting	Mar-13
Install habitat elements	Aug-17

4.2 *Proposed Water Source and Regime*

Water sources for the site include existing agricultural ditches, overland flow, and occasional overbank flooding of the Tualatin River. The overall concept for water management on the site is to get water out of the ditches, remove drain tiles, and restore the function of the natural levee to retain flood water, surface flow and inputs from ditches.

Under the proposed plan, water from the middle and east ditches will be diverted into a network of shallow swales and pools in the upper east field, terminating in a very large seasonal pool covering much of the west field and the base of the east field. This pool will be held at 124 feet elevation by a simple weir structure to be constructed at the location of the existing drainage culverts. The proposed swales and pools in the east field are primarily natural features of the topography of the site which have been dewatered by tiles and upslope ditches. Slight modifications of topography in the east field will enhance ponding and ensure that extreme flows do not concentrate and head-cut. The resulting combination of flood flow retention and inflow from seasonal ditches is expected to maintain saturated soil conditions over much of the site as late as early to mid-summer.

A flow control structure will be placed where the center ditch currently meets the east-west ditch where elevations are low. The flow control structure will retain water on the site in late winter and spring, and slowly release the water through the summer months. This structure is designed to function simply with minimal intervention and may be retrofitted for permanent closure by simply pouring a solid concrete weir in place of the removable boards. Floating debris is not expected to interfere with the function of the structure in its impounding settings, but may require removal to open the structure in summer. If permanently closed with a concrete weir at any point in the future, the structure will require no further maintenance, and will function continuously as if all the weir boards were in place and the gate valve closed.

Overall, there will be no change in water quantity entering the site. The deconstructed drainage ditches and increased depressional area in combination with the water control structure will simply retain water onsite for a much longer duration than it is being held currently.

4.3 Invasive Species Control -Site Preparation

Most of the site is currently in a clean, relatively weed-free farmed condition. In these areas, site preparation weed control will consist of a regimen of spraying and cultivation techniques to control existing weeds and to reduce weed seeds in the seed bank. Beginning in fall 2010, a series of herbicide applications will eliminate existing forage grasses and broadleaf weeds. In August 2012, prior to initial seeding, the owner will cultivate the entire site and then irrigate to reduce remaining warm-season weeds, followed by an herbicide application. Another herbicide application in early October will control remaining cool-season weeds immediately prior to initial seeding.

Perimeter areas are in various conditions, ranging from predominantly native to moderately infested, mostly with Himalayan blackberry. There are a few limited areas of reed canary grass along the Tualatin River. Crews will spot-apply selective herbicides to control weeds in these areas.

4.4 Design drawings

See Attachment 1: Plan Set

4.5 Planting Plan and Seed Specifications

Plants and seed to be applied at the Butler site will be genetically local and locally produced within the northern Willamette Valley and the Tualatin Valley. The project will apply separate mixtures to emergent, wet prairie, and mesic/riparian areas. The entire project area will be seeded. Seed in scrub and forested buffer areas will serve as a weed-reducing cover while woody plants become established.

Figure 5: Proposed habitats

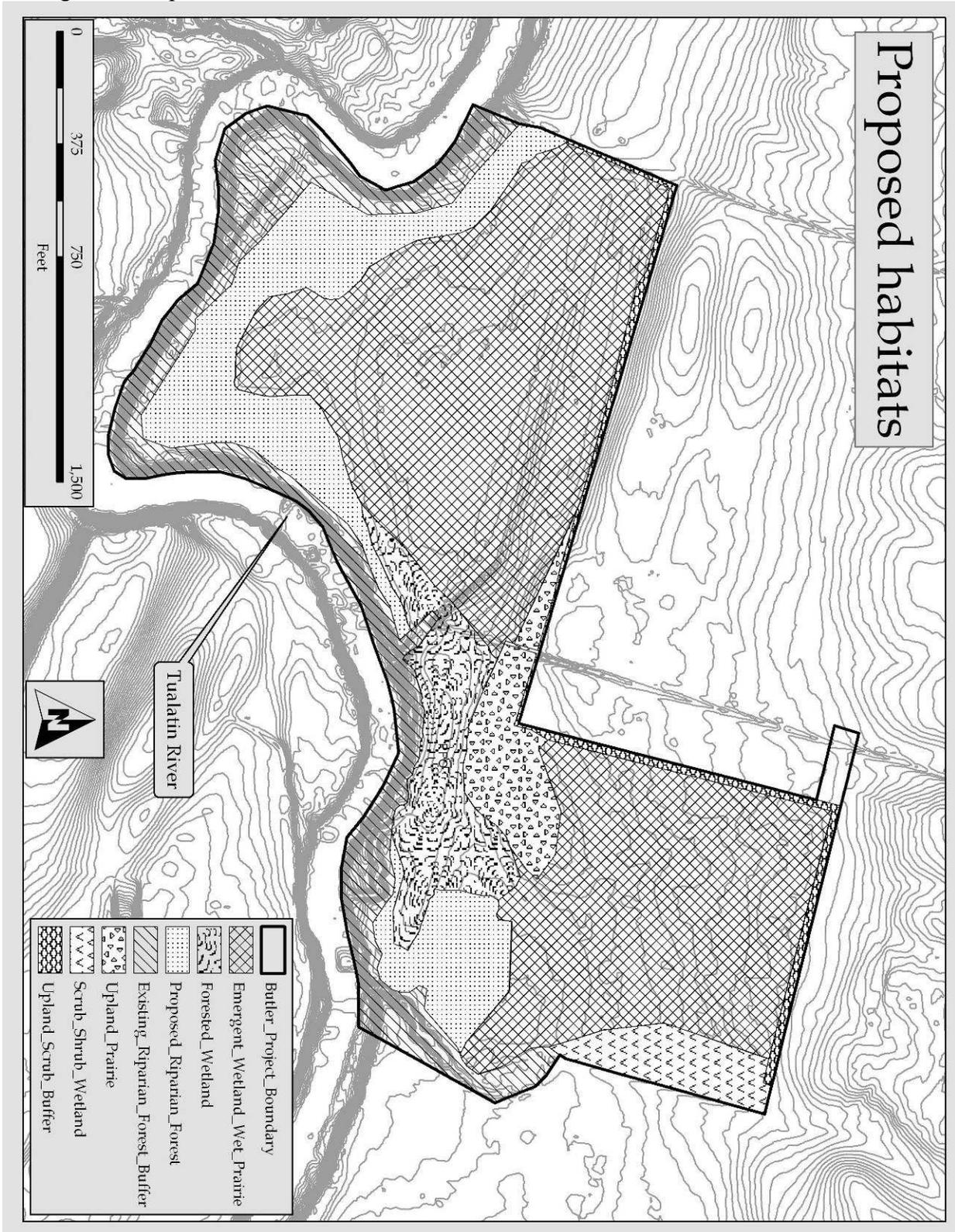


Table 6. Proposed seed lists

			Indicator
Emergent Wetland			
SeedSpecies	Common Name	Pounds/ac	Status
<i>Agrostis exarata</i>	spike bentgrass	2	FACW
<i>Alisma plantago-aquatica</i>	water plantain	3	OBL
<i>Alopecurus geniculatus</i>	water foxtail	0.5	OBL
<i>Aster chilensis</i>	California aster	0.1	FAC
<i>Beckmannia syzygachne</i>	American sloughgrass	3	OBL
<i>Boisduvalia densiflora</i>	dense spike primrose	1	FACW-
<i>Camassia leichtlinii</i>	Leichtlin's camas	0.2	FACW-
<i>Camassia quamash</i>	common camas	0.5	FACW
<i>Carex densa</i>	dense sedge	1	OBL
<i>Carex obnupta</i>	slough sedge	0.5	OBL
<i>Carex scoparia</i>	pointed broom sedge	1	FACW
<i>Carex stipata</i>	sawbeak sedge	1	OBL
<i>Carex unilateralis</i>	one-sided sedge	2	FACW
<i>Danthonia californica</i>	California oatgrass	2	FACU*
<i>Deschampsia caespitosa</i>	tufted hairgrass	1	FACW
<i>Deschampsia elongata</i>	slender hairgrass	1	FACW-
<i>Downingia elegans</i>	elegant downingia	0.2	OBL
<i>Eleocharis palustris</i>	spreading spikerush	0.5	OBL
<i>Eryngium petiolatum</i>	coyote thistle	0.2	OBL
<i>Grindelia integrifolia</i>	Gumweed	0.5	FACW
<i>Hordeum brachyantherum</i>	meadow barley	2	FACW-*
<i>Juncus acuminatus</i>	tapertip rush	0.1	OBL
<i>Juncus ensifolius</i>	dagger-leaf rush	0.1	FACW
<i>Plagiobothrys figuratus</i>	fragrant popcornflower	2	FACW
<i>Potentilla gracilis</i>	slender cinquefoil	0.5	FAC
<i>Prunella vulgaris</i>	heal-all	0.5	FACU+
<i>Scirpus microcarpus</i>	small-fruit bulrush	0.2	OBL
<i>Scirpus validus</i>	soft-stem bulrush	0.2	OBL
<i>Solidago canadensis</i>	Canada goldenrod	0.1	FACU
	<i>Total/ac</i>	26.9	
Scrub/Riparian Forest/PFO/Upland Prairie Seed			
Species	Common Name	Pounds/aC	
<i>Agrostis exarata</i>	spike bentgrass	2	FACW
<i>Danthonia californica</i>	California oatgrass	2	FACU*
<i>Deschampsia caespitosa</i>	tufted hairgrass	5	FACW
<i>Deschampsia elongata</i>	slender hairgrass	5	FACW-
<i>Elymus glaucus</i>	blue wildrye	1	FACU
<i>Hordeum brachyantherum</i>	meadow barley	1	FACU-*
<i>Potentilla gracilis</i>	slender cinquefoil	0.2	FAC
<i>Prunella vulgaris</i>	heal-all	1	FACU+
<i>Solidago canadensis</i>	Canada goldenrod	0.2	FACU
	<i>Total/ac</i>	17.4	

