

### Specific questions

- Densities for broken ground, stony ground and boulder field. The second level of density screens obscure other map detail particularly contours hence reducing legibility. However of major concern is that the individual placement of Stony ground, Boulder field and Broken ground must be retained for all of these symbols. See comments for symbols.
- Greens. On my home printer symbol 409 of the OCAD set it appears that the lines are too close. Also I cannot distinguish between 410.000 Vegetation: very difficult and 411.000 Vegetation: impassable, while 411.002 Vegetation: impassable appears as black. To make a proper assessment of these variations one needs to view test sheets printed from an offset, spot colour machine.
- Slope lines. All the Slope lines for simplicity should be 0.14mm.
- Boulders. 30m maximum distance is probably OK to show relative height differences in Boulders.
- Minimum dimensions. The introduction of graphics on minimum dimensions is excellent. Again I would like to view the proposed minimum areas printed on an offset, spot colour machine. First impressions are that they seem OK or at least a good starting point. Given the pressure from organisers to use non offset, spot colour printing I would err on the larger size to ensure legibility rather than go smaller as experience tells me that some of our maps have small areas (some probably undersize) of yellow and grey that are not readable on the run. I think the mapper must exercise judgement as to how thin such areas can be and together with the controller / event advisor ensure the areas are legible on the printed race map.

Also impacting on minimum area / legibility is the colour of grey and yellow particularly for non-offset printing. Grey is more discernible with more K. Yellow is better particularly for colour blind if PMS 116 (M16 Y 100) is used.

### 103 Form line

All Slope lines to be 0.14mm for Contour, Index and Form lines.

The 0.25 tag is too thick while the 0.10 is too narrow. Best with one tag width for simplicity.

### 106 Ruined earth wall

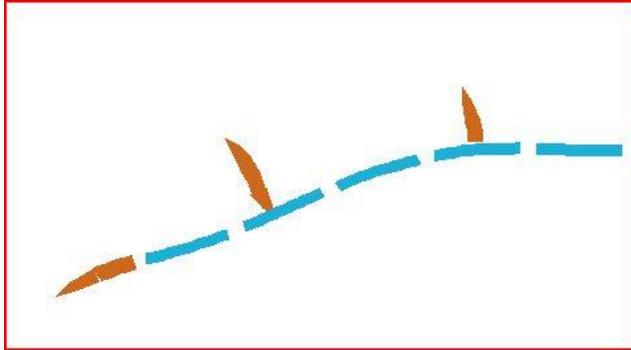
Retain current term: Small earth wall

Then consistent terminology with 108 Small erosion gully (107 Erosion gully)

A small earth wall is not necessarily a ruined earth wall.

### 107 Erosion gully

Can this include a non-tapered or square end when it joins the start or side of a water course? This will also make the symbol length shorter and help accommodate shorter erosion gullies.



### 113 Broken ground

It is not clear if single point placement is included or is it only a screen area symbol. Single point placement is in the OCAD set as symbol ie no 113.001 but is not detailed here.

The single point placement of Broken ground is essential and accordingly the revised symbols must include the sentence from the current definition 'The density of randomly placed dots may vary according to the detail on the ground'.

This use of single point placement better represents broken ground as compared to the proposed area symbols. The individual dot can be placed to avoid contour lines and other important map detail as appropriate.

### 114 Very broken ground

When printed this screen symbol obliterates and or hides other map detail particularly contour lines hence results in an unacceptable loss in map legibility.

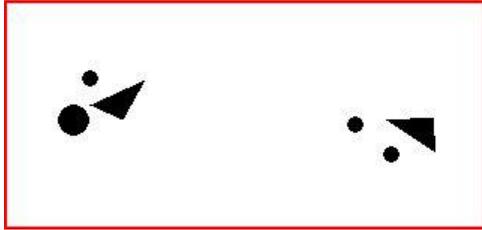
### 115 and 116 Special prominent landform feature

To assist colour blind orienteers there should be a rule that says if brown symbols are used then the equivalent shape symbols in Green should be avoided. Given the extra point symbols as proposed this simple rule would be achievable for the vast majority of maps and result in increased legibility for colour blinds.

### 208 Boulderfield

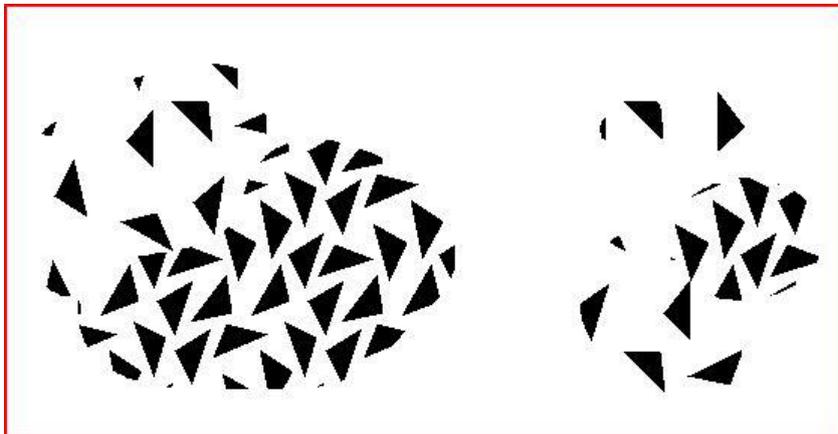
Should add that with individual placement 'The going indicated by the density of triangles'.

In respect to minimum placements add that the symbol may be combined with other rock features, generally a minimum of 3 point features. This is common practice.



