Planning Guidance for NATO Orienteering Events

Francis Shillitoe, 21 November 2025

The following guidance is aimed at our Sunday events rather than LOPs. Budding planners should start by organising a LOP under the guidance of a mentor. Suggestions for useful background information can be found at the end of this document.

Planner's responsibilities

The planner is responsible for everything between the start and finish including:

- Providing a risk assessment for the courses to the organiser so they can feed this into overall event risk assessment. Although the organiser is responsible for the event risk assessment they won't necessarily know of any particular hazards in the event area.
- Taping control sites where the controller requires this.
- Liaising with the mapper to make any map corrections that you spot.
- Preparing course files, including breaking control circles and connection lines where these obscure important features.
- Liaising with the mapper to ensure that the final maps to be sent to the Printer will have suitable frames, legends, disclaimers etc.
- Checking with the mapper that the maps are drawn to the latest ISOM or ISSprOM standard and whether any special symbols are used.
- Communicating with the controller and giving them plenty of time to review your courses.
- Checking with the organiser about whether you or them will put out any finish flag/banner. You will always be responsible for putting out the finish kite(s), and finish SI box(es).
- Telling the organiser where the start and finish is located.
- Telling the organiser what the courses and class combinations are. They will need this as early as possible so they can get the event website and SI entries system setup.
- Collecting and retrieving equipment you need from the club store including SI boxes, control kites, control stakes, gripples, back-up pin punches etc.
- Liaising with the club's SI officer to check that all the numbered boxes you want to use are available and that all the boxes have been recently times synced.
- Liaising with the start team to ensure they know where the start is and where space is available for the start lane(s).
- Liaising with organiser to agree how many maps will need to be printed.
- Ordering maps. The Printer should be sending the maps to you: not to the organiser. You will need to liaise with the Printer to make sure they know that the maps need to be delivered to you and that they have the necessary course files and map quantities.
- Ordering spare maps even if there is no entry on the day. A certain quantity of these are always needed to cater for: a competitor picking up more than one map, a competitor picking up the wrong map, search teams to find lost competitors.
- Ordering all control maps. These will be used for putting out and collecting controls.
- Ordering blank maps. You may want to put these in the start lanes, and are also useful for search teams.
- Ordering loose control descriptions.
- Putting out any black and yellow hazard tape in the event area where this is needed (including collecting it back in after the event).
- Putting out all controls including seeking volunteers for this if needed.

- Providing a taped route from the start lanes(s) to the start kite if this is required.
- Giving the start, clear, check boxes to the start team on the day of the event.
- Collecting controls including seeking volunteers for this if needed. Make sure volunteers know that they have to collect in any tape used to mark control sites.
- Asking others in the club for help if you are unsure of anything. Anybody in the committee will be able to help or point you in the right direction. The organiser may never have planned a course and some controllers (particularly at Level B where they will be from a another club) are unlikely to be familiar with the club processes.

Advice on planning appropriate courses

It goes without saying, that you need to be able to plan course to the appropriate technical level and distance. The BOF rules state what these are but there are plenty of good resources including the Planning section under:

https://www.britishorienteering.org.uk/organiser_library

The Barry Elkington guides are good for ensuring cross-country courses are planned to the appropriate level of technical ease/difficulty.

