Peninsula and Plains Orienteers Inc.

Planning Courses – A Guide for Planners

Note: v1.4 (6 August 2019). Based on original v1.1 (18 April 2010).

INTRODUCTION

Thank you for agreeing to plan an event for PAPO.

This document is for use by PAPO Planners at all events whether SportIdent is used or not. This includes all Foot Orienteering and Mountain Bike Orienteering events whether they are "Club", "OY", "Score" or Championship events.

It contains the following sections:

- A list of the main responsibilities of the Planner (this page only)
- A checklist of tasks with timeframes for their completion (3 pages)

And the following Appendices:

1. More detailed tips and suggestions for the tasks required (4 pages, beginning Page 4)
2. Tips for planning good courses (5 pages, beg. Page 8)
3. PAPO's Mapping and Cartography Guidelines for those who wish make map corrections themselves (1 page, beg. Page 13)
4. Example of Competitor Information for the Camper (0.5 page, Page 15)
5. Example of Starters Instructions (0.5 page, Page 16)
6. Special Notes for Planners of the Twilight Series (4.5 pages, beg. Page 17)

Most events involve a Planner, a Controller, a Chief Organiser, and a member of the Sport Ident team. Championship Events also involve an overall Convenor. You will need to keep in close contact with all of these people to run a successful event.

RESPONSIBILITIES OF THE PLANNER

As a minimum, the Planner must carry out the following tasks:

- Plan courses including consideration of safety, degree of difficulty, control siting and equipment, fairness (including minimisation of chance factors) and map correctness.
- Liaise with the Controller to ensure that rules are followed in accordance with the guiding principle of sporting fairness, mistakes are avoided, and procedures are enacted to ensure the safety of all competitors and the public. N.B. The Controller has the authority to require adjustments to be made if they decide that these changes are necessary to satisfy the requirements above. The Controller has the deciding voice in all matters pertaining to fairness and safety. Controllers must be given adequate time to check such changes if required.
- Prepare the control descriptions.
- Prepare the Master Maps or pre-printed maps as required.
- Plan the Start/Finish area in consultation with the Chief Organiser and Controller.
- Select the drink stations, and place the drinks on the day of competition.

- Place the controls and card marking devices (punches) or sport ident boxes before the competition commences.
- Supply all details on length, climb on each course, and other such information as is required to be posted at the Registration area to the Chief Organiser in good time.
- Organise the collection of controls, sport ident boxes, temporary site markings, drink bottles, Master Maps and so on in association with the Chief Organiser and Controller, after the competition has finished.

A CHECKLIST OF TASKS WITH TIMEFRAMES FOR THEIR COMPLETION

Refer to Appendix 1 for more detailed tips on some of these tasks.

2 MONTHS BEFORE THE EVENT

1. Contact the OCAD Map File Keeper and ask for the map and the previous courses files.
2. Contact the landowners(s)/rangers to confirm our permission to hold the event and to check for any out-of-bounds or special areas, and any other special access requirements.
3. Discuss and agree on course options with the Controller.*
4. Plan draft courses on paper in accordance with the course/grade combinations agreed with the Controller.*
5. Decide on the Start/Finish area and discuss safety issues and event directions with the Controller.
6. Contact the Newsletter Editor and Webmaster with information on the Start area, directions, courses available, stuff to bring, road safety etc. to go in the next newsletter or club email.*
7. Give these draft courses to the Controller to check. Remember the Controller is there to help make the event a success, and help you do a good job!
8. Visit all your proposed control sites and check for inaccuracies in the map or unforeseen problems with the sites.*
9. If you are not familiar with OCAD, arrange for a fieldworker and cartographer to correct any issues in OCAD through the Mapping Co-ordinator. If you wish to make these yourself, see Appendix 3 for PAPO's guidelines in this area.*
10. Replan your courses as required.
11. If the instructions you are sent with the map include getting approval of your courses, plan to do this at least 3 weeks out from the event. This will be the case with authorities like CCC and LINZ.

2+ WEEKS BEFORE THE EVENT

12. Arrange for the Controller to re-check your sites and courses at the venue, and finalise the courses together.
13. Contact the Equipment Officer to find out which control numbers you will be using on the day.
14. Allocate the controls to each of the courses so that numbers that could be easily confused are not close to each other.
15. Prepare electronic files of maps and control descriptions using Condes software (include the Course Closure time), and arrange for the Controller to check the drafts of each for all courses.*
16. Prepare a file of the control descriptions for all courses in Condes or OCAD. Do not use any other system to create these.
17. Contact the OCAD Map Keeper for help estimating the number of maps that you will require for each course (your Condes files of each of the courses).*
18. Email the course files, control description files, and a file of the map with all controls on it to Copy Quality for a draft print.*

19. Email a file of the Condes information to your designated Sport Ident person.*

1 WEEK BEFORE THE EVENT

19. Contact the Chief Organiser to let them know the exact location of the Start, Finish and Registration. Provide a large-scale drawing to avoid any confusion.
20. Collect the controls/flags, drink bottles and tapes from the Equipment Officer.
21. If Sport Ident is not being used, make up Master Clipcards.*
22. Collect the sport ident boxes from the Sport Ident Officer.
23. Check draft maps of each of the courses from the printer with the Controller before giving the printer the final go-ahead to print everything.
24. Collect the maps from the printer as arranged.
25. Send out information to the club via the club email about your event. Include info that is helpful and makes them want to come along. Mention if dogs are not allowed etc or if food is being sold and so on. Get the webmaster to put it on the website.
26. Write up a notice for the camper giving competitor's information: courses, grades, course lengths etc, and give this information to your Sport Ident person. See Appendix 4 for an example.