#### 209 Dense boulderfield

This symbol appears to have legibility issues in that it hides or obscures contour features. Also the drawing tool cuts off small shapes in some cases appearing like other rock features ie Stony ground, Boulder.



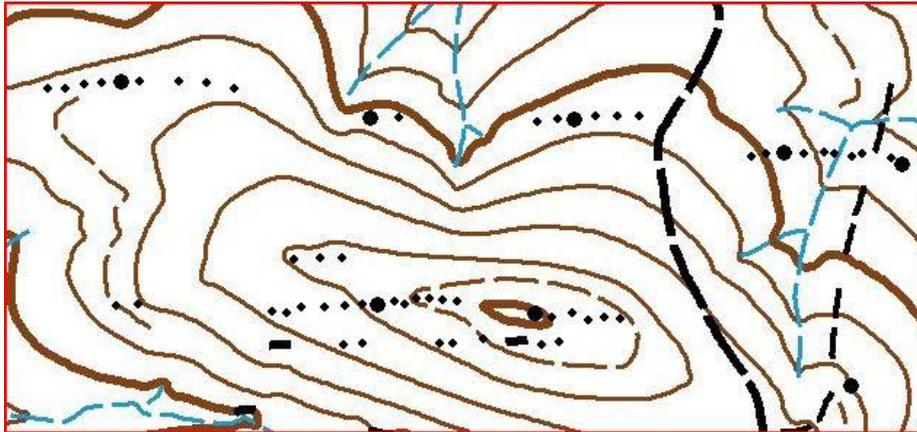
#### 210 Stony ground, slow running

It is not clear if single point placement is included or is it only a screen area symbol. Single point placement is in the OCAD set as symbol ie no 210.001 but is not detailed here.

The single point placement of Stony ground is essential and accordingly the revised symbols must include the current definition 'Stony or rocky ground which affects going should be shown on the map. The dots should be randomly distributed with density according to the amount of rock. A minimum of three dots should be used'.

This use of single point placement better represents Stony ground as compared to the proposed area symbols and can be placed to avoid contour lines and other important map detail ie not placed on top if using areas screens.

It is also essential that dots can be randomly drawn to form a line as appropriate to linear rock outcropping in the terrain.



The area screen 212 Stony ground, very difficult to run, hides other map detail and produces inferior map legibility.

215 Trench

The gap between the two lines may be too narrow as the symbol appears as one line on the printed map (home printer).

401 Open land

Other area combinations should include Stony ground.

409 Vegetation, difficult to run, good visibility

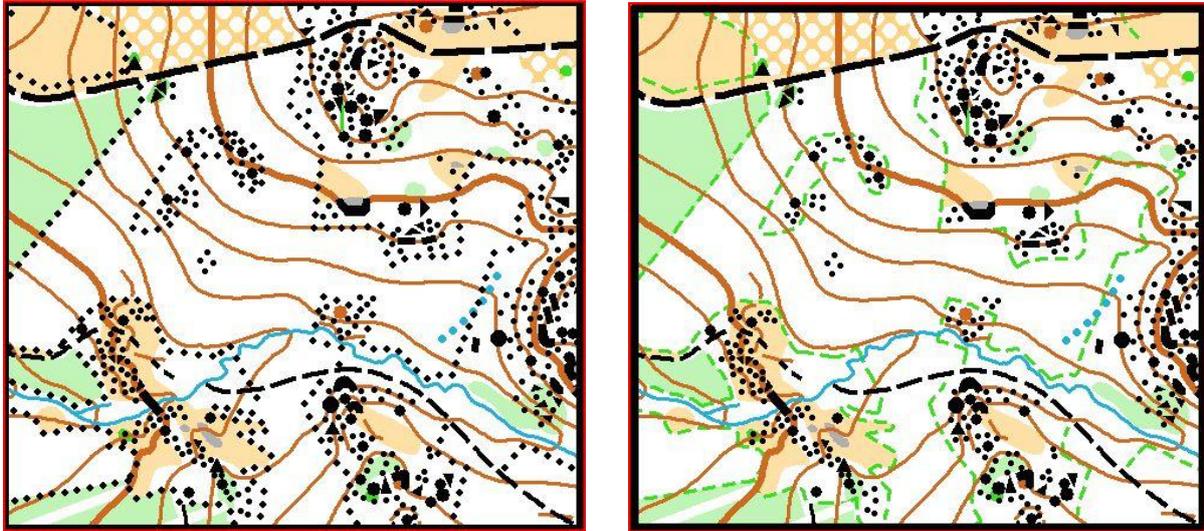
Detail under this screen is illegible.

417 Distinct vegetation boundary

The dotted black line is a problem particularly in Stony ground areas.

The full green line must be avoided at all cost as this will be a complete disaster for colour blind as the symbol will be confused with contour lines.

I suggest an alternative to be a Green dashed line, 0.12mm line width, main length 0.50mm & gap 0.25mm.



418 Prominent big tree

Suggest terminology Prominent large tree

419 Prominent bush or tree

This symbol must be avoided for colour blind as it will be confused with 109 Small knoll. The Earth feature is generally more important than a single small tree or bush. On urban Sprint maps a small coloured dot to the colour blind who cannot tell the difference between brown and green is more likely to be a bush / small tree so is less of an issue.

A minimum size area green (410 or 411) and 418 should be sufficient for 1:15000 scale maps.

Suggest the small green dot be deleted and that if any prominent bush or tree really needs to be mapped at the 1:15000 scale then use 418 or the proposed 421 Prominent vegetation feature – triangle, or perhaps introduce a green asterisk. However I would suggest if used this will lead to over mapping of small bushes and individual trees, something to be avoided for the 1:15000 scale.

