

Construction drawing practice —

Part 4: Recommendations for landscape drawings

UDC 744.4:[69+721.021.22]

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Basic Data and Performance Criteria for Civil Engineering and Building Structures Standards Committee (BDB/-) to Technical Committee BDB/4 upon which the following bodies were represented:

- Association of County Councils
- Association of Metropolitan Authorities
- Brick Development Association
- British Standards Society
- British Woodworking Federation
- Chartered Institution of Building Services
- Concrete Society
- Department of Education and Science
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Property Services Agency)
- Incorporated Association of Architects and Surveyors
- Institute of Clerks of Works of Great Britain Inc.
- Institution of Building Control Officers Ltd.
- Institution of Civil Engineers
- Institution of Municipal Engineers
- Institution of Public Health Engineers
- Institution of Structural Engineers
- National Council of Building Materials Producers
- National Federation of Building Trades Employers
- Royal Institute of British Architects
- Royal Institution of Chartered Surveyors
- Timber Research and Development Association

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Arboricultural Association
- Architectural Association (Inc)
- British Constructional Steelwork Association
- Building Services Research and Information Association
- Chartered Institute of Building
- Greater London Council
- Horticultural Education Association
- Institute of Parks and Recreation Administration (Inc)
- Landscape Institute
- Coopted member

This British Standard, having been prepared under the direction of the Basic Data and Performance Criteria for Civil Engineering and Building Structures Standards Committee, was published under the authority of the Board of BSI and comes into effect on 29 February 1984

© BSI 02-1998

The following BSI references relate to the work on this standard:
Committee reference BDB/4
Draft for comment 72/12009 DC

ISBN 0 580 13652 3

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Stages of work	1
4 Drawing of curves	13
5 Sizes	13
6 Setting-out	17
7 Topography	17
8 Perspective drawings	18
9 Graphical symbols and abbreviations	18
10 Schedules	25
Appendix A Information commonly needed	28
Appendix B Fixed, free and pivoting elements	30
Appendix C Setting-out information	31
Appendix D Interpolation of contours	32
Appendix E Visibility between given points	34
Appendix F Drawing contours in perspective	35
Appendix G Example of computer graphics	36
Appendix H Bibliography	36
Figure 1 — Relief and natural drainage	3
Figure 2 — Slope analysis	4
Figure 3 — Vegetation survey	5
Figure 4 — Tree survey	6
Figure 5 — Grading	7
Figure 6 — Hard landscape drawing	8
Figure 7 — Hard landscape detail	9
Figure 8 — Planting plan	10
Figure 9 — Layout of grid for woodland planting	11
Figure 10 — Subsoil drainage	12
Figure 11 — Circular curves	14
Figure 12 — Example of a non-circular curve	14
Figure 13 — Example of error in setting-out	14
Figure 14 — Locating setting-out lines from existing features	15
Figure 15 — Locating an irregular curve by offsets	15
Figure 16 — Reference grid	16
Figure 17 — An open alignment	16
Figure 18 — Closed shape consisting of circular arcs	17
Figure 19 — Fixed elements	30
Figure 20 — Free elements	30
Figure 21 — Pivoting elements	30
Figure 22 — Setting-out information using co-ordinates	31
Figure 23 — Interpolation of contours by parallel lines	33
Figure 24 — Interpolation of contours by the fan method	33
Figure 25 — Plan illustrating intervisibility	34
Figure 26 — Plan grid	35
Figure 27 — Perspective grid x metres and y metres above the base plane	35

	Page
Figure 28 — Example of computer graphics	36
Table 1 — Preferred scales commonly used for different types of drawing	2
Table 2 — Graphical symbols and abbreviations	19
Table 3 — Example of tree survey schedule	26
Table 4 — Example of tree work schedule	26
Table 5 — Example of tree planting schedule	27
Table 6 — Example of planting schedule for shrubs and climbers	27
Table 7 — Information commonly needed	28
Table 8 — Radii and equivalent degrees of curvature	32
Publications referred to	Inside back cover

Foreword

This British Standard, having been prepared under the direction of the Basic Data and Performance Criteria for Civil Engineering and Building Structures Standards Committee, is a revision of BS 1192:1969 which is withdrawn. It has been written to bring the recommendations for construction drawing practice up to date and to comply with other national standards of the United Kingdom and with standards of the International Organization for Standardization (ISO) that have been accepted by the UK.

The standard will comprise four Parts as follows.

