

## MAPPING AND AREA ALLOCATION

### INTRODUCTION

The standard of maps has improved significantly over recent years. This has been brought about by the use of professional mappers for many maps, the updating of specifications and guidelines for maps and the use of computers in mapping.

### MAPPING STANDARDS

The IOF publishes a booklet ISOM/2000 that covers map specifications and guidelines for the following orienteering disciplines: Foot-O; Park-O; Ski-O; MtB-O; Trail-O

These specifications and guidelines are available from the IOF website ([www.orienteering.org](http://www.orienteering.org)).

OA has also published an article titled “Mapping of Rock Features”. This article gives some guidelines on mapping of rock features in complex areas and is in section 6.2 of the OA Operational Manual.

A section on mapping standards and guidelines for Street-O maps is included in this section of the manual.

### COMPUTERISED MAPPING

OCAD is now almost the industry standard for preparation of orienteering maps, although CorelDraw is still used for some maps. Many clubs have at least a couple of OCAD licenses; further information can be obtained from the OCAD website [www.ocad.com](http://www.ocad.com).

The latest version of Condes Control Description software runs with OCAD to facilitate the preparation of courses on the map. Digital Printing of the map with courses already marked on completes the picture. Digital printing makes small print runs economical so that map corrections can be incorporated and a special print run for each event (or each course) can then be done. Digital Printing can be done at the following print shops:

FernTree Gully Print and Copy Centre  
Shop 1238 Burwood Highway  
Upper Ferntree Gully 3156  
ph 9733 6505 Fax 9753 6500  
email [ferntreeprint@bigpond.com](mailto:ferntreeprint@bigpond.com)  
Proprietor Bernard Poff  
Mention Orienteering when getting work done

Or

Jamie Ross - Hurstbridge Image Works  
[hbcopy@ihug.com.au](mailto:hbcopy@ihug.com.au)  
mobile: 0412 270 639  
9438 2233

## **GUIDELINES FOR PREPARING A MAP USING A PROFESSIONAL MAPPER**

OA has prepared a set of guidelines for engaging a mapper. These guidelines cover the following issues:

- Relationship between mapper and organisation, whether a volunteer, employee or contractor
- Public/Professional liability
- Terms and conditions of engagement
- Copyright/ ownership of the intellectual property
- Standards/Quality control
- Disputes.

These guidelines are in section 6.1 of the OA Operational Manual.

The following more general guidelines cover the wider picture of having a map prepared

1. Investigate the area thoroughly and evaluate:
  - the quality of the photogrammetry
  - the complexity of the terrain
  - cleared use of the area with landowners, etc.
  - the expected size of the map
  - the amount of time available for the project
2. Investigate the alternatives if the club cannot produce the map:
  - production jointly with another club
  - engaging a professional mapper for the total project
  - engaging a professional mapper to complete a section or the more complicated parts of the map
  - engaging a professional mapper to oversee the project and to maintain quality control with the bulk of the work being done by club members.
3. Produce an estimated budget for the total project.
4. Circulate all known professional mappers for an expression of interest with at least the following information:
  - general area of map
  - quality of photogrammetry
  - nature and complexity of terrain
  - timetable for project
  - degree of club involvement in project
  - expected standard of work
  - which major event the map is planned for

- any special conditions that may apply
- that the mapper will be finally engaged subject to the successful completion of an initial sample area (0.5 to 1 sq. km)

5. Choose and interview those mappers who seem most suitable. At the interview clarify any of the above issues. The mapper should at this stage be able to give the following information:
  - previous experience including samples of maps worked on
  - time available for project
  - approximate hourly rates for fieldwork, drawing and travel
  - form in which fieldwork will be entered up and returned to the club
  - referees who can attest to the above.

The club should verify the above points by checking with the referees and with other mappers, clubs, and state technical or mapping committees.

6. Selected mapper completes sample area, which is then checked by experienced orienteers:

If standard is OK then:

- mapper is requested to give a price for completion of the total area (hourly rate or total project)
- timetable is finalised.

If standard does not pass then:

- mapper is advised of problems to be rectified
- if problems are serious then a new mapper may need to be engaged.