Table 7. Woody Plants by Habitat

Wetland Plantings

Species	Common Name	Stock Type	Number/ac	Indicator Status
Forested Wetland				
<i>Cornus stolonifera</i>	red-osier dogwood	1-0 bare-root	550	FACW
<i>Fraxinus latifolia</i>	Oregon ash	1-1 bare-root	300	FACW
<i>Populus trichocarpa</i>	black cottonwood	1-0 bare-root	100	FAC
<i>Physocarpus capitatus</i>	Pacific ninebark	1-0 bare-root	400	FACW-
<i>Pyrus diversiloba</i>	western crabapple	1-1 bare-root	200	NOL
<i>Quercus garryana</i>	Oregon white oak	1-0 bare-root	350	NOL
<i>Salix lasiandra</i>	Pacific willow	1-0 bare-root	50	FACW+
<i>Salix scouleriana</i>	Scouler willow	1-0 bare-root	50	FAC
	<i>Total/ac</i>		<u>2000</u>	
Wetland Scrub				
<i>Cornus stolonifera</i>	red-osier dogwood	1-0 bare-root	300	FACW
<i>Crataegus douglasii</i>	black hawthorn	1-1 bare-root	50	FAC
<i>Fraxinus latifolia</i>	Oregon ash	1-0 bare-root	10	FACW
<i>Lonicera involucrata</i>	black twinberry	1-0 bare-root	200	FAC+*
<i>Physocarpus capitatus</i>	Pacific ninebark	1-0 bare-root	200	FACW-
<i>Populus tremuloides</i>	quaking aspen	Cutting	10	NOL
<i>Pyrus diversiloba</i>	western crabapple	plug-1 bare-root	30	NOL
<i>Rosa pisocarpa</i>	swamp rose	1-0 bare-root	700	FAC
<i>Spiraea douglasii</i>	Douglas spiraea	large 1-0 bare-root	700	FACW
<i>Symphoricarpos albus</i>	common snowberry	1-0 bare-root	200	FACU
	<i>Total/ac</i>		<u>2400</u>	

Riparian Forest Plantings

Species	Common Name	Stock Type	Number/ac	Indicator Status
<i>Abies grandis</i>	grand fir	1-1 bare-root	50	FACU-*
<i>Acer circinatum</i>	vine maple	1-0 bare-root	50	FAC-
<i>Alnus rhombifolia</i>	white alder	1-0 bare-root	50	FACW
<i>Crataegus douglasii</i>	black hawthorn	1-gal	100	FAC
<i>Holodiscus discolor</i>	Oceanspray	1-0 bare-root	50	NOL
<i>Mahonia aquifolium</i>	tall Oregon grape	1-0 bare-root	300	NOL
<i>Philadelphus lewisii</i>	mock orange	1-0 bare-root	100	NOL
<i>Pinus ponderosa</i>	ponderosa pine	2-0 bare-root	20	FACU-
<i>Pseudotsuga menziesii</i>	Douglas-fir	1-1 bare-root	100	FACU*
<i>Pyrus diversiloba</i>	western crabapple	1-1 bare-root	100	NOL
<i>Quercus garryana</i>	Oregon white oak	1-0 bare-root	30	NOL
<i>Rhamnus purshiana</i>	Cascara	plug-1 bare-root	200	FAC-
<i>Ribes sanguineum</i>	red-flowering currant	1-0 bare-root	50	NOL
<i>Sambucus cerulea</i>	blue elderberry	1-0 bare-root	200	FACU
<i>Sambucus racemosa</i>	red elderberry	1-gal	100	FACU
<i>Symphoricarpos albus</i>	common snowberry	1-0 bare-root	400	FACU
<i>Thuja plicata</i>	western redcedar	P-1 bare-root	100	FAC
	<i>Total/ac</i>		<u>2000</u>	

**Scrub buffer
Plantings**

Species	Common Name	Stock Type	Number/ac	Indicator Status
<i>Cornus stolonifera</i>	red-osier dogwood	1-0 bare-root	100	FACW
<i>Crataegus douglasii</i>	black hawthorn	1-gal	100	FAC
<i>Holodiscus discolor</i>	oceanspray	1-0 bare-root	100	NOL
<i>Lonicera involucrata</i>	black twinberry	1-0 bare-root	100	FAC+*
<i>Mahonia aquifolium</i>	tall Oregon grape	1-0 bare-root	200	NOL
<i>Philadelphus lewisii</i>	mock orange	1-0 bare-root	100	NOL
<i>Physocarpus capitatus</i>	Pacific ninebark	1-0 bare-root	100	FACW-
<i>Pyrus diversiloba</i>	western crabapple	1-1 bare-root	100	NOL
<i>Quercus garryana</i>	Oregon white oak	1-0 bare-root	50	NOL
<i>Rhamnus purshiana</i>	casara	plug-1 bare-root	100	FAC-
<i>Ribes sanguineum</i>	red-flowering currant	1-0 bare-root	50	NOL
<i>Rosa pisocarpa</i>	swamp rose	1-0 bare-root	200	FAC
<i>Spiraea douglasii</i>	Douglas spiraea	large 1-0 bare-root	200	FACW
<i>Sambucus cerulea</i>	blue elderberry	1-0 bare-root	100	FACU
<i>Sambucus racemosa</i>	red elderberry	1-gal	100	FACU
<i>Symphoricarpos albus</i>	common snowberry	1-0 bare-root	300	FACU
		<i>Total/ac</i>	<u>2000</u>	

The property owner will apply seed using a grain drill, spin spreader, or air seeder, or some combination, depending on seed and soil conditions. Woody plants will be bare-root materials from local valley sources. Dense initial planting will ensure adequate stocking, rapid site occupancy, and exclusion of weeds. A wide diversity of woody plant species in each habitat type will provide rich and varied food sources for a variety of macro-invertebrates, birds, and other wildlife species, as well as a diversity of biotic inputs to streams, wetlands, and the Tualatin River. Crews will shovel-plant woody plants according to natural species assemblages under the direction of a professional restoration ecologist or forester.

Since the site has potential to provide habitat for western pond turtles, four to five, 1/10-acre pockets of less-dense vegetation will be maintained north of the pool in the west field. These pockets will occur on the margins of the wet prairie between the edge of the pool and the scrub buffer.

5. Site Constraints

5.1 Access Road and Irrigation Line

The existing rock-surfaced farm road that runs along the western border of the mitigation bank area is outside of the project boundary. Any road usage and/ or maintenance will be limited to the footprint of this road and is not expected to have any impact on the wetland mitigation bank.

Maintenance access will be from the end of the existing farm road along the riverbank to the water control structure. A seasonal, natural-surface road will allow access to the structure and west field for mowing, spraying and other maintenance activities. An irrigation line from the farm’s approved water diversion point will pass under proposed wetlands at the narrow point

near the water control structure. This line will be sleeved to allow maintenance without impacting proposed wetlands.

5.2 Floodplain-Related Concerns

One public comment during the prospectus process raised the concern of affecting flood levels in the vicinity of the bank. The project involves only minimal grading within the 100-year floodplain and the cut and fill will be balanced. Neither the proposed structures nor the proposed grading will create any impediments to the movement of floodwaters or displace potential flood storage on or off the mitigation site. As a result, no increase in flood levels is expected as a result of the implementation of the project. Washington County's approval of the project is contingent upon the County Engineer's concurrence of no net rise.

Annual deposits of flood-debris and litter are expected to occur in the project area due to the nature of floodplains. Regular maintenance and monitoring visits will involve removing undesirable materials from flotsam deposits, such as plastic debris and other litter.

