DEMO PLOT SIZE:
The recommended plot size is a minimum of 0.25 ha (50 m x 50 m) with a 10 m buffer around it within which the destructive sampling takes place. There needs to be an additional 10 m buffer around that where no sampling takes place

A. SOIL SAMPLING FROM SOIL PITS

1. ***Number and location of pits:***
   A minimum of 3 soil pits need to be located within the 10 m buffer of the plot.

2. ***Sampling depths:***
   The mineral soil needs to be analyzed by soil horizon, into the lower B or B/C horizons. *This differs from the ICP protocol which recommends sampling the mineral soil by depth.*

3. ***Number of sub-samples and composite samples:***
   A minimum of 24 sub-samples, combined into at least 3 composite samples is required. Each composite sample should have a minimum of 500 g of fresh soil.

4. ***Soil parameters***
   The soil parameters are outlined in Part IIIa of the ICP Forest Manual. The Annexes in this section provide detailed methodology for each parameter though standard US laboratory procedures may differ from those outlined.

   Table 4 on page 15 summarizes the parameters for this section. ***While this table lists soil depths, we need to have the data by individual soil horizon.***

   Following is a list of the parameters with notes regarding whether we consider the parameter mandatory (M) or optional (O), and any other changes required for this project.

Parameter		Notes
1. Organic layer weight	O	
2. Coarse fragments	M	For each horizon
3. Bulk density	M	For each horizon
4. Particle size distribution	M	For each horizon
5. pH ($CaCl_2$)	M	For each horizon
6. Organic C	M	
7. Total N	M	
8. Carbonates	O	
9. Extractable Ca, K, Mg, Al, Na	M	
10. Extractable P, Mn, Cu, Pb, Cd, Zn, Fe, Cr, Ni, S, Hg	O	
11. Exchangeable acidity	M	For each horizon
12. Exchangeable cations	M	For each horizon
13. pH (H_2O)	M	For each horizon
14. Total elements	O	
15. Oxalate extractable Fe, Al	O	
16. Full Mineralogical analysis	O	This is something we have added. It is most important for the lower B and C horizons. This allows us to calculate mineral weathering rates using different models and is strongly recommended.

5. ***In addition:*** **We ask that a full soil profile description is provided for each pit.**

B. Soil Solution Samples

1. ***Number, location, and type of lysimeters:***

   A minimum of 10 lysimeters need to be located within the 10 m buffer of the plot; this is enough for 5 lysimeters at 2 depths. A minimum of 3 samples is required at each depth. It is strongly recommended that there be at least 5 lysimeters at each depth to ensure the minimum 3 samples for each sampling period.

   ICP protocol recommends sampling at the following depths: 10-20 cm and 40-80cm. It is recommended, but not mandatory, to place lysimeters at the bottom of the organic horizon as well.

   Tension lysimeters are acceptable (e.g. Prenart).

2. ***Sampling period:***

   Soil solution is to be collected minimally once a month.

3. ***Soil solution parameters***

   The soil solution parameters are outlined in Part IIIb of the ICP Forest Manual. The Annexes in this section provide detailed methodology for each parameter though standard US laboratory procedures may differ from those outlined.
   Table 7 on page 124 summarizes the parameters for this section.

   Following is a list of the parameters with notes regarding whether we consider the parameter mandatory (M) or optional (O), and any other changes required for this project.

Parameter	Notes
1. Electrical conductivity	O
2. pH	M
3. Alkalinity	M
4. DOC	M
5. Na	M
6. K, Mg, Ca	M
7. Al (total)	M
8. Al (labile)	M
9. Fe, Mn	O
10. P total	O
11. NO_3-N, SO_4-S	M
12. NH4-N	M
13. CL	M
14. Zn, Cu	O
15. Cr, Ni, Pb, Cd	O
16. Si	O