THE DAY BEFORE AND ON THE DAY

26. Sort out the control stakes and the sport ident boxes.
27. Put out the stakes and boxes, flags, drink bottles (full) and any tapes that you may be using. Check the box numbers and stake numbers match. Do all this the day before if you can, as it can take a long time.*
28. Arrange for the Controller to check all the controls.
29. Arrive back at the Registration area well before the first start.*
30. If last minute map corrections must be made, prepare maps (at least 3) of the Map Corrections for display on a table at the Start and inform the Chief Organiser that all competitors on affected courses must be given a set amount of time to copy these down before they punch the start box.
31. Give the maps, control descriptions, master clip-cards and Starter's Instructions (see example in Appendix 5) to the Chief Organiser, and let them know the start interval for the 'Beepy Clock'.
32. Have spare controls and flags ready in case some are taken, and be ready to go out to (re)place them in the correct place.
33. You will be needed to help during the day at Start/Finish etc.
34. After course closure time and in consultation with the Controller, supervise the collection of controls, tapes and drink bottles etc. Check controls off your original master list to make sure none are left behind.

THE NEXT DAY/WEEK

35. Check clip cards for correctness if Sport Ident was not used. Consult with the Controller if a card is thought to be incorrect.
36. If Sport Ident was not used, prepare the results (including course lengths/climbs) in a Word or Excel file, and send them to the Webmaster.
37. If Sport Ident was used, check the Sport Ident person has sent the results to the Webmaster, newsletter Editor, and, if event is an OY, to the OY Statistician.
38. Write a report on the event and send a copy to the Newsletter Editor.

39. If Sport Ident was not used, send all address butts from the clip cards used to the Membership Secretary, else check the Sport Ident person has sent the original registration forms.
40. Send one copy of each of your courses as an electronic pdf file to the map keeper, plus a copy of the map if you changed anything on it. This folder should also include any other information that may be useful for the Planner of the next event at that venue.
41. If the event was an OY or Championship event, arrange with Carsten Jorgensen to load the electronic files of each course and the splits onto RouteGadget.

APPENDIX 1: MORE DETAILED TIPS AND SUGGESTIONS FOR THE TASKS REQUIRED IN THE PLANNING PROCESS

GENERAL INFORMATION

Contact details for all office holders in PAPO are on the website under **Contact Us**.

TASK SPECIFIC INFORMATION.

With extremely grateful thanks to Bruce Collins of NWOC for his document "How to plan courses for club events". When the text slips in to the first person, this is Bruce speaking. Task numbers relate to the numbers in the checklist.

Task 1: PAPO's initial contact with the landowners is generally done by a the Landowner Liaison Officer about 6 months before the event to make sure that the landowners will be happy that there is an event on the day, but it pays to check, and to get up-to-date information on the area and any issues they may have with us being there at that time directly from them.

Task 3: For certain events like OY's and Championship events, the course options are predetermined, but otherwise it's up to you what courses you provide. For a general event you should aim to have a minimum of a Red, Orange, Yellow and White course. With the makeup of our club, it's best to have a Red Long and a Red Short as well. The Red Long course can be the same course as the Red Short but with an extra loop thrown in. On some maps it's difficult to plan Red courses, so in this case make sure there are both long and short Orange courses.

Alternatively, you could try a score event, window courses, contour only courses or other imaginative versions of our sport.

To work out your course lengths you need to decide how long you want people to run for. There are set times for OY events, but for other events, 60 minutes for the winner of a red course is probably long enough. If you split it up, the Red Long could be 60mins and the Red short 40mins. Orange should be about 40-45mins, Yellow 35-40mins median time and White 25mins median time. Remember that people complain if the courses are too long (steep/prickly/ physically difficult etc) but generally don't complain if they are too short!

Next you need to work out what speeds different people run on maps with similar terrain to your map. If your map has had events run on it in the past then there are previous results to give you a guide; otherwise you will have to look at a map that is known to be like yours. Armed with this info you can work out that if the winner of the Red course on that Map did 5km in 60mins they were running at 12mins/km. If you want them to run only 50mins on yours, then their course needs to be 4.2km long.

Task 4:   It might be OK for a major event to have a 2km walk to the start but you won't win friends by doing this at a club event. At the typical low key club event the Starter and Finisher can be the same person if you make the Start/Finish point the same. Also this needs to be near where the cars will be parked and reasonably sheltered. It's not much fun when the Starter/Finisher is huddled all alone on some windswept plateau.

Task 6:   Plan the White course first, as this often has an influence on where you put the Start/Finish area. Then the Red course(s), then the Orange and Yellow. (See Appendix 2 for sources of information on planning good courses)

Task 8:   Once you have your courses roughed out, it's time to get out on the map. Before you go you should have made up a master map with all the controls marked on, and the different courses marked on as well. Use different coloured pens or dashes etc to distinguish between the courses. Wander around and make sure that your proposed control positions are OK. Too often they are indistinct, too visible or just not there. If you can't really find the position then don't try and use it for a control location. Also look at the direction that people will be coming from or going to, is the proposed site too visible? Are there any objects on the horizon that may make the leg too easy? At one event I competed in we had a leg of 500metres in intricate terrain that should have been very difficult. Unfortunately about 60m to one side of the control was a very tall poplar tree without another tree in sight. All we had to do was run flat out to the poplar and then start orienteering from there. This was at a National Champs, which proves even experienced planners can make mistakes.