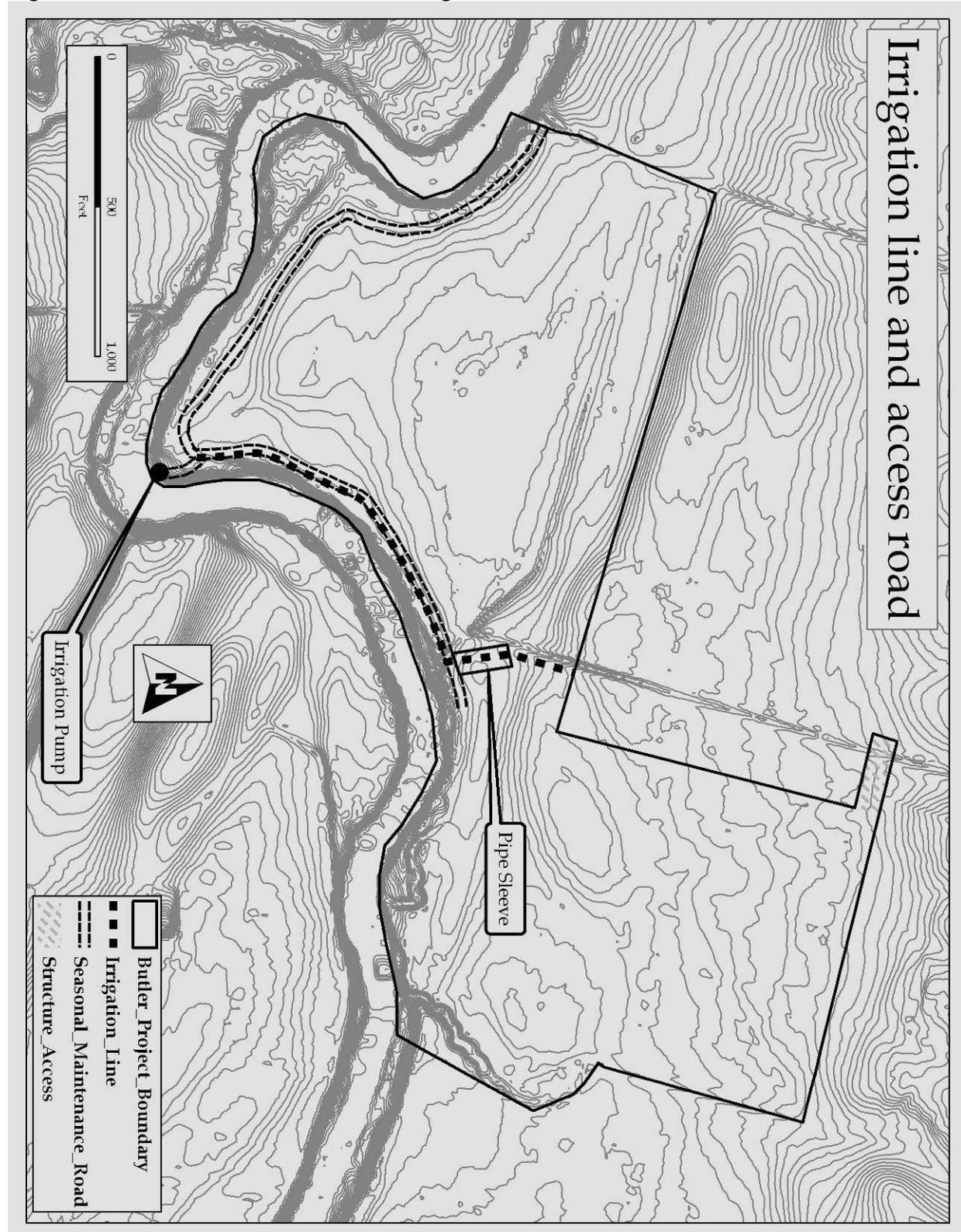
Floodwaters are expected to carry reed canary grass and other weed seed into the mitigation bank area on a nearly annual basis. As at the Gotter Prairie and Munger Wetland restoration sites, also located in the active floodplain of the Tualatin River, establishment of dense native vegetation and routine spot-spraying of weeds will be part of the ongoing maintenance and adaptive management plan. This approach to weed management has proven to be highly effective over the long-term in spite of flood-borne seed deposits.

5.3 Water Control Structures

Potential for fish stranding behind the natural levee and lower water control structure will be addressed by providing significant outflow of water throughout the winter flood season, allowing fish entering the floodplain to exit as floodwaters recede.

The lower water control structure will be of simple and durable design. Moving parts will be replaceable when necessary. The water control ditch will be lined and diversion points hardened with liner or concrete to ensure constant proportional flow. Periodic inspections will identify any sedimentation requiring removal or other remedial actions.

Figure 6: Bank maintenance access and irrigation line



5.4 Existing and Proposed Plumbing/Hydrology

An irrigation line currently sited along the west edge of the property will be moved to the center of the property, with a crossing under the wetland near the main culverts. The pipe will be placed under the proposed Bank maintenance access road to the point of the crossing. The wetland crossing portion will be sleeved with heavy HDPE line so that any maintenance of the pipe can be accomplished without excavation in the wetland. A short, natural-surface spur will allow access to the irrigation pump site on the river bank.

Adjacent agricultural fields contributing to the hydrology on the site are owned by the sponsor of this proposed wetland mitigation bank. No new tiles or changes in hydrology are expected to affect the bank area. If changes in irrigation practices do occur, they are not likely to negatively impact the bank.

5.5 McBee Soils and Buffer Width

Some areas of transitional McBee soils are expected to develop wetland characteristics due to pond excavation, impoundment, and prolonged inundation by restored surface water flows. Most areas of McBee soils are proposed as buffer and not anticipated to achieve wetland status.

In general, proposed buffers serve to reduce incursions of weeds, noise, pollution and other unwanted disturbances into wetland portions of the bank, allow a space to filter and remove these elements without compromising the functioning of the wetland. Buffers are also designed to add a natural diversity of critical upland habitats. Cover types to be managed as buffers include existing riparian forest, new riparian forest, scrub, and upland prairie. The existing riparian forest is diverse and has areas of high-quality herbaceous understory, and provides important functions for the river, including shade and bank stabilization. Invading Himalayan blackberry, however, threatens the integrity of this forest and is choking out understory vegetation and preventing stand regeneration. Management of this area as buffer is important to maintain its water quality and habitat functions. Proposed new riparian forest areas will enhance existing stand function, add diversity, and stabilize what is currently a fairly narrow and vulnerable forested strip along the river.

Scrub buffers will be installed around much of the northern perimeter of the bank where it adjoins areas of farm use. These dense stands of scrub will provide a natural delineation of the resource area, filter noise and dust, provide refuge for birds, mammals, amphibians and invertebrates, provide sources of pollen and nectar for pollinators, and add several species of upland shrubs to the overall plant diversity of the site. Upland prairie buffer will likewise add several species of native prairie plants, and will provide a broad linkage between the wet prairie unit in the east field with the wet prairie and emergent units in the west field.

5.6 Cultural Resources/Inadvertent Discovery Plan

Earthwork on the site will occur in discrete locations and is planned to be minimal. However, because the project site lies in an 'area generally perceived to have a high probability for

possessing archaeological sites and/or buried human remains' (Dennis Griffin, SHPO), earthwork will be performed with extreme caution.

A cultural resources survey has been performed at the site and no significant resources were discovered. It is not expected that cultural resources will be encountered during construction of the project. A professional archaeological monitor will be present at the site during construction. In the event that cultural resources are discovered during any phase of construction, all ground disturbing activities will immediately cease and the Corps of Engineers, Portland District, Inadvertent Discovery Plan Standard Operating Procedures, which are attached to the joint permit application as Appendix D, will be followed.

5.7 Habitat Considerations

Habitat considerations will be made throughout the construction and maintenance phases of the bank. Vegetation clearing and grading activities will begin after July 15th in order to avoid disturbing nesting juveniles. The water control structure will be placed in a naturally low spot connected to a passable channel so that fish do not become stranded. Any unnecessary culverts will be removed. Herbaceous habitats will not be overly seeded with grasses; instead a variety of native forbs is planned. Grazing will not be included as a regular management activity, but only as a periodic tool for prairie maintenance. Once desirable vegetation is established, any mowing that occurs in the upland prairie will be done in a manner that mimics prairie conditions. Woody structures and rock piles will be placed in locations that maximize their potential value to wildlife; i.e., snags will be placed in areas that currently lack vertical structure.

5.8 ESA Listed Fish

The only ESA-listed fish known to occupy the Tualatin River are winter steelhead, which migrate past the Butler site on their way to and from spawning habitat in the upper basin. The ditches on the property fall to extremely low or no flows in most years, and therefore do not support steelhead or other salmonids, or any other species of fish. Due to the lack of bedrock, gravel or other critical stream structure, it is unlikely that the ditches, even in improved, natural channels, will provide quality habitat for salmonids, although other stream functions, such as temperature attenuation, water filtration, and amphibian and invertebrate habitat, may be achieved.