If further advice is required then:

- an experienced mapper/orienteer agreed to by both parties should be the arbitrator
- advice should be obtained from the technical or mapping committee of the state.

In any case the mapper should be paid at the quoted hourly rate for completion of the sample map.

7. On completion of the sample area and the engagement of the mapper for the total project there still is required a continuing involvement by the club.
  - regular checks to ensure that the mapping quality is similar to that of the sample area
  - regular checks to ensure the timetable is being maintained
  - the mapper should make available to the club on a cost basis copies of the drawn up fieldwork so that a regular checking process can take place.
  - any dispute should be handled according to 6 (above).

8. At the completion of the total project:
  - the club should have checked the quality and overall consistency of the map
  - the mapper should hand over a fully drawn up sheet with all fieldwork information sufficient to efficiently trace overlays for printing
  - the mapper should hand over all fieldwork sheets, checking sheets, extra photogrammetry, overlays etc.
  - the club should pay all outstanding money
  - the club should request and be ready to accept the advice of the mapper as to the best use of the area and the general suitability of particular features as control sites.
  
9. Other points:
  - at all times the base map remains the property of the club
  - on the agreed payment being made, all the mappers field notes, overlays etc. become the property of the club.
  - the club rather than the mapper is expected to make all arrangements for the use of the area for orienteering
  - if a total cost for the completion of the project is given then it should include expenses
  - if an hourly rate quote is given the expenses should be extra
  - under either hourly rate or total cost, the expected expenses should be discussed and agreed to by the parties before commencement
  - up to 25% of each payment may be withheld by the club to be paid as a lump sum on the completion of the project according to the agreed timetable
  - expected minimum standard should be to meet IOF specifications
  - additional standards can be expressed in terms of similar to the standard of particular and well-known maps
  - both club and mapper are expected to meet their obligations under government regulations such as taxation, workers compensation etc.

## **MAP SELECTION AND REGISTRATION**

To eliminate any duplication of effort by clubs mapping the same area unbeknown to each other, Orienteering Victoria has established a system of reserving areas for future maps and registering maps once they are produced. Before reserving an area, clubs must have reasonable plans to map the area, or that area may be reallocated to another club which can provide evidence of desire and ability to map the area within a short time. This policy applies to all disciplines of orienteering (ie bush, park/street, mtbo).

The Mapping Officer must be advised of all new maps or major re-maps, and the first event for which it is intended the map be used, prior to the commencement of mapping work. Separate map registers for foot (bush and park/street) and mtbo are maintained by the relevant Committee, under the overall supervision of the Mapping Officer.

### **Procedure**

1. Club identifies an area it wishes to map
2. Club notifies the appropriate Map Registrar giving detailed location e.g. outline of area on topographical map and access routes. Also notify standard of map intended and intended time frame for map production
3. If the area has not previously been registered, or has not been reserved for a future major event, it will be registered for the applicant club
4. When the map is completed and has been used for the first time, 10 copies of the map must be forwarded to the Map Registrar. Copies will then be lodged with the State Library, Dept. of Sustainability and Environment, National Library, and Baillieu Library.
5. Clubs should distribute copies of new maps to public authorities in the area of the map. (e.g.S&E Regional office, Parks Victoria, SES, Police, CFA)

### **Allocation of areas for major events**

Groups under the Bush Orienteering and MTBO sub-committees maintain a register of areas (whether or not they are mapped at present) suitable for major events in their respective disciplines, in consultation with any clubs holding existing rights over those areas, and under the supervision of the Mapping Officer.

These areas are categorized A (suitable for international events and Australian Championships) and B (suitable for Australian 3-Days, Victorian Championships and other significant national events).

Approval of the relevant sub-committees is required prior to a club making a new map or significant re-map of these areas.

The number of maps in each category is appropriate to the realistic needs of major events likely to be allocated to Victoria (for bush maps, a suggested number is approximately 10 areas in category A and 20-30 in category B).

In the event of a dispute between the relevant subcommittee and a club in relation to the use of such an area, the matter shall be resolved by the VOA Board..