Take a note of any map corrections while you are wandering around and don't be disappointed if the control site that looked so good at home can't be used. Look for others and if necessary replan parts of your course. Novice planners will find it much harder finding the location of the control site without the control actually being there! Even experienced planners can walk around for quite a while making sure they are in the right place. While you are doing this make sure that the map of the terrain around the control is accurate. It is important that people who have overshot the control and are coming back to it also have a correct map representation. Don't ever use a map correction as a control site and try and avoid having a control too close to a map correction. If you are happy with the control site, mark it with tape, a shopping bag, a piece of rag or such like so that the controller can find it too. And so that you can find it when you are putting out the controls!

Tasks 9 and 14:   Map preparation (partial map, legend, scale bar etc) can be done by a buddy controller/planner in OCAD or Condes. It is preferable to use Condes to put courses on the map although OCAD can be used if the planner/controller is well versed in how to use the OCAD course setting function. Whether Condes or OCAD is used, the end result should be that printed courses, printed control descriptions, a print out of a list of all controls for placement and collection, a print out of an all controls map and the course file for Sportident all come from one place. This eliminates many potential errors.

Also see Appendix 3 "Mapping and Cartography Guidelines" for more information on map preparation.

Assistance with OCAD or Condes can be obtained from the Mapping Co-ordinator, the OCAD Map Keeper, the Technical Director, the President or Linley Earnshaw, provided you give them plenty of time.

Task 16: Unless the event is a pre-entry one, you will need to estimate the number of maps you will require for each course with reference to attendance at the last few events, the last event held at that venue, the weather forecast, and your best crystal ball! Aim high as it is a pain to run out, but not so high that the club is paying for printing it doesn't need. The OCAD Map Keeper can help you estimate.

Task 17: PAPO get our maps printed on account at CQ (Copy Quality). CQ is at 359 Lincoln Road, Addington (near the railway crossing). They offer a very good service, but the map files should be with them at the latest 3 working days before the event, to allow time for the planner and controller to check proofs and for CQ to fit the print job into their schedule. Ben Scott regularly prints PAPO's maps at CQ and he will ensure they are printed in the correct way.

PAPO has two main types of paper which are used for events. Standard 80gsm paper is used for events without pre-entry (i.e. where the number of competitors is not known at the time of printing), such as club events, OYs and summer series. A higher-quality paper, Pretex, is used when the event has pre-entry. If in doubt about which paper type to use, or for help with printing maps, contact the PAPO Mapping Coordinator. Never Tear can be used as a substitute for Pretex if the stock runs out, but it is not preferred.

Printing instructions vary depending on the type of paper to be used. Please refer below for specific instructions. Note that these instructions are current "best practice" and are subject to change. Please refer back to the instructions on the PAPO website each time you plan an event.

Printing on Standard 80gsm Paper (Events *Without* Pre-entry)

When the courses are ready to be printed, follow the sequence below to print from Condes.

1. *Export >> Export, maps and courses as PDF…* and a pop-up window will open.
2. Select all courses you wish to print, along with the *All Controls* option (for putting out and collecting controls) by ticking the appropriate boxes.
3. Check the *Export scale*, *Page size* and orientation are correct. Do not alter the default margin, spacing and overlap options unless you have tested this sufficiently.
4. Select *Export*.
5. View the PDF file to ensure that there are no layout errors and the entire course is included. You must change the position of the printing area, scale of the map or paper size if there are issues.
6. Email your courses and all-controls maps to info@cq.co.nz, marked for the attention of Ben Scott, with instructions to print on standard 80gsm paper.

Printing on Pretex Paper (Events *With* Pre-entry)

When the courses are ready to be printed, follow the sequence below to print from Condes.

1. *Export >> Export, maps and courses as bitmap…* and a pop-up window will open.
2. Select all courses you wish to print, along with the *All Controls* option (for putting out and collecting controls) by ticking the appropriate boxes.
3. Set the export *Resolution* to 600dpi.
4. Check the *Export scale*, *Page size* and orientation are correct.
5. Select *Export*.
6. Follow the naming convention below. Each course map will need to be individually named.
7. View the JPG files to ensure that there are no layout errors and the entire course is included. You must change the position of the printing area, scale of the map or paper size if there are issues.
8. Email your courses and all-controls maps to info@cq.co.nz, marked for the attention of Ben Scott, with instructions to print on Pretex paper. Be careful to specify the correct paper size as the Pretex is stored as A3 sheets. Include the following instruction in your email:

    "Please open in Photoshop and convert to CMYK if the colour mode is RGB."

    This instruction provides much better colour tones than if this step is avoided.

Proofs, which should be done for at least one of the courses, should be printed on Pretex. All-controls maps may be printed on Pretex also. Control descriptions should *not* be printed on Pretex.

Naming convention: JPG maps should have a file name such as *AH10000A4Lmr40copies*, where *AH* is the map name (Apollo Hill) *10000* is the scale, *A4* is the page size, *P/L* signifies portrait/landscape, *mr* is course medium red, and *40copies* is the number to print

Printing from OCAD

If for some reason you have used OCAD, follow this sequence to convert them to PDF or JPG:

1. *File >> Export* and then select PDF or JPG.
2. Check the export page size and scale are correct.
3. Define and check that all of the map fits into the printable area. A4 page (within the margins) is 198mm x 286mm. A3 page is 284mm x 410mm within the margins.
4. Select *Export* to print the map to PDF/JPG.