The entire Butler project is within the 100-year floodplain. The lowest elevations of the site are inundated at least once nearly every year. Flood events typically occur between December and mid-February, but occasionally occur as early as November and as late as March. During protracted wet weather, lower portions of the site may remain inundated

During flood events, steelhead may leave the main channel of the Tualatin and enter the floodplain at sites such as Butler. As floodwaters recede back to the river, steelhead generally leave the floodplain as well. The water control structure at the Butler site has been specifically designed to allow fish to freely exit the site and avoid any possibility of steelhead entrapment. During the winter months, the structures will be open and allow continuous flow over the top of

the boards. This flow will drop into an ample plunge pool, allowing fish to freely exit the site at any time via the existing culverts, as they can now. Even in its fully closed, impounding position, the structure will allow fish passage through substantial, constant flow over the top boards. This flow is generated by large volumes of water entering the site from upslope drainage, and because of the design of the structure, can be counted on to provide an exit route for fish at all water levels.

In general, the project is expected to improve water quality in the Tualatin by restoring vegetative cover in the floodplain, reducing fertilizer and other chemical inputs in the floodplain, and reducing the production of sediment by re-directing flows out of eroding agricultural ditches and into vegetated swales and marsh. Based on the design of the project, we expect the project will have no adverse effects on Tualatin winter steelhead that there will be no take of any ESA-listed species.

5.9 Upstream Contaminants

While it is not possible to anticipate or mitigate for all possible upstream spills or contamination, the site plan does propose two roughened swales; one at the base of the middle ditch and another at the base of the east ditch. These swales will be approximately 240 and 60 feet long respectively, and 40 feet wide, for a total area of 12,000 square feet. Each swale will contain grade checks to prevent headcutting and to promote filtration and infiltration. Swale bottoms will be vegetated with durable wetland grasses and sedges, including *Glycerialeptostachya*, *Carexobnupta* and *Scirpusmicrocarpus*. While these swales will have wetland characteristics, they will not be included in the total calculated credits for the bank.

6. Determination of Credits

The following table displays the potential amount of credits based on the Department of State Lands mitigation ratios.

Table 8. Pre-Project Credit Calculation

Condition	Total Acres	Credit Conversion Ratio	Credits Expected
Enhancement (cropped wetland)	13.68	2:1	6.84
Restoration	18.98	1:1	18.98
Creation	24.61	1.5:1	16.41
Non-agricultural buffers	33.70	10:1	3.37
TOTALS	90.97		45.60

These credits will be released according to the schedule in Exhibit D upon satisfaction of the relevant performance standards and achievement of the wetland acreage. The co-chairs may make partial or incremental releases if there is substantial progress towards meeting the goals and standards. If there are more or fewer acres meeting these targets, the credits generated will be pro-rated according to the ratios in Exhibit D.

Rationale for Determination:

- **Enhancement:** areas of delineated wetlands that currently exist on site which have been ditched, plowed, seeded, and harvested in order to produce a crop for market, and which will exhibit greater wetland hydrology and habitat value as a result of the project. These areas are vegetatively and hydrologically degraded. The project will prolong duration of saturation and inundation, and will greatly increase vegetative diversity and complexity over current conditions.
- **Restoration:** areas of hydric soils which are not currently delineated as wetland and become wetland as a result of the project. These areas are expected to return to wetland condition once drainage tiles are disrupted, ditches are filled and vegetation is restored.
- **Creation:** areas of non-hydric soils which are expected to exhibit hydric soil qualities after the project is implemented. Many of these areas already exhibit some hydric soil characteristics within 12 inches of the surface. Extensive areas of creation are expected where water is diverted from ditches, and subsequently flows, ponds and seeps across the surface of the east field. The large seasonal pond and marginal areas created at the upper edge of the east field will be reliably watered by inputs from the east and middle ditches. Marginal areas around the large seasonal pool in the west field are expected to have shallow water tables supported by ponding and continual inflow from upslope ditches.
- **Non-agricultural Buffers:** upland area not within the proposed wetland boundary but within the conservation zone. Except for the existing riparian strip along the river, these are all farmed uplands in key positions to support and augment the habitat functions of proposed wetlands.

7. Performance Standards

Ecologically-based standards will be used to determine whether the mitigation project is achieving its objectives. The performance standards reflect the reference sites and/or data and the Bank goals.

Goal:

The overall goal of the Bank is to restore and enhance natural wetland functions and processes. The project will convert existing agricultural fields to a complex of emergent wetland, wetland scrub, wetland forest, and buffer. Invasive weeds will be removed and the existing riparian fringe will be enhanced with dense plantings of appropriate riparian forest and scrub species. The following objective and performance standards are adapted from DSL's "routine"

performance standards and are to be met annually for a minimum of five years unless stated otherwise.

Objectives

Hydrology

Objective 1: Restore, create and enhance wetland hydrology on artificially drained agricultural land by removing tile structures, filling and re-grading ditches, and restoring natural flow patterns. The restored, created, and enhanced wetland acreage will meet the hydrology criteria of the 87 Manual and Supplement.

Performance Standard 1: Restored, created and enhanced wetland areas will exhibit wetland hydrology characteristics.

Vegetation Structure

For all habitat types, any non-native species will be considered invasive if it appears on the current Oregon Department of Agriculture Noxious Weed List, or is a known problem species, such as *Phalaris arundinacea*, *Mentha pulegium*, *Holcus lanatus*, *Anthoxanthum odoratum*, and *Trifolium repens*, or is the last crop plant grown at the site. In addition, beginning in year two, any non-native species will be considered invasive if it comprises more than 15% cover in 10% or more of sample plots in any habitat classes, and increases in cover or frequency from the previous monitoring period. Plants that meet this definition will be considered invasive for all successive years of monitoring.

Herbaceous Wetlands

- 48.00 acres emergent wetland,

Performance Standard: The cover of native species will be at least 60%; the cover of invasive species is no more than 10%; bare substrate represents no more than 20% cover in years 3 through 5 after planting. By year 3 and thereafter, there are at least 10 different native species of grasses, sedges, rushes and forbs providing significant cover. Significant cover means a species must have at least 5% average cover in the habitat class, or occur in at least 10% of the plots sampled, and have a prevalence index <3.0. In addition, non-grass species must comprise at least 30 % of total vegetative cover.

Shrub-dominated and Forested Wetlands

- 2.68 acres palustrine scrub-shrub wetland
- 6.59 acres palustrine forested wetland

Performance Standard: In years 3 and 5 after planting, stocking meets or exceeds 1800 stems per acre minimum stocking of all woody species. If irrigation or plant replacement are necessary to achieve this standard, the 5th-year standard will be delayed until two years after the irrigation or interplanting treatments are completed. The cover of native herbaceous species is at least 60%; the cover of invasive herbaceous species is no more than 10%. After the site has matured to the stage when desirable canopy species reach 50% cover, the cover of invasive understory species may increase but may not exceed 30%. The cover of invasive shrub or tree species is no

more than 10%; bare substrate represents no more than 20% cover in years 3 through 5 after planting. By year 3 and thereafter, there will be at least 6 different native woody species providing significant cover. To qualify, a species must have at least 5% average cover in the habitat class, or occur in at least 10% of the plots sampled; and prevalence index <3.0. The density of woody vegetation is at least 1,600 stems/acre, including live planted and native volunteers.

Buffers

Proposed buffers add critical upland habitat features to the bank, provide linkages between habitat elements, protect water resources, provide a weed barrier around wetland units, and allow for a space to mitigate impacts from adjoining land uses. Buffers can only fulfill these roles if they are fully stocked with a diversity of appropriate native plant species. The following performance standards identify the minimum standards for proposed buffers.

Woody Buffers

- 14.20 acres existing riparian forest
- 2.13 acres scrub
- 13.59 acres proposed new riparian forest

Performance Standard: For the second season and thereafter, the cover of native species is at least 60% and the cover of invasive species is no more than 10%. In forested and scrub habitats, after the site has matured to the stage when desirable canopy species reach 50% cover, the ground cover of invasive species may increase but not exceed 30%. In existing riparian stands, Himalayan blackberry cover will be no more than 5% average cover of the total area, and treated areas replanted to initial stocking densities prior to the first credit release. In years 3 and 5 in all woody buffer types, stocking meets or exceeds 1800 stems per acre minimum stocking of all woody species. If irrigation or plant replacement are necessary to achieve this standard, the 5th-year standard will be delayed until two years after the irrigation or interplanting treatments are completed.

Upland Praire Buffer

- 3.78 acres upland prairie

Performance Standard: The cover of native species will be at least 60%; the cover of invasive species is no more than 10%; bare substrate represents no more than 20% cover in years 3 through 5 after planting. By year 3 and thereafter, there are at least 4 different native species of grasses, sedges, rushes and forbs providing significant cover, at least two of which are not grasses. Significant cover means a species must have at least 5% average cover in the habitat class, or occur in at least 10% of the plots sampled.

Habitat Structures

Performance Standard: A total of 18 habitat features consisting of upright snags, large wood/rootwads and rock piles will be installed in appropriate locations by year 5.

