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2 **MITIGATION BANKING INSTRUMENT**

3
4 **Skagit Environmental Bank**

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7 This Mitigation Banking Instrument regarding the establishment, use, operation, and
8 maintenance of Skagit Environmental Bank (hereinafter, the Bank) is made and entered into by
9 and among Sustainable Environments LLC (hereinafter, the Sponsor), the U.S. Army Corps of
10 Engineers (the Corps), and the Washington State Department of Ecology (Ecology), and Skagit
11 County with reference to the following:

12
13 **I. PREAMBLE**

14
15 A. Purpose: The purpose of this Mitigation Banking Instrument (hereinafter, the
16 Instrument) is to specify responsibilities for the establishment, use, operation, and maintenance
17 of the Bank. It consists of this “Basic Agreement” establishing the central obligations assumed
18 and consideration provided by each Party, as well as Appendices (hereinafter, the Appendices)
19 that establish the detailed Bank implementation plan, including site-specific conditions,
20 standards and procedural requirements applicable to the Bank. The terms and provisions of the
21 Appendices will be incorporated into the Instrument. The Bank will provide compensatory
22 mitigation for unavoidable adverse impacts to waters of the United States and waters of the State,
23 including wetlands, and to aquatic habitat including habitat for endangered and threatened
24 species, that result from activities authorized by Federal, State, and local authorities, when use of
25 the Bank has been specifically approved by the appropriate regulatory agencies.

26
27 B. Location and Ownership of Parcel: Whereas, the Sponsor owns approximately 396
28 acres of land located near the City of Mount Vernon, Skagit County, Washington.

29
30 C. Project Description: Whereas, the Sponsor has expressed intent to restore,
31 rehabilitate, create and/or enhance approximately 396 acres of aquatic and associated upland
32 habitat in accordance with the provisions of this Instrument, and shall then maintain each
33 established phase of the Bank in accordance with the provisions of this Instrument. Please see
34 Table 1. Proposed Bank Activities. The Bank is projected to, among other purposes, provide
35 habitats as shown the table that follows and as detailed in Section A.1.1. of Appendix A and
36 Appendix B.

1 Table 1. Proposed Bank Activities

Bank Activity	Area (acres)
Re-established Wetland	199.0
Rehabilitated Wetland, Plowed Field	14.9
Rehabilitated Wetland, Reed Canary	31.2
Riparian Upland	4.6
Upland	52.3
Buffer	85.1
Utility Easements (Power and Water)	9.1
TOTAL	396

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Phase 1 Wetland and Aquatic Functions

Phase 1 sets the framework for the reintroduction of wetland hydrology to the Bank site as well as clean up from the dairy farm operations. These two simple acts provide all of the 15 functions evaluated in the Functional Assessment. (Skagit Environmental Bank, Functional Assessment Results: WAFM, July 20 2007). In summary the primary functions will be:

- Create initial hydrologic conditions to support emergent, scrub-shrub, and forested habitat and the wildlife functions provided by those habitats including foraging, nesting, and rearing for mammals, amphibians, reptiles, and birds.
- Improve water quality through the removal of toxins and nutrients and sediment into the creeks.
- Recharge the groundwater through a combined effort of constructing Engineered Log Jams as grade control structures and filling in agricultural ditches.
- Decrease Erosion through the establishment of a healthy herbaceous cover.
- Increase the quality and diversity of aquatic and riverine habitat and general habitat suitability by providing the hydrology and improving the native plant richness and wildlife habitat.
- Provide migration habitat for fish, amphibians, reptiles, and other aquatic dependent species

Phase 2 Wetland and Aquatic Functions

Phase 2 expands the hydrologic conditions of the bank and places a focus on the establishing diverse habitats. During this phase, all 15 functions, evaluated in the Functional Assessment are elevated again. In summary, the primary emphasis is on the following:

- 1 ▪ Provide additional hydrologic conditions that will increase the opportunity for
- 2 emergent, scrub-shrub, and forested palustrine wildlife habitat.
- 3 ▪ Increase linkages between the channel systems and restored riparian floodplain
- 4 emergent, scrub-shrub, and forested wetlands
- 5 ▪ Slow the rising and falling stormwater movements through the floodplain, i.e., slow
- 6 the peak timing and flows and increase the detention time of stormwater in the Bank
- 7 Site area. This will reduce flooding and increase infiltration into the ground water.
- 8 ▪ Reduce the effects of winter storm events
- 9 ▪ Increase the quality and diversity of aquatic and riparian habitat through establishing
- 10 a native plant palette rich in diversity.
- 11 ▪ Provide rearing, refuge, and migration habitat for fish, amphibians, reptiles, and other
- 12 aquatic dependent species as well as birds and mammals.

14 *Phase 3 Wetland and Aquatic Functions*

15
16 Phase 3 takes the hydrologic conditions of the bank one step further. It is during this
17 phase that the habitats and plant communities are refined by the special grading of the
18 upland/wetland mosaic, increasing the habitat diversity through planting and structures. While
19 all 15 functions, evaluated in the Functional Assessment (Skagit Environmental Bank,
20 Functional Assessment Results: WAFM, July 20 2007), are elevated again, the primary emphasis
21 is on the following:

- 22
23 ▪ Provide the final hydrologic conditions that will maximize the opportunity for
- 24 emergent, scrub-shrub, and forested palustrine wildlife habitat and the wildlife
- 25 functions provided by those habitats including foraging, nesting, and rearing for
- 26 ungulates and other mammals. These wetlands will also provide cover for nesting,
- 27 resting, and foraging waterfowl and upland birds, habitat for small mammals and
- 28 reptiles, and reproductive habitat for amphibians.
- 29 ▪ Provide rearing, refuge, and migration habitat for fish, amphibians, reptiles, and other
- 30 aquatic dependent species as well as birds and mammals.
- 31 ▪ Create potential for primary production and organic export

32 33 34 35 D. Bank Overview

36 The Skagit Environmental Bank is located in an area that offers the opportunity to restore
37 reaches of the Nookachamps Creek, the East Fork of the Nookachamps Creek, Mud Lake Creek,
38 and associated floodplain wetlands that can increase the quality of life for both the local
39 community and resident and wintering seasonal wildlife. Thus the primary bank design goals
40 are to restore the wetland and floodplain functions that were typical of pre-agricultural
41 disturbance, to produce a restored system that is dynamic and self sustaining, and to create a
42 long-term management plan to address unforeseen changes.

43
44 Skagit Environmental Bank will rehabilitate 13,000 feet (2.5 miles) of existing riverine
45 channel habitat, restore 6,500 feet (1.2 miles) of new high-flow back channel, and restore (re-
46 establish or rehabilitate) palustrine emergent, scrub-shrub, and forested wetlands.

1 *Re-establishment of Former Wetlands and Rehabilitation of Existing Wetlands*

2 Evidence indicates that all areas of the Bank were wetlands prior to 1900. After
3 completing all phases, the Bank will be comprised in part of existing wetland that will be
4 “Rehabilitated.” These areas are either reed canary grass or plowed fields that exhibit wetland
5 hydrology. The remaining acres that are currently non-wetland (which we refer to through the
6 rest of the MBI as “historic wetland”) will be “Re-establishment” restoration wetlands (as
7 defined in the Regulatory Guidance Letter on Compensatory Mitigation Projects for Aquatic
8 Resource Impacts, No. 02-2, dated 12-24-02).

9 *General Design Considerations*

10 The restorations will result in a variety of wetland classes, vegetation communities, and
11 canopy structures in the floodplain and along three creek reaches. Our objectives are to:

- 12 ■ Restore palustrine forested, scrub-shrub, and emergent habitat that will provide
13 wildlife habitat and the wildlife functions provided by those habitats including
14 foraging, nesting, and rearing for mammals, amphibians, reptiles, and birds
- 15 ■ Restore in-channel and off-channel rearing, refuge, and migration habitat for
16 salmonids, resident fish, amphibians, reptiles, and other aquatic dependent species
- 17 ■ Restore stream channel morphology with the addition of large woody debris, or
18 engineered log jams, at certain intervals in order to effect change in geomorphic
19 process (e.g., riffle and pool formation, channel bank undercutting, point bar
20 formation, and duration of wetland inundation)
- 21 ■ Shade the stream channels by restoring a scrub-shrub and forest canopy
- 22 ■ Restore a wildlife corridor connection between four existing wetlands within 0.5
23 mile of the Bank. Through the creation of an unbroken vegetation corridor.

24 E. Mitigation Bank Review Team.

25
26 Whereas, in consideration of the establishment and maintenance of the Bank, the
27 Mitigation Bank Review Team (MBRT) is willing to award credits in accordance with the
28 procedures outlined in this Instrument, which will be made available to serve as compensatory
29 mitigation pursuant to applicable Federal and Washington State laws and regulations. The
30 MBRT is the group of Federal, State, and local agencies that has reviewed and will apply the
31 provisions of the Instrument, and consists of:

- 32
33 Co-Chair: U.S. Army Corps of Engineers, Seattle District (Corps).
34 Co-Chair: Washington Department of Ecology (Ecology).
35 U.S. Environmental Protection Agency, Region 10 Office of Ecosystems,
36 Tribal and Community Affairs
37 National Oceanographic and Atmospheric Administration, National Marine
38 Fisheries Service.
39 United States Fish and Wildlife Service.
40 Washington Department of Fish and Wildlife.
41 Skagit County.
42

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2 NOW, THEREFORE, the Parties agree to the following:
3

4 **II. LEGAL AUTHORITIES**

5
6 **A. Authorities**

7
8 The establishment, use, operation, and maintenance of the Bank shall be carried out in
9 accordance with the following principal authorities.

10
11 1. Federal:

- 12 a. Clean Water Act (33 USC §§ 1251 et seq.)
13 b. Rivers and Harbors Act of 1899 (33 USC § 403)
14 c. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320 331)
15 d. Memorandum of Agreement between the Environmental Protection Agency and
16 the Department of the Army concerning the Determination of Mitigation Under
17 the Clean Water Act, Section 404(b)(1) Guidelines (February 6, 1990)
18 e. Federal Guidance for the Establishment, Use, and Operation of Mitigation
19 Banks (60 F.R. 58605 et seq.)
20 f. Regulatory Guidance Letter No. 02-02, *Guidance on Compensatory Mitigation*
21 *Projects for Aquatic Resource Impacts under the Corps Regulatory Program*
22 *pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and*
23 *Harbors Act of 1899*, U.S. Army Corps of Engineers, December 26, 2002
24 g. U.S. Army Corps of Engineers Regulatory Guidance Letter 05-1, *Guidance on*
25 *Use of Financial Assurances, and Suggested Language for Special Conditions*
26 *for Department of the Army Permits Requiring Performance Bonds*, U.S. Army
27 Corps of Engineers, February 14, 2005
28 h. Guidelines for the Specification of Disposal Sites for Dredged and Fill Material
29 (“404(b)(1) Guidelines,” 40 CFR Part 230)
30 i. National Environmental Policy Act (42 USC §§ 4321 et seq.)
31 j. Council on Environmental Quality Procedures for Implementing the National
32 Environmental Policy Act (40 CFR Parts 1500-1508)
33 k. Executive Order 11990 (Protection of Wetlands)
34 l. Executive Order 11988 (Protection of Floodplains)
35 m. Executive Order 13112 (Invasive Species)
36 n. Fish and Wildlife Coordination Act (16 USC §§ 661 et seq.)
37 o. Fish and Wildlife Service Mitigation Policy (46 FR 7644-7663, 1981)
38 p. Endangered Species Act (16 USC §§ 1531 et seq.)
39 q. Magnuson-Stevens Fishery Conservation and Management Act (16 USC §§
40 1801 et seq.)
41 r. National Historic Preservation Act, as amended (16 USC § 470)

42
43 2. State of Washington:

- 44 s. Washington Water Pollution Control Act, RCW 90.48 et seq.
45 t. Washington State Alternative Mitigation Policy, developed by Ecology,
46 Washington State Department of Transportation (WSDOT), Washington

1 Department of Fish and Wildlife (WDFW), and the Office of Community
2 Development (OCD), 2000.

- 3 u. Washington State’s Pilot Rule on Wetland Mitigation Banking (WAC 173-700,
4 Compensatory Wetland Mitigation Banking)
- 5 v. State of Washington Wetlands Mitigation Banking Statute (RCW 90-84)
- 6 w. Washington State Environmental Policy Act (“SEPA” RCW 43.21C and WAC
7 197-11)
- 8 x. Growth Management Act (RCW 36.70A) and Critical Areas Regulations “Best
9 Available Science” compliance WAC 365-195-900 to 925)
- 10 y. Washington State Hydraulic Code (RCW 75.20 and Hydraulic Permit
11 Approval)
- 12 z. Washington State Shoreline Management Act (RCW 90.58, WAC 173-200 as
13 amended)
- 14 aa. Washington State Salmon Recovery Act (RCW 75.46)
- 15 bb. Washington State Alternative Mitigation Policy, developed by Ecology,
16 Washington State Department of Transportation (WSDOT), Washington
17 Department of Fish & Wildlife (WDFW), and the Office of Community
18 Development (OCD), 2000
- 19 cc. Washington State Aquatic Resources Act (RCW 79.90, RCW 90.74)

20
21 **III. ESTABLISHMENT OF THE BANK**

22
23 A. Permits. The Sponsor shall obtain all appropriate environmental documentation,
24 permits and other authorizations needed to establish and maintain the applicable phase of the
25 Bank, prior to the award of any mitigation credits. Compliance with this Instrument does not
26 fulfill the requirement, or substitute, for such authorization.

27
28 B. Bank Establishment. The Sponsor agrees to establish the Bank as described in
29 Appendix B. In recognition thereof, credits will be awarded to the Sponsor in accordance with
30 the procedures and schedules prescribed in the Appendices, particularly in Appendices C and D.
31 In establishing the Bank, deviations from the prescribed Bank development plan and design may
32 only be made with the prior approval of the Corps and Ecology, following consultation with the
33 other members of the MBRT. In the event the Sponsor determines that modifications to the
34 Bank development plan are necessary, the Sponsor shall submit a written request for such
35 modification to the MBRT, through the Co-Chairs, for approval. Documentation of
36 implemented modifications shall be made consistent with Article VI.B.2. of this Instrument.

37
38 C. Financial Assurance Requirements: The enumerated paragraphs and subsections
39 immediately below relate specifically to the Phase 1 area of the Bank and are reflective of site-
40 specific conditions and performance standards applicable to Phase 1 only. If additional phases
41 are subsequently added to the Bank pursuant to Article III.E., additional financial assurance
42 mechanisms will be required to guarantee the activities to be undertaken in those phases. The
43 Corps and Ecology, in consultation with the MBRT, will review and consider for approval the
44 form and content of any additional financial assurance, as well as the identity of the financial
45 institution issuing and underwriting the additional financial assurance, on a case-by-case basis.
46 Any new financial assurances required for subsequent Bank phases will be as addressed in an

1 amendment to this Basic Agreement and applicable modifications to the Appendices, which
2 when combined shall constitute the Amended Instrument. Amendments to this Basic Agreement
3 or Appendices will be made according to Articles III.B. and VI.B of the Instrument. The
4 Sponsor agrees to provide financial assurances for the work described in this Instrument. . The
5 Sponsor agrees to place an Irrevocable Letter of Credit for Phase 1, and will place a Surety Bond
6 for each of Phases 2 and 3.

7
8 1. Phase 1 Irrevocable Letter of Credit:
9

10 The Sponsor shall furnish a Letter of Credit to provide financial assurance underlying the
11 establishment and initial functionality of Phase 1 of the Bank. This Letter of Credit must be
12 initiated by the Sponsor, in a form and content approved by the Corps and Ecology, and shall
13 conform to the requirements of Appendix H, before any construction or implementation
14 activities may be conducted on-site during the establishment period of the Bank, as defined in
15 Article IV.K. and prior to the award of any Bank credits. Any construction or implementation
16 activities conducted on-site prior to the inception of the establishment period must cease as of the
17 effective date of this Instrument pursuant to Article VI.B.1, until an approved Letter of Credit is
18 initiated. The initial award of credits in recognition of accomplishment of the performance
19 standards under Objective 1, pursuant to Section D.1.2.A of Appendix D, will serve as the
20 MBRT's notification that construction and implementation activities are authorized to
21 commence. A separate Letter of Credit shall be furnished for each phase of the Bank, except as
22 approved by the Corps and Ecology. The Corps and Ecology must specifically approve all terms
23 and conditions of the Letter of Credit, as well as the identity of the financial institution issuing
24 and underwriting the Letter of Credit. Only federally insured institutions rated investment grade
25 or higher may issue the Letter of Credit. The Sponsor shall provide the MBRT with a credit
26 rating that indicates the financial institution has the required rating as of the date of first issuance
27 of the Letter of Credit. This credit rating shall be from a recognized commercial rating service as
28 specified in Office of Federal Procurement Policy Pamphlet No. 7, available through the website
29 of the Office of Management and Budget, Executive Office of the President. Provided the
30 required credit rating is held, approval of the financial institution selected by the Sponsor shall
31 not be unreasonably withheld.

32
33 a. The Corps or Ecology, acting independently or in concert, may direct
34 disbursement from the credit funds account under the following circumstances: upon
35 abandonment of Bank establishment efforts directed at the applicable phase, or any failure
36 stemming from any cause to achieve any of the Bank Objectives or Performance Standards as
37 reflected in Section C.1.1. of Appendix C, including but not limited to deficient design,
38 ineffective establishment, deterioration of functionality or performance, or financial limitations
39 of the Sponsor. Ninety calendar days prior to accessing funds pursuant to a Letter of Credit,
40 unless accessing the Letter of Credit funds pursuant to Section H.1.1.B. of Appendix H, the
41 Corps and Ecology shall provide specific and express written direction for corrective action to
42 the Sponsor in accordance with Article IV.H. of this Instrument and Section F.1.1.4. of Appendix
43 F. If, within 90 days of delivery of notice of the demand for corrective action, the Sponsor has
44 initiated compliance efforts and the Corps and Ecology have determined, in their sole discretion,
45 that substantial progress has been made toward completion of corrective action, the Corps and
46 Ecology will defer accessing the Letter of Credit.

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2 b. Following consultation with the MBRT, the Corps and Ecology may
3 access the funds guaranteed by the Letter of Credit to accomplish any of the following objectives
4 or features of Phase 1 of the Bank: construction, establishment, monitoring, maintenance, or
5 adaptive management activities reflected in, or directly supporting accomplishment of, the
6 Objectives and Performance Standards reflected in Section C.1.1 of Appendix C. Corrective or
7 remedial actions determined to be necessary will be accomplished through a Third Party
8 Designee selected by the Corps and Ecology.
9

10 c. The Letter of Credit shall take the general form of an agreement on the
11 part of the issuing financial institution to honor the engagement reflected therein. A separate and
12 distinct Letter of Credit shall be furnished to guarantee the establishment activities of Phase 1, in
13 the following amount:
14

15 (i) Phase 1: \$204,000
16

17 d. Upon certification by the MBRT that the following performance
18 standards, as prescribed in Table D-2 of Appendix D, have been achieved, the Corps and
19 Ecology will authorize in writing that the required amount of the Letter of Credit be reduced to a
20 specified value within the following range, with that specified value designated at the discretion
21 of the Corps and Ecology, following consultation with the other members of the MBRT and with
22 the Sponsor:
23

24 (i) Following completion of all Year 4 performance standards: a
25 revised required amount not less than 60% and not greater than 70% of the initial required Letter
26 of Credit amount, as prescribed in Article III.C.1.(c)(1);
27

28 (ii) Following completion of all Year 5 performance standards: a
29 revised required amount not less than 30% and not greater than 40% of the initial required Letter
30 of Credit amount, as prescribed in Article III.C.1.(c)(1);
31

31 Phases 2 and 3 Surety Bond:

32 The Sponsor shall furnish a Surety Bond to provide financial assurance underlying the
33 establishment and initial functionality of Phases 2 and 3 of the Bank. This Surety Bond must be
34 initiated by the Sponsor, in a form and content approved by the Corps and Ecology, and shall
35 conform to the requirements of Appendix H, before any construction or implementation
36 activities may be conducted on-site during the establishment period of the Bank, as defined in
37 Article IV.K. and prior to the award of any Bank credits. Any construction or implementation
38 activities conducted on-site prior to the inception of the establishment period must cease as of the
39 effective date of this Instrument pursuant to Article VI.B.1, until an approved Surety Bond is
40 initiated. The initial award of credits in recognition of accomplishment of the performance
41 standards under Objective 1, pursuant to Section D.1.2.A of Appendix D, will serve as the
42 MBRT's notification that construction and implementation activities are authorized to
43 commence. A separate Surety Bond shall be furnished for each phase of the Bank, except as
44 approved by the Corps and Ecology. The Corps and Ecology must specifically approve all terms
45 and conditions of the Surety Bond, as well as the identity of the financial institution issuing and

1 underwriting the Surety Bond. Approval of the financial institution selected by the Sponsor shall
2 not be unreasonably withheld.

3
4 a. The Corps or Ecology, acting independently or in concert, may direct
5 payment of the penal sum on each Surety Bond under the following circumstances: upon
6 abandonment of Bank establishment efforts directed at the applicable phase, or any failure
7 stemming from any cause to achieve any of the Bank Objectives or Performance Standards as
8 reflected in Section C.1.1. of Appendix C, including but not limited to deficient design,
9 ineffective establishment, deterioration of functionality or performance, or financial limitations
10 of the Sponsor. Ninety calendar days prior to requiring payment of the penal sum on a Surety
11 Bond, the Corps and Ecology shall provide specific and express written direction for corrective
12 action to the Sponsor in accordance with Article IV.H. of this Instrument and Section F.1.1.4. of
13 Appendix F. If, within 90 days of delivery of notice of the demand for corrective action, the
14 Sponsor has initiated compliance efforts and the Corps and Ecology have determined, in their
15 sole discretion, that substantial progress has been made toward completion of corrective action,
16 the Corps and Ecology will defer requiring payment on the Surety Bond.

17
18 b. Following consultation with the MBRT, the Corps and Ecology may
19 require payment on the Surety Bond to accomplish any of the following objectives or features of
20 Phase 1 of the Bank: construction, establishment, monitoring, maintenance, or adaptive
21 management activities reflected in, or directly supporting accomplishment of, the Objectives and
22 Performance Standards reflected in Section C.1.1 of Appendix C. Corrective or remedial actions
23 determined to be necessary will be accomplished through a Third Party Designee selected by the
24 Corps and Ecology.

25
26 c. The Surety Bond shall take the general form of an indemnity contract in
27 a sum certain obliging the surety to pay the full face value of the bond to the beneficiaries in the
28 event that the Corps and/or Ecology declare that the principal has failed to fulfill the obligations
29 established in this Instrument. A separate and distinct Surety Bond shall be furnished to
30 guarantee the establishment activities of Phase 1, in the following amount:

- 31
32 (i) Phase 2: To Be Determined
33 (ii) Phase 3: To Be Determined
34

35 d. Upon certification by the MBRT that the following performance
36 standards, as prescribed in Table D-2 of Appendix D, have been achieved, the Corps and
37 Ecology will authorize in writing that the required penal sum of the Surety Bond be reduced to a
38 specified value within the following range, with that specified value designated at the discretion
39 of the Corps and Ecology, following consultation with the other members of the MBRT and with
40 the Sponsor:

41
42 (i) Following completion of all Year A (to be determined)
43 performance standards: a revised required penal sum not less than 60% and not greater than 70%
44 of the initial required Surety Bond amount, as prescribed in Article III.C.1.(c)(1);

1 (ii) Following completion of all Year (to be determined)
2 performance standards: a revised required penal sum not less than 30% and not greater than 40%
3 of the initial required Surety Bond amount, as prescribed in Article III.C.1.(c)(1);
4

5 e. Upon satisfaction of all Objectives and Performance Standards required
6 in Section C.1.1 of Appendix C for Phase 1, and upon a determination by the Corps and Ecology
7 that the Sponsor has completed the following, the Corps and Ecology will waive their right to
8 payment under, and authorize rescission or cancellation of, the financial assurance instrument
9 applicable to Phase 1:
10

11 (i) for the final phase of Bank implementation, the Sponsor
12 satisfied the additional requirements reflected in Article IV.K. of this Instrument for termination
13 of the establishment period of the Bank;
14

15 (ii) for all preceding phases of Bank implementation, the Sponsor
16 has been awarded all credits for that phase, or has permanently ceased banking activities
17 applicable to that phase.
18

19 f. Notwithstanding the fact that the financial assurance applicable to
20 Phase 1 may have been accessed, or that payment upon that financial assurance may have been
21 required, and full or partial remedial or corrective action may have been taken by the Third Party
22 Designee, unless this Instrument is terminated pursuant to Article IV.J. or VI.B. the Sponsor
23 shall remain responsible for the timely and effective achievement of all the Objectives and
24 Performance Standards mandated in Section C.1.1. of Appendix C.
25

26 g. Alternatively, the Sponsor may request, and the Corps and Ecology
27 may approve a substitute financial assurance instrument for any of the financial assurances
28 required under this Instrument. The form and content of any financial assurance instrument must
29 be specifically approved before a substitution is utilized in satisfaction of the financial assurance
30 obligations during the establishment period of the Bank. The Corps and Ecology must
31 specifically approve the identity of the financial institution issuing and underwriting the financial
32 assurance instrument. The provisions of the substitute financial assurance instrument must
33 conform to each of the material requirements of this Article III.C.1., as well as Appendix H,
34 within this Instrument. In particular, the provisions of the substitute financial assurance
35 instrument must designate the Corps and Ecology as distinct and independent beneficiaries, and
36 must expressly authorize either the Corps or Ecology to independently access and direct either
37 partial or full disbursement of funds secured by that instrument consistent with the other
38 provisions within Article III.C.1. Each financial assurance instrument will provide that the
39 issuing financial institution shall honor the credit engagement or other assurance and pay to the
40 Third Party Designee the directed sum without inquiring whether the directing Beneficiary
41 agency or the receiving Third Party Designee has a right to make such a demand.
42 Furthermore, the Sponsor must waive any and all opportunity to challenge or delay any such
43 access or disbursement. Additionally, the substitute financial assurance must extend for the full
44 period of time that the financial assurance it replaces must extend, and may be terminated only at
45 the written direction of both the Corps and Ecology. The replacement financial assurance
46 instrument must be instituted so that there is no portion of the establishment period, following

1 initiation of construction or other implementation activities, during which there is no financial
2 assurance in effect. No further credits will be awarded from any phase of the Bank while any
3 phase lacks an effective financial assurance instrument.
4

5 2. Long-Term Management and Maintenance Endowment Fund:
6

7 a. The Sponsor shall institute an endowment fund, established and
8 maintained through an escrow account, to fund management and maintenance actions as defined
9 in Article IV.M.1. of this Instrument and Section G.1.2. of Appendix G, following the
10 termination of the establishment phase of the Bank. This Long-Term Management and
11 Maintenance Endowment Fund shall be incrementally funded throughout the establishment
12 period of the Bank, with the funds disbursed to a Long-Term Steward upon the Sponsor's
13 relinquishment of responsibility for long-term maintenance and management of the Bank. The
14 Sponsor agrees to continue to deposit funds in the Long-Term Management and Maintenance
15 Endowment Fund escrow account, pursuant to Article III.C.2.b. of this Instrument, until the
16 Long-Term Management and Maintenance Endowment Fund is fully funded in accordance with
17 Article III.C.2.c. of this Instrument.
18

19 b. The Long-Term Management and Maintenance Endowment Fund
20 escrow account shall be funded throughout the establishment phase of the Bank by depositing a
21 designated sum corresponding to each sale, use, or transfer of mitigation credits. This designated
22 sum shall be \$_____1027___ per share sold, used, or transferred.
23

24 c. The Long-Term Management and Maintenance Fund shall be
25 considered to be fully funded when the total value of the escrow account, including the principal
26 amounts deposited and earnings, has accumulated to a total of \$__248,000_____.
27

28 d. The Sponsor shall enter into an escrow agreement with both the Corps
29 and Ecology conforming to the requirements of Section H.1.2 of Appendix H. The escrow
30 agreement for the Long-Term Management and Maintenance Endowment Fund shall be signed
31 prior to the release of any credits, for any phase of the Bank, reflecting satisfaction of any
32 performance standards under Objectives 2 through 16, as delineated in Appendix C.
33

34 e. Upon receipt of written instructions signed by the Sponsor, Corps, and
35 Ecology, the Long-Term Management and Maintenance Endowment Fund escrow account shall
36 be terminated and all funds disbursed pursuant to the instructions of the Corps and Ecology.
37

38 D. Real Estate Provisions: All real property to be included within any phase of the Bank
39 is presently owned in fee simple by the Sponsor. The Sponsor shall burden the title to the Bank
40 real property through the grant of a conservation easement, pursuant to the provisions of Section
41 G.1.1 of Appendix G. The conservation easement must be approved, initiated, and recorded
42 pursuant to Section G.1.1 of Appendix G, prior to the award of any Bank credits and before any
43 construction or implementation activities may be conducted on-site during the establishment
44 period of the Bank, as defined in Article IV.K. Any construction or implementation activities
45 conducted on-site prior to the inception of the establishment period must cease as of the effective
46 date of this Instrument pursuant to Article VI.B.1, until an approved conservation easement is

1 recorded. The initial award of credits in recognition of accomplishment of the performance
2 standards under Objective 1, pursuant to Section D.1.2.A of Appendix D, will serve as the
3 MBRT's notification that construction and implementation activities are authorized to
4 commence.