Timeframes

- At least three months prior to the event – Get into the area and start planning the courses. The controller will appreciate having plenty of time to review the courses. You may also spot errors with the map, and the mapper will need plenty of notice to go out to the area and re-survey.
- Two months prior to the event. Let the organiser know course details and send them your risk assessment. Tag the control sites.
- The Wednesday, 10 days before event. Send BML Print the OCAD map file and Purple Pen file. Contact Details: maps@bmlprint.co.uk (Tel: 01794 518518 Mob: 07766 478209). They will send you an order form (currently a link to a web page) and send you a link containing the PDF proofs which will be printed. BML will invoice the club's treasurer. Send the Purple Pen file to Paul Boyles (so he can setup the courses in SI), and the Purple Pen and OCAD map file to Peter Firth (so he can setup the courses in Routegadget).
- The entry deadline is the Sunday prior to the event. On the Monday, you will know the final entry numbers. Complete the BML order form and sent it to BML on Monday morning.
- Wednesday / Thursday prior to the event. The maps and loose control descriptions should arrive to you by recorded delivery. If they don't arrive by Thursday lunchtime, phone BML.
- A weekday prior to the event – Pick up the kites, SI boxes, stakes, gripples etc from Paul Boyles. Check with Paul that he has times synced all the SI boxes.
- Saturday – Put the controls out (for cross-country courses)
- Sunday – Put remaining controls (i.e. those at high risk of theft controls). The Controller will likely want to check all the controls are placed prior to the event starting. He will likely use a dibber to check that the SI boxes are functioning and are woken up – check with the them on this. If the Controller is not checking all the control sites, you will need to wake up the remaining boxes. Waking up the boxes ensures that the first competitor visiting the control is not unduly disadvantaged and can use their SIAC dibber contactless if they have one. For urbans events all the controls will need to put out on the day so get help with this. One person

would struggle with placing more than ten controls per hour. Controls are not to be collected in until there has been a competitor check via Download.

- NATO SI boxes are configured to be in beacon mode and stay awake for 12 hours. It's good practice to use a Clear and Check box to clear your dibber before going out to wake them up. Older dibbers will stop functioning after 30 controls have been dibbed. The dibber then needs to be Cleared again so it can be used to wake up controls. If you have a SIAC dibber you will need to dib the control manually and then move away from the control for 17 seconds. You can then waft the SIAC dibber over the control to check it is working contactless. Alternatively you can take a one non-SIAC and one SIAC dibber with you. Punch the control manually with the non-SIAC dibber to wake it up, and test it is in beacon mode by wafting the SIAC dibber over it. You will want to punch the Finish control with your SIAC dibber to turn your SIAC dibber off (in order to save its battery life).
- After the event and the controls have been collected back in you will need to use the "Service Off" dibber to turn off the controls in order to preserve their battery life. Control boxes cannot be recharged – we have to return them to SportIdent to have their batteries replaced every so often.

Course Planning in Purple Pen

There are a few things to be aware of:

- Make sure you have the latest standards. Go to "Event" -> "IOF standards" and select "2018 Description Standard" and either "2017 ISOM Map Standard" for cross-country events or "ISSprOM 2019 Map Standard" for urban events.
- Add any mandatory or optional crossing points. Go to "Add Special Item", and add it as if it were a control, which – if mandatory - also causes it to appear in the description list and bends the lines through it.
- Add purple hatching for any temporary out of bounds, or solid purple line for uncrossable boundaries. For urban events it is within the rules that competitors are disqualified if they cross "uncrossable" boundaries or areas, such as uncrossable fences or olive green areas thus keeping the amount of purple to a minimum. For cross-country events you may need to be more prescriptive, for example, cultivated land will need to be marked out of bounds, or if you do not want a competitor to cross a fence you must use a solid purple line with crossing points. Permanent out of bounds can be mapped with solid black hatching and is less visually glaring than purple hatching (you will need to ask the mapper to do this on the OCAD file).
- Break control circles, where they would obscure detail, particularly adjacent point features, or curves of line features that follow the curve of the control circle. Click the control you want to break (in "All Controls" – this does it for all courses using that control), click the "Add gap" button, then click on the control circle where you want to break it.
- Break lines joining controls, where they would obscure detail, or where they cross other joining lines (if courses loop around). Click the line you want to break (on the specific course

– repeat if multiple courses have the same leg), then click the “Add gap” button, then click and drag the length to break.