8. Monitoring Plan

8.1 Monitoring Methods

8.1.1 As-built Report (Necessary for removal-fill permit)

An as-built report will be submitted within 90 days of completing construction activities and will include a description of any changes that were made from the grading plan.

8.1.2 Photo points

Photo points will be used to provide an overview of habitat conditions, especially for hydrology conditions and broad level changes in habitat conditions. Points will be permanently monumented, and the GPS location and bearing of the photos taken recorded.

8.1.3 Functions and Values

A complete post-project function and values assessment will document the changes in wetland functions as a result of the project using the Oregon Rapid Wetland Assessment Protocol. These assessments will be conducted by year 5 of the monitoring period.

8.1.4 Hydrology and Wetland Acreage

Hydrology monitoring will be performed in the restoration and creation portion of the Bank in year two following the protocols for “Delineation Lite” outlined in DSL’s *Compensatory Mitigation for Wetlands and Tidal Waters*, and based on the Corps of Engineers’ Western Mountains, Valleys, and Coast region Supplement. Sufficient data shall be collected to accurately delineate the area that meets wetland hydrology criteria for a minimum of two weeks during the spring growing season of one year with below normal or normal precipitation. Data consists of daily visual observations of the water table and saturated soil conditions in constructed, 20-inch-deep pits. Plots meet the hydrology standard if saturation occurs within 12 inches of the soil surface. Paired plots will be located along wetland boundaries.

Objective 3, hydrology enhancement, will be measured by collecting sample plot data within areas designated as wetland enhancement. The minimum standard for these areas will be saturation within 12 inches of the soil surface as measured on May 1 of a year with normal or below-normal precipitation.

8.1.5 Vegetation

Vegetation monitoring will be conducted in accordance with DSL’s “Routine Monitoring Guidance for Vegetation”. Monitoring will measure annual estimates of cover, species diversity, and density of woody vegetation. Monitoring will commence the summer following construction and installation of plant material and continue each year for a period of five years.

The site will be stratified into habitat classes and sampling plots will be randomly located using either systematic sampling or GPS, but will ensure coverage within the habitat class. Permanent transects will be established and for herbaceous vegetation, visual estimates of cover made, by species, on one-meter-square plots. For woody vegetation, monitoring plots will be 1/100th hectare, circular plots. The entire bank is scheduled to be seeded and planted as a unit, but in the

event that vegetation installation is staggered, respective plot data will be sampled and tallied separately.

During the first year of monitoring, the minimum sample size for each class, as stated in the RMG, will be followed. Data collected during the first monitoring season will be used to determine appropriate sample sizes necessary to evaluate the performance standards with a confidence level of 80% and an absolute confidence interval width of 10. The correct sample size will be calculated for each habitat class.

Table 9. Minimum Sample Sizes per habitat class area

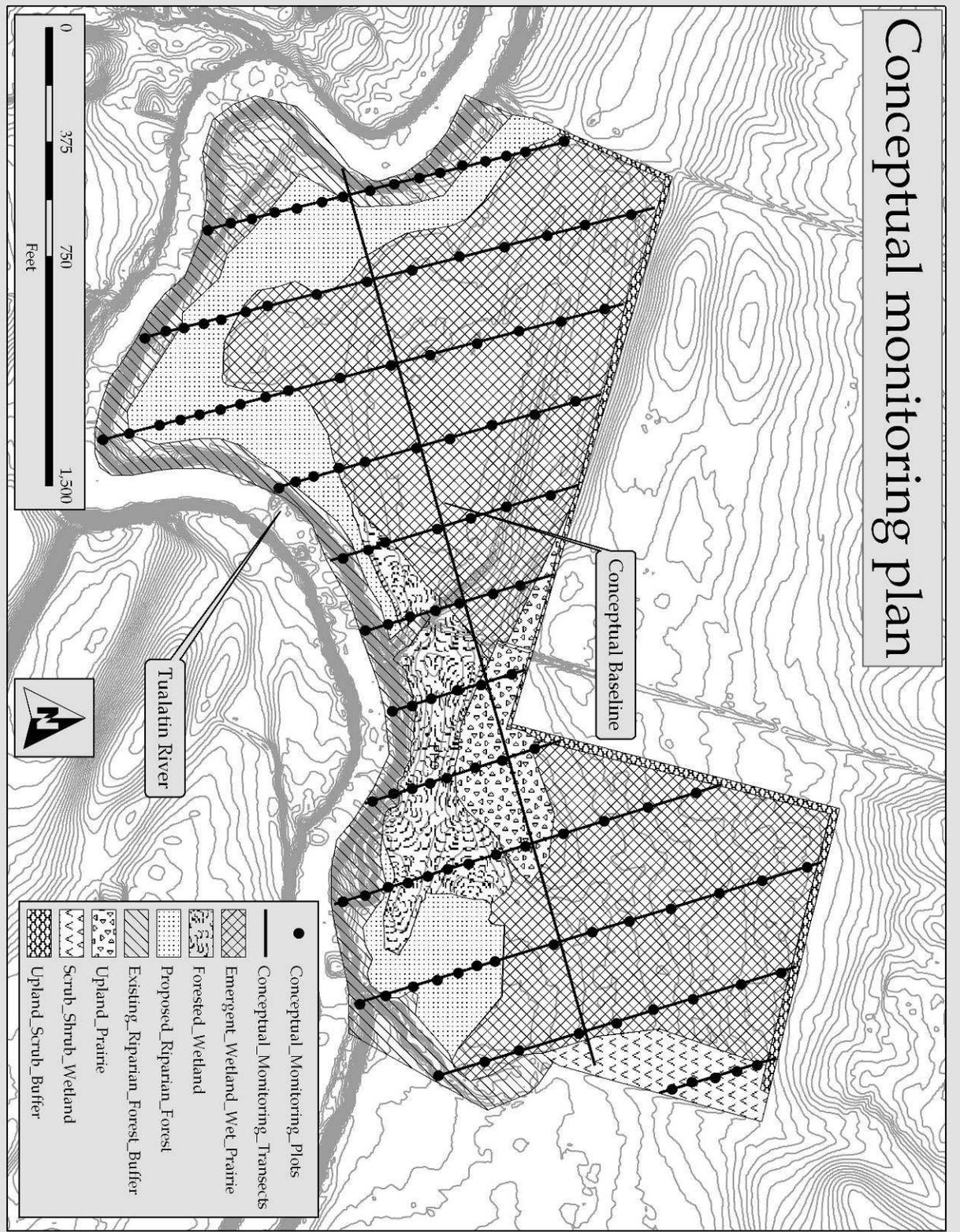
Habitat/Vegetation Types	Plot Size (m2)*	Number of Plots: Habitat class area Up to 2 acres	Number of Plots: Habitat class area >2 to 5 acres	Number of Plots: Habitat class area >5 acres
Herbaceous	1 m	10	20	30
Shrub-dominated and forested	1/100 th hectare (5.6M radius)	5 (Plus 10 herbaceous plots)	10 (Plus 20 herbaceous plots)	15 (Plus 30 herbaceous plots)
Buffer woody vegetation	1/100 th hectare (5.6M radius)	5	10	15

*Projected plot sizes may differ based on the shape of the plot used for sampling (e.g. circular plots versus square plots) and conditions at the site.

Table 10. Minimum sample sizes

Habitat Class	Acres	Number of Samples
Herbaceous/Emergent	48.00	30
Shrub-dominated and Forested	9.30	15+30 herbaceous plots
Upland Prairie Buffer	3.78	10
Planted forest buffer	13.59	10
Existing forest buffer	14.20	10
Scrub buffer	2.13	5

Figure 7: Conceptual Monitoring Plot Layout



8.2 Monitoring Schedule

Monitoring will take place for five years following the completion of construction and plant installation. If the fifth year monitoring report indicates that the project is not meeting its performance standards, the co-chairs may decide to extend the monitoring period. After year five, monitoring will focus on maintenance of functions as outlined in the long-term management plan with reports submitted by December 1 of each year until bank closure.

Table 11. Routine Monitoring Schedule

Report	Requirements	Schedule
Post-Construction	(1) As-Built (2) Recorded Protection Instrument	90 days after completion of grading
First Growing Season	Vegetation performance standards Delineation “lite” completed*	Dec. 1, 2013
Second Growing Season	Vegetation performance standards	Dec. 1, 2014
Third-Fourth Growing Season	Vegetation performance standards	Dec. 1, 2015-2016
Fifth Growing Season	Vegetation performance standards Functional assessment completed	Dec.1, 2017

*the post-project delineation “lite” will be performed after vegetation is established in a year with near-normal winter-spring precipitation.

9. Adaptive Management Plan

The Butler site will be managed adaptively to address unforeseen changes in site conditions, as well as to capitalize on unanticipated opportunities for further habitat enhancement. Failure or under-achievement of any aspect of the project for any reason will also trigger adaptation of the management plan.