5
6 E. Multiple Phase Banks: If future demand within the service area warrants, the
7 Sponsor may request MBRT approval to implement subsequent phases of the Bank. The MBRT
8 will authorize the implementation of subsequent Bank phases that have been specifically
9 identified in Appendices A - H, provided that the appropriate amendments to the site
10 establishment plan, financial assurances, and monitoring and maintenance plans are developed
11 by the Sponsor, approved by the MBRT, and executed by all Parties for incorporation into this
12 Instrument. The sites for subsequent phases must be adjacent to the original Bank site and
13 located within the service area of the Bank. Each subsequent phase must be capable of achieving
14 the terms and conditions of the Instrument.

15 16 **IV. OPERATION OF THE BANK**

17
18 A. Service Area: The Bank is approved to provide compensatory mitigation for impacts
19 to the Waters of the United States and waters of the State, including wetlands, within a portion of
20 Water Resources Inventory Area 3, "Lower Skagit Watershed," as shown in the Service Area
21 Map in the Appendix E. In exceptional situations, the Bank may be used to compensate for an
22 impact that occurs outside of the Service Area if specifically approved by the regulatory
23 agency(ies) having jurisdiction over that impact and by the MBRT, pursuant to the procedures
24 and criteria prescribed in Section E.1.1 of Appendix E. If the Corps and Ecology determine that
25 the Sponsor has sold, used, or transferred credits at any time to provide compensatory mitigation
26 for loss of aquatic resources outside of the Service Area without prior approval, the Corps and
27 Ecology, in consultation with the other members of the MBRT, may direct that the sale, use, or
28 other transfer of credits immediately cease, and will determine, in consultation with the MBRT,
29 the Sponsor and the appropriate regulatory authority, what remedial actions are necessary to
30 correct the situation and will direct their performance prior to the award of any additional
31 mitigation credits. Notwithstanding the fact that ceasing sale, use, or other transfer of credits
32 may have been required, unless this Instrument is terminated pursuant to Article IV.J. or VI.B.,
33 the Sponsor shall remain responsible for the timely and effective achievement of all the
34 Objectives and Performance Standards mandated in Section C.1.1 of Appendix C.

35
36 B. Access to the Bank Site. The Sponsor will allow, or otherwise provide for, access to
37 the Bank site by members of the MBRT or their agents or designees, as reasonably necessary for
38 the purpose of inspection, compliance monitoring, and remediation consistent with the terms and
39 conditions of this Instrument and the Appendices, throughout the periods of Bank establishment,
40 operation, and long-term management and maintenance. Inspecting parties shall provide the
41 Sponsor reasonable prior notice of a scheduled inspection, and shall not unreasonably disrupt or
42 disturb activities on the property.

43
44 C. Availability of Mitigation Credits:
45

1 1. Schedule of Credit Availability: Subject to the documentation and scheduling
2 provisions of Appendix D, the Sponsor may submit to the MBRT written evidence that particular
3 performance standards have been achieved. If the Corps and Ecology, after consulting with the
4 other members of the MBRT and the Sponsor, concur that certain performance standards have
5 been achieved in full, the MBRT will respond in writing to the Sponsor that the credits
6 associated with those performance standards are available for marketing or use by the Sponsor.
7

8 2. Availability of Credits in the Event Financial Assurances are Accessed: In the
9 event the Corps or Ecology, acting pursuant to Articles III.C.1.a. and III.C.1.b. of this
10 Instrument, accesses the Financial Assurances established pursuant to Article III.C.1. of this
11 Instrument and accomplishes any objectives, performance standards, or features of the Bank, the
12 Corps and Ecology, in consultation with the other members of the MBRT, may award credits for
13 sale, use, or transfer by the Sponsor, in a quantity reflecting the objectives and performance
14 standards achieved as a result of such remedial action.
15

16 D. Credit Deficit or Fraudulent Transactions: If the Corps and/or Ecology determine at
17 any point that the Bank is operating without prior written approval at a deficit, or has engaged in
18 fraudulent transactions in the sale, use, or other transfer of credits, the Corps and/or Ecology will
19 direct the Sponsor to immediately cease award and sale, use, or other transfer of credits, and will
20 determine, in consultation with the MBRT and the Sponsor, what remedial actions are necessary
21 to correct the situation and will direct their performance prior to the award of any additional
22 mitigation credits.
23

24 E. Provisions For Use of the Mitigation Bank Area: The Sponsor shall not:
25

26 1. Grant additional easements, rights of way, or any other property interest in the
27 project areas without the written consent of the Corps and Ecology, in consultation with the
28 MBRT.
29

30 2. Use or authorize the use of any areas within the Bank for any purpose that is
31 contrary to the provisions of this Instrument or the conservation easement, or which interferes
32 with the conservation purposes of the Bank.
33

34 F. Maintenance Provisions: Following achievement of the performance standards, the
35 Sponsor agrees to perform all necessary work to maintain those standards as prescribed in
36 Section F.1.1.5 of Appendix F.
37

38 G. Monitoring Provisions: The Sponsor agrees to perform all necessary work, pursuant
39 to Section F.1.1.2. of Appendix F, to monitor the Bank during the establishment period to
40 demonstrate compliance with the performance standards established in Appendix C.
41

42 H. Contingency Plans/Remedial Actions: In the event the Bank fails to achieve by the
43 specified date one or more of the performance standards delineated in Appendix C, the Sponsor
44 shall develop necessary contingency plans and implement appropriate remedial and monitoring
45 actions for the Bank as specified in Section F.1.1.4 of Appendix F, to attain those project
46 objectives and performance standards. Prior to their execution, proposals for the contingency

1 plans and remediation and monitoring activities must be approved by the Corps and Ecology, in
2 consultation with the Sponsor and the MBRT. In the event the Sponsor fails to implement
3 necessary remedial actions within the prescribed period, the Corps and/or Ecology, following
4 consultation with the Sponsor and the MBRT, will direct remedial, corrective, and/or sanctioning
5 action in accordance with the procedures specified in Section F.1.1.4.A. of Appendix F.
6 Alternatively, the Corps and Ecology may accomplish such remedial action directly, acting
7 through a Third Party Designee, by accessing the financial assurance instrument pursuant to
8 Articles III.C.1.a. and III.C.1.b. of this Instrument.

9
10 I. Force Majeure: In the event of substantial damage caused by a natural or human-
11 caused catastrophic event or a deliberate and unlawful act, that the Corps and Ecology, in
12 consultation with the Sponsor and the MBRT, determine has had a significant adverse impact on
13 the quality of the aquatic functions, native vegetation, soils, or wildlife of the Bank and is
14 beyond the control of the Sponsor, its agents, contractors, or consultants to prevent or mitigate:
15 the Sponsor may request, pursuant to Article III.B. of this Agreement, and the Corps and
16 Ecology, in consultation with the MBRT, may approve changes to the construction, operation,
17 project objectives, performance standards, or crediting formula of the Bank, pursuant to the
18 standards and procedures specified in Section F.1.1.4 of Appendix F. A natural catastrophic
19 event includes, but is not limited to, a flood equal to or greater in magnitude than the 100-year
20 flood event, an earthquake of a force projected from an earthquake with a return period of 475
21 years, drought that is significantly longer than the periodic multi-year drought cycles that are
22 typical of weather patterns in the Pacific Northwest, as well as debilitating disease, wildfire,
23 depredation, regional pest infestation, or fluviogeomorphic change. A human-caused
24 catastrophic event includes, but is not limited to, war, insurrection, riot or other civil disorders,
25 spill of a hazardous or toxic substance, or fire. A deliberate and unlawful act includes, but is not
26 limited to, the dumping of a hazardous or toxic substance, as well as significant acts of
27 vandalism or arson. If any such act occurs the MBRT, in consultation with the Sponsor, will
28 determine what changes to the Bank and/or this Instrument will be in the best interest of the
29 Bank and the aquatic environment. The consequences of any events of force majeure recognized
30 as such by the Corps and Ecology shall not affect the status of previously released credits,
31 whether or not they have yet been sold, used or transferred.

32
33 J. Default: Should the Corps and/or Ecology, in consultation with the MBRT, determine
34 that the Sponsor is in material default of any provision of this Instrument, the Corps and/or
35 Ecology may cease award of mitigation credits, and may notify the Sponsor that the award, sale,
36 use, and/or transfer of mitigation credits are suspended until the delineated deficiencies are
37 rectified. Upon written notification of suspension, the Sponsor agrees to immediately cease any
38 sale, use, or transfer transactions not yet finally completed, until informed by the Corps and/or
39 Ecology that award, sale, use, or transfer of credits may be resumed. Should the Sponsor remain
40 in default for a period of 90 days, the Corps and/or Ecology, following consultation with the
41 MBRT, may terminate this Instrument and any subsequent banking operations. In the event such
42 termination action is commenced, the Sponsor agrees to fulfill its pre-existing obligations to
43 perform all establishment, monitoring, maintenance, management, and remediation
44 responsibilities that arise directly from credits that have already been awarded, sold, used, or
45 transferred at the time of termination.

1 K. Establishment Period of the Bank: The establishment period of a particular phase of
2 the Bank will commence on the date the Instrument takes effect pursuant to Article VI.B.1. Prior
3 to termination of the establishment period of a particular phase of the Bank, the MBRT will
4 perform a final compliance inspection to evaluate whether all performance standards have been
5 achieved. Upon the Corps and Ecology determining, in consultation with the other members of
6 the MBRT and the Sponsor, that:

7 (1) all applicable performance standards prescribed in Appendix C for that phase have
8 been achieved;

9 (2) all available credits for that phase have been awarded, or the Sponsor has permanently
10 ceased banking activities;

11 (3) the Sponsor has prepared a Long-Term Management and Maintenance Plan, that has
12 been approved by the Corps and Ecology, pursuant to Section G.1.2. of Appendix G;

13 (4) the Sponsor has either: (i) assumed responsibilities for accomplishing the Long-Term
14 Management and Maintenance Plan, in which case the Sponsor will fulfill the role of Long-Term
15 Steward, or (ii) has assigned those responsibilities to another Long-Term Steward pursuant to
16 Article IV.M.2. of this Instrument;

17 (5) the Long-Term Management and Maintenance Endowment Fund has been fully
18 funded;

19 (6) the contents of the Long-Term Management and Maintenance Endowment Fund have
20 been transferred to the Long-Term Steward; and

21 (7) the Bank has complied with the terms of this Instrument,
22 the establishment period for that phase of the Bank will terminate, and the period of long-term
23 maintenance and management will commence.
24

25 L. Operational Life of the Bank: The operational life of a particular phase of the Bank
26 will commence on the date the Instrument takes effect pursuant to Article VI.B.1. Following the
27 termination of the establishment period of a particular phase of the Bank, and (1) upon sale, use,
28 or transfer of all credits, or (2) upon acceptance by the MBRT of a written declaration by the
29 Sponsor that it has permanently ceased banking activities, the operational life of the Bank will
30 terminate.
31

32 M. Long-Term Management and Maintenance:

33
34 1. The Sponsor shall develop a Long-Term Management and Maintenance Plan
35 consistent with the guidelines and objectives specified in Section G.1.2 of Appendix G, and
36 submit the Plan for approval by the Corps and Ecology, in consultation with the other members
37 of the MBRT. The Sponsor is responsible for execution of the approved Long-Term
38 Management and Maintenance Plan. The Sponsor may only deviate from the approved Plan
39 upon written approval of the Corps and Ecology, following consultation with the Sponsor and the
40 MBRT.
41

42 2. The Sponsor may assign its long-term management and maintenance
43 responsibilities to a third party assignee, which will then serve as Long-Term Steward in place of
44 the Sponsor. The identity of the assignee and the terms of the long-term management and
45 maintenance agreement between the Sponsor and the assignee must be approved by the Corps
46 and Ecology, following consultation with the MBRT, in advance of assignment.

1
2 3. Upon execution of a long-term management and maintenance assignment
3 agreement and the transfer of the contents of the Long-Term Management and Maintenance
4 Endowment Fund, and upon satisfaction of the remaining requirements for termination of the
5 establishment period of the Bank under Article IV.K. of this Instrument, the Sponsor shall be
6 relieved of all further long-term management and maintenance responsibilities under this
7 Instrument.
8

9 N. Transfer of Ownership of the Bank Site: The Sponsor shall remain responsible for
10 complying with the provisions of this Instrument throughout the operational life of the Bank,
11 regardless of the ownership status of the underlying real property, unless those responsibilities
12 have been assigned pursuant to the provisions of Article VI.C. of this Instrument. The Sponsor
13 may transfer ownership of all or a portion of the Bank real property to another party provided the
14 Corps and Ecology, following consultation with the other members of the MBRT, expressly
15 approve the transfer in writing.
16

17 **V. RESPONSIBILITIES OF THE CORPS AND ECOLOGY**

18 A. The Corps and Ecology agree to provide appropriate oversight in carrying out
19 provisions of this Instrument.
20

21 B. The Corps and Ecology agree to review and provide comments on project plans,
22 monitoring reports, contingency and remediation proposals, and similar submittals from the
23 Sponsor in a timely manner. As Co-Chairs, the Corps and Ecology will coordinate their review
24 with the other members of the MBRT.
25

26 C. The Corps and Ecology agree to review requests to modify the terms of this
27 Instrument, transfer title or interest in the Bank, determine achievement of performance standards
28 in order to evaluate the award of credits for each phase of the Bank, or approve the Long-Term
29 Management and Maintenance Plan. As Co-Chairs, the Corps and Ecology will coordinate
30 review with the members of the MBRT so that a decision is rendered or comments detailing
31 deficiencies are provided in a timely manner. The Corps and Ecology agree to not unreasonably
32 withhold or delay decisions on such requests.
33

34 D. The Corps and Ecology agree to act in good faith when rendering decisions about
35 acceptability of financial assurances, requiring corrective or remedial actions, requiring long-
36 term management and maintenance actions, and awarding credits. The Corps and Ecology will
37 exercise good judgment in accessing financial assurances, and will utilize those monies only to
38 the extent they reasonably and in good faith conclude that such remedial or corrective actions are
39 an effective and efficient expenditure of resources. In implementing the process delineated in
40 Article III.C.1 of this Instrument, the Corps and Ecology will act in good faith in determining the
41 scope and nature of corrective actions to be undertaken; shall act in good faith in conducting
42 monitoring, developing reports, and assessing compliance with performance standards; and will
43 not unreasonably limit corrective action activities or otherwise apply their discretion so as to
44 unduly prejudice the Sponsor as to the timing or number of credits awarded. Corps and Ecology
45 approval of the identity of any assignee responsible for executing the Long-Term Management
46

1 and Maintenance Plan, and approval of the terms of any long-term management and maintenance
2 assignment agreement, will not be unreasonably withheld.

3
4 E. The Corps and Ecology will periodically inspect the Bank site as necessary to
5 evaluate, in consultation with the other members of the MBRT, the achievement of performance
6 standards, to assess the results of any corrective measures taken, to monitor implementation of
7 the Long-Term Management and Maintenance Plan, and, in general, to verify the Sponsor's
8 compliance with the provisions of this Instrument.

9
10 F. Upon satisfaction of the requirements of Article IV.K. for any Bank phase under this
11 Instrument, the Corps and Ecology will certify, following consultation with the Sponsor and the
12 other members of the MBRT, that the establishment period of the Bank has terminated, and that
13 the period of long-term management and maintenance has commenced. Upon satisfaction of the
14 requirements of Article IV.L. of this Instrument, the Corps and Ecology, following consultation
15 with the other members of the MBRT, will jointly issue a letter certifying that the operational life
16 of that phase of the Bank has terminated.

17 **VI. GENERAL PROVISIONS**

18
19
20 A. Decision Making by Consensus: The Corps and Ecology will strive to achieve
21 consensus regarding issues that arise pertaining to the establishment, operation, maintenance, and
22 management of the Bank. As Chairs, the Corps and Ecology, and Skagit County will coordinate
23 the review and oversight activities of the MBRT so as to best facilitate opportunity to reach the
24 desired consensus. Review and oversight decisions will take into account the views of the
25 Sponsor to the maximum extent practicable. Where consensus cannot otherwise be reached
26 within a reasonable timeframe, following full consideration of the comments of the members of
27 the MBRT and following consultation with the Sponsor, the Corps holds the responsibility and
28 authority under Section 404 of the Clean Water Act, and Ecology holds independent
29 responsibility and authority under Section 401 of the Clean Water Act and RCW ch. 90.48, to
30 make final decisions regarding the application of the terms of this Instrument.

31 B. Entry into Effect, Modification or Amendment, and Termination of the Instrument:

32
33
34 1. This Instrument, consisting of both this Basic Agreement and the Appendices,
35 will enter into effect upon the signature by authorized representatives of each of the Corps,
36 Ecology, Skagit County and the Sponsor, as of the date of the last of these signatures.

37
38 2. This Basic Agreement portion of the Instrument may be amended or modified
39 only with the written approval of the Sponsor, the Program Manager for Shorelands and
40 Environmental Assistance on behalf of Ecology, and the Seattle District Engineer on behalf of
41 the Corps, or their designees. Any such modifications or amendments will take effect following
42 consultation with the other members of the MBRT. Amendment of the provisions of the
43 Appendices may be effectuated through an exchange of letters signed by the Sponsor, the
44 Mitigation Banking Specialist serving as Co-Chair on behalf of the Corps, and the Mitigation
45 Banking Specialist serving as Co-Chair on behalf of Ecology, following consultation with the

1 other members of the MBRT, provided the exchange of letters expresses mutual agreement as to
2 the exact language to be deleted or modified, and the exact language to be inserted.
3

4 3. This Instrument may be terminated by the mutual agreement of the Sponsor,
5 Corps, and Ecology, following consultation with the MBRT, or may be terminated under the
6 terms of Article IV.J. of this Instrument in the case of default by the Sponsor. In the event any
7 termination action is commenced, the Sponsor agrees to fulfill its pre-existing obligations to
8 perform all establishment, monitoring, maintenance, management, and remediation
9 responsibilities that arise directly from credits that have already been awarded, sold, used, or
10 transferred at the time of termination.
11

12 4. Upon termination of the operational life of the Bank pursuant to Article IV.L.,
13 and certification to that effect pursuant to Article V.F., this Instrument shall terminate without
14 further action by any Party. Thereafter, the Long-Term Management and Maintenance Plan
15 developed, approved, and instituted in accordance with Article IV.M. shall govern the continuing
16 obligations of the Sponsor, or its assignee as applicable.
17

18 C. Assignment of Obligations under this Instrument: The Sponsor may be permitted to
19 assign its obligations, responsibilities, and entitlements under this Instrument to a third party.
20 The Corps and Ecology, following consultation with the MBRT, must approve the identity of the
21 assignee in order for any assignment to effectively relieve the Sponsor of those obligations. In
22 evaluating a prospective assignee, the Corps and Ecology may consider characteristics such as
23 environmental mitigation expertise, wetlands mitigation project or analogous experience, and
24 financial strength and stability. Approval of the identity of the assignee will not be unreasonably
25 withheld. The assignee must execute a mitigation banking instrument with the Corps and
26 Ecology under terms identical, to the extent practicable, to the present Instrument. The
27 applicable financial assurances established pursuant to Articles III.C.1. and III.C.2. of this
28 Instrument must be initiated. The obligations, responsibilities, and entitlements under this
29 Instrument may reside in only a single entity at any one time, and may not be severed or
30 transferred piecemeal. However, the physical ownership of the Bank site real property and the
31 obligations, responsibilities, and entitlements under this Instrument are separate and distinct;
32 thus, ownership may be transferred independently of assignment of this Instrument. Once
33 assignment has been properly accomplished, the Sponsor will be relieved of all its obligations
34 and responsibilities under this Instrument. Specific additional provisions pertaining to the
35 assignment of long-term management and maintenance obligations are described at Article
36 IV.M.

37 D. Specific Language of this Basic Agreement Shall Be Controlling: To the extent that
38 specific provisions of this Basic Agreement portion of the Instrument are inconsistent with any
39 terms and conditions contained in the Appendices, or inconsistent with other documents that are
40 incorporated into this Instrument by reference and that are not legally binding, the specific
41 language within this Basic Agreement shall be controlling.
42

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

1 follows (or addressed in such other manner as the party being notified shall have requested by
2 written notice to the other party):
3

4 Jerome Ryan, President
5 Sustainable Environments LLC
6 9 Teaberry Lane
7 Tiburon, CA 94920
8 (415) 990-0525

9 U.S. Army Corps of Engineers, Seattle District
10 Mitigation Banking Specialist/Co-chair of the MBRT
11 Regulatory Branch
12 Seattle District, Corps of Engineers
13 4735 E. Marginal Way South
14 P.O. Box 3755
15 Seattle, WA 98124-3755
16 206-764-3495

17
18 Washington State Department of Ecology
19 Mitigation Banking Specialist/ Co-chair of the MBRT
20 Shorelands and Environmental Assistance Program
21 P.O. Box 47600
22 300 Desmond Drive
23 Olympia, WA 98504-7600
24 360-407-7045

25
26 F. Entire Agreement: This Instrument constitutes the entire agreement between the parties
27 concerning the subject matter hereof.
28

29 G. Invalid Provisions: In the event any one or more of the provisions contained in this
30 Instrument are held to be invalid, illegal or unenforceable in any respect, such invalidity,
31 illegality or unenforceability will not affect any other provisions hereof, and this Instrument shall
32 be construed as if such invalid, illegal or unenforceable provision had not been contained herein.
33

34 H. Effect of Agreement: This Instrument does not in any manner affect statutory
35 authorities and responsibilities of the signatory Parties. This Instrument is not intended, nor may
36 it be relied upon, to create any rights in third parties enforceable in litigation with the United
37 States or the State of Washington. This Instrument does not authorize, nor shall it be construed
38 to permit, the establishment of any lien, encumbrance, or other claim with respect to the Bank
39 property, with the sole exception of the right on the part of the Corps and Ecology to require the
40 Sponsor to implement the provisions of this Instrument, including recording the conservation
41 easement, required as a condition of the issuance of permits for discharges of dredged and fill
42 material into waters of the United States associated with construction and operation and
43 maintenance of the Bank.
44

1 I. Attorneys' Fees: If any action at law or equity, including any action for declaratory
2 relief, is brought to enforce or interpret the provisions of this Instrument, each party to the
3 litigation shall bear its own attorneys' fees and costs of litigation.
4

5 J. Availability of Funds: Implementation of this Instrument is subject to the requirements
6 of the Anti-Deficiency Act, 32 U.S.C. § 1341, and the availability of appropriated funds.
7 Nothing in this Instrument may be construed to require the obligation, appropriation, or
8 expenditure of any money from the United States Treasury, in advance of an appropriation for
9 that purpose.
10

11 K. Headings and Captions: Any paragraph heading or caption contained in this Instrument
12 shall be for convenience of reference only and shall not affect the construction or interpretation
13 of any provision of this Instrument.
14

15 L. Counterparts: This Instrument may be executed by the Parties in any combination, in
16 one or more counterparts, all of which together shall constitute one and the same instrument.
17

18 M. Binding: This Instrument, consisting of both this Basic Agreement and the
19 Appendices, shall be immediately, automatically, and irrevocably binding upon the Sponsor and
20 its heirs, successors, assigns and legal representatives upon execution by the Sponsor, Ecology,
21 and the Corps.
22

23 IN WITNESS WHEREOF, the Parties hereto have executed this Instrument on the date herein
24 below last written.
25

26 SPONSORS
27

28 _____
29 *Jerome Ryan*
30 *President*
31 Sustainable Environments LLC
32

_____ Date

33 _____
34 *Kevin F. Noon*
35 *Principal*
36 Sustainable Environments LLC
37

_____ Date

38 _____
39 *James B. Hodge*
40 *Principal*
41 Sustainable Environments LLC
42

_____ Date

43
44 MITIGATION BANK REVIEW TEAM
45

46 By the MBRT Co-Chairs:

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Michael McCormick
Colonel, Corps of Engineers
Seattle District Engineer

Date

Gordon White
Program Manager for Shorelands and Environmental Assistance Program
Washington State Department of Ecology

Date

By other MBRT Members:

Richard B. Parkin
Acting Director, EPA Region 10
Office of Ecosystems, Tribal and Community Affairs

Date

Sharon Dillon,
Chair, Skagit County Commissioners
Skagit County Washington

Date



**APPENDICES TO
THE MITIGATION
BANKING
INSTRUMENT**

Skagit Environmental Bank

Skagit County, Washington

July, 2008

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APPENDIX A: GENERAL BANK INFORMATION

APPENDIX A.1: Phase 1

A.1.1. Business Purpose and Ecological Goals of Phase 1

The purpose of the Bank is to generate mitigation credits for projects that will have an adverse impact on the aquatic environment, and that need to compensate for those impacts as a condition of their permits or other regulatory requirements resulting from project impacts.