Instructions for Saving PAPO Money on Printing at CQ

In November 2018, PAPO negotiated a PREFERENTIAL PRICING PACKAGE for all printing done on our account with CQ. Prices are as follows:

- A4 B&W 80gsm Single/Double Sided: $0.065 per print
- A4 Full Colour 100gsm Single/Double Sided: $0.55 per print
- A4 Full Colour Pretex Single/Double Sided: $0.55 per print
- A4 Full Colour Never Tear 145micron Single Sided: $2.40 per print
- A4 Full Colour Never Tear 145micron Double Sided: $1.60 per print
- A3 Full Colour 100gsm Single/Double Sided: $0.85 per print
- SRA3 Full Colour Pretex Single/Double Sided: $0.85 per print
- SRA3 Full Colour 200gsm Single/Double Sided: $1.40 per print
- SRA3 Full Colour Never Tear 145micron Single Sided: $3.20 per print
- SRA3 Full Colour Never Tear 145micron Double Sided: $1.80 per side
- A4 Matt Laminating: $2.25 each
- Download: $6.00 for the first file,
                                                                                                              $2.00 for each file thereafter.

In order to ensure that we get these prices, it is best to:

1. Combine files to minimise download fees if at all possible (bearing in mind Nick's recommendations about the file type for maps above), so order all your printing at once rather than spreading it out over several days, and combine Control Description pages into one multi page .PDF, rather than several.
2. Send the files you need printed **directly** to info@CQ.co.nz. Don't request a quote, or at least if you do, cc in the Manager, David Parsons (david@cq.co.nz) and point out that we have an account with preferential pricing so that we can be sure of getting it.
3. Use the description of the paper type required that they use:
   - If using standard white paper, request A4 B&W 80gsm Single/Double Sided for control descriptions, and A4 or A3 Full Colour 100gsm Single/Double Sided for maps.
   - If using Pretex, request A4 or A3 Full Colour Pretex from PAPOs supply Single/Double Sided.

Note that CQ offer a free pickup and delivery service for all work over $75 in the Christchurch area, so if you are running short of time to collect the maps for an event, you can get them delivered somewhere in the general city area at no cost if need be.

Task 18: Export the 'Event Data' in 'IOF XML Format'. Tick all courses. Don't worry about any of the other options. Click on Export, navigate to where you want to save the file, give it a name, then click on save, and email it as you would normally.

Task 21: The easiest way to make master clip cards is to set the controls for each course, one course at a time, in order, and walk along the line, punching the clip card as you go. NB When two controls have the same number on the eartag their punch patterns may still be different, so if you have a double control on a clip card course make sure you capture both punches. You can even do this earlier in the week if you are organised enough.

Task 27: Naturally you have to put the controls out. Two of Murphy's laws come into effect here. The first is "It always takes longer to put out controls than you think". Even now it still takes Bruce an hour to put out 10 controls in farmland or forest and that's at a jog and knowing where the controls are going. Murphy's second law is "It is usually raining or bitterly cold when you put the controls out. If it is sunny and warm you can be confident that it will rain either during the event or when you are collecting the controls". Most importantly make sure the control is in the right place! The Controller will check all placements of controls, so discuss with him or her when you intend to put out the controls – they will need time to check them. As a preventative measure against 'hidden' controls, you should be able to walk all the way around the control when it is in place.

Task 29: Be prepared early. Another of Murphy's laws applies here "If you are ready early everyone turns up late: If you are running late everyone turns up early" Don't expect lots of praise. Apart from the odd exception, people do not say anything much about good courses but they do say a lot about bad courses or mistakes. Some experienced competitors can be quite rude about certain aspects of courses without realising they are giving offence. Have a thick skin and treat every compliment as gem. Savour it!

APPENDIX 2: TIPS FOR PLANNING GREAT COURSES

1. You'd be surprised how much is in the ONZ "Rules 2016", which is downloadable from the "Resources" pages of www.orienteering.org.nz. This also contains the International Orienteering Federation's "Principles of Course Planning" is available as Appendix 3 (begins page 27). Read them!
2. Bruce Collins (a former Technical Director of the NZOF and multiple winner of the National Course-Setting Competition) says:

    People might think they don't have the experience to plan courses but with a little thought everyone can do it. It doesn't take an elite orienteer to plan courses for elite orienteers and it leads on that relatively inexperienced people can plan satisfactory club events. Planning can be lots of fun and it is extremely beneficial to your own orienteering.

    The experienced planner thinks of all sorts of ways to lead the competitor into making mistakes such as trying to tempt them into making parallel errors, contour height errors etc. If you have got thoroughly lost on a course (hasn't everyone!) think about where you got lost and why. See if you can incorporate this into the next course you plan.

    The main aim of planning is to give the competitors a course that is correctly designed for their capabilities, is fun and challenging, and above all that it is fair.

- Don't have doglegs. This is where the competitor leaves the control in the same direction as they came into it, and therefore can inadvertently show an incoming person exactly where the control is.
- Don't have different courses coming into the same control from opposite directions for the same reason as above.
- Don't have controls on similar features within 100m of each other.
- Try to have the start so that people waiting to go don't see the route choice of the competitor before them.
- Try to keep climb under 5%. Climb is the vertical distance climbed divided by the horizontal distance and multiplied by 100, both of these being on the planners optimum route. Only count the up climb, not the down climb! Climb greater than this is too physical for older or less fit orienteers. You work out the vertical distance climbed by counting the number of "up" contours and multiplying this by the contour interval.
- Don't hide the control. Make sure it is visible without having to search for it. The challenge is navigating to the control site, not having to search under bushes for it when you are within a few metres!
- Don't have long legs where there is little navigation involved because of prominent features or large catching features.
- Give the course an interesting shape. Don't have all the legs the same length or the course generally going in one direction. Try and make people turn left then right etc at each control and vary the leg length
- A route choice between controls should make the competitor think hard about which they think is best. A straight choice of over the hill or around the hill is not necessarily a good route choice.

WHAT IS THE PURPOSE OF THE COURSE LABELLING AND WHO ARE THE COURSES FOR?