- Bend lines, to go round any out of bounds areas (except for urban events) , or avoid control circles (when course loops around), or to go through mandatory crossing points. Click the line you want to adjust, click the “Add Bend” button, then drag the point it adds as appropriate.
- Move control numbers, where they would obscure detail, or where there are many close controls and could be confused, or where they are not clear because of varying background detail. Change control numbers to use bold text. This is BOF standard, but not IOF standard (and not what Purple Pen uses by default). Go to “Event” -> “Customize Course Appearance”, untick “Use IOF standard sizes”, and change “Control Number Style” to “Bold”.
- Add courses close time. Go to ‘All Controls’ view, click on finish line in the control descriptions, and menu “Add” -> “Text Line”, write e.g. “Courses close ?pm”.
- Make sure all controls – and the start – have control descriptions. Change the text description language to English (UK), rather than the PP default of English [US] (e.g. US=Cliff instead of UK=Crag). Go to “Event” -> “Customize Description Text”, and change the “Language used for textual control descriptions”. Also change the specific text for any special symbols on courses using written descriptions.
- Make sure any special symbols used in the control descriptions or on the map (e.g. cross or circle) are advertised to competitors beforehand.
- Add the control descriptions to the map. Ideally on the front, and they must not obscure any of the required map detail.
- For urban courses you will also need to manually calculate the course length. This will be the shortest route a competitor could take to complete the course. You can either create a copy of the course, and bend the control lines in Purple Pen along this shortest route, or use a tool like Google Earth to plot the path.
- Add height climb. This must be calculated manually, by counting the contours crossed going uphill, as per BOF rules measured along the “shortest sensible route” and multiply by the contour spacings (usually 5m). If you’ve used Google Earth right click on the path and click “Elevation Profile”. This will give you the Elevation Gain, which is he height climbed.
- Add the course name prominently on the map to reduce the chance of someone picking up the wrong one. Go to “Add Special Item” -> “Text” and then use the “Insert Special Text” selector to create e.g. “October Odyssey Day 1 - $(CourseName)” which will automatically vary the text for each course.
- Create two part maps for courses which overlap significantly. Go to Add Map Exchange at the control where you want the break to be. There is then a selector to view the first or second part map.
- Add text or text/symbol control descriptions for white and yellow courses. On each course go to Course -> Properties -> Description appearance.
- Purple Pen has a useful audit to check for controls too close, courses without a start, finish, amount of climb entered, unused controls, missing descriptions, lets run in opposite directions etc. Go to “Reports” - > “Event Audit”.

Map Scales

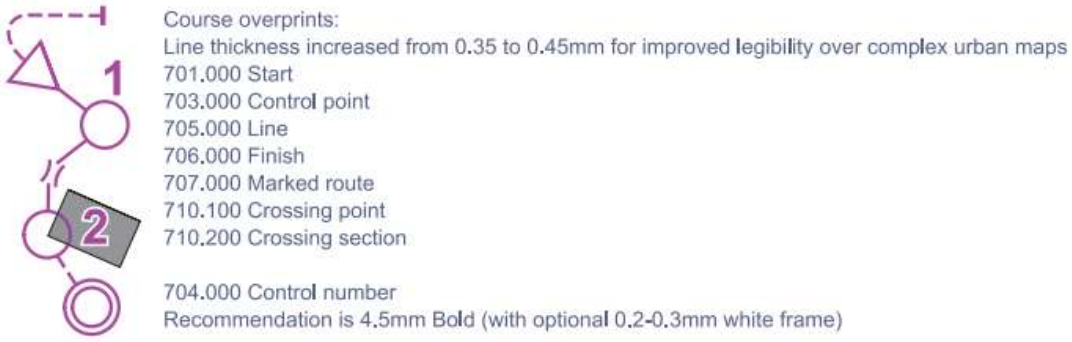
The OCAD map would have been produced at a particular scale usually either 1:15,000 or 1:10,000 for cross-country maps, or 1:4,000 urban maps. When initially creating a new event in Purple Pen file you will be asked to import the map. It will tell you the map scale and you should use the same scale as the “Default printing scale”. If you need a 1:7,500 map and a 1:10,000 map for different courses

the mapper will need to give you two map files, as the frames will be different for the different maps. During the majority of the planning process, you would plan all the courses on one base map file (covering the whole event area), so that all the control codes are different. Only, during the final stages will you split the courses into different Purple Pen files for each map scale used. You shouldn't need to change any of the scale settings in Purple Pen if the event is created with the "Deafult Printing scale" set to the "Map scale".