The primary ecological goal of Phase 1 of the Bank is to restore hydrologic processes on the site to initiate re-establishment of floodplain emergent, scrub-shrub, and forested wetlands. These habitats will provide valuable forage for ungulates and other mammals. These wetlands will also provide cover for nesting, resting, and foraging waterfowl and upland birds, habitat for small mammals and reptiles, reproductive habitat for amphibians, and rearing and wintering habitat for fish.

Goal: Improve Floodplain Hydrologic and Hydraulic Conditions

Restore in-channel stream morphology and alter the ground water hydrology on at least 30 percent of the site by adding three engineered log jams in the Nookachamps and East Fork Nookachamps at certain intervals in order to affect change in geomorphic process (e.g., riffle and pool formation, channel bank undercutting, point bar formation, and duration of wetland inundation). In addition, all farming activities will cease and drainage ditches, constructed to drain the land for crop production, will be filled.

Goal: Improve Fish and Wildlife Habitat, and Water Quality Conditions

Stabilize the hydric and non-hydric soils and provide wildlife habitat by removing all farming activities, filling drainage ditches, and constructing the engineered log jams and by planting a cover crop of herbaceous plants.

A.1.2. Phase 1 Location and Legal Description

The Bank is located at 14000 Maclaughlin Extension Road, Mount Vernon, WA, 98273 in Skagit County, Washington, 1.5 miles northeast of the Mount Vernon urban center, but just outside the city limits of Mount Vernon and immediately adjacent to a large wetland area known as Barney Lake. See Figure A-1 Site Location Map.

At 48.407196 latitude and -122.321767 longitude, the property lies within Sections 10, 11, 15, and 14, Township 34 North, Range 4 East on the Mount Vernon 7.5 minute USGS quadrangle map, Skagit County. From a watershed view, the Bank is home in the Washington State Water Resource Inventory 3 - Lower Skagit-Samish Watershed.



Figure A-1. Site location.

All real property to be included within the Bank site area, as more completely described in the legal description, attached as Exhibit 1 to this Instrument, is owned in fee simple by Clear Valley Environmental Farm and has been pledged for use in the Bank in a manner consistent with this Instrument. The overall bank property size is approximately 396 acres. The inclusion of the aforementioned property in the Bank and the granting of a conservation easement restricting future land uses for the benefit of the Bank shall not convey or establish any property interest on the part of any Party to this Instrument, nor convey or establish any interest in Bank credits. The Instrument does not authorize, nor shall it be construed to permit, the establishment of any lien, encumbrance, or other claim with respect to the property, with the sole exception of the right on the part of the Corps and Ecology to require the Sponsor to implement elements of this Instrument, including recording the conservation easement, required as a condition of a permit issued under Sections 404 and 401 of the Clean Water Act for discharges of dredged and fill material into Waters of the United States associated with construction and operation and maintenance of the Bank. [legal description still forthcoming]

A.1.3. Site Description and Baseline Site Conditions

A.1.3.1 Site Description:

The site is in the Lower Skagit Watershed Resource Inventory Area (WRIA 03) watershed, and the Nookachamps sub-watershed. The entire western edge of the Bank site is bounded by the Nookachamps Creek. The East Fork Nookachamps bisects the property. Mud Creek enters the northeastern edge of the site. The site is bisected by a number of drainage ditches that intercept surface and groundwater flow and maintain drier soil conditions on most of the site throughout the year. The topographic slopes on the entire site range from 0.4 to 1.5 percent. Elevations range from approximately 22 feet to 48 feet above sea level (NAVD88).

Almost the entire bank site is plowed and planted annually with cattle feed crops, primarily corn. The hydrology of these uplands is maintained to support the upland row crops. There are small areas along the creek edges and within the ditches that are not plowed and support monocultures of reed canary grass. In addition, small patches of remnant shrub and forested riparian areas are found along the northwest portion of Nookachamps Creek. In the early spring surface water runoff maintains saturated soil conditions in some areas. Once the winter rains have subsided, these areas dry out enough to be plowed and planted along with the remainder of the site.

The Figure A-2, Existing Conditions shows the physical condition of the site as described above and the baseline site conditions that follow.

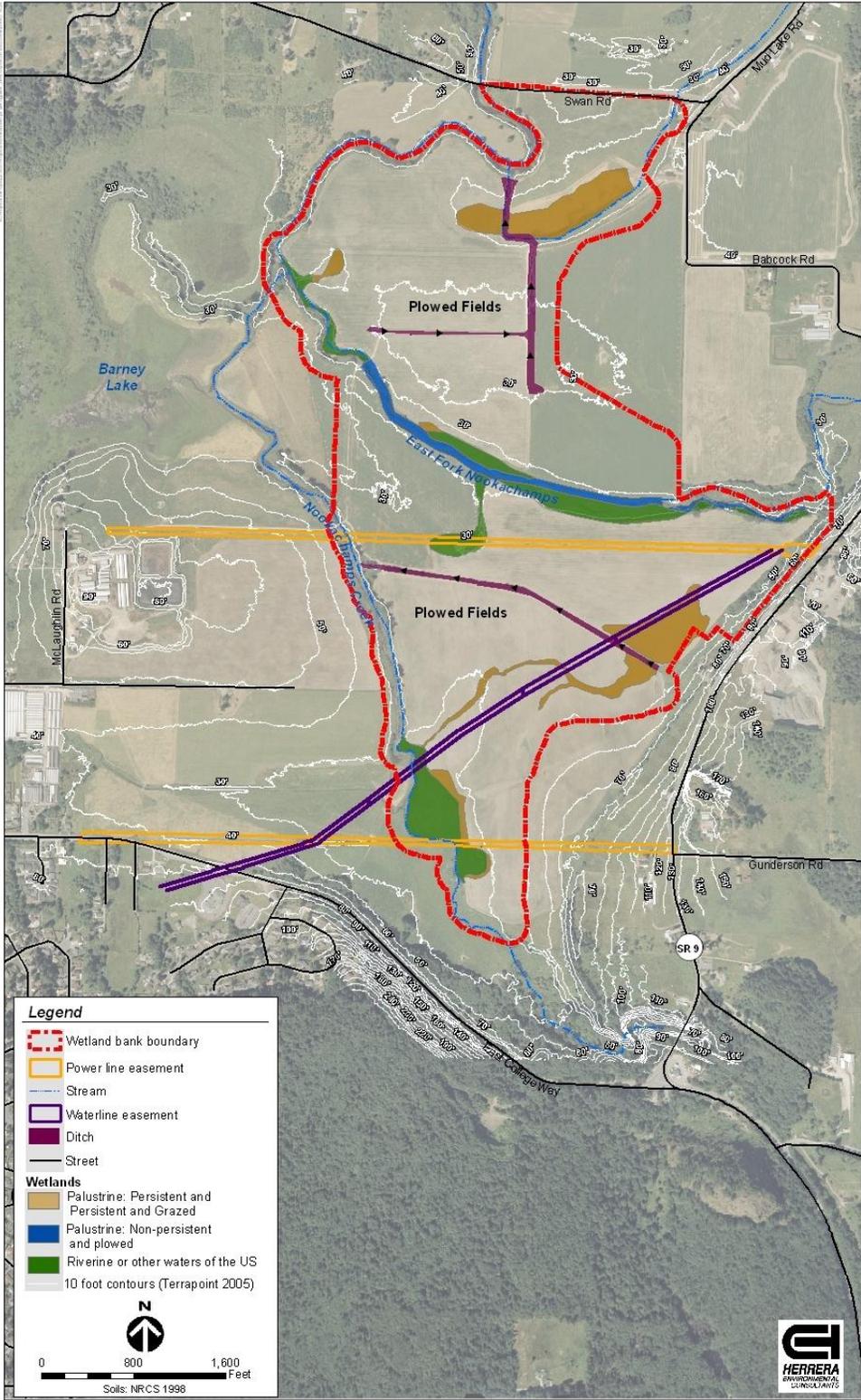


Figure A-2. Existing conditions.

A.1.3.2 Existing Conditions:

The baseline conditions of the Bank site are what attracted the sponsors to select this site. Located in Section A of the Resource Folder, the Rationale for Site Selection presents additional information for selecting this site.

Existing Soils

According to the Soil Survey of Skagit County Area, Washington (Soil Conservation Service compiled in 1980) there are five mapped silt-loam soil series on the Bank: Bellingham silt-loam, Nookachamps silt-loam, Skipopa silt-loam, Sumas silt-loam, Field silt-loam. As of 2006 the Natural Resource Conservation Service has defined all soil series that are present on the bank site as hydric.

Field samples from plowed areas suggest that the soils have been modified by tilling, grading, and drainage ditching. Variations in these soil conditions were field verified. Despite the affects of plowing, some soils still contain hydric characteristics. Those areas were mapped as wetlands (palustrine, non-persistent and plowed). Most of the soils sampled during the delineation process, and delineated as palustrine-- persistent and persistent and grazed wetlands, where plowing does not regularly occur-- exhibited hydric characteristics typical of the soil series descriptions. More detail on the soil conditions is located in the Wetland Delineation Report in Section A of the Resource Folder.

Existing Hydrology

The Bank site contains a series of ditches that serve as conduits that drain surface water runoff and ground water. They are hydrologic boundaries to the ground water aquifer which are deep enough to intercept ground water levels during the growing season. As the creeks recede, the ground water is drawn into the ditches and flows out into the creek channels. The ditches are functioning for the farmer by intercepting the ground water and diverting it to the creeks. More detail on the hydrologic conditions is located in the Wetland Delineation Report located in Section A of the Resource Folder.

Today, two hydrologic sources are at work on the Bank site: 1) Precipitation or ponding from above-ground sources such as rainfall and river bank overtopping, and 2) Shallow ground-water fluctuation. Both of them affect the soil hydrologic conditions on the Bank during the growing season. Groundwater conditions within the floodplain of the Nookachamps Creek are influenced by recharge from upland areas, flooding from the Skagit River, and flow in the main-stem and East Fork Nookachamps Creek. Deforestation and drainage improvements for agriculture at the Bank site are the two most significant landscape modifications to have impacted local groundwater conditions. Both of these modifications likely contributed to the lowering of the groundwater table throughout the Bank.

Evidence of Historic Wetlands

Prior to Euro-American settlement, the lower floodplain of the Nookachamps Creek (the entire Bank site) was covered with a mature wetland forest. Archival records indicate the Skagit River valley in the vicinity of the Bank site exhibited a multiple-thread channel network with forested islands and frequent woody debris jams. Barney Lake, across the northwest edge of the Bank site, and the floodplain at the southern portion south of the Bank

site are all that remain of a once extensive wetland forest. Early operators of the farm property apparently graded the floodplain to fill low areas and constructed ditches to drain the land for agriculture. Both the main-stem and East Fork Nookachamps Creek have been impacted to some extent by straightening and confinement.

See two historic maps, 1872 Skagit Valley Survey Map and 1941 Aerial Photograph of Skagit Environmental Bank, in Section A of the Resource Folder.

Existing Wetlands and Aquatic Resources

The U.S. Army Corps of Engineers has determined (in their letter reference: 200600098) that the waters of the U.S., including wetlands, as described in the Skagit Environmental Bank Wetland Delineation Report (see Section A of the Resource Folder) prepared by Sustainable Environments LLC and dated Revised February 2006 accurately identifies waters of the U.S. in the bank project area.

There are 53 acres of existing wetlands that are comprised of palustrine or riverine wetlands in the Bank. They exhibit all of the definitional wetland characteristics, and therefore have been delineated as existing wetlands. The remaining area of the Bank are plowed areas that have modified hydrologic conditions; they were likely wetlands prior to being ditched or graded to drain for row cropping (sometime after 1941), but no longer meet the definition of wetlands.

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

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

Existing Vegetation

The site exhibits typical vegetation found on a working agricultural landscape. This discussion focuses on the wetland vegetation found during the wetland delineation. According to the Soil Survey of Skagit County Area, Washington (Soil Conservation Service issued in 1989), the growing season is 242 days from March 14 through November 11. The Palustrine Wetland areas (that is, those areas that are vegetated with emergents, but not plowed) have all three indicators of wetland condition throughout most of the growing season and are comprised primarily of reed canary grass (*Phalaris arundinacea*) (facw); creeping buttercup (*Ranunculus repens*) (facw); and meadow foxtail (*Alopecurus pratensis*) (facw).

The adjacent vegetated uplands are covered primarily with white clover (*Trifolium repens*) (facu); orchard grass (*Dactylis glomerata*) (facu); and tall fescue (*Festuca arundinacea*)(facu). There are individual, or patches of, woody plant species scattered throughout the vegetated wetland areas and found along the upland edges of the bermed areas including black cottonwood (*Populus balsamifera*) (fac) and red alder (*Alnus rubra*) (facw). The few plants that were found in the riverine system that could out-compete the reed canarygrass (*Phalaris arundinacea*) (facw), include yellow iris (*Iris pseudacorus*) (obl) and yellow pond lily (*Nuphar luteum*) (obl).

Most of the plants (other than corn) common in the 262 acres of plowed fields (palustrine, non-persistent and plowed) are grasses planted by the farmer as over-winter crops (primarily orchard grass (*Dactylis glomerata*) (facu); and white clover (*Trifolium repens*) (facu). Upland and wetland pioneer plants are established in between the planted species. Plant dominance was one factor we used in determining the wetland boundaries in the plowed areas. Additional vegetation in the plowed wetlands or uplands (depending on dominance) includes creeping buttercup and broadleaf plantain (*Plantago major*) (facu).

According to the Washington Department of Natural Resources (2003) Washington Natural Heritage Program information on rare plants and high quality ecosystems, there are no rare plants or high quality ecosystems on the Bank site. The bearded sedge (*Carex comosa*) is listed as a species of concern that is reported as existing near the Bank Site (NWMC et al. 1995). It was not identified in the proposed Bank site areas and, if it exists, it would likely be in the protected off-site areas of Barney Lake. According to the Natural Heritage Program's historical account, the bearded sedge was last observed within a 4-mile area (that includes the Bank site) in 1933 and has not been verified. It is listed by the State as Sensitive and ranked as Imperiled.

Additional Site Assessments

In addition to the traditional ways of defining a site, the sponsors had additional reports prepared, please see Section A of the Resource Folder for the following: Biological Assessment. Skagit Environmental Bank Habitat Restoration Project. Skagit County, Washington. October 2005.

Cultural Resources Assessment for the Skagit Environmental Bank Skagit County, Washington. October 2005.

Laboratory Testing Report & Sol Bearing Capacity Estimates Nookachamps Project. June 2007.

Shoreline Compliance Narrative. Skagit Environmental Bank. July 2007.

APPENDIX A.2: Phase 2

A.2.1. Business Purpose and Ecological Goals of Phase 2

The purpose of the Bank is to generate mitigation credits for projects that will have an adverse impact on the wetland environment, and that need to compensate for those impacts as a condition of their permits or other regulatory requirements resulting from project impacts.

As for Phase 2, its goals build on the restoration goals of Phase 1. They are:

Goal: Re-establish emergent, scrub-shrub, and forested wetland conditions on at least 65% or the site which will include planting herbaceous plants, shrubs, and trees in all areas of the bank site that have wetland hydrologic conditions.

Goal: Restore high-flow back channel rearing, refuge, and migration habitat for salmonids, resident fish, amphibians, reptiles, and other aquatic dependent species.

A.2.2. Phase 2 Location and Legal Description

Phase 2 encompasses the same spatial area as Phase 1, and therefore the “Location and the Legal Description” is the same as Phase 1 above.

A.2.3. Site Description and Baseline Site Conditions

Phase 2 encompasses the same spatial area as Phase 1, and therefore the “Site Description” is the same as Phase 1 above.

APPENDIX A.3: Phase 3

The original purpose of providing a diversity of mitigation credits for aquatic , streams and critical areas identified in Phase 1 applies to Phase 3 as well.

Primary goals of Phase 3 build on the restoration goals of Phase1 and Phase 2. They are:

Goal: Increase the diversity and area of wetland habitats within the Bank by restoring palustrine forested, scrub-shrub, and emergent habitat that will extend well beyond the edges of the creek channel and effect change in numerous hydrologic and hydraulic floodplain and wetland functions. It is anticipated that a minimum of 81% of the site will be wetland.

Goal: Diversify wildlife habitat nesting, rearing, and feeding opportunities by creating a mosaic of upland islands within the forested wetlands (forest mosaic wetlands).

A.3.2. Phase 3 Location and Legal Description

Phase 3 encompasses the same spatial area as Phases 1 &2, and therefore the “Site Description” is the same as Phase 1 above.

A.3.3. Site Description and Baseline Site Conditions

Phase 3 encompasses the same spatial area as Phase 1 & 2, and therefore the “Site Description” are the same as Phase 1 & 2 above; with the exception of the hydrological changes that were undertaken in Phase 1, and the excavation, grading and plantings of Phase 2.

APPENDIX B: BANK DEVELOPMENT PLAN AND DESIGN

Overview of Bank Development

Skagit Environmental Bank began with the intent to create the highest ecologically functional wetland. Building on that strong ecological intent we propose a unique, three-phased approach to restoring the Bank site, called “Functional Phasing”.

Functional phasing will be the introduction of changes, done in a logical sequence, to modify specific functions on the entire Bank site. This approach is based on incrementally restoring functions on the entire site, rather than the traditional approach of making construction modifications to change all the functions on three separate portions of the Bank site. Functional Phasing involves waiting to see how these changes affect the Bank, and then moving forward with the next functional modifications based on this real data. The design will then be refined to the actual site response conditions.

Currently we plan on constructing the Bank in these three general phases:

Phase 1: Make the modifications to restore the hydrology to the entire Bank site by improving the geomorphology of the two stream systems within the Bank site with engineered log jams, restoring the natural drainage of the by filling in ditches, and planting a wetland or upland seed cover crop as appropriate and monitor the change in site hydrology over an appropriate period of time.

Phase 2: Grade elevations to create wetland conditions (where appropriate) and the high-flow back channels. The grading elevations will be determined using well data collected after the construction of Phase 1.

Phase 3: Excavate the remaining “high” areas (or those areas that do not meet the wetland conditions), and plant these excavated areas.

Additional detail about this approach is presented in Section B of the Resource Folder.

APPENDIX B.1: Phase 1

B.1.1. Phase 1 Development Plan

The first functional phase will restore the wetland and floodplain hydrology to the majority of the Bank by removing all farming activities, filling all of the ditches, and constructing three Engineered Log Jam (ELJ’s) in Nookachamps Creek and the East Fork Nookachamps Creek. See Figure B-1. We will plant a cover crop of herbaceous plants to stabilize the soils on the remaining Bank area. The species seed composition will be competitive with reed canary grass and we expect natural recruitment of other native herbaceous and woody plant species. We feel that these three actions will significantly change the hydrology and improve the fish and wildlife habitat. We know from the well data

that we have collected so far that the ditches are functioning to drain or lower the ground water levels in certain areas of the Bank. We also know, from experience on other projects, that placement of the engineered log jams (ELJ's) will raise the average river surface elevations and the surrounding ground water elevations. Please refer to the hydrology modeling reports in Section B of the Resource Folder.

We will assess the changes in hydrology, as affected by the installation of the ELJ's and the ditch filling during the early growing season of the 2 years following the Phase 1 construction. This will give us an estimate of the additional area that will have to be hydrologically restored in Phase 2.

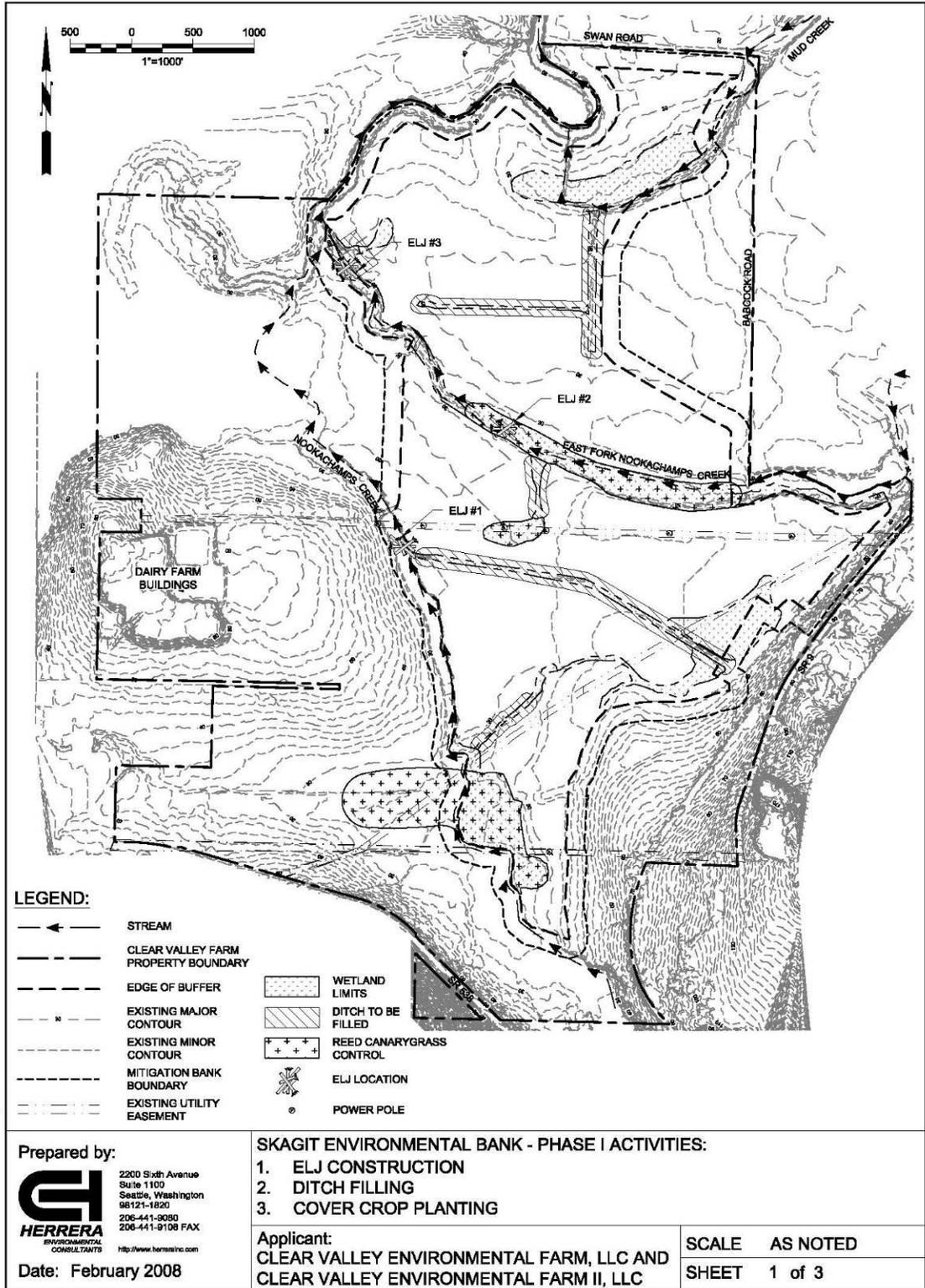


Figure B-1

B.1.2 Phase 1 Design

B.1.2.1 Hydrologic Basis for Phase 1 Design

Hydraulic and hydrologic conditions on and adjacent to the project site were evaluated in 2006 and an updated HEC-RAS hydraulic model was conducted in Fall 2007. The results of the model have been reviewed by the Skagit County Surface Water Group and the State Department of Ecology and they both concur with the findings of this analysis.

Three reports were prepared for this assessment; the design report focuses on the bank site, the other two reports address and disperse any concerns on the hydrologic impact to the neighboring properties. All three reports, Hydrologic and Hydraulic basis of Design Report, the HEC-RAS hydraulic mode, and the Updated HEC-RAS Model can be found in Section B of the Resource Folder.

The construction of three engineered log jams (ELJs) will raise the stream elevation (also referred to as “backwater”) upstream of the structure. This higher stream elevation will reconnect the stream to the Nookachamps floodplain helping to restore natural floodplain processes and ground water elevations. This in turn will support the restoration of riverine and palustrine wetlands and increase the amount of critical habitat for fish and wildlife.

The main purpose of this analysis was to (1) predict elevations of stream and groundwater based on their size and location and (2) ensure that this project will not result in any adverse flooding effects to adjacent properties outside of the SEB site.

Based on the analysis, ELJ 1 will not affect surface or groundwater hydrology on sections of Nookachamps Creek upstream of the SEB site. The backwater influence of ELJ 2 will result in a 1.1-foot increase in the water surface elevation on East Fork Nookachamps Creek in the vicinity of the east boundary of the Clear Valley Farm property. The result shows that the increased water surface elevations extend no farther than 3,372 feet upstream of the project site boundary under any flow conditions. The magnitude of this increase at its furthest point is no more than 0.2 feet. That being said, this rise in water elevation at the boundary of the SEB site is not sufficient to cause groundwater recharge or flooding. In turn, there will be no adverse affect on the agricultural production of the adjacent upstream property. Modeling results also have shown that the proposed project ELJs do not result in an increased occurrence of flooding during high-magnitude events and when the site is influenced by backwater in the Skagit River.

B.1.2.2 Wetland Design

Planting will immediately follow the hydraulic and hydrologic modifications. Disturbed and unplanted areas that will not be graded in Phase 2 will be seeded with an herbaceous seed mix designed to germinate in a variety of hydrologic conditions. Areas that will be graded in Phase 2 will be stabilized at this time by seeding with an herbaceous seed

mix designed to germinate in a variety of hydrologic conditions to provide cover and prevent invasive species. Trees and shrubs will not be planted in these areas at this time. Management plans for reed canary grass, Himalayan blackberry, and knotweed are part of the construction procedures for Phase 1. See Construction Documents sheets G-2, G-3, C-2, C-3 and C-16.