On all courses where route choices involve terrain which some competitors might consider to be steep, dangerous or difficult to traverse, there is a need for an obvious alternative or taped route. This especially applies to courses that elder competitors might be on.

WHITE COURSES

White courses are the courses designed for beginners, i.e. those just starting out in orienteering. They should be designed so that everyone finishes and, just as importantly, we should be trying to make the courses interesting. This is important as we are trying to hook these beginners, and their families, into orienteering, NOT to turn them off for life.

YELLOW COURSES

Yellow courses should follow on from this. They should be MORE interesting. There must be a challenge. They should allow those with better skills some advantage over those with lesser skills. There must be an element of competition for those that want it and don't agree with the politically correct "everyone must win" idea.

ORANGE COURSES

Orange courses are the next step and are for those who are learning contours, and the more intricate features, but don't feel confident enough for a Red course yet.

RED COURSES

Red courses are the ultimate test of an orienteer's ability to navigate and follow the map. These courses must be done as fast as possible if you want to win. BUT, and it's a big BUT, you don't have to run fast to do Red courses. Lots of people enjoy red courses and do them at a walk. It's the challenge of **navigation** that is the enjoyable part, not the physical exertion.

SO WHAT IS THE PROBLEM WITH COURSES IN NZ?

Many White courses are BORING!!!!!!!!!!!! Usually they follow a fence or track system around in a circle. What fun! It's just a cross country run without crossing much country.

Many Yellow courses are just as boring. They usually follow the same or similar route to the White course but miss out the odd control. What is the navigational skill in this? It is still track running! Sometimes planners are adventurous and give the competitor a control 50m off the fence line but visible from 200m away. Wow!

Many orange courses are too hard and almost of red standard. It's an enormous jump from an easy Yellow course to a hard Orange course. This is where we see a big drop off in competitors. Is this related?

Red courses are Red courses. Most people get these about right (except for hiding some controls under bushes, behind trees etc, which is NOT part of this sport).

Now after all that criticism I'll say what I think the courses should be like!

WHITE COURSES

The official description of White courses from the 2008 NZOF rules is:

Courses must follow drawn linear features (tracks, fences, streams, distinct vegetation boundaries, etc.). A control site must be placed at every decision point (eg. a turning point, a track junction or a change in the type of linear feature - from following a track to following a stream). All control markers must be visible from the approach side. Where the course has to deviate from the handrail feature (e.g. to cross through a forest block), the route must be marked all the way until a new handrail feature is reached. The Start Triangle shall be on a linear feature. If no such feature is available, then there must be a taped route all the way from the start to a linear feature (ie. the first control). Compass use is limited to map orientation only. No route choice is offered. Doglegs are permitted.

Used for: M/W-12, M/W-14B

Firstly these courses must be "safe". By that I mean all competitors must finish. The course can't be too easy. The definition of a white course is that there is NO route choice. Controls MUST be at every decision point. That is every track junction, fence junction etc even if the competitor is going straight ahead. **The challenge at this level is in learning to keep the map orientated**. The controls should be placed just past the feature to make sure the competitor is going in the right direction. In other words at a fence junction the control must be on the part of the fence that the competitor will continue on. Not the part that they approach on, and not the part of the fence that they won't be travelling on. Also and very importantly the control must be visible as they approach.

While the course must follow a linear feature the words "streams, vegetation boundaries" have been added to the official description to encourage people to think beyond tracks and fences.

When you are planning the course try not to think just of the easiest course but think of fun for the competitor. Use as many different linear features as you can and try not to make the course circular. Turning left after each control can get boring, and doesn't help them learn to keep their map orientated!

It might be more work for you as planner, especially if you only have a few on the course, but consider taping some routes. A taped route can get you from one linear feature to the next. It can take the competitor through some knolls, past a re –entrant, over a small hill, round a bank etc. to show them what the terrain is like. Fact: White Course competitors spend a lot of time looking around. Some become so interested in birds, animals and things they see that they stop! Some become so distracted they turn right around and when they restart again they are not sure what direction they should be going in. True! Giving them a taped route adds to the scenery they will see and their enjoyment. As long as there is a control at each end of the taping it is safe.

For White courses the key words are SAFE; NO ROUTE CHOICE; and INTERESTING.
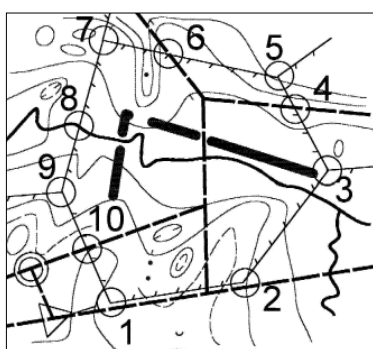
This is a BORING WHITE COURSE because the thick line is a hedge
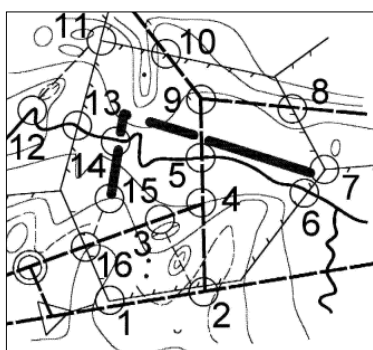
THIS IS A BETTER WHITE COURSE

2–3, 11–12, and 15–16 are taped routes.