Problem solving through the adaptive management plan will include the following steps:

- Identify the problem or element failure
- Determine the scope of the problem
- Identify the cause(s) of failure
- Determine potential remedial actions
- Select a preferred remedial action

- Implement remedial action

Possible problems that may require changes to the management plan include excessive woody plant mortality, lack of sufficient herbaceous cover, unanticipated erosion or failure of stream channels; excessive water. Likely changes to the plan include interplanting to address the failure and or other components of the bank. The adaptive management plan will guide decisions for revising mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect mitigation success.

The water control structure is designed to withstand a 100-year flood event, and is unlikely to be damaged in any foreseeable circumstance. In the event that the structure fails, steps will be taken to rebuild or repair it during the next dry season.

10. Maintenance Plan

The Maintenance Plan for the Butler Wetland Mitigation Bank is intended to address anticipated impediments to successful plant habitat establishment during the five-year establishment and monitoring period. The only anticipated impediment to success at the Butler site is invasive weeds that, left untreated can prevent native plant establishment or displace established native plants. Other foreseeable obstacles to success, such as drought mortality, animal depredation, excessive flooding, and hydrologic failure are not expected, and will be addressed through the adaptive management plan, should they occur.

Weed species of concern include early-seral weeds, such as Canada thistle and wild radish, as well as later-seral, more competitive weeds such as reed canary grass and Himalayan blackberry. Each weed species poses a unique threat to function of the site, and requires a distinctive treatment prescription. In general, the project manager and landowner will be vigilant for weed invasions and will apply treatments as needed to prevent weed establishment.

Table 12. Maintenance Schedule

Maintenance spot spray	Mar-13
Maintenance spot spray	May-13
Maintenance spot spray	Aug-13
Maintenance spot spray	Oct-13
Maintenance spot spray	May-14
Maintenance spot spray	Jul-14
Maintenance mow	Aug-14
Maintenance spot spray	Oct-14

11. Site Protection Description

A legal arrangement will be used to ensure the long-term protection of the Property, both during bank operation and after bank closure. It is anticipated that deed restrictions will be placed on the Property during bank operation and a conservation easement will be conveyed before bank closure. The property owner intends to retain fee-title ownership. A draft deed restriction is included in Exhibit F.

12. Long-Term Management Plan

A long-term management plan will be developed over the first two years following construction as the project sponsors become more familiar with the maintenance and management needs of the site. The plan will be submitted to the IRT for review and approval by Corps and DSL. When the IRT determines that the plan meets the criteria of section V (F) of the MBI, the final 25% of credits will be released.

Literature Cited

Breuner, N. 199. Gales Creek Watershed Assessment. Tualatin River Watershed Council, Hillsboro, OR.

Hawksworth, J.T 1999. Dairy-McKay Watershed Analysis. Washington County Soil and Water Conservation District, Hillsboro, OR.

Hawksworth, J.T 2000. Upper Tualatin-Scoggins Watershed Analysis. Washington County Soil and Water Conservation District, Hillsboro, OR.

Hawksworth, J.T 2001. Middle Tualatin-Rock Creek Watershed Analysis. Washington County Soil and Water Conservation District, Hillsboro, OR.

Hawksworth, J.T 2001. Lower Tualatin Watershed Analysis. Washington County Soil and Water Conservation District, Hillsboro, OR.

Exhibit D
Crediting and Debiting Procedures

Credit Table

Area #	Method (Restoration, Enhancement, Buffer, etc.)	Area (acres)	Ratio	Credits
1	PEM Restoration	13.80	1:1	13.80
1	PEM Enhancement	12.80	2:1	6.40
1	PEM Creation	21.40	1.5:1	14.27
2	PSS Restoration	1.68	1:1	1.68
2	PSS Enhancement	0.19	2:1	0.10
2	PSS Creation	0.81	1.5:1	0.54
3	PFO Restoration	3.50	1:1	3.50
3	PFO Enhancement	0.69	2:1	0.35
3	PFO Creation	2.40	1.5:1	1.60
4	Buffer (including Upland Prairie and existing forest)	33.70	10:1	3.37
Totals		90.97		45.60

Credit Release Schedule

Year Expected	Phase	Performance Standards Met and Actions Completed	Enhancement Credits (up to)		Existing Buffer Credits (up to)		Creation, Restoration and New Buffer Credits (up to)		Cumulative Credits released
			%	#	%	#	%	#	
2011	All	MBI approved	15%	1.03	30%	0.43			1.46
	All	Site protection instrument executed							
	All	Financial surety posted to cover enhancement credit development							
	All	Existing Riparian Forest site-prep and woody planting complete							
2013 (winter)	1	Phase 1 site-prep completed							
	1	Phase 1 grading and construction complete	15%	0.96			30%	5.31	6.27
	1	Phase 1 as-builts submitted							
	1	Phase 1 Seeding complete							
	1	Phase 1 Plug and bulb planting complete							
	1	Phase 1 woody planting complete							
2013 (Fall)	1	Phase 1 Vegetation surveys and photo-monitoring complete	15%	0.96	10%	0.07	10%	1.77	2.80
	1	Phase 1 first growing season performance standards met							
2014 (Summer)	1	Phase 1 Vegetation surveys and photo-monitoring complete	5%	0.32	5%	0.03	5%	0.88	1.24
	1	Phase 1 second growing season performance standards met							
2014 (Summer)	2	Phase 2 site prep complete	15%	0.07			30%	5.89	5.96
	2	Phase 2 grading and construction complete							
	2	Phase 2 as-builts submitted							
	2	Phase 2 Seeding complete							
	2	Phase 2 Plug and bulb planting complete							
	2	Phase 2 woody planting complete							
2015 (Fall)	2	Phase 2 Vegetation surveys and photo-monitoring complete	15%	0.07	10%	0.07	10%	1.96	2.10
	2	Phase 2 1st growing season performance standards met							
2015 (Summer)	2	Phase 2 Vegetation surveys and photo-monitoring complete	5%	0.02	5%	0.04	5%	0.98	1.00
	2	Phase 2 2 nd growing season performance standards met							
2015 (Summer)	All	Hydrology standard met and delineation lite completed and concurred	5%	0.34	5%	0.071	5%	1.87	2.28
2015	All	Vegetation surveys and photo-monitoring complete	10%	0.68	10%	0.142	10%	3.73	4.56
	All	Growing season performance standards met							
2016	All	Vegetation surveys and photo-monitoring complete	10%	0.68	10%	0.142	10%	3.73	4.56
	All	Growing season performance standards met							
2017	All	Vegetation surveys and photo-monitoring complete			5%	0.071	5%	1.87	1.94
	All	Growing season performance standards met							
2018*	All	Long term management plan approved	25%	1.71	25%	0.355	25%	9.33	11.40
	All	Stewardship agreement executed, endowment transferred to steward							0.00
TOTALS				6.84		1.42		37.34	45.60

Exhibit E: Service Area Description

The W&M Butler Wetland Mitigation Bank lies in the southeastern quadrant of the Tualatin River sub-basin in the Lower Tualatin watershed, HUC number 17090010-05, near the border of the Tualatin-Rock Creek watershed. Wetland habitats restored at the Bank are expected to exemplify high quality open emergent, forested and scrub wetland habitats of the Tualatin Valley. The valley floor ranges from approximately 80 to 300 feet in elevation, with some extensions along major tributaries up to about 500 feet. The elevation of proposed wetland habitats at the Bank averages approximately 125 feet.

The Butler Mitigation Bank service area boundary covers the entire Tualatin Watershed, but is limited to mitigation for impacts occurring below 1000 feet in elevation. In general, for the purposes of ecological management of seed and plant materials, 1000-foot increments are an accepted standard to assure that seed sources match outplanting site conditions. Likewise, the Butler Mitigation Bank will provide suitable mitigation for impacts at proximate elevations. The bank is not suitable for mitigation of impacts to wetlands at higher elevations in the coast range.

Exhibit F
Property Protection Instrument

Prior to the first credit release, owner shall record with Washington County a restrictive covenant using the DSL template below. This restrictive covenant will ensure protection of the property during the establishment period of the bank.

The bank owner will enter a conservation easement covering the entire extent of the bank prior to the final 25% release of credits. This easement will be held by a local non-profit or governmental entity with experience and capacity to steward the easement. The easement will be accompanied by a non-wasting account, funded by owner through sale of credits, to pay for perpetual maintenance of the bank.

Owner is currently in communication with two potential long-term stewardship entities. Both potential easement holders have the capacity and experience to manage the easement, endowment, and long-term stewardship responsibilities necessary to ensure perpetual maintenance of the Butler Mitigation Bank.

After recording, return to:
Wes and Marybel Butler Farm LLC
22307 SW Munger Lane
Sherwood, Oregon 97140

**DECLARATION OF COVENANTS AND RESTRICTIONS and
ACCESS EASEMENT
FOR THE
W&M Butler Wetland Mitigation Bank
Corps permit # NWP-2010-173, DSL permit # 46986-RF.**

THIS DECLARATION is made by Wes and Marybel Butler Farm LLC, (“Declarant”).