B.1.2.3 Riverine Design

Three ELJ grade control structures will be placed in the two streams on site. Two ELJ's will be constructed on Nookachamps Creek. One ELJ will be constructed on the East Fork Nookachamps. These three structures will raise surface water elevations and the local ground water table closer to the ground surface, hence increasing the duration and extent of surface water flooding of the surrounding land. This in turn will provide adequate hydrology to create wetlands and improve the geomorphology of the stream. Construction will occur during the identified fish window. In an effort to avoid the import of fill material the ditches will be filled first, with material from adjacent berms and second with material from the anticipated locations of Phase 2 high-flow back channels. Every effort will be made to extract the fill in a manner that blends with the adjacent landscape. Disturbed stream banks resulting from the installation of the ELJs will be planted with riverine tree, shrub, and emergent species in Phase 1. See Construction Documents sheets C-6 to C-15 and C-21.

B.1.2.4 Upland Design

Uplands will be those areas that do not gain wetland conditions after installation of the ELJ's and the filling of the ditches. Disturbed and unplanted areas that will not be graded in Phase 2 will be seeded with a mixture of native grasses. Areas that will be graded in Phase 2 will be seeded with a sterile ryegrass. Please see the Construction Documents sheets C-2 and C-3.

B.1.2.5 Erosion and Sediment Control Plan

Typical temporary erosion and sedimentation control (TESC) measures will be employed during construction activities. All TESC measures will be installed before project activities begin. Refer to sheets ESC-1 and ESC-2 in the Construction Documents. TESC measures may include but are not limited to the following:

- **Placement of silt fences around all work areas.** Approved filter fabrics are Celanese fiber, polyvinyl chloride woven cloth, reinforced chlorosulfonated polyethylene cloth, and chlorinated polyethylene woven cloth (e.g., Mirafi 100 X, Typar 3401, Stablenka 100, or an approved equivalent).
- **Stabilization of disturbed areas.** Soils exposed by construction activities will not be left exposed for more than 2 days from October 1 to April 30, and 7 days from May 1 to September 30. Soils will be stabilized with covering control measures (e.g., mulching, seeding, plastic covering, surface roughening, sod, or jute matting).

- **Delineation of clearing limits and boundaries of sensitive areas.** Boundaries of sensitive areas will be identified, staked, and isolated by orange plastic construction fence and silt fence as determined necessary by the project engineer.

APPENDIX B.2: Phase 2

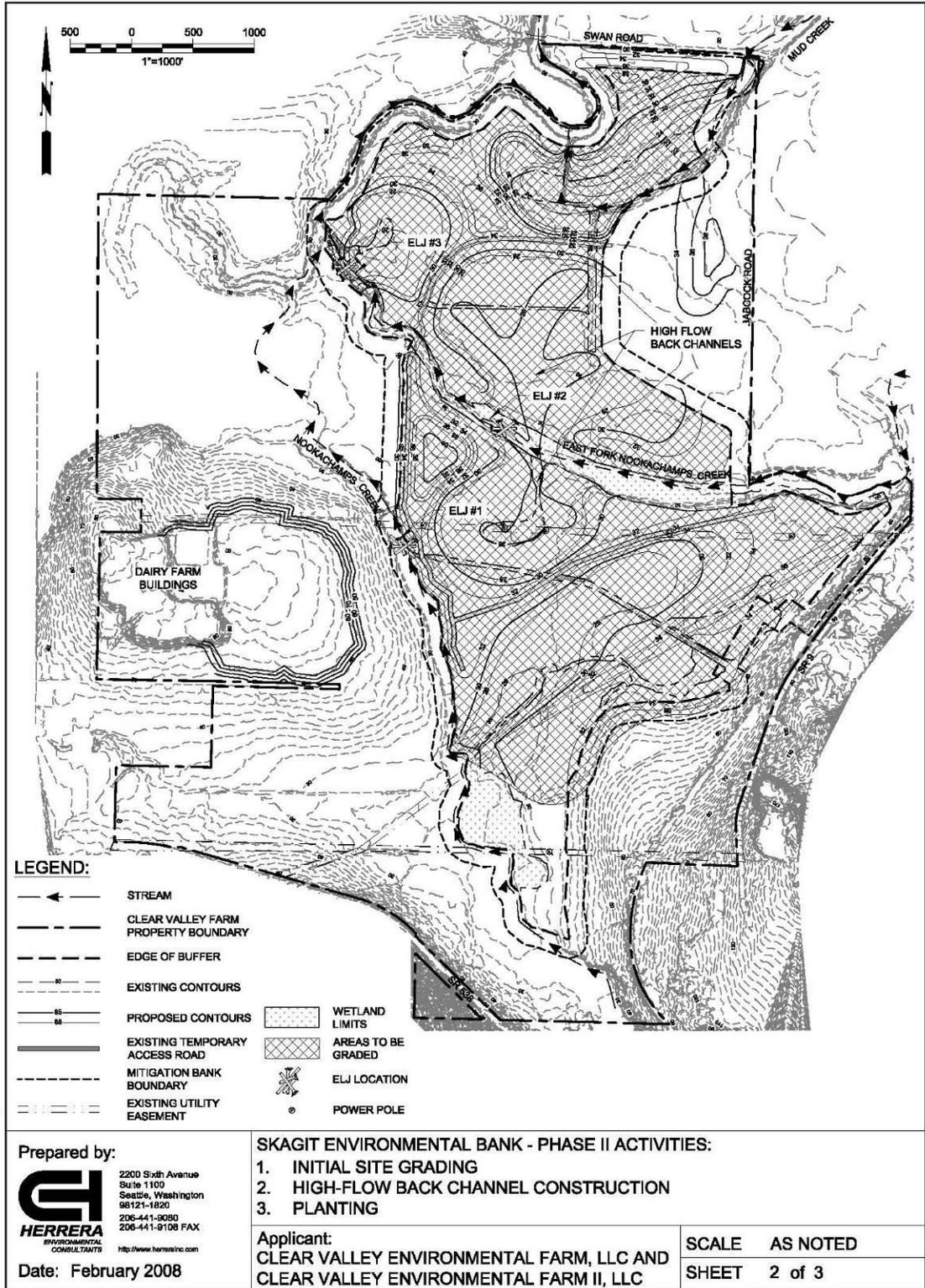
B.2.1. Phase 2 Development Plan

In preparing for Phase 2 construction, we will measure the exact area of hydrologic change (using well data) resulting from Phase 1 activities (ELJ construction, farm activity removal, and ditch filling. Refer to Figure B-2. We will then construct the high-flow back channels based on the measured changes to river elevations and ground water hydrology. A preliminary grading plan has been developed. See Construction Documents sheet C-17. The final grading plan will be updated based on the new hydrologic data.

Extensive grading will occur throughout the site to create a series of high-flow back channels and other wetland areas. It is anticipated that approximately 700,000 cubic yards of material will be placed outside of the 100-year floodplain and stockpiled outside of the SEB site, but within the boundary of the Clear Valley Farm. This will increase the flood storage capacity of the project site by 16 acre-feet. In other words, the greater storage capacity as a result of this project will accommodate an additional 16 acre-feet of water that is currently displaced elsewhere. All areas within the site will positively drain to Nookachamps Creek system. Areas of Mud Creek within the SEB site will be re-graded to also facilitate flow to Nookachamps Creek resulting in no adverse impacts on groundwater or flooding on adjacent properties upstream of the site.

As soon as we have completed grading, we will plant all disturbed areas. . The choice of herbaceous and woody plants on all phases will depend on the plant species and hydrologic requirements that we measure at our reference areas.

All buffers will be planted during Phase 2 with the exception of the buffer area near Babcock Road, see construction drawings sheets C-20 to C24. The zones of planting in the buffer corresponds to the zones delineated within the bank (see sheet C-19), emergent wetland, scrub-shrub wetland, forest mosaic wetland, as well as the upland zone within the buffer. As with the planting proposed for the Bank proper, the hydrology will be assessed in the buffers and the planting plan revised accordingly. Plant species that define these zones are listed in the plant schedule on sheet C-24. In areas where there is existing vegetation, appropriate plants will be selected and located to blend the newly planted communities to the existing community. The mixture and placement of the plants, within each zone, will be random.



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Figure B-2

B.2.2. Phase 2 Design

B.2.2.1 Wetland Design

Most of the grading and planting on the site will occur during Phase 2. This will result in a diverse wetland environment of emergent and scrub-shrub forested and forest mosaic wetlands. In addition, four high-flow back channels will be created and planted to form additional emergent and scrub-shrub wetlands.

The major wetland communities of Phase 2, were designed based on water level data collected from wells during the second quarter of 2005/2006/2007 (April/May/June). These ground water wells were located in anticipated representative wetland communities. See Construction Documents sheets R-1 to R-7 for the well locations, data collected, and ground water elevations and contours projected. The final location of the wetlands will be re-established by excavating to elevations that will be based on the hydrologic monitoring data collected after Phase 1 installation. Wetland areas outside of the high-flow back channels will also be re-established by excavating to elevations that will be based on the hydrologic monitoring data collected after Phase 1 installation. Site grading will be based on effected ground water elevations that will support the planting distribution. Construction Documents sheet C-17 for the preliminary grading plan and sheet C-19 for the wetland communities.

The four high-flow back channels are located off the Nookachamps Creek and the East Fork Nookachamps Creek. They will be graded and planted to provide emergent wetland interspersed with scrub-shrub wetland on hummocks. These high-flow back channels will also serve as rearing habitat for juvenile salmonids. The high-flow back channels will be excavated to an elevation defined by the ground water elevations and the creek fluctuation data and will be connected to the ground water table. During most of the dry season, they will have a low flow elevation that will provide seasonally inundated or saturated surface conditions within the creek channel. During the non-growing rainy season, the channels will be permanently flooded and provide fish and waterfowl habitat. We will grade the ground surface to drain towards the river systems, which will prevent any ponding of water or stranding of fish.

All areas of the site will be planted, with two exceptions, with a diverse plant palette of emergent, scrub-shrub, and forested wetlands surrounded by a forest wetland/upland buffer. The two exception areas are the access roads and the buffer near Babcock Road. See the Construction Documents sheet C-24 for the list of plant materials.

B.2.2.2 Upland Design

Upland planting will expand the herbaceous cover of Phase 1 to include deciduous and evergreen trees and shrubs. See the Construction Documents sheet C-19, C-20 and C-24 for the locations and plant materials.

B.2.2.3 Erosion and Sediment Control Plan

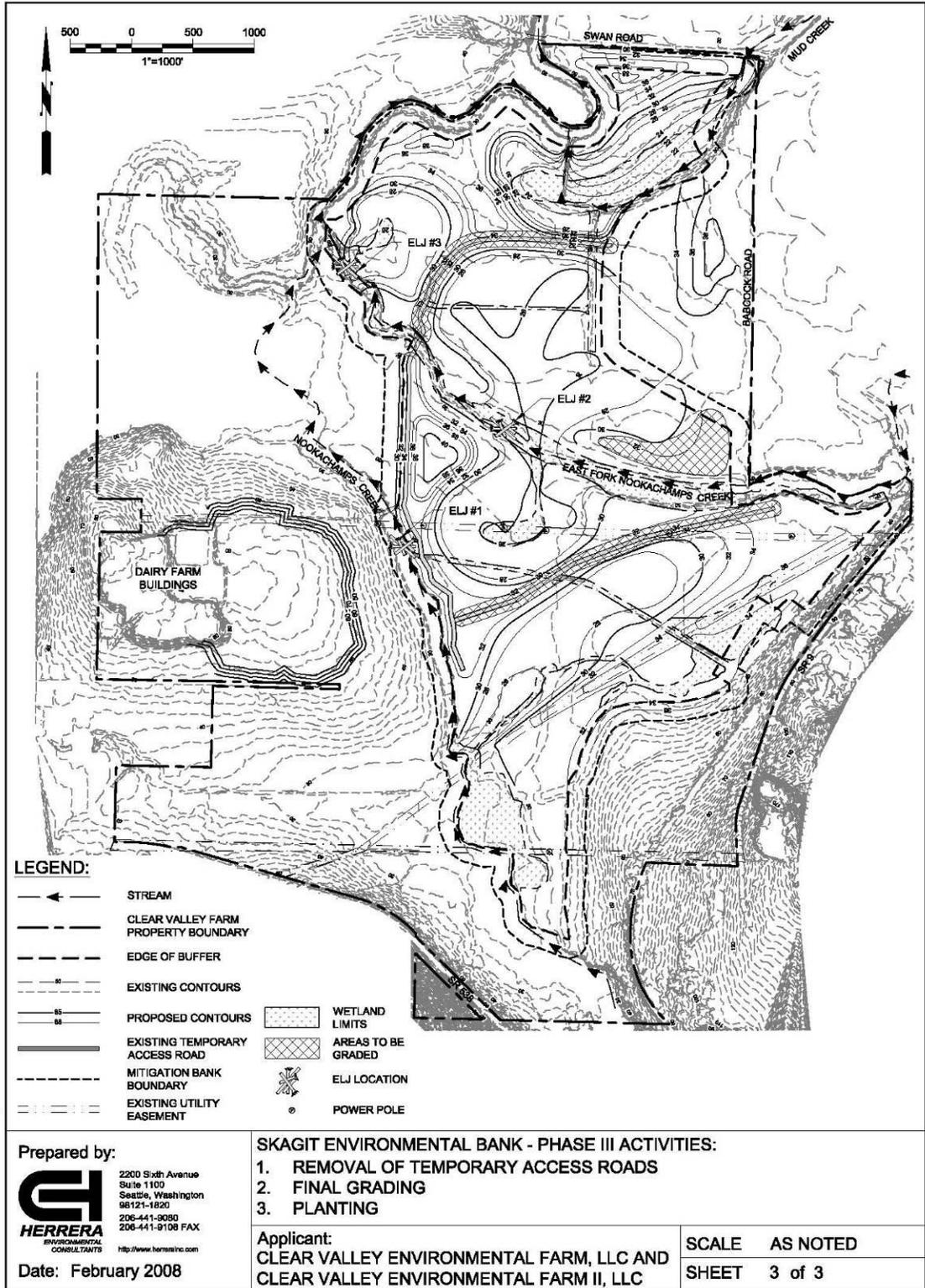
Typical temporary erosion and sedimentation control (TESC) measures will be employed during construction activities. All TESC measures will be installed before project activities begin. . Refer to sheets ESC-1 and ESC-2 in the Construction Documents. TESC measures may include but are not limited to the following:

- **Placement of silt fences around all work areas.** Approved filter fabrics are Celanese fiber, polyvinyl chloride woven cloth, reinforced chlorosulfonated polyethylene cloth, and chlorinated polyethylene woven cloth (e.g., Mirafi 100 X, Typar 3401, Stablenka 100, or an approved equivalent).
- **Stabilization of disturbed areas.** Soils exposed by construction activities will not be left exposed for more than 2 days from October 1 to April 30, and 7 days from May 1 to September 30. Soils will be stabilized with covering control measures (e.g., mulching, seeding, plastic covering, surface roughening, sod, or jute matting).
- **Delineation of clearing limits and boundaries of sensitive areas.** Boundaries of sensitive areas will be identified, staked, and isolated by orange plastic construction fence and silt fence as determined necessary by the project engineer.

APPENDIX B.3: Phase 3

B.3.1. Phase 3 Development Plan

The third functional phase will be to excavate (down to the appropriate hydrologic conditions) the remaining upland areas of the Bank including the construction staging areas and the access roads. See Figure B-3. Uplands planted during Phase 2 will remain undisturbed during and after Phase 3 construction. We believe that the areas that are non-hydric after Phase 1 and 2 modifications will be the graded soils or bermed areas close to the creeks as well as the temporary access road. The final site grading is designed to create islands of upland habitat within the wetland areas. We refer to these as forest mosaic wetlands. The location and size of the upland islands will increase the habitat and wildlife use opportunities significantly. Finally, these areas will be planted along with the buffer along Babcock Road. See the Construction Documents sheet C-29.



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Figure B-3

B.3.2. Phase 3 Design

B.3.2.1 Wetland Design

Most of the remaining non-hydric soils will be excavated down to elevations that will support hydrophytic species. Some non-hydric areas will be graded into an upland/wetland mosaic which is a mix of small upland islands within some of the wetland areas. We refer to these areas a forested mosaic wetlands. Final elevations will be based on a review of the hydrologic and hydraulic data. These forested mosaic wetlands will be planted per the Construction Documents sheet C-29.

B.3.2.2 Upland Design

Portions of the temporary access road will be graded to create a forest mosaic wetland pattern. The remaining buffer areas that were not planted during Phase 2 will be planted at this time. These forested mosaic wetlands will be planted per the Construction Documents sheet C-29..

B.3.2.3 Erosion and Sediment Control Plan

Typical temporary erosion and sedimentation control (TESC) measures will be employed during construction activities. All TESC measures will be installed before project activities begin. Refer to the Construction Document sheets ESC-1 and ESC-2. TESC measures may include but are not limited to the following:

- **Placement of silt fences around all work areas.** Approved filter fabrics are Celanese fiber, polyvinyl chloride woven cloth, reinforced chlorosulfonated polyethylene cloth, and chlorinated polyethylene woven cloth (e.g., Mirafi 100 X, Typar 3401, Stablenka 100, or an approved equivalent).
- **Stabilization of disturbed areas.** Soils exposed by construction activities will not be left exposed for more than 2 days from October 1 to April 30, and 7 days from May 1 to September 30. Soils will be stabilized with covering control measures (e.g., mulching, seeding, plastic covering, surface roughening, sod, or jute matting).
- **Delineation of clearing limits and boundaries of sensitive areas.** Boundaries of sensitive areas will be identified, staked, and isolated by orange plastic construction fence and silt fence as determined necessary by the project engineer.

APPENDIX C: BANK OBJECTIVES AND PERFORMANCE STANDARDS

APPENDIX C.1: All Phases

C.1.1. Bank Objectives and Performance Standards for All Phases

a. Implementation of the Skagit Environmental Bank is anticipated to result in substantial gains in aquatic ecosystem functions, as compared to those now present, or those that would likely accrue on the site if the Bank were not constructed. The Sponsor must be able to demonstrate tangible aquatic ecosystem gains before Bank credits can be awarded for sale, use, or other transfer, because these functional gains will be used to offset comparable losses to other components of the aquatic environment in the Bank service area. The Bank's success will be measured by the enumerated objectives, each of which is subdivided into specific performance standards. The prescribed performance standards each provide a gauge for measuring the success of the ecological restoration and enhancement efforts at the Bank.

b. Unless otherwise noted, all documentation required for demonstrating attainment of performance standards will be submitted to the MBRT for review and approval as a condition of credit award. Documentation can typically be included in required monitoring reports. MBRT award of credits will be reflected in a letter issued using a joint letterhead and signed by the Co-Chairs.

c. Recreational, educational, and scientific activities that do not conflict with the use limitations or other provisions of the conservation easement, do not interfere with the delineated purposes and goals of the Bank, and do not adversely affect the ecological viability and functionality of the Bank may take place on the Bank site.

APPENDIX C.2: Phase 1

C.2.1. Bank Objectives and Performance Standards for Phase 1

Objective 1. Permanently protect aquatic ecosystem functions at the Bank by instituting the Instrument and implementing a conservation easement with permanent funding for site stewardship. Each of the performance standards associated with this objective must be met before any Bank credits may be awarded, and before any construction or other implementation activities may be initiated pursuant to this Instrument. Any construction or implementation activities conducted on-site prior to the inception of the establishment period must cease as of the effective date of this Instrument pursuant to Article VI.B.1, until the Objective 1 performance standards have been accomplished. The initial award of credits in recognition of accomplishment of these performance standards will serve as the MBRT's notification that construction and implementation activities are authorized to commence.

Performance Standard	Documentation
1A. Complete the development of an appropriate Mitigation Banking Instrument and Appendix.	Mitigation Banking Instrument has been signed by the Sponsor and the applicable regulatory agencies. An original signed Instrument must be provided to each of the signatories.
1B. Protect ecosystem function by placing an MBRT-approved conservation easement on the property.	Provide the MBRT a copy of the signed, MBRT-approved conservation easement and evidence that it has been recorded with Skagit County and placed on the property title.
1C. Establish a Long-Term Management and Maintenance Endowment Fund escrow account pursuant to the requirements established in Article III.C.2 of the Instrument.	Demonstrate to the MBRT that a Long-Term Management and Maintenance Endowment Fund have been initiated through establishment of a compliant and acceptable escrow account.

The overall objective for Phase 1 is to restore in-channel stream morphology and alter the ground water hydrology at least 30 percent of the site by filling existing ditches on site and adding three engineered log jams in the Nookachamps and East Fork Nookachamps. The objective of Phase 1 is to effect change in geomorphic process (e.g., riffle and pool formation, channel bank undercutting, point bar formation, and duration of wetland inundation) of the stream reaches associated with the ELJs, and raise the ground water hydrology after filling the drainage ditches. In the event that Phase 2 is not constructed within four years of completing Phase 1 installation, the MBRT will at that time evaluate the need for revising Phase 1 performance standards.

Objective 2. Protect aquatic ecosystem functions at the Bank by instituting financial assurance for Phase 1. The performance standards associated with this objective must be met before any Bank credits may be awarded, and before any construction or other implementation activities may be initiated for this Phase pursuant to this Instrument. Any construction or implementation activities conducted on-site prior to the inception of the establishment period must cease as of the effective date of this Instrument pursuant to Article VI.B.1, until the Objective 1 and 2 performance standards have been accomplished. The initial award of credits in recognition of accomplishment of this performance standard will serve as the MBRT's notification that construction and implementation activities are authorized to commence.

Performance Standard	Documentation
2A. Provide financial assurance for Phase 1 by establishing an MBRT-accepted financial assurance mechanism pursuant to the requirements established in Article III.C.1. Of the Instrument.	Demonstrate to the MBRT that a compliant and acceptable financial assurance mechanism has been established to provide financial assurance for each period of Phase 1 establishment.

Objective 3.

Increase wetland hydrology observed on site through installation of Engineered Log Jams (ELJs), filling of ditches on site, and installing a cover planting to stabilize site soils.

Performance Standard	Documentation
3A. ELJs constructed and ditches filled according to MBRT approved plans.	As-built drawings showing completed engineered log jams, monitoring wells, stream gauges, and filled drainage ditches are approved by MBRT.
3B. A minimum of three ELJs will be present seven years following installation.	Monitoring report approved by the MBRT documenting ELJ presence, location and approximate composition.
3C. Establish Wetland Hydrology over a minimum of 30% of the bank site excluding buffers by 2 years following completion of installation of ELJs and ditch filling. Wetland hydrology is defined as saturation to the soil surface or free water in soil pits at 12 inches or less below the soil surface for at least 10% of the growing season.	Monitoring report approved by the MBRT. Monitoring will involve a wetland determination and will occur early in the growing season. Monitoring for this performance standard will occur prior to beginning construction of Phase 2.

Objective 4: Control invasive species vegetation on site.

Performance Standard	Documentation
4A. Cover planting installed on site according to MBRT approved plan.	As-planted drawings showing completed plantings are approved by the MBRT.
4B. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 40% of the mitigation bank site areas (including buffers) by 2 years following ELJ installation and filling of the ditches.	Conduct annual inventory approximately from June or July. Monitoring report documenting identification and eradication approved by the MBRT.

APPENDIX C.3: Phase 2

C.3.1. Bank Objectives and Performance Standards for Phase 2

The overall objective for Phase 2 of the project is to create wetland conditions on 65% of the site, resulting in the final distribution of wetland types as defined in the design plan. Phase 2 will restore off-channel rearing, refuge, and migration habitat for salmonids, resident fish, amphibians, reptiles, and other aquatic dependent species. The work associated with Phase 2 will also involve planting herbaceous plants, shrubs, and trees in all areas of the bank site that have wetland hydrologic conditions. Uplands that will not be disturbed during phase 3 actions will be planted according to the Phase 2 Planting Plan.

Objective 5: Protect aquatic ecosystem functions at the Bank by instituting financial assurance for Phase 2. The performance standards associated with this objective must be met before any Phase 2 Bank credits may be awarded, and before any construction or other implementation activities may be initiated for this Phase pursuant to this Instrument. The award of credits in recognition of accomplishment of this performance standard will serve as the MBRT's notification that construction and implementation activities are authorized to commence for Phase 2.

Performance Standard	Documentation
5A. Establish Phase 2 financial assurances and receive MBRT approval for Phase 2 grading plan. Financial assurance will involve establishing an MBRT-accepted financial assurance mechanism pursuant to the requirements established in Article III.C.1. of the Instrument.	Demonstrate to the MBRT that a compliant and acceptable financial assurance mechanism has been established to provide financial assurance for each period of Phase 2 establishment.
5B. Complete MBI with an approved grading and planting plan for Phase 2.	Submit MBRT approved grading plan for Phase 2 as part of updated MBI.

Objective 6: Increase wetland area and side-channel rearing habitat by grading site to create high-flow back channels and microtopography near high-flow back channels.

Performance Standard	Documentation
6A. High-flow back channels and microtopography on site constructed according to MBRT approved plans.	As-built drawings showing completed grading are approved by MBRT.
6B. Wetland hydrology will be present over a minimum of 65% of the bank site 2 years following completion of Phase 2 grading and initial planting. Wetland hydrology is defined as saturation to the soil surface or free water in soil pits at 12 inches or less below the soil surface for at least 10% of the growing season.	Monitoring report approved by the MBRT. Monitoring will involve a wetland determination and will occur early in the growing season.
6C. No more than 3% of the bank site outside of the existing stream channels will be permanently inundated and un-vegetated 2 years after completion of Phase 2 grading and initial planting.	Monitoring report approved by the MBRT. Surface hydrology monitoring will occur between August 1 and September 30

Objective 7: Increase habitat diversity and establish wetland areas by planting emergent, shrub, and tree vegetation on site.

Note that vegetation density and cover standards under Objective 7 do not apply to areas that will be planted in Phase 3. See Objective 13 for similar standards that apply to Phase 3 areas.

Performance Standard	Documentation
7A. Vegetation installed according to MBRT approved planting plans for Phase 2.	Phase 2 as-planted drawings showing completed plantings are approved by the MBRT.
7B. Wetland will be present on a minimum of 65% of the bank site 4 years following completion of Phase 2 initial planting.	Full site delineation conducted and report is approved by the MBRT. Delineation will be conducted and documented according to the 1987 Corps of Engineers Delineation Manual and appropriate supplements, as well as the current Washington State Wetlands Identification and Delineation Manual.
7C. Aerial cover by native hydrophytic herbaceous plant species in areas targeted as emergent wetland will be at least 40% by 1 year following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7D. Aerial cover by native hydrophytic herbaceous plant species in areas targeted as emergent wetland will be at least 50% by 3 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7E. Aerial cover by native hydrophytic herbaceous plant species in areas targeted as emergent wetland will be at least 70% by 5 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7F. At least 3 native hydrophytic herbaceous species will have at least 8% aerial coverage each in areas targeted as emergent wetland 3 years following Phase 2 initial planting.	Monitoring report documenting species diversity during the growing season is approved by the MBRT.
7G. At least 3 native hydrophytic herbaceous species will have at least 10% aerial coverage each in areas targeted as emergent wetland 5 years following Phase 2 initial planting.	Monitoring report documenting species diversity during the growing season is approved by the MBRT.
7H. Native hydrophytic shrub species will have a density of at least 90% of the original planting density in areas targeted as scrub-shrub wetland 1 year following Phase 2 initial planting.	Monitoring report documenting species density during the growing season is approved by the MBRT.
7I. Native hydrophytic shrub species will have at least 35% aerial cover in areas targeted as scrub-shrub wetland by 3 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7J. Native hydrophytic shrub species will have at least 50% aerial cover in areas targeted as scrub-shrub wetland by 5 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.