5–6 and 12–14 follow a stream. 14–15 follows a hedge. (7–11 is a bit boring, so maybe from 7 bring them back along the hedge to the track just south of 9)

YELLOW COURSES

The official description of yellow courses from the 2008 NZOF rules was:

> *Control sites must be on or near (<50 m) drawn linear features (tracks, fences, streams, distinct vegetation boundaries, etc) but preferably not at turning points. This gives the opportunity to follow handrails or to cut across country (i.e. limited route choice). Control sites shall be visible from the approach side by any reasonable route. Compass use is limited to rough directional navigation. Contour recognition is not required for navigation but simple contour features may be used for control sites. Doglegs are permitted. Used for: M/W14-A, M/W-16B, adult C classes*

As I have said above these courses are generally made too easy. There must be some route choice that enables the better competitor to make a decision about whether they can go cross country or whether they should follow the linear feature.

Courses are often clones of the White course with every second control left out. Worse is when they use the same controls. These courses give absolutely no route choice and must be very boring for the competitor. Also if someone doing a White course wants to do a Yellow course later that same day its no fun if the controls are the same

Some courses have controls on knolls etc but still on the fence line. While competitors learn what a knoll is, there is still no interest and no route choice.

The other extreme is where some controls are too hard. The planner has read that controls can be up to 50m from the linear feature so they put a control on a dot knoll 50m from a straight fence line that is 300m long. There is no attack point whatsoever and this poor competitor has to judge the distance along the fence line before they go in 50m to the knoll!! This is especially bad in forested areas. Compass use is for rough direction, NOT fine navigation.

If using a control site up to 50m from the linear feature make sure the control site is on a large distinguishable feature such as a cliff, large boulder, large knoll etc, and not a small dot knoll or shallow re-entrant. Also make sure there is a strong attack point so they can find their way to the control and make sure the flag is very visible from all the approach directions.

Once again try to make the course interesting. Use different features and make the course an interesting shape. At this level it is even more important not to bored by turning left at each control. Make sure you give them route choice. If they are following a fence line give them the opportunity to cut across so that they don't have to follow the fence all the way to the control. Make sure that when you give them route choice cross-country, the features are large and easily read. Don't expect them to navigate cross-country though detailed contour areas. They are not expected to read contours but they can use their compass for rough directional navigation. Therefore they can "aim off" to another linear feature. If they do have this opportunity for compass use make sure there is a large re-entrant they can follow, or round the side of an obvious hill to guide them. Don't make the possible compass use go through undulating terrain where they can go wrong. Make it foolproof. Also remember though that like red courses, route choice should not be just the choice between around a hill and over the hill.

From interesting courses with route choice comes the ability for better orienteers to beat faster runners with no orienteering ability. That's what orienteering is all about!!

For Yellow courses key words are INTERESTING; ROUTE CHOICE; COMPETITIVE.
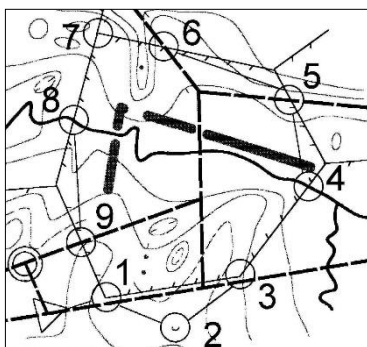
POOR YELLOW COURSE?

Control 2 is 50 m from track with no attack point. 4–5, 5-6 and 8–9 cut corners but not enough to give any incentive to leave the fence line.
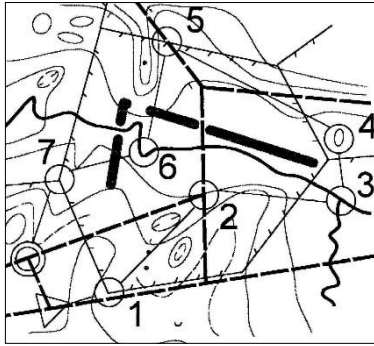
BETTER YELLOW COURSE?

Most controls give a route choice with an incentive to go off the track/fence system.

APPENDIX 3: PAPO'S MAPPING AND CARTOGRAPHY GUIDELINES

As increasing numbers of members are now setting up maps, and it is important that we have a consistently high standard of map presentation as a club. The following guidelines have been drafted to help maintain this standard.

Wherever possible please prepare courses using Condes, not OCAD.

When making up a map, especially using part of a map, it is important to include all the additional information around the map if at all possible. White & Yellow course competitors definitely need a legend, north lines and the scale, but Red and Orange competitors may not. This means that when you are deciding what size of finished map you will end up with on each course, the planner need not go to A3 just to put a legend on for Red and Orange courses. Instead, ensure that the legend is available for them to look at, both at the camper, and at the start.

The mapped area should extend at least 10-15mm beyond any of the outer control points. Where possible (especially for White & Yellow courses) it should run out to a significant catching feature (track, road, water course, etc).

If you must use OCAD to create your course files, remember to change the print scale rather than the map scale when changing a map scale (e.g. 1:5000 for White), i.e. DO NOT change the scale that you find in the Options, Scales screen.

Where there are fences on the map these should be hidden for Red courses.

The map should include:

- A title or name (e.g. Waikari)
- The club's webpage - papo.org.nz
- The PAPO logo
- Scale (correct for that map)
- Scale bar (consistent with the scale)
- A legend (all be in one place) containing ALL the features on the current map
- Contour interval
- Map version Number e.g. AH080216
- History of Cartography & Fieldwork
- Copyright statement
- Magnetic North lines
- Reserve boxes for punching if the SI box fails
- Acknowledgements to landowners or sponsors, where appropriate

- If the map contains any private land: "Possession of this map does not imply right of access"

If you are having difficulty setting up the base maps and fitting everything around them then contact the OCAD Map Keeper, or Linley Earnshaw well before the map is due at the printers.

APPENDIX 4: EXAMPLE OF COMPETITOR INFORMATION FOR THE CAMPER

To be printed landscape on an A4 sheet.