RECITALS

1. Declarant is the owner of the real property described in Exhibit “A,” attached hereto and by this reference incorporated herein (the “Property”), and has designated the Property as a compensatory mitigation site in accordance with Removal-Fill Permit #46986-RF (the "DSL Permit") approved by the Oregon Department of State Lands (“Department”), and the Department of the Army permit #NWP-2010-173 (“Corps permit”) approved by the US Army Corps of Engineers (“Corps”).
2. Declarant desires and intends to provide for the perpetual protection and conservation of the wetland and waterway functions and values of the Property and for the management of the Property and improvements thereon, and to this end desires to subject the Property to the covenants, restrictions, easements and other encumbrances hereinafter set forth, each and all of which is and are for the benefit of the Property;
3. The Department has accepted the mitigation plan for the Property under ORS 196.800 et seq, and the Corps has likewise accepted the mitigation plan under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act.

ARTICLE 1 DEFINITIONS

1.1 “Declaration” shall mean the covenants, restrictions, easement, and all other provisions set forth in the Declaration of Covenants and Restrictions.

1.2 “Declarant” shall mean and refer to William and Marybel Butler Farm LLC, the owner of the Property, and the owner’s heirs, successors, and assigns.

1.3 “DSL permit” shall mean the final document approved by the Department that includes the mitigation plan and which formally establishes the mitigation site and stipulates the terms and conditions of its construction, operation and long-term management. A copy of the DSL permit may be obtained at the Department of State Lands, 775 Summer St. NE, Salem, OR 97301; phone 503-986-5200.

1.4 “Corps permit” shall mean the final document approved and issued by the Corps which includes the mitigation plan describing where and how the compensatory mitigation will be completed, monitored, managed, and maintained. A copy of the Corps permit associated with this Declaration may be obtained at the office of the US Army Corps of Engineers, Regulatory Branch, 333 SW First Ave., Portland, OR 97208; Phone 503-808-4373.

1.5 “Property” shall mean and refer to all real property subject to this Declaration, as more particularly set forth in Exhibit “A.”

ARTICLE 2 PROPERTY SUBJECT TO THIS DECLARATION

The Property described in Exhibit A is and shall be held, transferred, sold, conveyed and occupied subject to this Declaration.

ARTICLE 3 DECLARANT REPRESENTATIONS

Declarant represents and warrants that after reasonable investigation, and to the best of its knowledge, that no hazardous materials or contaminants are present that conflict with the conservation purposes intended; that the Property is in compliance with all federal state, and local laws, regulations, and permits; that there is no pending litigation affecting, involving, or relating to the Property that would conflict with the intended conservation use; and that the Property is free and clear of any and all liens, claims, restrictions, easements and encumbrances that would interfere with the ability to protect and conserve the Property.

ARTICLE 4 GENERAL DECLARATION

Declarant, in order to discharge in part its obligations under the DSL permit and the Corps permit, declares that the Property shall be held, transferred, sold, conveyed and occupied subject to the covenants, restrictions, easements and other encumbrances in this Declaration, in order that it shall remain substantially in its restored, enhanced, preserved, open and natural condition, in perpetuity. The terms and conditions of this Declaration shall be both implicitly and explicitly

included in any subsequent transfer, conveyance, or encumbrance affecting all or any part of the Property. No modification or release of this Declaration will be effective unless authorized in writing by the Department and by the Corps. Any amendments must be signed by the Department and must be recorded in the official records of the county in which the Property is located.

**ARTICLE 5
USE RESTRICTIONS, MANAGEMENT RESPONSIBILITIES
AND RESERVED RIGHTS**

Declarant is subject to any and all easements, covenants and restrictions of record affecting the Property.

A. USE RESTRICTIONS. Except as necessary to conduct, remediate or maintain the Property consistent with the DSL permit and the Corps permit, the actions prohibited by this covenant include:

1. There shall be no removal, destruction, cutting, trimming, mowing, alteration or spraying with biocides of any native vegetation in the Property, nor any disturbance or change in the natural habitat of the Property unless it promotes the mitigation goals and objectives established for the Property. Hazard trees that pose a specific threat to existing structures including fences or pedestrian trails may be felled and left on site. Dry grass only may be mowed after July 1 to abate fire hazard.
2. Except for irrigation line maintenance and pump site access described in Article 5, there shall be no agricultural, commercial, or industrial activity undertaken or allowed in the Property; nor shall any right of passage across or upon the Property be allowed or granted if that right of passage is used in conjunction with agricultural, commercial or industrial activity.
3. No domestic animals shall be allowed to graze or dwell on the Property, except in accordance with the long-term management plan for preservation of prairie habitats.
4. There shall be no filling, excavating, dredging, mining or drilling; no removal of topsoil, sand, gravel, rock minerals or other materials, nor any storage nor dumping of ashes, trash, garbage, or of any other material, and no changing of the topography of the land of the Property in any manner once the wetlands are constructed unless approved in writing by the Department and by the Corps.
5. There shall be no construction or placing of buildings, mobile homes, advertising signs, billboards or other advertising material, vehicles or other structures on the Property.
6. There shall be no legal or de facto division, subdivision or partitioning of the protected Property.
7. Use of motorized off-road vehicles is prohibited except on existing roadways, and except as necessary for maintenance and management of the site consistent with the protection and conservation of wetland functions and values.

B. MANAGEMENT RESPONSIBILITIES. Declarant shall take all reasonable action to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the mitigation purposes of the Property or that are otherwise inconsistent with this Declaration.

C. RESERVED RIGHTS.

Declarant reserves all other rights accruing from Declarant's ownership of the Property including but not limited to the exclusive possession of the Property; the right to transfer or assign Declarant's interest in the same; the right to take action necessary to prevent erosion on the Property, to protect the Property from losing its wetland or waterway functions and values, or to protect public health or safety; and the right to use the Property in any manner not prohibited by this Declaration and which would not defeat or diminish the conservation purpose of this Declaration.

The Declarant specifically reserves the right to use the Property to access and maintain the farm's irrigation line, and to annually install, maintain and remove an irrigation pump and associated equipment, as shown on Exhibit A; and to hunt waterfowl and deer, which reserved rights are deemed to be consistent with the purposes enumerated in the permit.

**ARTICLE 6
EASEMENT (RIGHT OF ENTRY)**

Declarant hereby grants to the Department an easement and right of entry on the Property for the purpose of physically accessing the Property at all reasonable times to inspect the Property in order to monitor and to ascertain whether there has been compliance with this Declaration and the DSL permit. In the event that the Property lacks access via a public road or other common area, Declarant grants to the Department an easement over and across any other property of Declarant, the use of which is necessary to access the Property. The Declarant hereby grants to the Corps a right of entry to ascertain compliance with the Corps permit and this Declaration.

**ARTICLE 7
GENERAL PROVISIONS**

A. NOTICE. The Department and the Corps shall be provided with a 60-day advance written notice of any legal action concerning this Declaration, or of any action to extinguish, void or modify this Declaration, in whole or in part. This Declaration, and the covenants, restrictions, easements and other encumbrances contained herein, are intended to survive foreclosure, tax sales, bankruptcy proceedings, zoning changes, adverse possession, abandonment, condemnation and similar doctrines or judgments affecting the Property. A copy of this recorded Declaration shall accompany said notice.

B. VALIDITY. If any provision of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Declaration, or the application of such provisions to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

IN WITNESS WHEREOF, the undersigned being Declarant herein, has executed this instrument this _____ day of _____, 20_____.

Wes and Marybel Butler Farm LLC
Washington County, Oregon

By: _____

Title: Trustee _____

STATE OF OREGON)
)
County of _____)

ss:

This instrument was acknowledged before me on _____ (*date*) by

_____ (*name of person*) as
_____ (*title*) of

Applicant firm's name of _____ County, Oregon.

Signature of Notarial Officer _____

My Commission Expires: _____

GRANTEE: The State of Oregon, Department of State Lands, approves Declarant's conveyance of an easement in favor of the Department.

By: _____

Title: _____

Date: _____

Attachment:
Exhibit A, legal description and labeled map of the Property

Exhibit G
Sample Credit Receipt

Date _____

Permittee Name _____

Project Name _____

Corps Permit Number _____

DSL Permit Number _____

Or other project identifier _____

Impact HUC (10 digit HUC) _____

Number of credits sold _____

Impacts

Acres of wetland impacts _____ HGM and Cowardin class _____

Acres of wetland impacts _____ HGM and Cowardin class _____

Acres of wetland impacts _____ HGM and Cowardin class _____

Mitigation Credits Sold

Acres of mitigation credit _____ HGM and Cowardin class _____

Acres of mitigation credit _____ HGM and Cowardin class _____

Acres of mitigation credit _____ HGM and Cowardin class _____

By selling credits to the above permittee, Jay Hoffman hereby assumes responsibility for fulfilling the mitigation obligation of the Permit(s) listed above.