7K. Native hydrophytic shrub species will have at least 70% aerial cover in areas targeted as scrub-shrub wetland by 8 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7L. At least 3 native hydrophytic shrub species will have at least 6% aerial cover each in areas targeted as scrub-shrub wetland 3 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7M. At least 3 native hydrophytic shrub species will have at least 8% aerial cover each in areas targeted as scrub-shrub wetland by 5 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7N. At least 3 native hydrophytic shrub species will have at least 10% aerial cover each in areas targeted as scrub-shrub wetland by 8 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7O. Native hydrophytic woody species will have a density of at least 90% of the original planting density in areas targeted as forested wetland by 1 year following Phase 2 initial planting. (Woody species refers to non-herbaceous trees and shrubs.)	Monitoring report documenting species density during the growing season is approved by the MBRT.
7P. Native hydrophytic woody species will have at least 35% aerial cover in areas targeted as forested wetland by 3 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7Q. Native hydrophytic woody species will have at least 50% aerial cover in areas targeted as forested wetland by 5 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7R. Native hydrophytic woody species will have at least 65% aerial cover in areas targeted as forested wetland by 8 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
7S. At least 3 native hydrophytic woody species will have at least 6% aerial cover each in areas targeted as forested wetland by 3 years following Phase 2 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.
7T. At least 3 native hydrophytic woody species will have at least 8% aerial cover each in areas targeted as forested wetland by 5 years following Phase 2 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.
7U. At least 3 native hydrophytic woody species will have at least 10% aerial cover each in areas targeted as forested wetland by 8 years following Phase 2 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.

Objective 8: Increase habitat diversity by planting trees and shrubs in upland areas.
 Note that vegetation density and cover standards under Objective 8 do not apply to areas that will be planted in Phase 3. See Objective 15 for similar standards that apply to Phase 3 areas.

Performance Standard	Documentation
8A. Native woody species will have a density of at least 90% of the original planting density in areas targeted as upland 1 year following Phase 2 initial planting.	Monitoring report documenting species density during the growing season is approved by the MBRT.
8B. Native woody species will have at least 20% aerial cover in areas targeted as upland by 3 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
8C. Native woody species will have at least 35% aerial cover in areas targeted as upland by 5 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
8D. Native woody species will have at least 50% aerial cover in areas targeted as upland by 8 years following Phase 2 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
8E. At least 3 native woody species will have at least 4% aerial cover each in areas targeted as upland by 3 years following Phase 2 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.
8F. At least 3 native woody species will have at least 6% aerial cover each in areas targeted as upland by 5 years following Phase 2 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.
8G. At least 3 native woody species will have at least 10% aerial cover each in areas targeted as upland by 8 years following Phase 2 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.

Objective 9: Increase habitat diversity by controlling invasive vegetation.

Performance Standard	Documentation
9A. Aerial Cover of Himalayan blackberry, Canadian thistle, and reed canary grass species total cover will not exceed 30% of the total area of the site outside the 19 acres of existing reed canary grass by 3 years following Phase 2 initial planting.	Monitoring report documenting invasive species cover is approved by the MBRT.
9B. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 25% of the mitigation bank site areas (including buffers) by 5 years following Phase 2 initial planting.	Monitoring report documenting invasive species cover is approved by the MBRT.

9C. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 20% of the mitigation bank site areas (including buffers) by 8 years following Phase 2 initial planting.	Monitoring report documenting invasive species cover is approved by the MBRT.
9D. Maintain zero tolerance of Japanese knotweed , purple loosestrife, and English ivy colonization Map any specimens and eradicate during growing season of same year.	Inventory annually and report documenting identification and eradication approved by the MBRT

Objective 10: Increase wildlife habitat by installing perch poles and cavity trees.

Performance Standard	Documentation
10A. Habitat structures constructed and installed according to MBRT approved plans.	As-built drawings showing completed structures are approved by MBRT.

APPENDIX C.4: Phase 3

C.4.1. Bank Objectives and Performance Standards for Phase 3

The overall objective for Phase 3 of the project is to create wetland conditions of most of the upland that may remain after Phases 1 and 2 are complete. It is anticipated that at least 65 percent of the bank site will have wetland conditions after completion of Phase 2. About 27 acres of the bank site will be excavated in Phase 3 to create forest wetland mosaics. This will involve converting the temporary access roads into wetland habitat as shown in the phase 3 Planting Plan.

Objective 11: Protect aquatic ecosystem functions at the Bank by instituting financial assurance for Phase 3. The performance standards associated with this objective must be met before any Phase 3 Bank credits may be awarded, and before any construction or other implementation activities may be initiated for this Phase pursuant to this Instrument. The award of credits in recognition of accomplishment of this performance standard will serve as the MBRT's notification that construction and implementation activities are authorized to commence for Phase 3.

Performance Standard	Documentation
11A. Establish Phase 3 financial assurances and receive MBRT approval for Phase 3 grading plan. Financial assurance will involve establishing an MBRT-accepted financial assurance mechanism pursuant to the requirements established in Article III.C.1. of the Instrument.	Demonstrate to the MBRT that a compliant and acceptable financial assurance mechanism has been established to provide financial assurance for each period of Phase 3 establishment.
11B. Complete MBI with an approved grading and planting plan for Phase 3.	Submit MBRT approved grading plan for Phase 3 as part of updated MBI.

Objective 12: Increase wetland area by grading upland/wetland mosaic.

Performance Standard	Documentation
12A. Upland/wetland mosaic constructed according to MBRT approved plans.	As-built drawings showing completed grading are approved by MBRT.
12B. Wetland hydrology will be present over a minimum of 81% of the bank site 2 years following completion of Phase 3 grading and planting. Wetland hydrology is defined as saturation to the soil surface or free water in soil pits at 12 inches or less below the soil surface for at least 10% of the growing season.	Monitoring report approved by the MBRT. Monitoring will involve a wetland determination and will occur early in the growing season.
12C. Wetland will be present on a minimum of 81% of the bank site 8 years following completion of Phase 3 grading.	Full site delineation conducted and report is approved by the MBRT. Delineation will be conducted and documented according to the 1987 Corps of Engineers Delineation Manual and appropriate supplements as well as the current Washington State wetland delineation manual.
12D. No more than 3% of the bank site outside of the existing stream channels will be permanently inundated and un-vegetated 2 years after completion of Phase 3 grading and initial planting.	Monitoring report approved by the MBRT. Surface hydrology monitoring will occur between August 1 and September 30

Objective 13: Increase habitat diversity and establish wetland areas by planting trees and shrubs in wetland mosaic area.

Performance Standard	Documentation
13A. Vegetation installed according to MBRT approved planting plans for Phase 3.	Phase 3 as-planted drawings showing completed plantings are approved by the MBRT.
13B. Native woody species will have a density of at least 90% of the original planting density in areas targeted as forested wetland by 1 year following Phase 3 initial planting activities.	Monitoring report documenting species density during the growing season is approved by the MBRT.
13C. Native woody species will have at least 35% aerial cover in areas targeted as forested wetland by 3 years following completion of Phase 3 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.
13D. Native woody species will have at least 50% aerial cover in areas targeted as forested wetland by 5 years following completion of Phase 3 initial planting.	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.
13E. Native woody species will have at least 65% aerial cover in areas targeted as forested wetland by 8 years following completion of	Monitoring report documenting species aerial coverage during the growing season is approved by the MBRT.

Phase 3 initial planting.	
13F. At least 3 native woody species will have at least 6% aerial cover each in areas targeted as forested wetland by 3 years following Phase 3 initial planting.	Monitoring report documenting species diversity and aerial coverage during the growing season is approved by the MBRT.
13G. At least 3 native woody species will have at least 8% aerial cover each in areas targeted as forested wetland by 5 years following Phase 3 initial planting.	Monitoring report documenting species diversity and aerial coverage during the growing season is approved by the MBRT.
13H. At least 3 native woody species will have at least 10% aerial cover each in areas targeted as forested wetland by 8 years following Phase 3 initial planting.	Monitoring report documenting species diversity and aerial coverage during the growing season is approved by the MBRT.

Objective 14: Increase habitat diversity by controlling invasive vegetation.

Performance Standard	Documentation
14A. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 20% of the mitigation bank site areas (including buffers) by 5 and 8 years following Phase 3 planting.	Monitoring report documenting invasive species cover is approved by the MBRT.
14B. Maintain zero tolerance of Japanese knotweed, purple loosestrife, and English ivy colonization. Map any specimens and eradicate during growing season of same year.	Inventory annually and report documenting identification and eradication approved by the MBRT

Objective 15: Increase habitat diversity by planting upland areas.

Performance Standard	Documentation
15A. Native woody species will have a density of at least 90% of the original planting density in areas targeted as upland 1 year following Phase 3 initial planting.	Monitoring report documenting species density during the growing season is approved by the MBRT.
15B. Native woody species will have at least 20% aerial cover in areas targeted as upland by 3 years following Phase 3 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
15C. Native woody species will have at least 35% aerial cover in areas targeted as upland by 5 years following Phase 3 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
15D. Native woody species will have at least 50% aerial cover in areas targeted as upland by 8 years following Phase 3 initial planting.	Monitoring report documenting aerial coverage of vegetation during the growing season is approved by the MBRT.
15E. At least 3 native woody species will have at least 4% aerial cover each in areas targeted as upland by 3 years following Phase 3 initial planting.	Monitoring report documenting species diversity and aerial coverage during the growing season is approved by the MBRT.
15F. At least 3 native woody species will have at least 6% aerial cover each in areas targeted	Monitoring report documenting species diversity and aerial coverage during the

as upland by 5 years following Phase 3 initial planting.	growing season is approved by the MBRT.
15G. At least 3 native woody species will have at least 10% aerial cover each in areas targeted as upland by 8 years following Phase 3 initial planting.	Monitoring report documenting species diversity and aerial coverage during the growing season is approved by the MBRT.

Objective 16: Increase wildlife habitat by installing perch poles and cavity trees throughout the entire site.

Performance Standard	Documentation
16A. Perch-pole habitat structures constructed and installed according to MBRT approved plans.	As-built drawings showing completed structures are approved by MBRT.
16B. A minimum of 50 perch poles or snags will occur on the site 8 years following Phase 3 installation of 62 poles.	Monitoring report documenting locations of habitat structures. Naturally recruiting structures can be counted toward this total.

APPENDIX D: CREDIT GENERATION AND AWARD SCHEDULE

APPENDIX D.1: All Phases

The Justification for Credits is located in the Section C of the Resource Folder.

D.1.1. Generation of Credits for all Phases

A. Credits will be established and awarded to the Bank upon the Sponsor's demonstration that the performance standards reflected in Table C-1 of Appendix C have been met.

B. A credit is defined as the increase in aquatic ecosystem functioning that would result from the establishment, re-establishment, rehabilitation or enhancement of aquatic resources on the Bank site that is equivalent to the aquatic ecosystem function of one acre of intact Category II wetland in Western Washington. A credit represents the functional value and aerial extent of a Category II wetland system, including forested, scrub-shrub, and emergent floodplain wetlands. Ratings for wetland Category are determined using Washington State Wetland Rating System for Western Washington, revised (Ecology Publication # 04-06-025), as appropriate for the location of the Bank.

C. The precise number of credits actually generated by the Bank cannot be determined until the project is constructed and the success of restoration and enhancement activities is assessed by the MBRT. The final number of credits will be determined by the MBRT and will be based on achievement of the performance standards.

D. Credits generated by the Bank will be calculated as shown in the table below:

Table D-1: Wetland Credit Generation by Bank Development Activity

Bank Activity	Affected Area (acres)	Utility Easement Acres (Not counted towards credits)	Credit Ratio (Activity area: universal credit)	Anticipated Number of Credits *
Re-established Wetland	199	4.9	1 to 1	199.0
Rehabilitated Wetland, Plowed Field	14.9	0.1	1.5 to 1	9.9
Rehabilitated Wetland, Reed Canary	31.2	1	1.5 to 1	20.8
Riparian Upland	4.6	0.2	3 to 1	1.5
Upland	52.3	2.9	5 to 1	10.5
Buffer	84.9		0	0
Utility Easements (Power and Water)	9.1		0	0
TOTAL	396		N/A	241.7

D.1.2. Credit Award Schedule for all Phases

A. Credits will be awarded to the Bank for sale, use, or other transfer as the performance standards associated with those credits are met, with the following exceptions: (1) no credits may be awarded prior to meeting all of the performance standards associated with Objective 1, and (2) no credits associated with the final year of performance standards for a particular phase may be awarded until at least 60% of all possible credits for a particular phase have been awarded.” Refer to the Resource Folder “Additional Information on Credit Release Percentages” and “Credit Release Schedule”.

B. For each phase of the Bank, the MBRT will typically approve the award of credits according to the schedules in Table D-2 through D-4. Credits may not be awarded sooner than specified in these tables, except where otherwise noted or in extraordinary situations with the written approval of the Corps and Ecology, in consultation with the other members of the MBRT. If the Bank is not able to meet a particular performance standard by the year indicated in these tables, the Sponsor may submit documentation of successful satisfaction of that performance standard during a subsequent year, and the MBRT will give full consideration to the award of appropriate credits for sale, use, or transfer without reduction or other penalty. The credit award schedule for each phase is independent from the others. The years shown in each table refer to time following approval of as-builts for that particular phase.

C. The MBRT may, at its discretion, award partial credit for partial accomplishment of a performance standard. In the event a specific performance standard is not met but the MBRT feels that the site is progressing satisfactorily the MBRT can at its discretion award credits.

D. Once a credit is awarded, the Bank may sell, use, or otherwise transfer that credit at any time, subject to the provisions of this Instrument.

E. If the institution of an adaptive management or remedial action plan as described in Section F.1.1.4 of Appendix F causes delay in the achievement of a performance standard, the timeline for achievement of each subsequent milestone for that performance standard will be deferred for a like interval, unless otherwise specifically approved by the MBRT. The MBRT, in consultation with the Sponsor, will determine what remedial actions are necessary to correct the situation, pursuant to Article IV.H. and Section F.1.1.4, and direct their performance prior to the award of any additional mitigation credits.

APPENDIX D.2: Phase 1

D.2.1. Generation of Credits for Phase 1

The number of credits expected to be generated by Phase 1 of the Bank is 30% of the Bank total or 72.49 credits.

APPENDIX D.3: Phase 2

D.3.1. Generation of Credits for Phase 2

The number of credits expected to be generated by Phase 2 of the Bank is 55.25% of the total Bank credits or 133.54 credits.

APPENDIX D.4: Phase 3

D.4.1. Generation of Credits for Phase 3

The number of credits expected to be generated by Phase 3 of the Bank is 14.75% of the total Bank credits or 35.65 credits.

APPENDIX E: PROCEDURES FOR USE OF MITIGATION BANK CREDITS AND DEBIT USE

APPENDIX E.1: All Phases

E.1.1. Service Area

The service area for the Bank extends to within the Skagit County portion of the Water Resources Inventory Area 03 (WRIA 03), located in the Lower Skagit River Basin. The service area includes all fresh water wetland habitats of the Lower Skagit/Samish Watershed east of the easternmost boundaries of Swinomish Slough, Skagit Bay, Padilla Bay, and Samish Bay, excluding all islands and all brackish marshes, halotrophic wetlands or wetlands influenced by saline conditions of >0.5 parts per thousand salt at any time during the year.

- A. The Service Area Map shows the delineation of the service area. The Service Area Rationale is located in the Section E of the Resource Folder.
- B. The Bank may be used to compensate for permitted impacts in adjoining WRIAs if specifically approved by the appropriate agencies requiring mitigation and the MBRT, provided that such mitigation would be practicable and environmentally preferable to other mitigation alternatives. As such, out-of-service-area impacts will only be allowed in special circumstances, which will be evaluated on a case-by-case basis (e.g., projects that span multiple basins such as transportation and utility corridors and pipelines, and settlement of enforcement actions).



Figure E-1. Service area.

E.1.2. Credit-Debit Ratios

A. Bank credits may be used, subject to the approval of the regulatory agencies with jurisdiction over projects that desire to satisfy mitigation obligations through use of the Bank, to compensate for authorized permanent or temporary impacts, as well as to resolve enforcement or permit compliance actions such as replacing previously implemented project-specific mitigation that has partially or completely failed.

B. The following table depicts the approximate number of Bank credits typically required to compensate for each unit of permanent loss of listed aquatic resource type and functional level. The actual number of Bank credits required to compensate for an adverse impact to aquatic resources in any particular situation depends on many factors (e.g., whether the impact is permanent or temporary) and will be determined on a case-by-case basis by the regulatory agency(ies) authorizing the impact. The wetland functional categories are based on Washington State Wetland Rating System for Western Washington, revised (Ecology Publication # 04-06-025 Units of loss are measured in acres for wetland and buffer impacts and may be measured in either acres or linear feet for stream impacts. Due to the variety and typically high level of functioning of both streams and Category I wetland, compensation for impacts to these resources by Bank credits will be determined by the regulatory agencies on a case-by-case basis.

TABLE E-1: Credit-Debit Ratios

Resource Impact	Bank Credits: Impact Acreage
Wetland, Category I	Case-by-Case
Wetland, Category II	1.2:1
Wetland, Category III	1:1
Wetland, Category IV	0.85:1

E.1.3 Procedures for Use of Mitigation Bank Credits

A. Use of Mitigation Bank Credits: Public and private proponents of activities regulated under Sections 401 and 404 of the Clean Water Act (33 U.S. Code §§ 1341, 1344), Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code § 403), Washington State Water Pollution Control Act (Chapter 90.48, RCW), Shoreline Management Act (RCW 90.58), Growth Management Act (RCW 36.70A), Hydraulic Code (RCW 75.20), and other Federal, State, and local authorities may be eligible to use the Bank as mitigation for unavoidable impacts. The Bank will be eligible to serve public and private end users by providing advance compensatory mitigation for authorized impacts to regulated areas that require mitigation to settle enforcement claims.

B. An applicant seeking a permit for a project with adverse impacts to the aquatic environment within the service area must generally obtain the approval of each regulatory agency with jurisdiction over that project, in order to use the Bank as a source of compensatory mitigation. To receive approval to use the Bank, the applicant must

demonstrate to the satisfaction of the pertinent regulatory agencies that the project complies with all applicable requirements pertaining to alternatives and mitigation sequencing and that purchasing credits from the Bank for compensatory mitigation would be in the best interest of the environment. Specifically, a permit applicant must generally be able to demonstrate to the satisfaction of the involved regulatory agencies that:

(1) There is no practicable alternative to adversely impacting the water body, critical area, buffer, or other regulated area;

(2) All appropriate and practicable measures to minimize adverse impacts to the aquatic ecosystem have been considered and included in the project; and

(3) All appropriate and practical on-site compensatory mitigation for unavoidable adverse impacts is included in the project.

It is solely the determination of the agency(ies) permitting the project with adverse impacts as to whether a proposed use of Bank credits within the service area is environmentally preferable and appropriate to other mitigation alternatives.

C. Upon receiving permission to utilize credits from the Bank the permittee must contact the Sponsor to ensure that credits are available. Upon completion of the transaction, the Sponsor will inform the permitting agencies of each completed transaction, via email or letter with an attached copy of the accounting ledger.

D. Other types of credit users may include, but are not necessarily limited to, transfers made that are not associated with any one particular project or impact (i.e., “good will” transfers), transfers to natural resource stewards resulting from expenditures from in-lieu-fees (or similar type funds), and other conservation purposes.

E. The Sponsor may use the Bank site to provide compensatory mitigation to offset impacts to environmental elements other than aquatic resources including, but not limited to, compensatory mitigation for flood storage, wetland and/or riverine buffer mitigation, carbon sequestration, and pollution or nutrient reduction. Mitigation of these other environmental elements shall have no effect on the value or number of credits established by the Instrument, provided that the compensatory mitigation will not conflict with the provisions of the Instrument. Individual permit applications will be provided to and considered by appropriate agencies to determine if compensatory mitigation for unavoidable project impacts can be provided at the Bank site.

E.1.4 Accounting Procedures

A. The Sponsor shall establish and maintain for inspection and reporting purposes a ledger of all credit transactions used for compensation of permitted impacts. The Sponsor will record each credit withdrawal transaction that receives a permit with the Skagit County Auditor, and submit a copy of the recorded transaction to the MBRT within 30 days from

stamped registration date. The Sponsor will maintain a ledger of the credits that are awarded through the achievement of specified performance standards, as well as credits that are debited through sale, uses, or transfers that are for compensation of permitted impacts. The sponsor must also notify the MBRT within 30 days of any transactions that occur prior to the issuance of permits. This notification must be in the form of a letter mailed to the MBRT signatory agencies.

B. The following information will be recorded in the ledger for each transaction:

(1) Date of transaction.

(2) Number of credits transacted.

(3) For credits awarded, reference the performance standard(s) to which the awarded credits correspond.

(4) For credit sales/use/transfers, include the name, address, and telephone number of user/purchaser; permit or project number(s), permit issuance date, and name of the regulatory agency(ies) requiring permits; location of the project for which the credits are being purchased; the size of the impacts, and a brief description of the adverse project impacts requiring compensatory mitigation (e.g., nature and quality of aquatic resources affected).

(5) Bank balance after the transaction.

TABLE E-2: Example ledger

Skagit Environmental Mitigation Bank											
Credits Received				Credits Debited							
Date	Credits Received	Bank Phase and Performance Standard(s)	Credits Debited	Permittee, Address, Phone	Permit Agencies	Permit No.	Permit Issuance Date	Project Location (Address, milepost, cross street, etc)	Brief description of impact(s) compensated for by bank credits (Type of impact, wetland rating, etc.)	Impact Acreage	New Credit Balance
					Corps:						
					Local:						
					State:						
					WDFW:						
					Corps:						
					Local:						
					State:						
					WDFW:						
					Corps:						
					Local:						
					State:						
					WDFW:						
					Corps:						
					Local:						
					State:						
					WDFW:						
					Corps:						
					Local:						
					State:						
					WDFW:						

C. The Sponsor will provide the MBRT a copy of the bank ledger, as of December 31 of the previous year, by February 1 of each year, showing a cumulative tabulation of all transactions at the Bank to date. This ledger will be submitted in conjunction with the monitoring reports until (1) all credits have been awarded and sold, used, or otherwise transferred; or (2) until the MBRT has accepted the Sponsor's written certification that it has terminated all banking activity.

APPENDIX F: ESTABLISHMENT PERIOD MONITORING, REPORTING, MAINTENANCE, AND REMEDIAL ACTION

APPENDIX F.1: All Phases

F.1.1. Establishment Period Monitoring, Reporting, Maintenance, and Remedial Action

During the establishment period, the Sponsor shall monitor and report on the progress of the Bank toward achieving the goals, objectives, and performance standards established by these Appendices and take all actions directed by the MBRT to remediate any consideration that prevents a component of the Bank from achieving the goals, objectives and performance standards of the Bank.

F.1.1.1 As-Built Reports:

As-built reports will be submitted to the MBRT for construction, upon the completion of grading and planting activities to verify topography, hydrology, construction and planting. As-built reports will be submitted to each member of the MBRT within 90 days of completing construction of each phase of the Bank, and must demonstrate compliance with Appendix B and any modifications to the Bank development plan and design, approved by the Corps and Ecology prior to their construction or implementation, following consultation with the other members of the MBRT. The as-built reports will also establish baseline conditions for future monitoring.

At a minimum, the following list of components should be included in the as-built reports:

- Name and contact information for the parties responsible for the Bank construction site including the Bank Sponsor, engineers, and wetland professional on site during construction.
- Ecology, Corps, and Local permit numbers.
- Dates when activities began and ended such as grading, removal of invasive plants, installing plants, and installing habitat features
- Photographs of the site at as-built conditions taken from photo stations (panoramic photos are recommended)
- Description of any problems encountered and solutions implemented (with reasons for changes) during construction of the Bank site
- List of any follow-up actions needed with a schedule
- 11x17 maps of the Bank site showing:
 - Topography with one-foot contours, include a description of how elevations were determined
 - Installed planting scheme – quantities, densities, sizes, approximate locations, and the sources of plant material
 - Locations of monitoring wells and staff gauges that remain after construction
 - Locations of habitat features

- Locations of permanent photo stations
- Date when the maps were produced and, if applicable, when information was collected”.

F.1.1.2 Monitoring Plan:

A performance monitoring program will be implemented to determine the degree of success of the mitigation effort during the establishment period. Monitoring will include periodic surveys and site evaluations to establish the foundation on which the Bank can demonstrate to the MBRT that pertinent performance standards have been achieved and continue to be maintained. This plan describes the performance standards as certified in this mitigation bank instrument, the field methods and procedures that will track attainment of the performance standards, and the procedures for attaining quality assurance and quality control. The monitoring plan is designed to be as simple and quantitative as possible. The monitoring efforts will evaluate and document the success of the performance standards - the performance standards dictate the data collection and analysis procedures defined in this plan.

Monitoring Methods

Some populations to be monitored are small enough to sample in their entirety. In other words, statistically valid sampling techniques are useful where the population is too large to assess in its entirety. Therefore, the monitoring techniques will vary according to the size of the population being monitored and the particular variable being monitored. Table F-1 shows the monitoring events according to the Phase and year they will be completed.

There will be at least 10 monitoring events spread over at least 13 years, depending on when each phase of the bank is implemented.. There will be 2 monitoring methods employed over the entire monitoring period. Table F-1 lists the performance standards per event and the type of field sampling technique that will be employed to assess data to determine the status of each performance standard.

Field Visit Total Assessment

There will be two primary types of field procedures. The first type of procedure we call Field Visit Total Assessment. This procedure will be used where the entire population we are monitoring can be done without sampling. Specifically, we will employ the Field Visit Total Assessment for the following:

- To collect well data to allow us to map the near surface saturation elevations during the early growing season. Five continuous collection well data receivers will be placed among the entire network of wells, and data will be collected every week for the first three months of the growing season. The continuous data collection wells

will allow us to extrapolate across the entire set of wells to determine how long an area remains hydric (ground water within 12 inches of the surface). A hydrologic map of the ground water levels, at their highest point for at least 10% of the growing season, will be created. Total area of wetland hydrology will be calculated off of the map.