It's a big problem if maps are printed at the wrong scale. You can sanity check the map scale by printing the map for each course using a different scale, and use a ruler to check that a given distance on a map corresponds to the distance on the ground. Google Earth is useful for checking distances on the ground. Another way is to create a course with the start and finish at either end of the scale bar on the map and check its length (this assumes that the Mapper has sized the scale bar correctly).

Purple Overprint

Current guidance from BOF for urban maps (ISSprOM 2019-2) is:

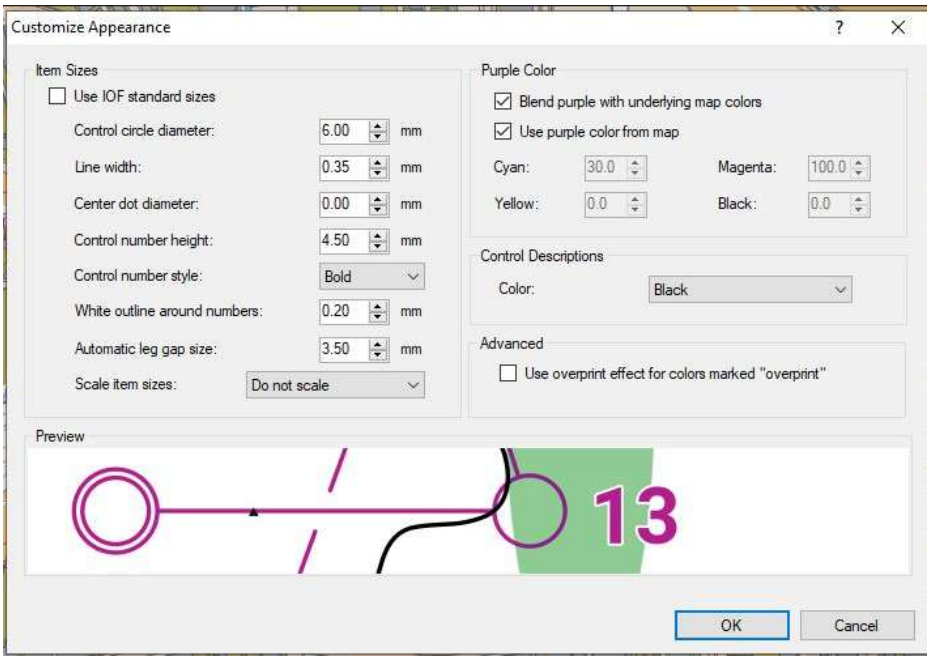


In the above example the building outline is visible below control circle 2. To have the map printed this way tick option Event->Customize Appearance->"Blend purple with underlying map colours". However, some competitors prefer the overprint to be solid. Agree with the controller whether the overprint will be blended or not. Be prepared for criticism either way.

Control numbers should be positioned to be out of the way of potential route choices. For urban maps, it may help to add a 0.2-0.3mm white frame, but not every Controller likes this. Again, opinion varies.

The colour for the purple overprint should be taken from the base map. Tick the box Event-> Customize Appearance->"Use purple colour from map".

If in doubt, use the IOF standard sizes for cross-country maps, and the following custom settings for urban maps:



Control Circle Sizes

This is something we frequently get wrong in particular with urban courses.

For cross-country courses (to ISOM 2017-2), the footprint diameter is 75m. This means that the control circle diameter will be 7.5mm on a 1:10,000 scale map, and 10mm on a 1:7,500 scale map.

For urban courses (to ISSprOM 2019-2), the footprint diameter is 24m. This means that the control circle size will be 6mm diameter on a 1:4,000 scale map. Check this is setup correctly in Purple Pen by going to Event -> Customize Appearance -> Control circle diameter. It needs to be 6mm.

As a final check, print the map, and measure the control circle diameter to make sure it is correct.

