**Device Magic Form**

Currently, two forms are available 2022\_v3 and 2024. The only difference is the inclusion of alternate fields for [*Tare Weight*, *Mass + Tube*, *multi-part Mass + Tube*, *SWE* in MV study area (*cm* instead of *g*)

**Q:** Do we want both forms active? 2024 appears flexible for both MV and non-MV SWE methods **[YES]**  
  
**Q:** Do we want a drop-down list of plot\_id’s? **[YES]**  
  
**Q:** Do we want to change the field name “*Mass + Tube* (*cm SWE / g*)”? (both field names *and* identifiers) **[MAYBE]**

**Q:** Do we want to change the “*Mass + Tube*” fields in the multi-core section? Currently named identical (no units) which might be easy to enter wrong in the field and mess things up downstream. **[Probably]**

**Q:** Do we want to change the other multi core identifier names? They are not very clear/informative. (e.g. norm = SWE\_cm multi = SWE ; norm = Mass\_\_Tube\_\_g\_ multi = Mass\_\_Tube ; norm = Plug\_\_cm\_ multi = Plug\_ ; etc.) **[YES]**

**Q:** Density calcs  
- Density\_nonMV = SWE\_cm / (depth\_Max – Plug\_\_cm\_)  
- Density\_MV = SWE\_Final\_cm / (depth\_max – plug\_\_cm)

**P:** Depending what is wanted on the processed sheets. It would be cleaner if we were to set the end SWE and density fields the same and omit the intermediary fields. Do we need them (or to know how density was calculated?) **[YES-Check Rosie]**

**Q:** How do we want to handle data from different plot\_id (e.g. roadside) | other distances | missing something or other? [the script that I have been given moves the road data around a bit, but doesn’t seem to process or export them] **[Flag values in output, and also notify when running script – perhaps with additional ‘unused’ output]**

**Q:** Multi-part core: seems like only one additional core section is possible/straightforward  
 - are there ever 2 taken?  
 - should I clean this up? (auto-names, possibility for more than 1 etc.)

**Q:** New form: dropdown option for type of scale being used? (Currently the form automatically switches to cm-scale based on study area == metrovan, which is probably not ideal I either a) g-scale is used in metro-van or b) cm-scale is used in other areas

**Q:** Depth fields:  
- Depth (cm): beginning of form, both density and depth  
- New Depth, multi-core form, density  
- Depth Max: end of form, density

**Q:** Density calc:  
Density (from mass scale) = SWE / (depth\_max – plug) (should this be core length?)  
same for Density (from SWE scale)

**Q:** Plot type: not currently mandatory (e.g. cardinal 10 m). Found left blank – likely caused some missing data. Correction?

**Device Magic Form Processing**

**Q:** What is the plan for phase/flight #?  
- currently need to enter manually, which a) is an extra step b) leaves room for error c) prevents/complicates ‘easy processing tools’ idea  
**soln:** A) make it part of DM form B) Make it part of the input file naming rqmts (I can make it so the script still runs if it doesn’t find it in name)  
  
  
**Q:** Does the script need to work for previous versions of the DM forms (variable amount of work, depending how far back we want the compatibility to extend and how man changes have been made in the past) **[alt]** we can update/standardize the old forms  
  
**Q:** it looks like ‘centre’ points (density) are currently not being given coordinates, do we want this?

**Q:** Making it compatible with other survey types? (e.g. 30m, quick 5 point)

**CHECKS:**

Distance from centre not entered (I have found this in the spreadsheets)

Incorrect plot\_id variations (caps, trailing spaces)

Are there final density values for all density samples and depth values for depth samples?

Coordinate location (I can compare distance to plot\_id centre, but if these are wrong then it is due to user input error so I’m not sure how I would catch this…)

Number of coordinates attributed == number of samples

All data points accounted for in plot (someone hasn’t entered E for two arms)

**GNSS:**

**Q:** What is the workflow for this data? Changing between years/flights? Wondering how to consistently access it within scripts (if not a stable workflow – they can be entered as an input when the script is run?)  
  
**Q:** rounding in cardinal direction template x/y (not significant, just curious)  
  
**Q:** Cruickshank R1O values are 0?  
  
**Q:** Do we want lat/lon? (I forgot)

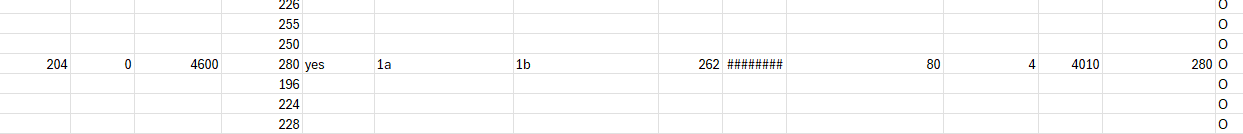
**Q:** Naming convention of outputs and inputs? (CRU, ENG, TSI, MV)  
CRU\_flight2\_DMform\_processed  
CRU\_flight2\_DMform\_NOTprocessed  
CRU\_flight2 \_DMform\_summary  
  
Inputs: template and gnss points – e.g. easting vs. Easting\_m  
I can write code to account for many possibilities, but it’s a bit of a pain and a waste of time if not necessary. Better to enforce that users have named columns correctly in the input files? I *can* write an error code into the script so that it rejects the inputs if they don’t contain the column name that I needs (and gives an explanation of what is missing)  
  
**Data Organization (for Rosie)**

**Q:** Template issue. Can I remove redundant files?

**Q:** How do we want the data/files organized  
- original forms and outputs from processing  
- GNSS and template files  
- other…  
with the aim of minimizing multiple copies, without messing up old structural dependencies

**BONUS:**

**Q:** Do we want some sort of summary/reference plots as part of the output?  
- Map of data points (plotted or .kml points)  
- Histograms/scatterplots of depth/SWE/density for plot\_ids?



Core length | plug ….. | multicore length | plug copy | depthmax  
How does the plug work?