- To satisfy the Skagit County Planning Department' request to assess the amount of soil redistribution on the site over time. During the monitoring period we will survey the elevations at several of the lowest points on the bank site, the highest points on the bank site, and some reference points on adjacent property. This will allow us to evaluate the soil movement on the site.
- To assess the entire site for stands of Himalayan blackberry, Canadian thistle, and reed canarygrass. Each stand of the non-native will be delineated by area using GPS to determine total coverage of all three species.
- To identify the status of the ELJ's.
- To determine the stem density of trees and shrubs in scrub-shrub and forested wetlands, and in upland areas, during the year 1 monitoring event after each of the three phases. The field staff will use transects to assess the stem density of the planted woody species.
- To determine the areal cover and species composition of trees and shrubs in scrub-shrub and forested wetlands and uplands during the 3, 5, and 8-years-after-Phase3 monitoring events. The field staff will use transects to assess the stem density of the planted woody species.
- To assess permanent inundation. Any areas of total inundation will be mapped using GPS and the total area will be calculated.
- To determine the percent cover of trees and shrubs on upland islands. Because the upland planting zone polygons will be mapped and relatively small in area, the field staff will make a visual assessment of the survival on randomly selected islands totaling 20 percent of the total island area, and the changes in aerial cover in subsequent years, of the planted woody species.
- To complete full site delineations. Delineations will be conducted and documented according to the 1987 Corps of Engineers Delineation Manual and appropriate supplements, as well as the current Washington State Wetlands Identification and Delineation Manual.
- To identify the presence of Japanese knotweed, purple loosestrife, and English ivy. Any plants found will be pulled or otherwise eradicated.

- To document locations of perch-pole habitat structures. Naturally recruiting structures can be counted toward this total. The field crew will visit the location of each perch pole as GPS'd during the as-build survey.

Transect Intercept Sampling

The size of some of the large vegetation areas will not allow anyone to assess their entire populations - representative samples must be taken. This will require that species composition and cover be sampled using a standard field method called Transect Intercept Sampling.

Permanent line transects will be located through the various polygons that are defined as either herbaceous, scrub-shrub, forested wetlands, or uplands. The direction and length of the transects will be chosen in order to acquire samples across the hydrologic gradient within each polygon. The number of transects will depend on the configuration of the vegetation polygons and the topographic gradient. They will typically be placed approximately 1,000 feet apart. A sample area will be evaluated initially to determine the actual species composition and cover for comparison with the composition and area determined for the same area sampled with transects.

According to Bonham (1989, *Measurements for Terrestrial Vegetation*, John Wiley and Sons publishers) measuring randomly placed sample plots along transects is the most common method of determining cover and species composition. The size of the plot unit for frequency and cover measurement is basically a function of plant size and species richness in a unit area. Most vegetation sampling sources recommend 1-square-meter plots to measure herbaceous plants, 10-square-meter plots to measure shrubs, and 100-square-meter plots to measure trees.

The plot sizes for sampling herbaceous cover will be 1-square-meters, randomly located along the transects. The plot sizes for measuring the shrub populations will be 10-square-meters and 100-square-meters for measuring tree species. The number of plots necessary to determine the species composition and cover will be determined by the addition of new species along the transect. Once two consecutive plots show no more than 2 new species, then three additional plots will be added to the total along each transect. For determining species composition and cover, there can be no less than 5 plot samples per transect.

Each plot will be photographed as a backup to the field estimation.

We will employ the Transect Intercept Sampling Method for the following

- To assess a representative sample of the cover and species composition in any hydrophytic herbaceous plant communities.
- To assess a representative sample of the woody species cover and species composition. Once the survival of woody species is determined in the first year following the planting in each phase using the Field Visit Total Assessment method,

the polygon areas will have to be sampled using the Transect Intercept Sampling Method to determine species composition and cover.

TABLE F-1 Monitoring Schedule

Phase and Year	Method	Phase – Year(s)	Time of Year
Phase 1			
Phase 1 Year 0			
Establish photo monitoring stations. As-build grading plan. Note the elevations of the lowest gradients and the highest gradients.	Field Visit Total Assessment. Establish permanent photo monitoring stations immediately after phase 1 construction and take first photo's.	Phase 1 Year 0	Immediately after phase one construction
Phase 1 Year 2			
<p>Performance Standard: 3C. Establish wetland hydrology over a minimum of 30% of the bank site excluding buffers by 2 years following completion of installation of ELJs and ditch filling. Wetland hydrology is defined as saturation to the soil surface or free water in soil pits at 12 inches or less below the soil surface for at least 10% of the growing season.</p> <p>4B. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 40% of the mitigation bank site areas (including buffers) by 2 years following ELJ installation and filling of the ditches.</p>	<p>Field Visit Total Assessment. Well data will be collected over the first three months of the growing season and a hydrologic map of the ground water levels, at their highest point for at least 10% of the growing season, will be created. Total area of wetland hydrology will be calculated off of the map.</p> <p>Field Visit Total Assessment. The site will be assessed for stands of Himalayan blackberry, Canadian thistle, and reed canary grass. Each zone area will be delineated by area to determine total coverage of all three</p>	<p>Phase 1 - Year 2</p> <p>Phase 2 - Year 2</p>	<p>First three months in the growing season</p> <p>June or July</p>

Phase and Year	Method	Phase – Year(s)	Time of Year
	species.		
Phase 1 Year 7			
<p>Performance Standard: 3B. A minimum of three ELJs will be present 7 years following installation.</p>	Field Visit Total Assessment. A field visit will be made to identify the status of the ELJ's.	Phase 1 - Year 7	Early spring
Phase 2			
Phase 2 Year 1			
<p>Performance Standard: 7C. Aerial cover by native hydrophytic herbaceous plant species in areas targeted as emergent wetland will be at least 40% by 1 year following Phase 2 initial planting.</p>	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 1	June or July
<p>7H. Native hydrophytic shrub species will have a density of at least 90% of the original planting density in areas targeted as scrub-shrub wetland 1 year following Phase 2 initial planting.</p>	Field Visit Total Assessment. Each scrub-shrub planting zone will be evaluated to assess stem density of plantings.	Phase 2 - Year 1	June or July
<p>7O. Native hydrophytic woody species will have a density of at least 90% of the original planting density in areas targeted as forested wetland by 1 year following Phase 2 initial planting. (Woody species refers to non-herbaceous trees and shrubs.)</p>	Field Visit Total Assessment. Each tree planting zone will be evaluated to assess stem density of plantings.	Phase 2 - Year 1	June or July

Phase and Year	Method	Phase – Year(s)	Time of Year
8A. Native woody species will have a density of at least 90% of the original planting density in areas targeted as upland 1 year following Phase 2 initial planting.	Field Visit Total Assessment. Each upland zone planted as scrub-shrub or forested will be evaluated to assess stem density of plantings.	Phase 2 - Year 1	June or July
9D. Maintain zero tolerance of Japanese knotweed , purple loosestrife, and English ivy colonization Map any specimens and eradicate during growing season of same year.	Monitor annually	Phase 2 - Year 1	June or July
Phase 2 Year 2			
Performance Standard			
6B. Wetland hydrology will be present over a minimum of 65% of the bank site 2 years following completion of Phase 2 grading and initial planting. Wetland hydrology is defined as saturation to the soil surface or free water in soil pits at 12 inches or less below the soil surface for at least 10% of the growing season.	Field Visit Total Assessment. Well data will be collected over the first three months of the growing season and a hydrologic map of the ground water levels, at their highest point for at least 10% of the growing season, will be created. Total area of wetland hydrology will be calculated off of the map.	Phase 2 - Year 2	First three months in growing season
6C. No more than 3% of the bank site outside of the existing stream channels will be permanently inundated and un-vegetated 2 years after completion of Phase 2 grading and initial planting.	Field Visit Total Assessment. Field visit will be made to assess the presence of permanent inundation. The total area will be calculated.	Phase 2 - Year 2	August or September
Phase 2 Year 3			
Performance Standard			

Phase and Year	Method	Phase – Year(s)	Time of Year
7D. Aerial cover by native hydrophytic herbaceous plant species in areas targeted as emergent wetland will be at least 50% by 3 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 3	June or July
7F. At least 3 native hydrophytic herbaceous species will have at least 8% aerial coverage each in areas targeted as emergent wetland 3 years following Phase 2 initial planting. .	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 3	June or July
7I. Native hydrophytic shrub species will have at least 35% aerial cover in areas targeted as scrub-shrub wetland by 3 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 3	June or July
7L. At least 3 native hydrophytic shrub species will have at least 6% aerial cover each in areas targeted as scrub-shrub wetland 3 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 3	June or July
7P. Native hydrophytic woody species will have at least 35% aerial cover in areas targeted as forested wetland by 3 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 3	June or July

Phase and Year	Method	Phase – Year(s)	Time of Year
7S. At least 3 native hydrophytic woody species will have at least 6% aerial cover each in areas targeted as forested wetland by 3 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 3	June or July
8B. Native woody species will have at least 20% aerial cover in areas targeted as upland by 3 years following Phase 2 initial planting.	Field Visit Total Assessment. All upland islands will be assessed in field .	Phase 2 - Year 3	June or July
8E. At least 3 native woody species will have at least 4% aerial cover each in areas targeted as upland by 3 years following Phase 2 initial planting.	Field Visit Total Assessment. All upland islands will be assessed in field .	Phase 2 - Year 3	June or July
9A. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass species total cover will not exceed 30% of the total area of the site outside the 19 acres of existing reed canary grass by 3 years following Phase 2 initial planting.	Field Visit Total Assessment. The site will be assessed for stands of Himalayan blackberry, Canadian thistle, and reed canary grass. Each zone area will be delineated by area to determine total coverage of all three species.	Phase 2 - Year 3	June or July
Phase 2 Year 4			
Performance Standard 7B. Wetland will be present on a minimum of 65% of the bank site 4 years following completion of Phase 2 initial planting.	Field Visit Total Assessment. Full site delineation. Delineation will be conducted and documented according to the 1987 Corps of Engineers Delineation	Phase 2 - Year 4	June or July

Phase and Year	Method	Phase – Year(s)	Time of Year
	Manual and appropriate supplements, as well as the current Washington State Wetlands Identification and Delineation Manual.		
Phase 2 Year 5			
Performance Standard			
7E. Aerial cover by native hydrophytic herbaceous plant species in areas targeted as emergent wetland will be at least 70% by 5 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 5	June or July
7G. At least 3 native hydrophytic herbaceous species will have at least 10% aerial coverage each in areas targeted as emergent wetland 5 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 5	June or July
7J. Native hydrophytic shrub species will have at least 50% aerial cover in areas targeted as scrub-shrub wetland by 5 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the herbaceous planting zones.	Phase 2 - Year 5	June or July
7M. At least 3 native hydrophytic shrub species will have at least 8% aerial cover each in areas targeted as scrub-shrub wetland by 5 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 5	June or July

Phase and Year	Method	Phase – Year(s)	Time of Year
7Q. Native hydrophytic woody species will have at least 50% aerial cover in areas targeted as forested wetland by 5 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 5	June or July
7T. At least 3 native hydrophytic woody species will have at least 8% aerial cover each in areas targeted as forested wetland by 5 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 5	June or July
8C. Native woody species will have at least 35% aerial cover in areas targeted as upland by 5 years following Phase 2 initial planting.	Field Visit Total Assessment. All upland islands will be assessed in field .	Phase 2 - Year 5	June or July
8F. At least 3 native woody species will have at least 6% aerial cover each in areas targeted as upland by 5 years following Phase 2 initial planting.	Field Visit Total Assessment. All upland islands will be assessed in field .	Phase 2 - Year 5	June or July
9B. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 25% of the mitigation bank site areas (including buffers) by 5 years following Phase 2 initial planting.	Field Visit Total Assessment. The site will be assessed for stands of Himalayan blackberry, Canadian thistle, and reed canary grass. Each zone area will be delineated by area to determine total coverage of all three species.	Phase 2 - Year 5	June or July
Phase 2 Year 8 Performance Standard			

Phase and Year	Method	Phase – Year(s)	Time of Year
7K. Native hydrophytic shrub species will have at least 70% aerial cover in areas targeted as scrub-shrub wetland by 8 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 8	June or July
7N. At least 3 native hydrophytic shrub species will have at least 10% aerial cover each in areas targeted as scrub-shrub wetland by 8 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 8	June or July
7R. Native hydrophytic woody species will have at least 65% aerial cover in areas targeted as forested wetland by 8 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 8	June or July
7U. At least 3 native hydrophytic woody species will have at least 10% aerial cover each in areas targeted as forested wetland by 8 years following Phase 2 initial planting.	Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.	Phase 2 - Year 8	June or July
8D. Native woody species will have at least 50% aerial cover in areas targeted as upland by 8 years following Phase 2 initial planting.	Field Visit Total Assessment. All upland islands will be assessed in field .	Phase 2 - Year 8	June or July
8G. At least 3 native woody species will have at least 10% aerial cover each in areas targeted as upland by 8 years following Phase 2 initial planting.	Field Visit Total Assessment. All upland islands will be assessed in field .	Phase 2 - Year 8	June or July

Phase and Year	Method	Phase – Year(s)	Time of Year
<p>9C. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 20% of the mitigation bank site areas (including buffers) by 8 years following Phase 2 initial planting.</p>	<p>Field Visit Total Assessment. The site will be assessed for stands of Himalayan blackberry, Canadian thistle, and reed canary grass. Each zone area will be delineated by area to determine total coverage of all three species.</p>	<p>Phase 2 - Year 8</p>	<p>June or July</p>
<p>Phase 3 Year 1 Phase 3 Year 1</p>			
<p>Performance Standard</p>			
<p>13B. Native woody species will have a density of at least 90% of the original planting density in areas targeted as forested wetland by 1 year following Phase 3 initial planting activities.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated to assess stem density of plantings.</p>	<p>Phase 3 - Year 1</p>	<p>June or July</p>
<p>14B. Maintain zero tolerance of Japanese knotweed, purple loosestrife, and English ivy colonization. Map any specimens and eradicate during growing season of same year.</p>	<p>Monitor annually</p>	<p>Phase 3 - Year 1</p>	<p>June or July</p>
<p>15A. Native woody species will have a density of at least 90% of the original planting density in areas targeted as upland 1 year following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated to assess stem density of plantings.</p>	<p>Phase 3 - Year 1</p>	<p>June or July</p>
<p>Phase 3 Year 2</p>			
<p>Performance Standard</p>			

Phase and Year	Method	Phase – Year(s)	Time of Year
<p>12B. Wetland hydrology will be present over a minimum of 81% of the bank site 2 years following completion of Phase 3 grading and planting. Wetland hydrology is defined as saturation to the soil surface or free water in soil pits at 12 inches or less below the soil surface for at least 10% of the growing season.</p>	<p>Field Visit Total Assessment. Well data will be collected over the first three months of the growing season and a hydrologic map of the ground water levels, at their highest point for at least 10% of the growing season, will be created. Total area of wetland hydrology will be calculated off of the map.</p>	<p>Phase 3 - Year 2</p>	<p>Early in growing season</p>
<p>12D. No more than 3% of the bank site outside of the existing stream channels will be permanently inundated and un-vegetated 2 years after completion of Phase 3 grading and initial planting.</p>	<p>Field Visit Total Assessment. Field visit will be made to assess the presence of permanent inundation. The total area will be calculated.</p>	<p>Phase 3 - Year 2</p>	<p>August of September</p>
<p>Phase 3 Year 3</p>			
<p>Performance Standard</p>			
<p>13C. Native woody species will have at least 35% aerial cover in areas targeted as forested wetland by 3 years following completion of Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 3</p>	<p>June or July</p>
<p>13F. At least 3 native woody species will have at least 6% aerial cover each in areas targeted as forested wetland by 3 years following Phase 3 initial planting.</p>	<p>Transect Intercept Sampling. Aerial cover will be determined using random sampling along transects through the planting zones.</p>	<p>Phase 3 - Year 3</p>	<p>June or July</p>
<p>15B. Native woody species will have at least 20% aerial cover in areas targeted as upland by 3 years following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 3</p>	<p>June or July</p>

Phase and Year	Method	Phase – Year(s)	Time of Year
<p>15E. At least 3 native woody species will have at least 4% aerial cover each in areas targeted as upland by 3 years following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 3</p>	<p>June or July</p>
<p>Phase 3 Year 5</p>			
<p>Performance Standard</p>			
<p>13D. Native woody species will have at least 50% aerial cover in areas targeted as forested wetland by 5 years following completion of Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 5</p>	<p>June or July</p>
<p>13G. At least 3 native woody species will have at least 8% aerial cover each in areas targeted as forested wetland by 5 years following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 5</p>	<p>June or July</p>
<p>14A. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 20% of the mitigation bank site areas (including buffers) by 5 and 8 years following Phase 3 planting.</p>	<p>Field Visit Total Assessment. The site will be assessed for stands of Himalayan blackberry, Canadian thistle, and reed canary grass. Each zone area will be delineated by area to determine total coverage of all three species.</p>	<p>Phase 3 - Year 5</p>	<p>June or July</p>
<p>15C. Native woody species will have at least 35% aerial cover in areas targeted as upland by 5 years following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 5</p>	<p>June or July</p>
<p>15F. At least 3 native woody species will have at least 6% aerial cover each in areas targeted as upland by 5 years following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p>	<p>Phase 3 - Year 5</p>	<p>June or July</p>

Phase and Year	Method	Phase – Year(s)	Time of Year
Phase 3 Year 8			
<p>Performance Standard</p> <p>12C. Wetland will be present on a minimum of 81% of the bank site 8 years following completion of Phase 3 grading.</p> <p>13E. Native woody species will have at least 65% aerial cover in areas targeted as forested wetland by 8 years following completion of Phase 3 initial planting.</p> <p>13H. At least 3 native woody species will have at least 10% aerial cover each in areas targeted as forested wetland by 8 years following Phase 3 initial planting.</p> <p>14A. Aerial cover of Himalayan blackberry, Canadian thistle, and reed canary grass will not exceed 20% of the mitigation bank site areas (including buffers) by 5 and 8 years following Phase 3 planting.</p> <p>15D. Native woody species will have at least 50% aerial cover in areas targeted as upland by 8 years following Phase 3 initial planting.</p>	<p>Field Visit Total Assessment. Full site delineation. Delineation will be conducted and documented according to the 1987 Corps of Engineers Delineation Manual and appropriate supplements, as well as the current Washington State Wetlands Identification and Delineation Manual.</p> <p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p> <p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.</p> <p>Field Visit Total Assessment. The site will be assessed for stands of Himalayan blackberry, Canadian thistle, and reed canary grass. Each zone area will be delineated by area to determine total coverage of all three species.</p> <p>Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the</p>	<p>Phase 3 - Year 8</p>	<p>June or July</p>

Phase and Year	Method	Phase – Year(s)	Time of Year
15G. At least 3 native woody species will have at least 10% aerial cover each in areas targeted as upland by 8 years following Phase 3 initial planting.	field.. Field Visit Total Assessment. Each scrub-shrub or tree planting zone will be evaluated in the field.	Phase 3 - Year 8	June or July
16B. A minimum of 50 perch poles or snags will occur on the site 8 years following Phase 3 installation.	Field Visit Total Assessment. Site visit to document locations of habitat structures. Naturally recruiting structures can be counted toward this total.	Phase 3 - Year 8	June or July

F.1.1.3 Reports:

The Sponsor will prepare and submit to the MBRT monitoring reports that will inform the MBRT of the status of Bank establishment and operation. These reports will document Bank conditions and provide the supporting information required to document the attainment of goals, objectives, and performance standards, as a basis for a decision whether to award credits. Monitoring reports will be submitted by February 1 of the following year, with a copy for each member of the MBRT. Each monitoring report will contain the following information:

(1) An overview of the current ecological condition of the Bank, including a survey of the vegetative and wildlife communities, effectiveness of the restoration and enhancement activities accomplished to date, and progress of the Bank in achieving the specific performance standards of the Bank. To provide data for evaluating progress towards achievement of performance standards, vegetation transects will be established at selected locations within each phase of the Bank. Standard MBRT-approved vegetation measures and techniques will be used to demonstrate whether performance standards are being met. Experience in the field may indicate that other performance monitoring methods would provide more useful information; the MBRT must approve in advance any changes in the means of gathering or reporting performance data. All monitoring will be conducted by qualified personnel.

(2) A detailed discussion about the likely cause and impact of any setback or failure that occurred and recommendations for future actions and strategies that might resolve those problems.

(3) Pertinent additional information on such aspects of the Bank as hydrology, soils, vegetation, fish and wildlife use of the area, recreational and scientific use of the Bank, and natural events such as disease, wildfire, and flooding that occurred.

(4) Explanations of the need for any contingency or remedial measures, and detailed proposals for their implementation.

(5) Photographs of the Bank taken from permanent locations that are accurately identified on the as-built drawings. The photographs are intended to document the progress of each component of the Bank, as well as the Bank in general, toward achieving the objectives and performance standards of the Bank. Such photo-monitoring will include general vantage points around the margin of the Bank, vantage points within the Bank, and at specific monitoring locations such as transects and/or sampling points.

F.1.1.4 Remedial Action during the Establishment Period of the Bank:

In the event that one or more components of the Bank do not achieve performance standards or comply with any other requirement of this Instrument, the following sequence of remedial actions will be taken.

A If the monitoring reports, or inspection by representatives of the MBRT agencies, indicate persistent failure to achieve and maintain the prescribed performance standards, the Sponsor will propose adaptive management actions to correct the shortcomings. A thorough analysis of wetland monitoring data and/or stream channel assessments may result in the identification of other factors, not identified in the performance standards or monitoring data, causing the project to fall short of its objectives. The MBRT may also direct adaptive management actions, following consultation with the Sponsor, if the MBRT identifies a need for corrective action and no adaptive management plan acceptable to the MBRT has been submitted within a reasonable period of time. The adaptive management plan shall specify the nature of further examination of areas for potential causes of failure and/or corrective action to be conducted, the schedule of completion for those activities, and a monitoring plan for assessing the effectiveness of the corrective action. The objective of the adaptive management plan shall be to attain the originally prescribed project objectives, either through achieving the original performance standards or through new standards subsequently developed based on evaluation of the site as it matures and it is assessed. The Sponsor shall also implement all appropriate mitigation that the MBRT determines is necessary to compensate for those authorized impacts to the aquatic environment that have not been successfully redressed by the Bank pursuant to the requirements of this Instrument. If modified or replacement performance standards are proposed, the Sponsor may not initiate activities designed to achieve those replacement standards until those performance standards are approved by the MBRT. During the period that a specific component of the Bank is out

of compliance, the MBRT may direct that credits generated by that Bank component may not be sold, used, or otherwise transferred.

B. If remedial actions taken by the Sponsor under the provisions of the preceding paragraph do not bring that performance standard of the Bank into compliance with the requirements of this Instrument, including any approved changes to the Instrument, the Sponsor may request approval to discontinue efforts to achieve one or more performance standards for the Bank. If the MBRT approves of the proposal to discontinue efforts to achieve one or more performance standards, they need not be accomplished but no additional credits may be awarded for those performance standard(s). At the discretion of the MBRT the Sponsor may also be released from future maintenance and monitoring obligations for those performance standard(s), provided that releasing the Sponsor from those obligations does not adversely affect the remainder of the Bank, or affect credits already sold, used, or transferred to date.

C. If the MBRT, in consultation with the Sponsor, determines that the failure of one or more performance standards of the Bank to comply with the requirements of this Instrument adversely affects the ability of the Bank to achieve its goals or objectives, or if the Sponsor does not make a reasonable effort to bring the Bank into compliance with this Instrument, the MBRT, after consultation with the Sponsor, may terminate this Instrument and the operation of the Bank pursuant to Article IV.J.

D. If the MBRT directs remedial or adaptive management action pursuant to section F.1.1.4.A. and compliance with the performance standards is not restored within a further reasonable period of time, and the Sponsor does not provide the notice indicated in section F.1.1.4.B. the MBRT may alternatively implement remedial action on its own initiative, acting through a Third Party Designee, by accessing the financial assurance instrument pursuant to Article III.C.1. and Section H.1.1 of Appendix H to this Instrument.

F.1.1.5 Maintenance during the Establishment Period of the Bank:

General maintenance will be performed throughout the year to address conditions that may limit the success of the Bank and attainment of performance standards and objectives. The Sponsor is responsible for all site maintenance activities throughout the establishment period of the Bank. Maintenance activities will include, but are not limited to, vegetative maintenance (including replanting, repair of any areas subject to erosion, weed control around plantings, mowing, control of invasive species, control and discouragement of voles, beaver and deer foraging on plants) and general maintenance (including fence repair, road and trail maintenance as necessary, clean-out of culverts, monitoring of the water control structures, and clean-up of trash).

Appendix F.2 Seed Harvest Plan

Herrera Environmental Consultants, Inc.

Memorandum

To Mitigation Bank Review Team (MBRT)

From Sustainable Environments, LLC and Herrera Environmental Consultants Inc.

Date July 23, 2008

Subject Seed and Stake Harvest Update

This memorandum outlines a framework for the harvest of seed and stakes from the Skagit Environmental Bank. Based on the April 9, 2008 conference call with the MBRT, it was agreed in principle that the harvest of seed was an allowed activity with the contingency that it does not negatively affect bank performance standards and the overall health of the wetland and upland vegetation communities. Seed collection will be strictly monitored and approved on an annual basis and collections methods (by hand) will be minimally invasive to prevent the creation of large areas of disturbance, pathways, or other noticeable anthropogenic impacts. Seed and stake harvest will be used to supplement planting efforts within the mitigation bank as well as sold commercially to support restoration project within the Puget Sound lowlands.

F.2.1 Guidelines for Monitoring and Harvest

Guidelines for monitoring and harvest of seed and live stakes have been developed to ensure that plant material collection is accomplished in a sustainable manner that does not affect the success of revegetation efforts and overall ecosystem health at the Skagit Environmental Bank.

As mentioned, all harvesting activities will be completed by hand: no mechanical equipment of any kind will be used. Harvesting will be scheduled during periods of dry weather to prevent any damage to the structure of wetland soils and plant roots. Routes to harvesting areas will not be established and collectors will be instructed to spread out during travel to and from collection areas to prevent plant and soil damage through repeated trampling.

The following sections comprise a description of the harvesting schedule and monitoring techniques that will be employed to ensure the sustainable collection of plant material at the Skagit Environmental Bank as part of the proposed native seed harvest.

