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Date: 4/26/01 7:46AM
Subject: Clarification from last meeting

**** High Priority ****

Attached is a list of items we discussed clarifications. I think I noted them all, but let me know if I've skipped any. Also, if I've missed the point on some of these, let me know.

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Exhibit-2210

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MEETING BETWEEN JIM KELLEY
AND KATIE WALTER

STIA

April 12, 2001
9:00 am – 4:00 pm

Topics of Discussion:

#	4-12-01 Issue	10-13-00 Issue	Clarification
1	Elevations of hydroseeding and water levels Contingency for planting emergents in plugs		At the Auburn mitigation site, hydroseeding can occur during summer and fall, when water levels are low, waters can be held at 41 ft the following winter to prevent long term flooding of recently hydroseeded areas
2	Radius of influence and , impact to adjacent wetlands		HWA to provide info – preliminary analysis shows a small radius of influence (as small as about 30 ft from the base of the excavation). Scott Bender confirmed this assessment is likely conservative.
3	Biofiltration on NRMP sheet 3.3 Appendix A- erosion		Flow from bioswale will not cause erosion, as the slope is gradual and the channel at the end of the swale is stabilized by dense sod.
4	Elevation of dispersal trench relative to sewer line		Sewer lines are buried well below the shallow grading required to construct the dispersal trench.
5	Sheets C4 and C2 – manholes- what will be removed?		Sewer manholes must be protected during grading of the Vacca Farm site, until the sewer line is abandoned. Upon abandonment, manholes not in the area of restrictive covenants for which mitigation credit is sought will be abandoned.
6	anchors – are a combination of hemp rope and steel cable- explain- effectiveness of anchors in peat soils Do we plan on wood being stable		Anchoring of the log weirs in the stream (Appendix A, Sheet C5, Detail 2) with steel cables is provided as “contingency” as engineers believe the logs, installed as shown would be stable. Other logs (Appendix A, Sheet C7, C8) show wood anchored with hemp rope. These logs would generally be stable, but it would be acceptable and beneficial for them to move during a larger flood. They are anchored temporarily (3-5 years) with hemp rope so that if a larger flood were to occur early during the establishment phase, movement of woody that could damage young vegetation would not occur. After the hemp rope rots, it is expected the density and size of shrubs would prevent major movement and damage of vegetation.
7	C7 – erosion control Section 2 Section 3 road		The construction road shown on Appendix A, Sheet C7 is within the TESC envelope for the project and does not, by itself need additional TESC measures.
8	Setting of channel in peat- ability to conform to movements, exposure of geotech		The geotextile liner designed for the stream is provided to enhance the ability of the stream to conform to the minor movements (i.e. rebound or compression) of the peat soil it is constructed in. The geotextile liner is placed at elevations below the control elevations for the channel. Given the nearly flat topography of the site, the low flow

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9	Filling of ditches for TESC @ Vacca Farm	<p>velocities, and the broad floodplain, it is not likely that the geotextile liner would be exposed through scour.</p> <p>Temporary erosion control actions would require filling and berming small portions of drainage ditches near the south west portion of the site (Appendix A, Sheet TE1). This will allow all construction water to be collected for treatment during construction and direct off the site in a controlled manner following construction. The placement of these berms has been incorporated in the analysis of wetland alterations on the Vacca Farm site.</p>
10	Straw bale filter – will it be adequate?	<p>Straw bale filters (Appendix A, Sheet TE2)(or other TESC measures (i.e. sediment sills, not shown) are proposed to be placed to enhance the function of other TESC measures. Post construction, these measures would enhance the function of the biofiltration swale they are placed by reducing velocity and promoting removal of suspended sediment.</p>
11	Adequacy of 100 gpm pump?	<p>The sizing of pumps for treatment of construction runoff is based on the anticipated design storm, the storage available and the treatment capacity of water quality facilities. They will allow discharges to meet water quality standards.</p>
12	Remove staking of trees	<p>There is no need to stake trees of the size planned for the mitigation sites, and this detail would thus not apply.</p>
13	Don't hydroseed on mulch collars	<p>There is no need to hydroseed mulch collars, and the note on Appendix A, Sheet L2 can be modified to reflect this if required. For cedar and spruce, a grassed mulch collar could be beneficial, as grass would keep soil temperatures lower, and enhance survival.</p>
14	Damage to existing vegetation by placing logsC3-	<p>Placement of logs as shown on Appendix B, C3 is restricted to areas where existing native riparian vegetation is lacking (i.e. to areas of lawn, or blackberry).</p>
15	C5- Regrade channel? Spanlog?- F on C-10	<p>Minor grading of channel banks and placement of gravel in the channel is shown on Appendix B, Sheet C5. Coir lifts are proposed, as indicated in cross sections 2 and 5 (Appendix B, Sheet C8). The log shown on Sheet C5 is intended to be a span log.</p>
16	Note 2: change note on tire disposal	<p>Note 2 on Appendix B, Sheet C5 will be revised to indicate tires will be disposed of appropriately off-site.</p>
17	C6- Anchor trench – is this needed – seems inconsistent?	<p>The anchor trench shown on Appendix B, Sheet C6 and cross-section 3 on C8 is provided to anchor the edge of the biodegradable fabric while the area stabilizes.</p>
18	Specify volume of willow for lifts?	<p>A specification for the density of willow in coir lifts (see Appendix B, Sheet C5 Detail 2) will be prepared. It is presumed that densities of 1 stake per linear foot would provide substantial capacity for stabilization by roots and shoots.</p>
19	C10 detail B C7 specification of geotextile.	<p>Geotextile fabric was specified in Appendix B, Sheet C10, detail B because the area is generally flat or shallow grade and the disturbed area would not be exposed to high flows from the stream during the time period that the site is stabilizing. This fabric would be biodegradable.</p>
20	Appendix B Details on flow dispersal structures	<p>The flow dispersal structure (Appendix B, Sheet TE2) is planned to consist of straw bales staked into the native substrate with wooden stakes.</p>