Other things to be aware of

If you consider that there is a chance an SI box will be stolen or moved by a member of the public, then use a gripple to secure to an object such as a tree or fence. In urban areas do not secures boxes to private property unless you have the owner's permission. If you are not sure, play it safe and use nearby street furniture such as lampposts / railings. Some home owners will object to having objects secured to their fences even if they can't see the kite from their house. The finish box may also need to be secured (we have had the finish box stolen before). In cross-country areas it's been known for kites/stakes to be picked up and thrown into bushes by members of the public (there is more chances of this happening on white/yellow courses where the controls tend to be on paths and are more visible) – use gripples if need be. Some of our gripples are different diameters and are not compatible with each other. Check the gripple sizes before the day of the event.

Some areas like Cramlington or Newcastle have large base maps. You will need to decide which area of the map you will want to use. The Mapper will need to create an A3 or A4 frame of the area at the appropriate scale, with enough room left on the paper for disclaimers, control descriptions, map

legends etc. Agree with the Mapper which part of the area you want to use, and make sure your courses fit in that area. It is theoretically possible to use non-standard paper sizes but this will require more work for the Mapper, and more liaising with BML Print. If you are inexperienced, stick with A3 or A4 map sizes.

Our SI Boxes are numbered 101 – 170. Plan to use boxes 141-170 first as these have larger batteries. The smaller boxes are numbered 101-140. The housing on the stakes are different sizes so make sure you collect enough of the correct size stakes.

Level A and Level B events need to have separate pin punches added to the control stakes. Three rectangular boxes need adding to the map with the words "Reserve punch boxes if SI unit fails".

Some models of SI dibber can only store 30 control records (excluding start and finish). The easiest thing is to not plan courses with more than 30 controls, but if this is not possible you'll need to make competitors aware of this and put arrangements in place. For example the following might be given in the event details: "Course 1 uses 37 controls. If you have an SI-Card 5 "1-499,999" or SI-Card 8 "2,000,001 – 2,999,999" please exchange your dibber at event enquires before going to the start".

Background reading

Planners need to be familiar with the Rules of Orienteering published by BOF. Google it to download the latest version. Changes are made nearly every year, usually in January or February. Page 2 summarises the changes made from one year to the next. It's currently 104 pages long. The sections most relevant to planning (approximately 26 pages in total) are:

7 Safety
18 Mapping
20 Course Planning
21 Course Drawing
22 Control Sites
23 Control Codes
24 Control Codes
25 Control Descriptions
28 The Start
29 Out of Bounds
30 The Finish
Appendix B: Couse Planning
Sections 1 – 7
Section 8 – Long distance course planning **– For cross-country i.e. non-urban events**
Section 11 – Urban – **For urban events**

It's always worth a re-read of the rules during the planning process even if you consider yourself experienced. Most of us only plan one of these events once or twice a year so it is easy to forget, especially if you are not a controller. Some of the rules are mandatory such as:

11.9.8 Juniors aged under 16 on the day of the competition are not permitted to compete on courses where there are possible routes that require competitors to crossroads with significant traffic unless appropriate traffic management arrangements have been put in place. A disclaimer signed by a parent or guardian does not circumvent this rule.

Others are written in a guidance style:

> 5.1.2 It is important to ensure that the finish is easily located. A common last control with taped route to the finish will ensure this. This will also ensure that competitors all approach the finish from the same direction and improve the flow of competitors through the finish system.

If you want a deviate from a rule you must discuss it with the controller. If the rule is safety related there will unlikely be a good reason for deviating from it.

It is the controller's job to check that the event is staged fairly and safely. Controllers are not perfect and ultimately it is up to you to ensure the event is well planned and follows the rules.

The rules reference three specifications:

- International Specification for Orienteering Maps (ISOM) – **For cross-country i.e. non-urban events**
- International Specification for Sprint Orienteering Maps – **For urban events**
- International Specification for Control Descriptions

Google these to get the latest versions. You need to be familiar with them. The map specifications are heavy going. This is an excellent educational resource: https://omapwiki.orienteering.sport/

Thanks for reading. If you've got any suggestions for improving this guide, drop me an email: fshillit@hotmail.com