ORTON BRADLEY OY1 1/3/09

TODAY'S COURSES

Course	Distance	Climb	% Climb	Est. Win Time	No. of Controls	Physically	Technically
Long Red	7.0km	405m	5.5	60 mins	18	Hard	Hard
Medium Red	4.6km	250m	5	50 mins	12	Hard	Hard
Short Red	3.7km	140m	3.5	45 mins	10	Medium	Hard
Orange	3.7km	120m	3	40 mins	12	Medium	Medium
Yellow	2.3km	60m	2.5	40 mins (median)	13	Easy	Easy
White	1.5km	30m	2	25 mins (median)	17	Very Easy	Very Easy
String	N/A	0	0	N/A	N/A	Very Very Easy	Very Very Easy

STARTER'S INSTRUCTIONS:

Please clear and check (Sport Ident Events)

All electric fences are off. Where possible, please climb through fences, not over them. Please leave gates as you find them and cross at hinge end. Report any damage to the Controller, who is XXXX today.

The bulls are in the paddock marked with red stripes. It is strictly out of bounds.

There are lots of controls out there – please check your control numbers.

Your time starts when you punch the start box here and then you may look at your map.

The tape will lead you to the start triangle. There is no punch there.

White course – There are orange tapes out on your course to help you between controls 6 and 7.

Yellow and Orange courses – Your only tape is this one to the start control. If need be, explain that a copse is a small group of trees.

Appendix 6: Special Notes for Planners of the Twilight Series

These notes are not a comprehensive guide to planning twilight events but are intended to provide useful information to assist in the planning process.

OVERVIEW OF THE SERIES

The series consists of score events held on consecutive Wednesday evenings over late January to early February on street or park maps usually located within the Christchurch metropolitan area. Events start at 7 with the allowable time varying according to the map being used. At each event there is a short and long option. Scores are accumulated over the series with prizes being awarded to series winners rather than winners of individual events. Participants may enter as individuals or as teams of any number and entry fees are based per map rather than per entrant. The final event of the series has a shorter time limit to allow time for calculation of winners and prize giving before darkness. As points accumulate over the series, for fairness, the points available at each event must be the same as well as penalties for lateness. These are a total of 1000 points per event and 20 points per minute deduction for lateness. Twilight events don't usually have an appointed controller, however a buddy or experienced helper is designated to assist as required.

MAKING GOOD USE OF TERRAIN

Orienteers enjoy going into new areas. Although there are limitations on street maps, try to make use of any new streets or subdivisions, walkways, tracks, alleyways, steps between streets, etc. Make good use of any green areas, such as parks, reserves, riverbanks etc. On hill maps take participants where there are good views. Use any unusual features or points of historical significance as control sites.

THE RIGHT DEGREE OF NAVIGATIONAL CHALLENGE

The challenge in score events comes from choosing and executing the best possible route choice appropriate for ones fitness and experience. Ideally participants, even experienced orienteers, should be provided with a challenge when first looking at the map in deciding the best route. This is achieved by carefully considering the spread of control sites over the map and the routes to and from them and especially how the points are allocated to controls. Consider the less fit and experienced by avoiding placing all the high point controls on the periphery of the map and the low pointers around the start/finish. Control values should not necessarily be correlated with distance from the start or with difficulty to find. Remember that one of the most important decisions in score events is deciding which controls to omit.

FAIRNESS

Participants should be able to navigate to controls using the information on the map, the control description and any information provided in the briefing. It is vital to remember that orienteering is about route choice and not about conducting grid searches to find controls or requiring local knowledge so;

- Don't hide controls. It is standard practice with street events, particularly when using adhesive stickers as control markers, to avoid placing then in full public view to prevent damage or removal. However this doesn't mean they should be obscured by vegetation, hidden, or awkward to see (e.g., upside down at ground level).
- Avoid placing controls in areas that are inaccurately mapped. Either get the map updated or don't use that site.
- Make sure control descriptions are specific e.g. use 'fence east end' rather than 'fence'. If there is more than one 'man made feature' within the control circle use 'seat' or 'bench' instead of 'man made feature'. Note that children's play areas may be mapped with a single black cross, but might

include a number of pieces of equipment such as swings slides etc. In this case name the specific piece of equipment the control is on.

- Make sure all open areas marked on the map are still accessible.
- Avoid placing controls where they are physically difficult to get to e.g. involve crossing mudflats, wading through water etc. One of aims of the twilight series is to encourage newcomers and these people are likely to be put off by this.
- Make sure control sites are accessible from all likely routes. Remember it is not possible to map all features on street maps. A control which is accessible from one direction but which has an unmapped high fence impeding access from another is unfair.
- The values of controls should be instantaneously recognizable from their control code e.g. all controls number 30-39 are worth 30 points, those between 40-49 are with 40 points etc or some similar system.

SAFETY

Safety is mostly common sense. Avoid placing controls where there are obvious hazards e.g. at the top of a cliff. Traffic is the major safety hazard. Avoid the need to cross busier roads multiple times. Site controls so that there is opportunity to create routes through quieter streets. Draw attention in the briefing to any specific hazards on the map. Make it mandatory to cross rivers only at bridges and railway lines only at road crossings. Draw attention to any safer routes e.g. underpasses.

THE PLANNING PROCESS

Obtain the latest version of the map from the map keeper.

Do a broad check of the map area to identify any new streets or subdivisions and to make sure walkways, tracks and any "open ground" remain accessible. Minor changes can marked on a hard copy of a map and given to the club cartographer to update.

Decide on a start/finish area in consultation with the event organiser. On most street maps there are few options. Logistics are the most important factor in determining the start/finish site. Don't select a less suitable option solely to avoid using the same site as previous events. Ideally the site should be more towards the centre of the map than the edge, should have enough space for an assembly area, should have sufficient parking available without annoying local residents and should be located where the are several likely routes away from the start and back to the finish. Having toilets nearby is advantageous. Generally parks are the most suitable sites.