### **Separation of Right to Mapping for Different Forms of Orienteering**

Club rights to an area for one form of orienteering confers initial rights to an area for another form. However if there is a demand for development of the area (as claimed by another club which has a specific proposal for such development) for another form of orienteering and the owning club does not intend to pursue this within the next 2 years (bush and MTBO) or within 1 year (park/street), the rights to the area for the 'other' form of orienteering will be ceded to the claimant club. This will be mediated by the Mapping Officer. Considerations such as future plans for the area (eg reservation for a major event) will take precedence.

### **Reallocation of Inactive Areas**

If an area has not been used for an event for 5 years and another club wishes to make a map of an appropriate standard of that area, then the club holding the rights to the existing map would either have to:

- give notice of an intention to remap the area for a specific event of an appropriate standard, or;
- schedule an event of the highest standard suitable on the map in the coming year, or;
- relinquish the rights to that area.
- this policy shall not apply if an area is reserved for a major event

### **Royalties**

There are no fixed fees for map royalties negotiated between clubs. However, map costs should be transparent and any clubs involved in negotiations must be fully informed.

### **Disputes**

Disputes shall be resolved under section 17 of the Orienteering Victoria Constitution, Disputes Resolution. The paramount principle shall be the creation of the best possible fixture for each discipline within the sport.

## **Guidelines for Black and White Street Orienteering Maps**

### **Introduction**

Black and white maps have several main advantages over colour:

- they may be drawn and modified with minimum effort
- they cost very little to produce and copy.

These reasons also make B & W maps a good training ground for novice mappers.

### **General Requirements**

B & W Street maps are used by orienteers (and runners) for training. The quality of the map is important, since it determines the level of skill in route choice, navigation and control location.

The aim should be to provide a map at an appropriate scale to provide sufficient detail for the orienteer, and for the selection of control sites. This means a map with considerably more detail than a Melway map.

Clarity is of the utmost importance in B & W maps, and consideration must be given to map reading on the run. It is important that the features mapped are those which are significant and most easily seen, and can be represented clearly on the map. Suburban street and park areas contain many fine details which are useful as control sites, but are impossible to map without going to very large scale. Not all possible control sites can be included.

The preferred scale is 1:10,000. A larger scale (1:7,500 or 1:5,000) or smaller (1:12,000) may be used if appropriate, but the page size should be no larger than A3 to permit easy photocopying. The preferred contour interval is 10m, but 5m could be used for flat areas.

A legend should be included to provide details of what features have been included on the map. The scale, contour interval and date of production should also be listed. The latter assists in keeping track of updates.

Magnetic North should be aligned with the vertical edge of the map. There should be at least one arrow indicating the direction of Magnetic North.

Photocopiers have a tendency to modify lines and dots, wash out very fine screens and merge close features together. The line thickness, screen dot sizes and spacing, and minimum separations listed on the Recommended Symbols have been selected to avoid merging or distortion of symbols.

Most Street maps are now produced using OCAD or CorelDraw to give best legibility. Where this is not possible, it is preferable for Letraset and/or typesetting to be used. Handwritten lettering should be avoided since this can reduce legibility. The initial outlay by clubs for several sheets of Letraset, drawing pens and film (if not already available) should be easily recouped from the first event

Prepared by Carolyn Jackson. Thanks to Russell Bulman, Peter Dalwood and Peter Jackson.

Further information on Park and Street mapping standards may be obtained from the Park and Street Coordinator, or the Park and Street Mapping Subcommittee.

### **PURCHASING AERIAL PHOTOGRAPH DIAPOSITIVES**

In order to purchase aerial photograph diapositives across the counter from the Government Information Bureau, written permission from the Division of Survey and Mapping must be presented. There is concern by the Department of Property and Services that the photographic content of diapositives will unlawfully be reproduced.

Orienteering Victoria has obtained a general written approval to purchase and use diapositives to make orienteering maps.

Clubs wishing to purchase diapositives should approach either the Secretary or the Convenor of the relevant Committee for an authorised copy of the letter granting approval. Clubs will need to provide to Orienteering Victoria a written statement that

"The ..... club guarantees that there will be no reproduction of the photographic content of the diapositives to be purchased for preparation of an orienteering map in the .....area."