Seed crop abundance was chosen as the main metric for monitoring because (1) it serves as an representation of overall population vigor (i.e. if plant community productivity decreases,

it is likely that seed crop production will also decrease), (2) it serves as a gauge of population reproductive success, and (3) it is the primary plant material being collected.

F.2.2 Seeds

F.2.2.1 Emergents

- A pool of potential reference areas will be identified (both on- and off-site) that are characterized by healthy stands of the target species*. These areas will be marked using GPS and their locations will be displayed on a GIS map to be submitted to the MBRT for approval. [*Note: Target species will comprise both those currently on-site, and those that will be planted – the site is currently characterized by low emergent diversity and Skagit Environmental Bank project objectives include increased species diversity]
- Reference areas for a given year will be randomly selected from the pool, and the sampling scheme for these areas will involve the harvesting of the entire mature/ripe seed crop within randomly selected 1m² plots.
- The seed collected from the reference areas will be weighed, reported in grams, and averaged. These results will serve as the standard level of seed production (on a 1m² basis) for the target species for that particular year. Reference site data will be collected for three years prior to any harvesting to obtain adequate baseline data. The seed collected from the reference plots will then be redistributed at their respective locations, ensuring no net loss of plant reproductive material in reference areas.
- The seed crop at a proposed collection site will be sampled in the same manner (randomly selected 1m² plot; harvesting of entire mature/ripe seed crop in plot) to determine if seed production meets the abundance standard set by the reference sites. Only mature/ripe seeds will be collected. If seed crop within 1m² sample plot meets the abundance standard, the stand of emergent species represented by the sample plot may be selected for collection in that particular year. Seeds will be collected when they are considered mature/ripe for the individual species and will be no more than 30 percent of the visible seeds. Harvesting will be suspended in years of low seed production. Low seed production is defined as less than 50 percent of the average seed crop produced in previous years. Collection will be conducted by hand stripping seed from the ripe heads. There will be no cutting of vegetation involved. It will be very difficult to visually notice any disturbance from seed collection. A very positive impact of harvesting of seed in this manner is that seed will be released from the plants and pressed into the soil by foot traffic. This will result in a buildup of the emergent plant seed bank in the soil and help ensure the sustainability of the plant community.
- Sampling results in subsequent years will be compared to both reference site data and past collection site data to detect any potential trend toward decline in seed production. If reference site averages indicate a decline in seed production, corresponding collection site declines in production can likely be attributed to yearly climatic variation affecting regional seed crops. However, if seed crops in collection areas display a downward trend in production that is not reflected in reference site

data, it is likely that harvesting is causing a negative effect on plant community reproduction and corrective measures need to be taken. If harvesting is suspected of causing a negative effect on plant community reproduction, seed harvesting will be suspended until the MBRT approves further harvesting.

F.2.2.2 Shrubs and Trees

- A pool of potential reference areas will be identified (both on- and off-site) that are characterized by healthy stands of the target species*. These areas will be marked using GPS and their locations will be displayed on a GIS map to be submitted to the MBRT for approval. [*Note: Target species will comprise both those currently on-site, and those that will be planted – the site is currently characterized by low emergent diversity and Skagit Environmental Bank project objectives include increased species diversity]
- Reference areas for a given year will be randomly selected from the pool, and the sampling scheme for these areas will involve the harvesting of the entire mature/ripe seed crop from three selected individual trees or shrubs within each reference area (they should all be the same size).
- The seed collected from each sampling individual in each reference area will be weighed, reported in grams, and averaged. These results will serve as the standard level of seed production for the target species (of corresponding size) for that particular year. The seed collected from the reference areas will then be redistributed at their respective locations, ensuring no net loss of plant reproductive material in reference areas.
- The seed crop at a proposed collection site will be sampled in the same manner (three randomly selected individual trees or shrubs with size corresponding to the reference individuals; harvesting of entire mature/ripe seed crop on individual plants) to determine if seed production meets the abundance standard set by the reference sites. If so, this area may be selected for collection the following year. Seeds will be collected when they are considered mature/ripe for the individual species and will be no more than 30 percent of the visible seeds. There will be no repeat collection on sample sites. Harvesting will be suspended in years of low seed production. Low seed production is defined as less than 50 percent of the average seed crop produced in previous years.
- Sampling results in subsequent years will be compared to both reference site data and past collection site data to detect any potential trend toward decline in seed production. If reference site averages indicate a decline in seed production, corresponding collection site declines in production can likely be attributed to yearly climatic variation affecting regional seed crops. However, if seed crops in collection areas display a downward trend in production that is not reflected in reference site data, it is likely that harvesting is causing a negative effect on plant community reproduction and corrective measures will be required. If harvesting is suspected of causing a negative effect on plant community reproduction, seed harvesting will be suspended until the MBRT approves further harvesting.

F.2.3 Collection Schedule

The schedule below identifies the three cluster dates for the collection of seed from various species. Some flexibility must be provided since the timing of seed maturation for the different target species varies throughout the growing season.

Late May 20th – May 30th

Populus balsamifera ssp. trichocarpa/Black Cottonwood
Salix lucida/Pacific Willow
Salix sitchensis/Sitka Willow
Salix hookeriana/Hooker's Willow

July 10th – 20th

Sagittaria latifolia /Wapato
Rhamnus purshiana/Cascara
Lonicera involucrata/Black Twinberry
Alopecurus aequalis/Short-awn Foxtail
Eleocharis palustris/Common Spikerush
Deschampsia cespitosa/Tufted Hairgrass
Eleocharis palustris/Common Spikerush
Carex obnupta/Slough Sedge
Juncus ensifolius/Daggerleaf Rush
Juncus effuses/Soft Rush
Juncus ensifolius/Daggerleaf Rush
Juncus balticus/Baltic Rush
Scirpus americanus/Three-square Bulrush
Scirpus microcarpus/Small-fruited Bulrush

Late August 20th –September 10th

Alnus rubra/Red Alder
Picea sitchensis/Sitka Spruce
Thuja plicata/Western Red Cedar
Malus fusca/Pacific Crabapple
Physocarpus malvaceus/Pacific Ninebark
Rosa nutkana/Nootka Rose
Rosa pisocarpa/Swamp Rose
Aster subspicatus/ Douglas aster
Cornus stolonifera/Red Osier Dogwood
Crataegus douglasii/Douglas Hawthorn

F.2.4 Cuttings

Cuttings will be collected during the winter (January-February) from the willows on the site. The collection will occur over a 10 year period with 10% of the total area occupied by

willows (measured at the time of harvest using high resolution GPS) on the site designated for harvesting each year with no areas receiving repeat harvests. *We are in discussions with several wetland ecologists to investigate the possibility of periodic repeat harvests of cuttings following the first ten year period. If it is found that the science indicates that careful future cutting harvest will not impact the viability and sustainability of the mitigation bank, we would like to have further discussions with the MBRT about this issue.* The first harvest will begin with the oldest and most mature plantings: no cuttings will be collected from individual plants less than 1.5 in height. Each harvesting operation will remove no more than four branches. Cuttings will be approximately 1m in length, 1-2.5cm in diameter at the base, straight, and disease-free.

F.2.5 Monitoring and Reporting Strategy and Timeline

Seed harvesting activities will commence only after the establishment period of the bank (as defined by the MBI) is complete. The conservation easement contract between the Skagit Environmental Bank and the land trustee will define the requirement of the land trustee to accept the responsibility of overseeing continued harvesting activities.

Monitoring and reporting will continue annually until all Performance Standards are met prior to turning this activity over to the long-term manager/land trustee. A plant material monitoring and harvest plan will be submitted by early spring of the year for which harvest is intended so that the MBRT could review it in time for May seed harvest. Therefore, each year's harvest plan would be based on the monitoring results from the previous year of seed production (presented to the MBRT in the form of an annual report). Seed production will be monitored for three years prior to the first harvest. The annual reports will be submitted in the fall of each year.

Timeline for monitoring and documentation submission to the MBRT:

- Summer [beginning in May] (1st, 2nd, and 3rd years) – reference site sampling
- Fall (1st and 2nd years) – annual report
- Fall (3rd year) – Summary report (will address results from three years of monitoring and implications for first harvest plan)
- March (4th and subsequent years) – Harvest plan submission to MBRT (based on MBRT comments on previous year's report)
- March-April (4th and subsequent years) – Harvest plan revisions (based on MBRT comments)
- April (4th and subsequent years) – Harvest Plan finalized and approved by MBRT
- Summer (4th and subsequent years) – Harvest and sampling

- Fall (4th and subsequent years) – Annual report submitted to MBRT

The Annual Reports will:

- (1) Present findings from reference area and collection area sampling activities
- (2) Present overall plant material collection results and provide comparisons to reference area data and previous years' data
- (3) Discuss any unsatisfactory results and provide protocol adjustments required to improve plant material reproductive success and overall ecosystem health at the Skagit Environmental Bank.

The Harvest Plans will:

- (1) Clearly define species to be collected, location where seed will be collected (including GIS maps), and amounts of seed/cuttings to be collected based on annual report from previous year
- (2) Clearly describe harvesting, storage, and plant material tracking methods
- (3) Address safety considerations for harvesters

As mentioned, reference area results will be tracked over time. Any downward trend in seed production in collection areas as compared to reference area data will result in corrective measures involving reduction or suspension until production has recovered to reference standard levels. It should be reemphasized that climatic variability will lead to fluctuation in seed abundance which will affect harvest goals.

In summary, plant material collection will be accomplished in a sustainable manner conducive to the achievement of restoration performance standards and the overall goals of the Skagit Environmental Bank. The harvesting techniques, collection schedule, and monitoring protocols discussed in this document represent the specific elements of the proposed plant material collection plan that ensures consistency with this objective.

APPENDIX G: LONG-TERM PROTECTION AND MANAGEMENT

APPENDIX G.1: All Phases

Justification or supporting data under the title Protective Covenant, and Long Term management and maintenance are in the Section G of the Resource Folder.

G.1.1 Conservation Easement

A. The Sponsor will grant and record, pursuant to Article III.D. of the Instrument, an appropriate conservation easement to dedicate in perpetuity the property constituting each phase of the Bank that is to be restored for credit. This conservation easement must be approved by the MBRT, and shall be recorded with Skagit County. The conservation easement shall not be removed or modified without written approval of the MBRT. Conveyance of any interest in the property shall be subject to this conservation easement. Use prohibitions reflected in the easement will preclude the site from being used for activities that would be incompatible with the establishment and operation of the Bank. All restrictions shall be granted in perpetuity without encumbrances or other reservations, except those encumbrances or reservations (e.g., retention of recreation and privileges by the landowners and their guests) approved by the MBRT and not adversely affecting the ecological viability of the Bank. Any portion of the site not encumbered by the conservation easement will not be credited for use in the Bank.

B. The conservation easement shall reflect, as one of the rights afforded the grantee, that the site owner warrants that it will comply with all applicable state and local requirements for controlling noxious weeds on the Bank site. Furthermore, this conservation easement shall provide that all structures, facilities, and improvements within the Bank, including roads, trails and fences, that are merely incidental to the functionality of the mitigation site but are necessary to the Bank management and maintenance activities, shall be maintained by the site owner for as long as it is necessary to serve the needs of long-term management and maintenance. All structures, facilities and improvements that directly and substantially contribute to the functionality of the mitigation site will be included within the responsibilities delineated in the Long-Term Management and Maintenance Plan.

G.1.2 Long-Term Management and Maintenance Plan:

A. The Sponsor is responsible for ensuring that a Long-Term Management and Maintenance Plan is developed and implemented to protect and maintain in perpetuity the aquatic functions and values of the Bank site. This plan must be approved by the MBRT prior to the termination of the establishment period of the Bank. Once the establishment period of the Bank has terminated pursuant to Article IV.K. of this Instrument, the Sponsor will assume responsibility for implementing that Plan, as provided in Article IV.M. of this Instrument, unless the Sponsor assigns this responsibility pursuant to the provisions of Article IV.M. and Section G.1.2.E. of this Appendix.

B. To gain MBRT approval, the Long-Term Management and Maintenance Plan will consist of enumerated objectives and performance standards. The Bank will document that it is achieving each guideline or objective by submitting status reports to the MBRT on a schedule approved by the MBRT. A primary goal of the Bank is to create a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention, including long-term site maintenance. As such, natural changes to the vegetative community, other than changes caused by noxious weeds, that occur after all Bank performance standards have been met are not expected to require remediation.

C. The Long-Term Management and Maintenance Plan will include those elements necessary to provide long-term protection for the aquatic ecosystem and habitat resources of the Bank site. The specific elements of the Plan must be tailored to meet the specific protection needs of the site. At minimum, the MBRT will likely find the following core elements to be necessary for inclusion in the Long-Term Management and Maintenance Plan. The particular characteristics of the Bank site at the end of the establishment period may necessitate including other elements not specified below, that are needed to protect the ecosystem resources present at the Bank.

(1) Periodically patrol the Bank site for signs of trespass and vandalism. Maintenance will include reasonable actions to deter trespass and repair vandalized Bank features.

(2) Monitor the condition of structural elements and facilities of the Bank site such as signage, fencing, roads, and trails. The Long-Term Management and Maintenance Plan will include provisions to maintain and repair these improvements as necessary to achieve the objectives and functional performance goals of the Bank and comply with the provisions of the conservation easement. Improvements that are no longer needed to facilitate or protect the ecological function of the Bank site may be removed or abandoned if consistent with the terms and conditions of the conservation easement.

(3) Inspect the Bank site at least twice annually to locate any recurrence of knotweed. Any plant of these species discovered on the Bank site must be eradicated. The MBRT anticipates that this long-term control will involve identifying and eradicating a relatively small number of recurrences each year. In the event the MBRT determines that the watershed within which the Bank is located becomes infested with these species in the future, so that their effective control on the Bank site is either no longer practicable or unreasonably expensive, the MBRT will consider appropriate changes to the Long-Term Management Plan.

D. The Sponsor, as the owner of the Bank, will retain responsibility for controlling noxious weeds, other than knotweed, pursuant to all applicable State and local requirements in force at that time. These obligations are imposed on the owner of the Bank site independently of this Instrument, and are not subject to oversight and verification by the MBRT. Noxious weed control measures may include mechanical vegetation control, herbicide treatments, temporary plantings, and water regime control.

E. If the Sponsor elects to request the approval of the MBRT to assign long-term management and maintenance to a Long-Term Steward pursuant to Article IV.M.2., the long-term management and maintenance assignment agreement will reflect that the assignee has assumed the obligation, owed to the MBRT, of accomplishing the Long-Term Management and Maintenance Plan. The Corps and Ecology will also execute this assignment agreement. In exchange for the assignee's promise to achieve the Long-Term Management and Maintenance Plan, contemporaneously with the assignment of long-term management and maintenance responsibilities the Corps and Ecology will direct disbursement of the "full funding" amount specified in Article III.C.2.c. of this Instrument from the Long-Term Management and Maintenance Endowment Fund escrow account, pursuant to Article III.C.2.e. of this Instrument. In the event the responsibility for executing the Long-Term Management and Maintenance Plan is not assigned to a third-party assignee, at the termination of the establishment period of the Bank the "full funding" amount specified in Article III.C.2.c. of this Instrument will be disbursed from the Long-Term Management and Maintenance Endowment Fund escrow account to the Sponsor.

APPENDIX H: FINANCIAL ASSURANCES

APPENDIX H.1: All Phases

The Sponsor will institute and maintain financial assurances in accordance with the subsections immediately below. Background on financial assurances is found Section H of the Resource Folder.

H.1.1 Financial Assurances

The Sponsor will place an Irrevocable Letter of Credit for Phase 1, and will place a Surety Bond for each of Phases 2 and 3. The assurance amounts for Phases 2 and 3 will be determined once plans have been approved by the MBRT and in place prior to construction. Therefore we have attached descriptions for both the Irrevocable Letter of Credit and the Surety Bond below:

Irrevocable Letter of Credit

A. The Irrevocable Letter of Credit prescribed in Article III.C.1. of this Instrument, underlying the establishment and functionality of the Bank, will adhere to the following form and contents.

B. Each Letter of Credit will be irrevocable and without condition other than those authorized in this Instrument. Each Letter of Credit may not be withdrawn or canceled by the issuing financial institution prior to the designated expiration date, which may be no earlier than 12 years from the date of issuance. If the Letter of Credit applicable to any phase of the Bank shall expire by its own terms prior to the termination of the establishment period of the Bank as specified in Article IV.K. of this Instrument, the Sponsor must reinitiate an acceptable Letter of Credit so that there is no interval in which there is no Letter of Credit in effect. In lieu of a Letter of Credit with an effective period of 12 years, the Sponsor may elect to submit a Letter of Credit with an initial expiration date that is a minimum period of one year from the date of issuance. The Letter of Credit shall provide that, unless the issuer provides the Beneficiaries written notice of non-renewal at least 60 days in advance of the current expiration date, the Letter of Credit is automatically extended without amendment for one year from the expiration date, or any future expiration date, until a period of 12 years commencing with the date of first issuance is completed, and the Corps and Ecology have both provided the Sponsor with a written statement waiving the right to payment. If the Sponsor does not furnish an acceptable replacement Letter of Credit, or other acceptable financial assurance, at least 30 days before a Letter of Credit's expiration, the Corps and Ecology may immediately draw on the existing Letter of Credit up to its full value without any notice to the Sponsor. If the Corps or Ecology determines that the issuing financial institution's rating has dropped below the requirements specified in Article III.C.1. of this Instrument, the Corps or Ecology may direct the Sponsor to provide an acceptable substitute Letter of Credit within 30 days. If an acceptable substitute is not provided within the prescribed period, the Corps or Ecology immediately draw on the Letter of Credit up to its

full value without any further notice to the Sponsor. No further credits will be awarded from any phase of the Bank while any phase lacks an effective Letter of Credit. Each Letter of Credit will provide that the issuing financial institution shall honor the credit engagement and pay to the Third Party Designee the directed sum without inquiring whether the directing Beneficiary agency or the receiving Third Party Designee has a right to make such a demand.

C. Each Letter of Credit will be issued to, and will designate, the Corps and Ecology as distinct and independent Beneficiaries. If the MBRT has informed the Sponsor that one has been so designated, each Letter of Credit shall identify and designate the Third Party Designee. Upon presentation of a sight draft by either the Corps or Ecology, in writing on agency letterhead, accompanied by no other documentation other than the original Letter of Credit, the issuing financial institution shall disburse from the credit funds account to the Third Party Designee the amount specified by the Corps or Ecology, up to a maximum cumulative amount as reflected in the Letter of Credit. The Corps or Ecology shall be authorized to direct or make partial drawings, and multiple successive drawings, upon the credit account. The Corps and Ecology shall have the exclusive authority to direct disbursement of funds from the credit funds account, and the direction of only one of these two agencies is required in order to accomplish a disbursement.

D. Each Letter of Credit shall acknowledge that, from time to time, the Beneficiary agencies may authorize a reduction in the required level of credit during the effective period of the Letter of Credit. Any such reduction must be authorized by both the Corps and Ecology, as Beneficiary agencies. Upon receipt of both authorizations, in writing on agency letterhead, the issuing financial institution will be authorized to reduce the level of maximum extended credit, and it may, as arranged between the Sponsor and the issuing financial institution, reissue or amend the applicable Letter of Credit accordingly to reflect that change.

E. Each Letter of Credit shall acknowledge that the Beneficiary agencies may authorize cancellation of the Letter of Credit applicable to a designated phase prior to the scheduled expiration date reflected therein. Any such cancellation must be authorized by both the Corps and Ecology, as Beneficiary agencies. Upon receipt of both authorizations, in writing on agency letterhead, the issuing financial institution will be authorized to withdraw or rescind, as arranged between the Sponsor and the issuing financial institution, the applicable Letter of Credit.

F. If so directed by the Corps and Ecology, the Sponsor agrees to substitute the identification of the Third Party Designee with a replacement entity for each applicable Letter of Credit. The Sponsor agrees that it shall execute either an amendment or replacement of each applicable Letter of Credit in order to effect such a substitution. If substitution of the Third Party Designee is directed, all other terms and conditions of the applicable Letter of Credit shall remain unchanged, particularly including the credit amount and the expiration date.

G. Upon request of the Sponsor, the Corps and Ecology, in consultation with the MBRT, may authorize reductions in the required credit account limits of each of the Letters of Credit when the Corps and Ecology have determined, in consultation with the other members of the

MBRT and the Sponsor, that the Bank objectives and performance standards reflected in Appendix C are being timely met.

H. The Sponsor is solely responsible for any costs, fees, or premiums associated with the issuance, modification, continuation in force, or termination of each Letter of Credit. Any such costs may not be deducted from the principal of the Letter of Credit.

Surety Bond

I. Each Surety Bond will extend for an indefinite period and may not be withdrawn or canceled by the issuing financial institution prior to the termination of the period of establishment of that phase of the Bank as specified in Article IV.K., at which point it may be discharged. If the Surety Bond applicable to any phase of the Bank shall expire by its own terms prior to the termination of the establishment period of that phase of the Bank as specified in Article IV.K. of this Instrument, the Sponsor must reinitiate an acceptable financial assurance instrument so that there is no interval in which there is no financial assurance instrument in effect. No further credits will be awarded from any phase of the Bank while any phase lacks an effective financial assurance instrument.

J. Each Surety Bond will designate the Corps and Ecology as distinct and independent obligees. Upon the direction of either the Corps or Ecology, in writing on agency letterhead, the issuing financial institution shall pay from the penal sum the amount specified by the Corps or Ecology, up to the maximum cumulative sum of the penalty amount. Payment shall be made directly to the Third Party Designee identified by the Corps or Ecology. The Corps or Ecology shall be authorized to direct or make partial drawings, and multiple successive drawings, upon the penal sum. The Corps and Ecology shall have the exclusive authority to direct payment of the penal sum on the Surety Bond, and the direction of only one of these two agencies is required in order to accomplish a payment.

K. Upon request of the Sponsor, the Corps and Ecology may authorize reductions in the required penalty amounts of the Surety Bond for any phase of the Bank when the Corps and Ecology have determined, in consultation with the other members of the MBRT and the Sponsor, that the Bank objectives and performance standards reflected in Appendix C are being timely met.

L. The Sponsor is solely responsible for any costs, fees, or premiums associated with the issuance, modification, continuation in force, or termination of each Surety Bond. Any such costs may not be deducted from the penalty amount.

H.1.2 Long-Term Management and Maintenance Endowment Fund:

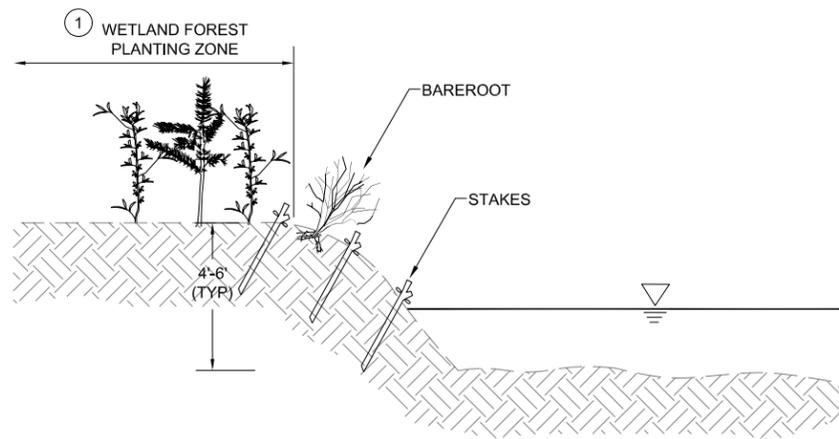
A. In order to implement the Long-Term Management and Maintenance Endowment Fund, prescribed in Article III.C.2. of this Instrument and underlying management and maintenance actions to be taken following completion of the establishment period of the Bank, the Sponsor will establish an escrow account in an accredited and Federally insured financial institution, as follows.

B. The Long-Term Management and Maintenance Endowment Fund escrow account will be incrementally funded until it is fully funded, as prescribed in Articles III.C.2.b. and III.C.2.c. of this Instrument. Once the Long-Term Management and Maintenance Endowment Fund is fully funded, the Sponsor will be released from any further obligation to deposit a designated sum corresponding to each sale, use, or transfer of credits. The Sponsor will be permitted to accelerate contributions to the Long-Term Management and Maintenance Endowment Fund, and by doing so the Sponsor may defer subsequent contributions until the balance in the Endowment Fund no longer matches or exceeds the balance required by the computation in Article III.C.2.b.

C. The Long-Term Management and Maintenance Endowment Fund escrow account may bear interest or other earnings. Any earnings generated by the escrow funds shall remain deposited with other escrow account funds. Earnings in excess of the full funding amount specified in Article III.C.2.c. of this Instrument will be returned to the Sponsor at the time that the full funding amount is disbursed to the Long-Term Steward.

D. The Sponsor will be responsible for all escrow agency and associated account fees, including account termination and final reconciliation costs, which may not be paid out of escrow account funds, or out of the interest or earnings generated thereon.

E. The terms of the escrow instructions will permit regular recurring deposits to the escrow principal as sales, use, or transfers of credits are made and designated sums corresponding to those sales, use, or transfers are deposited to the escrow account.