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22 Description on drawing- re: live staking density	Live stake densities of 18 inches on center are planned for areas with coir lifts.
23 Flow dispersion and pipe installation? No digging	There is no need to place the flow diversion pipe (Appendix B, Sheet TE2) in a trench.
24 Note on wetland areas not to be disturbed?- protection	See Note 6 on the TESC Plan Sheets. Wetland areas not to be disturbed will be delineated by the engineer. An orange construction fence will be used on the site to indicate areas where construction activities (clearing, grading, mowing etc) will not be allowed. The wetland areas that would be disturbed to install instream enhancements are areas dominated by non-native blackberry, are lawn, or reed canary grass areas.
25 L-3 show temporary impact areas as "cleared"- not non-cleared	In Appendix B, on Sheets L3, L4, and L5, all areas of temporary impacts and channel mitigation are also areas cleared of vegetation during construction.
26 No work in sewer easement	Since the sewer easement is out side the area of restrictive covenants and area where mitigation credit is sought, we agree work should not occur in these areas (Appendix B, on SheetsL1, L2, L3, L4, and L5).
27 Specification of trees in enhancement areas – show densities instead of quantities?? Could use less in existing areas of vegetation.	A performance standard of 280 trees per acre is proposed for the buffer. In cases where some forest vegetation is present, we would supplement the existing trees with enhancement plantings to achieve this density. In areas where trees are not present, a minimum of 280 trees per acre would be planted.
28 May not need to plant red alder	Red alder is expected to colonize the mitigation area and may not need to be planted. To provide the greatest assurance that performance standards for trees are met, red alder saplings would be planted.
29 Phasing of cedar planting – spec small cedar planting	Planting of small sized cedar trees and Sitka spruce could occur as a later planting phase in some areas. In some areas, suitable shade or soil moisture would allow planting in one phase.
30 P2 – 154 th / 156 th closure notes confusing regarding sequence w/ footings	Construction and traffic phasing can occur as shown. The bridge abutments could be built in phases.
31 Disturbance of creosote timbers?	TESC controls would be in place for timber removal. This would minimize sediment mobilization. Since creosote is highly immobile in sediments, biotic impacts would not occur.
32 Floodplain planting designations @ Tyee Valley Golf Course- there are no hemlock, Sitka spruce, or cedar?	Trees will not be planted in the floodplain planting zones at the Tyee Golf Valley Course because of aircraft safety concerns. Since the mitigation is not proposed as wildlife habitat, there is no reason to provide forest habitat or trees.
Auburn – no representative planting areas a re shown in east basin	The areas shown as "Plant Pattern Layout" (Appendix E, Sheet L5 and L6) would be keyed to contract specifications, as indicated. The specifications would require the contractor lay out all plants in the "plant pattern layout area" according to the planting zones shown on Sheets L9 and L10. (The planting patterns on sheets L9 and L10 are not intended to conform to the layout areas shown on L5 and L6). Once laid out, the biologist would

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	<p>inspect the planting areas, and instruct the contractor further on blending of planting zones, desired clumping, planting on micro-topography, etc. Minor adjustments would be made and the contractor would be instructed to follow a similar approach throughout the mitigation site. Once approved, planting the remainder of the site could proceed. Since this is to verify plant placement meets the design intent (i.e. non-uniform clumping, etc) it need only be done once, at the start of planting which would be the east side of the site.</p>
Dirt piles to stay	<p>Refer to Appendix E, Sheets C5 and C6 for grading and removal of dirt piles. Some dirt piles at would remain (those in buffers) while others would be removed. When left, the piles would provide some habitat and topographic diversity</p>
Culverts for gravel paths to prevent ponding	<p>These would not be necessary as the subgrade for roads and paths are highly permeable, and would not pond water on the upslope side.</p>
Sheet C8 - w/6" pipes, is settlement a problem on temp crossing?	<p>The pipes rest on a geotextile liner and are surrounded by crushed rock. Engineering analysis shows that the roadbed will be stable for the intended loads and that the pipes will not sink into the soils. The pipes are planned as contingency, since the highly permeable roadbed is expected to convey the limited surface water found in the wetland for brief periods.</p>
Retention ponds not shown on sheets	<p>The retention ponds are shown in the <i>Auburn Wetland Mitigation Project - Stormwater Treatment System</i>, Parametrix, 2001. They occur on the west side, in the two depressions shown on Appendix E, Sheet C5, with the more southerly basin extending onto Sheet C6.</p>
7-47 typo on construction window re eagles	<p>The construction period for the site will be from March 31 to October 31 to avoid possible disturbance of overwintering bald eagles.</p>
Stabilization of dewatering ditches?	<p>The dewatering ditch would be stabilized with sheet plastic or other erosion control fabric. Dewatering discharge could also be piped to existing stable roadside ditches.</p>

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