Decide what type of controls you are going to use. This will affect your choice of control sites. The most common control marker is an adhesive sticker which is attached to the control feature. The sticker has the control number written on it (using a permanent marker pen) and a code which participants must write on their control card. Stickers with 'permanent adhesive' are quite durable when attached to smooth surfaces and can be put out several days in advance, but don't adhere well to rougher surfaces. The main advantage of stickers is that they can be put out in advance and do not have to be collected after the event. Other options are mini training controls; these are like standard orienteering controls but are smaller and can be hung from objects. There are also orange and white card controls on small spikes which can be struck into the ground. You can also use questions that can only be answered by visiting the site which does away with any control marker at all. If you do this remember that the space on the control card to write answers is small, so make answers no longer than four letters or digits. Also make sure the question is clear and unambiguous.

Do some armchair planning, by marking areas on the map you would like participants to visit or routes you would like them to follow as well as areas best avoided (usually for safety reasons).

Then go out in the field and identify control sites that complement your armchair planning. It is best to identify more control sites than you intend using.

Back to the armchair and finalise your control sites, then allocate points to each and also number each control. Remember the total points must be exactly 1000. Allocating points is an important stage – the degree of challenge is often determined more by how you allocate points, than the selection of control sites.

It is worthwhile performing two checks at this stage. Firstly work out how far anyone would have to run to visit all controls. From this you can get an idea of the appropriate time limit for the event. Ideally it should not be possible to gain maximum points within the time limit although this may be difficult to plan for on some maps. However don't plan solely for the one or two superfit – average participants should be able traverse over a good part of the map. The second check is for the spread of controls. Split the map into sectors. This will vary according to the map. On totally flat maps you might split into quadrants. On other maps it might be the hill area and the flat area, or the west area and east. Total the number of points available in each sector and ask the question 'does this seem reasonable'? On a flat map for example, you would expect the points in each quadrant to be similar unless there were some unusual features on the map. If your spread of points is right then participants should follow many different routes. Having the majority following the same route is not a good sign.

Maps for the twilight series are pre-printed, so you now have create the map to be used for the event. Some planners have access to OCAD and/or CONDES software and can do this themselves, but usually this is done by the club cartographer or someone else delegated this task. They will also arrange sending the map to the printer.

THE FINAL TASKS ARE;

1. Allocating codes to each control and creating a master sheet of control codes for checking competitors cards after the event
2. Preparing control descriptions and photocopying sufficient for the likely number of competitors
3. Preparing the actual controls
4. Preparing your briefing notes
5. Putting out controls
6. Turning up on the night and giving the briefing

Hopefully after the finish you will hear competitors disagreeing on the best route – a sign of a well-planned event.

GENERAL

If you are using stickers may sure they are not too small; 10cm x 7.5cm as a minimum. Codes should be written in bold letters with marker pen so they are easily read.

Avoid queuing at controls near the start/finish by placing the sticker so it can be seen by a number of people at the same time.

Stickers attached to be back of objects such as junction boxes can be difficult to read if the object is close to a fence etc. Use the sides instead.

Use simple codes; two capital letters is the norm. Don't use 'novelty' codes such as shapes, symbols, Greek letters etc. Remember there will be young competitors who might be confused by these.

The rules of orienteering specify that the control feature must be a mapped feature, however this can be ignored for street events. It is acceptable to use an unmapped feature, such as a sign at a track junction or

a feature near an obvious road bend if the control description is explicit about where the control will be found.

Don't overdo doglegs. A dogleg is where the logical route is back the way you came. Siting a control at the end of a deadend street, particularly if there is climb involved can pose the challenge "is it worth visiting or should I ignore it" but don't do it too often.

Consider whether a control site might be used by the public on the night e.g. park seats or picnic tablets, children's play equipment. Could there be other sporting events or practices in park on the night of the event.

Do a second check at each control. Is the information on the map plus the control description sufficient to avoid any ambiguity? Is there more than one of the described control feature close by? If yes, have the map altered or choose a different control site.

Avoid creating a ring of controls around a central start/finish. This simplifies route selection to clockwise or anticlockwise. In particular avoid concentric rings i.e. a ring of low pointers close to the start, then a ring of medium pointers further out and finally a ring of high pointers on the periphery.

Try and avoid long legs along a straight street. Long legs which involve many changes in direction are far better.

Features of the electricity reticulation system (but not all features of telecommunications systems) are usually mapped on street maps. In orienteering parlance a junction box refers to a metal box, rectangular in profile. Most are only thigh height but some can be head height. A transformer is larger and square in profile, generally flat topped. They can be free standing but can be inset into private property. Substations are mapped as buildings. Plastic boxes are not mapped.

Double check and triple check controls descriptions and the map. Make absolutely certain the description matches the correct control number and site.

Take great care when putting out controls that the right sticker is used. It's very easy to transpose these.

Avoid forcing participants to cross busy streets at one point. Create a route that allows participants to cross at several points e.g. the entry point and exit point from a busy street are offset by some distance. Having to cross at large roundabouts is also best avoided.

SUGGESTED TIME LIMITS:

	Short	Long
Cashmere	45min	75min
Cuthberts Green	45min	60 or75min
Groynes	30min	45min
Lyttelton	45min	75min
Mt Pleasant A4 map	45min	75min
Mt Pleasant entire A3 map	60min	75 or 90min
Orua Paeroa	60min	75 or 90min
St Martins	60min	75 or 90min
South Brighton	30min	60min
University	30min	45min