Sponsor signature: _____

Exhibit I Definitions

BUFFER - An upland, wetland, or riparian area that enhances the functions and/or protects the functions of a mitigation bank from disturbance associated with adjacent land uses.

CO-CHAIRS – The Corps and DSL representatives who make decisions regarding bank establishment and operation. The USFWS and/or NMFS may be co-chair agencies if a bank also serves to mitigate for losses to federally listed species or habitats. Each co-chair agency retains independent authority to implement their respective regulations.

CONSERVATION – Also known as preservation. The preservation and perpetual protection and maintenance of certain existing high quality wetlands or aquatic resources that would otherwise be threatened with destruction or degradation, using appropriate legal and physical mechanisms.

CREATION – Also known as establishment. To establish or convert an area that has never been a wetland to a jurisdictional wetland. Results in a gain in aquatic resource area and function.

CREDIT – A unit of measure of the increase in wetland functions or area achieved at a mitigation bank site. Unless otherwise specified in the MBI or authorization, one wetland credit is sufficient to offset one acre of wetland loss. Advance credits are those credits that are released for sale in advance of full performance of a mitigation bank, and secured by a financial assurance. Certified credits are those credits that are generated after the bank is meeting all performance standards.

DEBIT – A unit of measure representing the reduction of function or loss of area of wetlands or other aquatic resources at the site of impact.

ENDOWMENT - A dedicated, non-wasting account to be established by the Sponsor concurrent with the operation of the MBI, and which shall generate interest to be used exclusively for the ongoing management of the mitigation bank for conservation purposes consistent with the MBI, associated conservation easement and long-term management plan.

ENHANCEMENT – Actions or treatments that increase the function of an existing degraded wetland. Enhancement does not result in a gain in aquatic resource area.

ESTABLISHMENT – See Creation.

FINANCIAL ASSURANCES – A financial instrument such as an irrevocable letter of credit, escrow account, performance bond, or other surety mechanism accessible to DSL, required of the sponsor to ensure that the mitigation obligations of the bank can be fulfilled in the event of default or incapacity of the sponsor. The amount of the assurance shall be sufficient to ensure a high level of confidence that the goals of the bank will be achieved and maintained over the long term pursuant to the plans set forth in the MBI.

FUNCTIONS – The physical, chemical, and biological processes that occur in aquatic ecosystems. Examples include: support of habitat for various fish, wildlife, and plants; retention and detention of water; adsorption and transformation of nutrients and pollutants, and filtration and settling of sediment.

LEDGER – A cumulative accounting spreadsheet of all credits released and sold.

MITIGATION – Sequentially avoiding impacts, minimizing impacts, and compensating for impacts to aquatic resources.

MITIGATION BANK – A site or sites where wetlands, other aquatic resources, and any associated buffers are restored, enhanced, created, or protected expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar resources. A mitigation bank sells compensatory mitigation credits to permittees whose mitigation obligation is thereby transferred to the bank sponsor. The establishment and operation of a mitigation bank is governed by the MBI.

MITIGATION BANK INSTRUMENT – (MBI) The legally binding and enforceable agreement between the Director of DSL, the District Engineer of the Corps, and a mitigation bank sponsor that formally establishes the mitigation bank and stipulates the terms and conditions of its construction, operation, use, and long-term management.

INTERAGENCY REVIEW TEAM (IRT) – A committee of local, state, federal, and tribal resource agency representatives that provides advice to the DSL and the Corps on establishment and management of mitigation banks. The Corps and DSL are the co-chairs and the final decision makers. For a Conservation Bank, the USFWS and/or NMFS may be co-chair agencies.

MITIGATION SITE PLAN – A detailed drawing that identifies specifically where aquatic resources and associated upland buffers will be restored, created, enhanced, and/or preserved on the mitigation bank.

PERFORMANCE STANDARDS – Observable and measurable physical and biological indicators used to determine if a mitigation project is meeting its objectives. Credit releases are linked to achievement of minimum performance standards required to meet the objectives for which the Bank was established.

PRESERVATION – See Conservation.

RE-ESTABLISHMENT - See Restoration.

RESTORATION – The re-establishment of wetland hydrology to a former wetland sufficient to support wetland characteristics, with a goal of returning historic or natural functions to the site.

SERVICE AREA – The geographic area within which impacts can be mitigated at a specific mitigation bank, as designated in the MBI.

SPONSOR – Any public or private entity responsible for establishing and operating a mitigation bank. The sponsor is the entity that assumes all legal responsibilities for carrying out the terms of the MBI, unless specified otherwise in the MBI.

STEWARD – The landowner or easement holder of the bank lands charged with long-term maintenance and management responsibility. The sponsor is the steward until such responsibilities are formally transferred to another party, with the approval of the co-chair agencies.

Exhibit J
Financial Assurances

Financial Assurance Plan

Owner will secure a performance bond, or alternate financial security instrument acceptable to DSL, to ensure successful bank establishment. The amount of the bond will decrease as work is accomplished, provided that success criteria are met. The bond release schedule will be as follows:

FINANCIAL ASSURANCE AMOUNT AND FUNDING SCHEDULE

Year	Detail	Amount of Financial Assurance Required From Sponsor	Amount of Financial Assurance Released Back to Sponsor	Justification / Comments
2011-2012	Assurance Paid Before Initial Release of Enhancement Credits	\$255,500	\$255,500	Equals cost to purchase 1 st credit release of 1.46 credits from TVEB. Amount released upon completion of construction and seeding, and rolled into 2013 assurance.
2013-2014	Assurance paid after completion of grading, construction and seeding	\$214,300	\$131,200	Release made after acceptance of as-builts, completion of tasks budgeted through 2014, meeting 2014 performance standards.
2015-2016	Assurance Returned to Sponsor	\$ 83,100	\$ 37,200	Completion of tasks budgeted through 2016, 2016 performance standards met.
2017-2018	Assurance Returned to Sponsor	\$ 45,900	\$ 27,700	Completion of tasks budgeted through 2018, 2018 performance standards met.
2019-Bank Closure (~2020)	Assurance Returned to Sponsor	\$ 18,200	\$18,200	Completion of tasks budgeted for 2020, 2020 performance standards met, endowment fully funded, Long-term easement holder and stewardship plan approved by co-chairs .

Exhibit K

Butler Mitigation Bank Estimated Schedule and Budget

Item	Year 0 2010	Year 1 2011	Year 2 2012	Year 3 2013	Year 4 2014	Year 5 2015	Year 6 2016	Year 7 2017	Year 8 2018	Year 9 2019	Year 10 2020	Total Cost	Comments
BANK ESTABLISHMENT PERIOD													
Land Value (91.3 acres)		\$637,000										\$637,000	Paid in full by sponsor
Prospectus	\$15,000											\$15,000	Paid in full by sponsor
Wetland Delineation	\$30,000											\$30,000	Paid in full by sponsor
County Land Use Permits		\$12,000										\$12,000	Paid in full by sponsor
Engineering		\$32,000										\$32,000	Paid in full by sponsor
Mitigation Bank Instruments		\$61,000										\$61,000	Paid in full by sponsor
Fill/Removal Permit DSL		\$5,000										\$5,000	Paid in full by sponsor
DEQ Erosion Control Permit		\$7,000										\$7,000	Paid in full by sponsor
Site Preparation (spray)	\$10,000	\$20,000										\$30,000	Paid in full by sponsor
Boundary survey and markers		\$12,000										\$12,000	Paid in full by sponsor
BANK CONSTRUCTION													
Grading and tile disruption			\$15,000									\$15,000	
Water control structures			\$35,000									\$35,000	
Erosion control			\$15,000									\$15,000	
Plant and seed materials			\$115,000									\$115,000	
Planting and Seeding			\$15,000	\$30,000								\$45,000	

POST CONSTRUCTION													
Establishment spot-spray				\$24,000	\$24,000	\$12,000	\$12,000	\$12,000	\$6,000	\$6,000	\$6,000	\$102,000	
Field mow				\$2,200		\$2,200		\$2,200		\$2,200		\$8,800	
As-Built Survey			\$12,000									\$12,000	
Monitoring				\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$2,000	\$2,000	\$2,000	\$33,500	
Monitoring: Wetland Delineation				\$40,000								\$40,000	
UNEXPECTED DAMAGE CONTINGENCY													
10% of Total plant and seed materials and installation costs			\$24,000									\$24,000	
BANK CLOSURE												\$0	
Long Term Endowment Fund									\$300,000			\$300,000	Endowment will be fully funded prior to the final credit release.
TOTAL	\$55,000	\$786,000	\$231,000	\$101,700	\$29,500	\$19,700	\$17,500	\$19,700	\$308,000	\$10,200	\$8,000	\$1,586,300	
SURETY													
Surety amount		\$210,000	\$214,300	\$214,300	\$214,300	\$83,100	\$83,100	\$45,900	\$45,900	\$18,200	\$18,200		