PHASE 2/3 STREAM BANK RE-VEGETATION ALONG NOOKACHAMPS CREEK AND EAST FORK NOOKACHAMPS CREEK (TYP)

SCALE: NTS

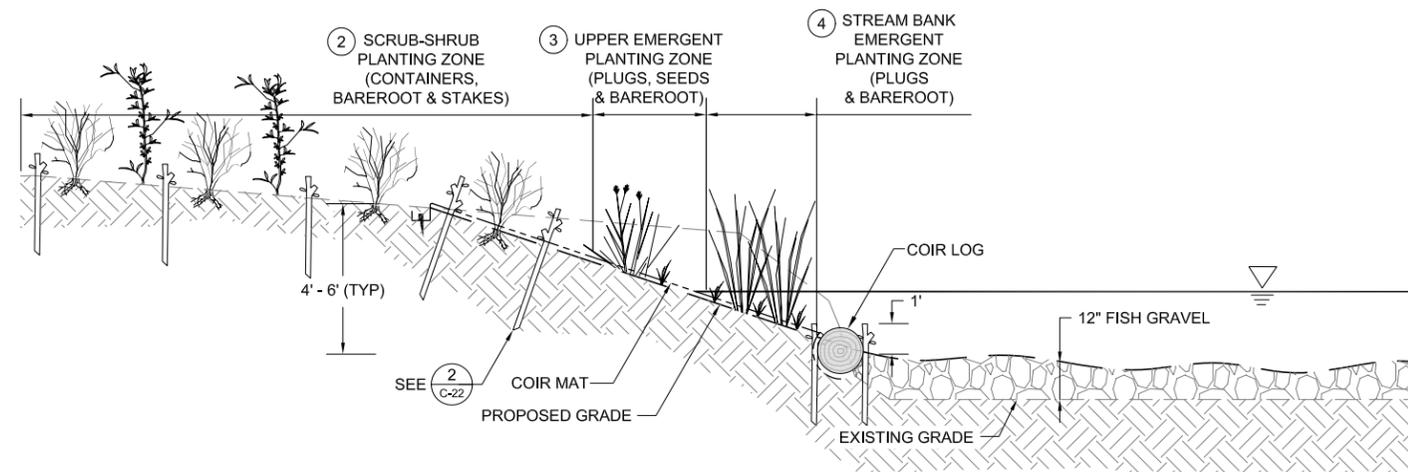
1
-

LEGEND

	FISH GRAVEL
	EXISTING GROUND
	NATIVE ALLUVIUM FILL
	LOW FLOW STREAM ELEVATION
	COIR MAT
	PROPOSED GRADE

SELECT SPECIES:

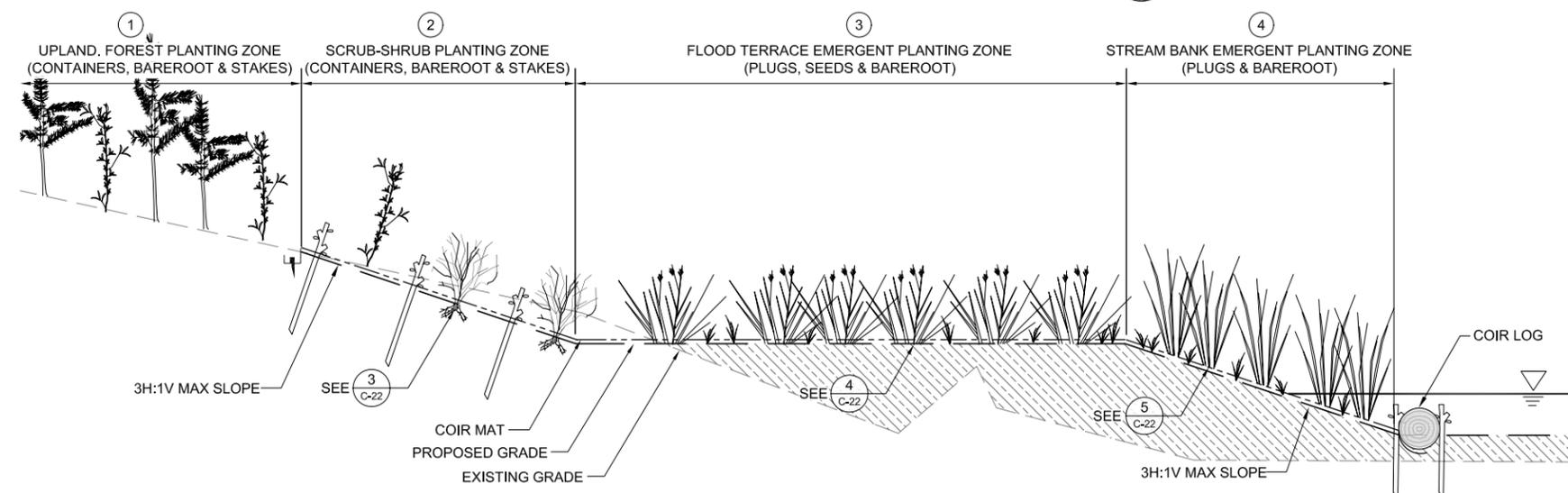
- ① UPLAND FOREST AND WETLAND FOREST MOSAIC PLANTING ZONES:
 BLACK COTTONWOOD (*POPULUS BALSAMIFERA SPP. TRICHOCARPA*)
 RED ALDER (*ALNUS RUBRA*)
 PACIFIC WILLOW (*SALIX LUCIDA*)
 WESTERN RED CEDAR (*THUJA PLICATA*)
 SITKA SPRUCE (*PICEA SITCHENSIS*)
 DOUGLAS FIR (*PSEUDOTSUGA MENZIESII*)
- ② SCRUB-SHRUB PLANTING ZONE:
 SITKA WILLOW (*SALIX SITCHENSIS*)
 HOOKER'S WILLOW (*SALIX HOOKERIANA*)
 RED OSIER DOGWOOD (*CORNUS SERICEA*)
 BLACK TWINBERRY (*LONICERA INVOLUCRATA*)
- ③ UPPER EMERGENT/FLOOD TERRACE EMERGENT PLANTING ZONE:
 SMALL-FRUITED BULRUSH (*SCIRPUS MICROCARPUS*)
 TUFTED HAIRGRASS (*DESCHAMPSIA CESPITOSA*)
 DAGGERLEAF RUSH (*JUNCUS ENSIFOLIUS*)
 DOUGLAS ASTER (*ASTER SUBSPICATUS*)
- ④ STREAM BANK EMERGENT PLANTING ZONE:
 HARD-STEM BULRUSH (*SCIRPUS ACUTUS*)
 SLOUGH SEDGE (*CAREX OBNUPTA*)
 COMMON SPIKERUSH (*ELEOCHARIS PALUSTRIS*)
 THREE-SQUARE BULRUSH (*SCIRPUS AMERICANUS*)



PHASE 1 STREAM BANK RE-VEGETATION ALONG EAST FORK NOOKACHAMPS CREEK (ELJ#2/#3)

SCALE: NTS

2
-



PHASE 1 STREAM BANK RE-VEGETATION ALONG NOOKACHAMPS CREEK (ELJ #1)

SCALE: NTS

3
-

Path: C:\proj\04-02822-003\Cad\Drawings\Phase 1-2-3 Rev 6\C-21.dwg
 Plot Date: 5/7/2008 1:15 PM
 Plot Style Table: Herrera.ctb
 Cad User: Wojciech Wieszczedinski
 Plotter: Adobe PDF

No.	REVISION	BY	APP'D	DATE
6	REVISION NO. 6	MRM	MS	2/08
5	REVISION NO. 5	MRM	MS	12/07



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DESIGNED: J. WASNIAK	DRAWN: L. TURNIDGE
DESIGNED: -	DRAWN: -
DESIGNED: -	CHECKED: M. MERKELBACH
SCALE: AS NOTED	APPROVED: M. SPILLANE

SKAGIT ENVIRONMENTAL BANK

STREAM BANK RE-VEGETATION

DATE: FEBRUARY 2008
PROJECT NO: 04-02822-003
DRAWING NO: C-21
SHEET NO: 25 OF 46

ONE INCH
 AT FULL SIZE, IF NOT ONE
 INCH SCALE ACCORDINGLY
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D.2.2. Credit Award Schedule for Phase 1

TABLE D-2: Credit Award Schedule for Phase 1

Performance Standard	Actual Credit Release per Year										
	Pre-Constr	0	1	2	3	4	5	6	7	Total	
Phase 1 Timeline [Represents 30% of Total Credits]											
1A Signed MBI	8.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.05
1B Placement of Conservation Easement	8.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.05
1C Formation of Longterm Management and Maintenance Fur	8.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.05
2A. Financial Assurance for Phase 1	4.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.83
3A. As-builts for ELJs & Ditches	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.50
3B. Minimum of 3 ELJs Present Year 7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.04	6.04
3C. Minimum Wetland Hydrology (Determination)	0.00	0.00	0.00	12.09	0.00	0.00	0.00	0.00	0.00	0.00	12.09
4A. Cover Planting Installed	0.00	3.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63
4B. Invasive Cover Control to 40%	0.00	0.00	0.00	3.63	0.00	0.00	0.00	0.00	0.00	3.63	7.25
ANNUAL TOTALS	28.98	18.13	0.00	15.71	0.00	0.00	0.00	0.00	0.00	9.67	72.49
Potential Annual Release %	12.0%	7.5%	0.0%	6.5%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	30.0%
CUMULATIVE TOTALS	28.98	47.11	47.11	62.82	62.82	62.82	62.82	62.82	62.82	72.49	0.00

Year 0 is normally the calendar year following the year during which construction was completed and the year during which as-built drawings are submitted. Year 1 is normally the first year of site monitoring.

D.3.2. Credit Award Schedule for Phase 2

TABLE D-3: Credit Award Schedule for Phase 2

Phase 2 Performance Standard	Credit Release Per Year											
	Phase 2 Timeline [Represents 55% of Total Credits]	Pre-Constr	0	1	2	3	4	5	6	7	8 Total	
5A. Phase 2 Financial Assurances		1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
5B. Phase 2 Grading and Planting Plans		1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
6A. As-builts for Grading		0.00	16.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.92
6B. Establish WL Hydrology (determination)		0.00	0.00	0.00	0.00	12.09	0.00	0.00	0.00	0.00	0.00	12.09
6C. Limit Un-vegetated, Permanently Inundated Area		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7A. Vegetation As-planted Report		0.00	4.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.83
7B. Minimum Wetland Area (Delineation)		0.00	0.00	0.00	0.00	0.00	0.00	12.09	0.00	0.00	0.00	12.09
7C. Emergent Cover 40%		0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
7D. Emergent Cover 50%		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7E. Emergent Cover 70%		0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42
7F. Emergent Diversity 8% for 3 Species		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7G. Emergent Diversity 10% for 3 Species		0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42
7H. Shrub Density		0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
7I. Total Scrub Cover 35%		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7J. Total Scrub Cover 50%		0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42
7K. Total Scrub Cover 70%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	2.42
7L. Shrub Cover 6% for three species each		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7M. Shrub Cover 8% for three species each		0.00	0.00	0.00	0.00	0.00	0.00	3.63	0.00	0.00	0.00	3.63
7N. Shrub Cover 10% for three species each		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	3.63
7O. Forest Density		0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
7P. Total Forest Cover 35%		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7Q. Total Forest Cover 50%		0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42
7R. Total Forest Cover 65%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	2.42
7S. Forest Cover 6% for three species each		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
7T. Forest Cover 8% for three species each		0.00	0.00	0.00	0.00	0.00	0.00	3.63	0.00	0.00	0.00	3.63
7U. Forest Cover 10% for three species each		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	3.63
8A. Upland Forest Density		0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
8B. Upland Species Cover 20%		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
8C. Upland Species Cover 35%		0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42
8D. Upland Species Cover 50%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	2.42
8E. Upland Forest Cover 4% for three species each		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
8F. Upland Forest Cover 6% for three species each		0.00	0.00	0.00	0.00	0.00	0.00	3.63	0.00	0.00	0.00	3.63
8G. Upland Forest Cover 10% for three species each		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	3.63
9A. Invasive Cover Control to 30%		0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	2.42
9B. Invasive Cover Control to 25%		0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42
9C. Invasive Cover Control to 20%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.02	3.02
9D. Zero Tolerance Invasives		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	2.42
10A. Habitat Structure As-Builts		0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
ANNUAL TOTALS		2.42	24.17	9.67	0.00	36.26	0.00	37.46	0.00	0.00	23.57	133.54
Potential Annual Release %		1.0%	10.0%	4.0%	0.0%	15.0%	0.0%	15.5%	0.0%	0.0%	9.8%	55.25%
CUMULATIVE TOTALS		2.42	26.59	36.26	36.26	72.51	72.51	109.97	109.97	109.97	133.54	0.00

Year 0 is normally the calendar year following the year during which construction was completed and the year during which as-built drawings are submitted. Year 1 is normally the first year of site monitoring.

D.4.2. Credit Award Schedule for Phase 3

TABLE D-4: Credit Award Schedule for Phase 3

Performance Standard	Credits Release per Year											
	Pre-constr	0	1	2	3	4	5	6	7	8	Total	
Phase 3 Timeline [Represents 15% of Total Credits]												
11A. Financial Assurances	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
11B. Phase 3 Grading and Planting Plans	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
12A. As-builts for Grading	0.00	7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.25
12B. Establish Minimum WL Hydrology (Determination)	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
12C. Establish Minimum WL Area (Delineation)	0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	2.42	2.42
12D. Limit Un-vegetated, Permanently Inundated Area (3%)	0.00	0.00	0.60	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
13A. Vegetation As-planted Report	0.00	3.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63
13B. Forest Density (90%)	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
13C. Forest Diversity 35% for Forest Species	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
13D. Forest Diversity 50% for Forest Species	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.60
13E. Forest Diversity 65% for Forest Species	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
13F. Forest Cover 6%	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
13G. Forest Cover 8%	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	1.21
13H. Forest Cover 10%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
14A. Invasive Cover Control to 20%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81	1.81
14B. Zero Tolerance Invasives	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
15A. Upland Forest Density	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
15B. Upland Forest Diversity 20% for Upland Species	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
15C. Upland Forest Diversity 35% for Upland Species	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.60
15D. Upland Forest Diversity 50% for Upland Species	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
15E. Upland Forest Cover 4%	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
15F. Upland Forest Cover 6%	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.00	0.00	0.00	0.00	1.21
15G. Upland Forest Cover 10%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
16A. Habitat Structures As-Built	0.00	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
16B. Minimum Perch Poles/Snags	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	2.42
ANNUAL TOTALS	2.42	13.29	1.21	3.02	2.42	0.00	3.63	0.00	0.00	9.67	35.65	
Potential Annual Release %	1.0%	5.5%	0.5%	1.3%	1.0%	0.0%	1.5%	0.0%	0.0%	4.0%	14.75%	
CUMULATIVE TOTALS	2.42	15.71	16.92	19.94	22.36	22.36	25.98	25.98	25.98	35.65	0.00	

Year 0 is normally the calendar year following the year during which construction was completed and the year during which as-built drawings are submitted. Year 1 is normally the first year of site monitoring.

Herrera Environmental Consultants, Inc.

Memorandum

To Mitigation Bank Review Team (MBRT)
From Sustainable Environments, LLC and Herrera Environmental Consultants Inc.
Date October 28, 2008
Subject Seed and Stake Harvest Update

This memorandum outlines a framework for the harvest of seed and stakes from the Skagit Environmental Bank. Based on the April 9, 2008 conference call with the MBRT, it was agreed in principle that the harvest of seed and stakes were an allowed activity with the contingency that it does not negatively affect bank performance standards and the overall health of the wetland and upland vegetation communities. Seed and stake collection will be strictly monitored and approved on an annual basis and collection methods (by hand) will be minimally invasive to prevent the creation of large areas of disturbance, pathways, or other noticeable anthropogenic impacts. Seed and stake harvest will be used to supplement planting efforts within the mitigation bank and will be sold commercially to support restoration and other projects within and outside of the Puget Sound lowlands.

Guidelines for Monitoring and Harvest

Guidelines for monitoring and harvest of seed and live stakes have been developed to ensure that plant material collection is accomplished in a sustainable manner that does not affect the success of revegetation efforts and overall ecosystem health at the Skagit Environmental Bank.

As mentioned, all harvesting will be completed by hand: no mechanical equipment of any kind will be used. Harvesting will be scheduled during periods of dry weather to prevent any damage to the structure of wetland soils and plant roots. Routes to harvesting areas will not be established and collectors will be instructed to spread out during travel to and from collection areas to prevent plant and soil damage through repeated trampling.

The following sections comprise a description of the harvesting schedule and monitoring techniques that will be employed to ensure the sustainable collection of plant material at the Skagit Environmental Bank as part of the proposed native seed harvest.

Seed crop abundance was chosen as the main metric for monitoring because (1) it serves as a representation of overall population vigor (i.e. if plant community productivity decreases, it is likely that seed crop production will also decrease), (2) it serves as a gauge of population reproductive success, and (3) it is the primary plant material being collected.

Seeds

Target species will be composed of trees, shrubs, and emergents currently on-site, in addition to those that will be planted. See the Collection Schedule below for a species list. [Note: the bank site is currently characterized by low emergent diversity (although abundance of these species is relatively high) and project objectives include increasing species diversity.]

Emergents

- A pool of potential reference areas will be identified (both on- and off-site) that are characterized by healthy stands of the target species. These areas will be marked using GPS and their locations will be displayed on a GIS map to be submitted to the MBRT for approval.
- Reference areas for a given year will be randomly selected from the pool, and the sampling scheme for these areas will involve the harvesting of the entire mature/ripe seed crop within randomly selected 1m² plots.
- The seed collected from the reference areas will be weighed, reported in grams, and averaged. These results will serve as the standard level of seed production (on a 1m² basis) for the target species for that particular year. Reference site data will be collected for three years prior to any seed harvesting from planted emergents to obtain adequate baseline data. The seed collected from the reference plots will then be redistributed at their respective locations, ensuring no net loss of plant reproductive material in reference areas.
- The seed crop at a proposed collection site will be sampled in the same manner (randomly selected 1m² plot; harvesting of entire mature/ripe seed crop in plot) to determine if seed production meets the abundance standard set by the reference sites. Only mature/ripe seeds will be collected. If seed crop within 1m² sample plot meets the abundance standard, the stand of emergent species represented by the sample plot may be selected for collection in that particular year. Seeds will be collected when they are considered mature/ripe for the individual species and will be no more than 30 percent of the visible seeds. Harvesting will be suspended in years of low seed production. Low seed production is defined as less than 50 percent of the average seed crop produced in previous years. Collection will be conducted by hand stripping seed from the ripe heads. There will be no cutting of vegetation involved. It will be very difficult to visually notice any disturbance from seed collection. A positive impact of harvesting of seed in this manner is that seed will be released from the plants and pressed into the soil by foot traffic. This will result in a buildup of the emergent plant seed bank in the soil and help ensure the sustainability of the plant community. [Note: In areas exhibiting particularly decadent and robust existing stands of target species, it may be beneficial to commence harvesting immediately (see discussion in the Monitoring section below).]
- Sampling results in subsequent years will be compared to both reference site data and past collection site data to detect any potential trend toward decline in seed production. If reference site averages indicate a decline in seed production, corresponding collection

site declines in production can likely be attributed to yearly climatic variation affecting regional seed crops. However, if seed crops in collection areas display a downward trend in production that is not reflected in reference site data, it is likely that harvesting is causing a negative effect on plant community reproduction and corrective measures will be taken. If harvesting is suspected of causing a negative effect on plant community reproduction, seed harvesting will be suspended until the MBRT approves further harvesting.

Shrubs and Trees

- A pool of potential reference areas will be identified (both on- and off-site) that are characterized by healthy stands of the target species. These areas will be marked using GPS and their locations will be displayed on a GIS map to be submitted to the MBRT for approval.
- Reference areas for a given year will be randomly selected from the pool, and the sampling scheme for these areas will involve the harvesting of the entire mature/ripe seed crop from three selected individual trees or shrubs within each reference area (they should all be the same size).
- The seed collected from each sampling individual in each reference area will be weighed, reported in grams, and averaged. These results will serve as the standard level of seed production for the target species (of corresponding size) for that particular year. The seed collected from the reference areas will then be redistributed at their respective locations, ensuring no net loss of plant reproductive material in reference areas.
- The seed crop at a proposed collection site will be sampled in the same manner (three randomly selected individual trees or shrubs with size corresponding to the reference individuals; harvesting of entire mature/ripe seed crop on individual plants) to determine if seed production meets the abundance standard set by the reference sites. If so, this area may be selected for collection the following year. Seeds will be collected when they are considered mature/ripe for the individual species and will be no more than 30 percent of the visible seeds. There will be no repeat collection on sample sites. Harvesting will be suspended in years of low seed production. Low seed production is defined as less than 50 percent of the average seed crop produced in previous years. [Note: In areas exhibiting particularly decadent and robust existing stands of target species, it may be beneficial to commence harvesting immediately (see discussion in Monitoring section below).]
- Sampling results in subsequent years will be compared to both reference site data and past collection site data to detect any potential trend toward decline in seed production. If reference site averages indicate a decline in seed production, corresponding collection site declines in production can likely be attributed to yearly climatic variation affecting regional seed crops. However, if seed crops in collection areas display a downward trend in production that is not reflected in reference site data, it is likely that harvesting is causing a negative effect on plant community reproduction and corrective measures will be required. If harvesting is suspected of causing a negative effect on plant community reproduction, seed harvesting will be suspended until the MBRT approves further harvesting.

Collection Schedule

The schedule below identifies the three cluster dates for the collection of seed from various species. Some flexibility must be provided since the timing of seed maturation for the different target species varies throughout the growing season.

Late May 20th – May 30th

Populus balsamifera ssp. trichocarpa/Black Cottonwood
Salix lucida/Pacific Willow
Salix sitchensis/Sitka Willow
Salix hookeriana/Hooker's Willow

July 10th – 20th

Sagittaria latifolia /Wapato
Rhamnus purshiana/Cascara
Lonicera involucrata/Black Twinberry
Alopecurus aequalis/Short-awn Foxtail
Eleocharis palustris/Common Spikerush
Deschampsia cespitosa/Tufted Hairgrass
Eleocharis palustris/Common Spikerush
Carex obnupta/Slough Sedge
Juncus ensifolius/Daggerleaf Rush
Juncus effuses/Soft Rush
Juncus ensifolius/Daggerleaf Rush
Juncus balticus/Baltic Rush
Scirpus americanus/Three-square Bulrush
Scirpus microcarpus/Small-fruited Bulrush

Late August 20th –September 10th

Alnus rubra/Red Alder
Picea sitchensis/Sitka Spruce
Thuja plicata/Western Red Cedar
Malus fusca/Pacific Crabapple
Physocarpus malvaceus/Pacific Ninebark
Rosa nutkana/Nootka Rose
Rosa pisocarpa/Swamp Rose
Aster subspicatus/ Douglas aster
Cornus stolonifera/Red Osier Dogwood
Crataegus douglasii/Douglas Hawthorn

Cuttings

Cuttings will be collected during the winter (January-February) from willows and dogwood on the bank site. The first harvest (early spring of 2009) will begin with the existing established willows and dogwoods that abundantly line the waterways on-site. For the first five years following Bank Certification, cuttings will be harvested from existing willows and dogwoods by thinning up to 30% of existing plants to increase vigor and habitat value. Shrubs in areas of dense reed canarygrass and on immediate streambanks will not be harvested. This will avoid reducing shade on the stream and stimulating the growth of the reed canarygrass.

Collection of cuttings in areas to be planted in Phase II will occur over a 10 year period with 10% of the total area occupied by willows (measured at the time of harvest using high resolution GPS) on the site designated for harvesting each year with no areas receiving repeat harvests. (Our experience suggests that it may be an advantage, and may, in any case, not be harmful, to mimic the effect of large herbivores that will be absent from the site (see the discussion on browsing below.) The harvest of cuttings from planted willows and dogwood will be conducted only on the most vigorous and robust individuals in the population: no cuttings will be collected from individual plants less than 1.5 meters in height. The cutting harvesting operation of planted willows will remove no more than four branches from each plant. Cuttings will be approximately 1m in length, 1-2.5cm in diameter at the base, straight, and disease-free.

Monitoring and Reporting Strategy and Timeline

As mentioned, the harvesting of material will be focused in two specific areas; (1) abundant, robust existing vegetation and (2) well-established vegetation that develops from Phase II planting activities.

Monitoring and assurance of Performance Standard achievement of planted vegetation, translating to the completion of “vegetation establishment period” of the bank (as defined by the MBI), will be required prior to any harvesting activities. It is anticipated that this period may take up to three years following the initial planting.

As described, there is currently abundant existing plant stock found in some areas within the bank site. Harvesting of plant material in these areas would provide an exceptional opportunity for revitalization of on-site vegetation communities through establishment of a surrogate for natural disturbance mechanisms that have been lost due to human modification. As discussed in the preceding memorandum, and as suggested above, browsing historically played a significant role in development of Skagit floodplain vegetation communities. With the conversion of these areas to farmland, habitat loss has greatly reduced the ability of these systems to support large herbivores, resulting in a significant shift in plant community dynamics in remnant floodplain habitat due to significantly lower browsing pressure. Selective thinning serves as a surrogate for this natural process, facilitating restoration of historic ecosystem function. Selective thinning serves the additional purpose of reintroducing an element of disturbance previously caused by a

high-frequency flooding regime (i.e. branch loss and dieback due to inundation and physical perturbation). With the potential provision of these benefits in overgrown areas within the bank site, it stands to reason that selective thinning of decadent, robust stands of existing vegetation (willow, dogwood, and some emergent species) would be a logical first step toward restoration of ecosystem function. For this reason, it is recommended that harvesting in these areas commence immediately, with follow-up monitoring being used to ensure adherence to bank Performance Standards.

Additionally, the conservation easement contract between the Skagit Environmental Bank and the land trustee will define the requirement of the land trustee to accept the responsibility of overseeing continued harvesting activities.

Monitoring and reporting will continue annually until all Performance Standards are met prior to turning this activity over to the long-term manager/land trustee. A plant material monitoring and harvest plan will be submitted by early spring of the year for which harvest is intended so that the MBRT can review it in time for May seed harvest. Therefore, each year's harvest plan would be based on the monitoring results from the previous year of seed production (presented to the MBRT in the form of an annual report). Seed production will be monitored for three years prior to the first harvest. The annual reports will be submitted in the fall of each year.

Timeline for monitoring and documentation submission to the MBRT:

- Summer [beginning in May] (1st, 2nd, and 3rd years) – reference site sampling and harvest plan for existing vegetation communities.
- Fall (1st and 2nd years) – annual report
- Fall (3rd year) – Summary report (will address results from three years of monitoring and implications for first harvest plan)
- March (4th and subsequent years) – Harvest plan submission to MBRT (based on MBRT comments on previous year's report)
- March-April (4th and subsequent years) – Harvest plan revisions (based on MBRT comments)
- April (4th and subsequent years) – Harvest Plan finalized and approved by MBRT
- Summer (4th and subsequent years) – Harvest and sampling
- Fall (4th and subsequent years) – Annual report submitted to MBRT

The Annual Reports will:

- (1) Present findings from reference area and collection area sampling activities.

- (2) Present overall plant material collection results and provide comparisons to reference area data and previous years' data.
- (3) Discuss any unsatisfactory results and provide protocol adjustments required to improve plant material reproductive success and overall ecosystem health at the Skagit Environmental Bank.

The Harvest Plans will:

- (1) Clearly define species to be collected, location where seed will be collected (including GIS maps), and amounts of seed/cuttings to be collected based on annual report from previous year.
- (2) Clearly describe harvesting, storage, and plant material tracking methods.
- (3) Address safety considerations for harvesters.

As mentioned, reference area results will be tracked over time. Any downward trend in seed production in collection areas as compared to reference area data will result in corrective measures involving reduction or suspension until production has recovered to reference standard levels. It should be reemphasized that climatic variability will lead to fluctuation in seed abundance which will affect harvest goals.

In summary, plant material collection will be accomplished in a sustainable manner conducive to the achievement of restoration performance standards and the overall goals of the Skagit Environmental Bank. The harvesting techniques, collection schedule, and monitoring protocols discussed in this document represent the specific elements of the proposed plant material collection plan that ensures consistency with this objective.