- *Part 1: Recommendations for general principles;*
- *Part 2: Recommendations for architectural and engineering drawings¹⁾²⁾;*
- *Part 3: Recommendations for symbols and conventions²⁾;*
- *Part 4: Recommendations for landscape drawings.*

It gives recommendations regarding the production of graphical information needed to provide communication, with accuracy, clarity, economy and consistency of presentation, between all concerned with the construction industry; including architects, civil engineers, contractors, landscape architects, services engineers, site operatives and structural engineers.

It is hoped that this Part of BS 1192 will encourage the standardization of drawings and schedules. Familiarity with commonly accepted forms of presentation is likely to result in greater efficiency in the preparation and interpretation of landscape drawings and minimize the risk of confusion on site.

In accordance with current practice, values given in this standard are metric. A list of publications which may be needed for reference when landscape works are to be undertaken is given in Appendix H.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 36, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

¹⁾ BS 308 gives recommendations for engineering drawings in industries that are unconnected with the construction industry and that are associated with mechanical, electrical, electronic, hydraulic, pneumatic and nuclear engineering disciplines.

²⁾ In course of preparation.

1 Scope

This Part of this standard gives recommendations for the preparation of landscape drawings and schedules.

Recommended symbols and abbreviations are included and used in a series of typical drawings. The appendices include summaries of information commonly needed and of methods and calculations commonly used when landscape drawings are being prepared.

NOTE 1 This Part should be read in conjunction with Part 1 "Recommendations for general principles", published separately.

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this Part of BS 1192, the definitions given in BS 1192-1 and BS 3975 apply.

3 Stages of work

3.1 General

The main stages of a project and the drawings that may be needed are described in 3.2 to 3.9. Figure 1 to Figure 10 give typical examples of drawings. Table 1 gives preferred scales recommended for the different types of drawing.

A brief will normally have been agreed before the commencement of the data collection stage.

Copies of original drawings should be taken for future reference purposes at various important stages, e.g. the obtaining of statutory approvals, and the Bill of Quantity stage.

For ease of communication and handling, the size of all drawings should be standardized (see also BS 1192-1). The degree of detail to be presented, together with the size of the site, will influence the scale of a drawing.

The same scale should be chosen for all mapping, where possible, to assist cross-referencing. When site mapping is covered by more than one drawing, a precise method of reference between adjacent sheets is essential. A key mosaic is often used.

Information commonly needed at the various stages of drawing preparation work is given in Appendix A.

3.2 Data collection

This stage, incorporating landscape survey information, comprises the recording in an objective and systematic format of all available factual data related to a site, including sections, diagrams or schedules as needed. Aerial surveys can offer extensive opportunities for data collection in larger landscape projects. Records should state the date of origin and the source of data.

3.3 Appraisal of site data

The objective of this stage is to identify important site characteristics before a brief is evaluated. A full appraisal of site data will demand the presentation of value judgements, normally by way of plans supplemented by notes.

3.4 Interpretation of a brief

Spatial requirements of a brief should be converted into schematic diagrams that can assist in its interpretation.

3.5 Preliminary design stage

Schematic diagrams used for the interpretation of a brief and for the appraisal of site data come together as a design in sketch plan form whereby the feasibility of proposals can be tested. This can be one of a series of preliminary drawings that may culminate in a preferred version. Such drawings should be consecutively numbered and dated, recording the logical progression to the preferred version.

The preferred version of preliminary drawings should be tested against the criteria governing the project concerned and against the proposals of other specialists.

3.6 Final design stage

The preferred version of preliminary drawings is developed during the final design stage. The method of presentation (to a client) will influence the selection of the type of drawings to be prepared.

3.7 Production drawing stage

Production drawings should be legible and concise, with sufficient information about a design to enable it to be implemented, and should be sufficiently detailed to permit the preparation of Bills of Quantities. They should not duplicate information contained in specifications or schedules. Layout drawings should be capable of clear interpretation and in complex layouts it may be necessary for separate plans to be produced for various work aspects, such as site clearance, underground services, hard and soft landscape works. The separate plans should be prepared upon copies of a single basic or master outline drawing of the layout. The master drawing should be retained as a basis for drawings that may be needed for additional aspects of the work, or for any major revision.

3.8 Record drawings

During the course of construction, a set of drawings should be kept up to date with all variations and changes in design, sizes or setting out that have occurred. Upon completion of construction a set of "as-built" drawings may have to be prepared.

3.9 Maintenance drawings

Drawings to show the locations and frequency of maintenance operations are essential, to ensure the implementation of the design intentions over a long period. This information can take the form either of a drawing together with specification notes, or of an annotated plan.

Table 1 — Preferred scales commonly used for different types of drawing

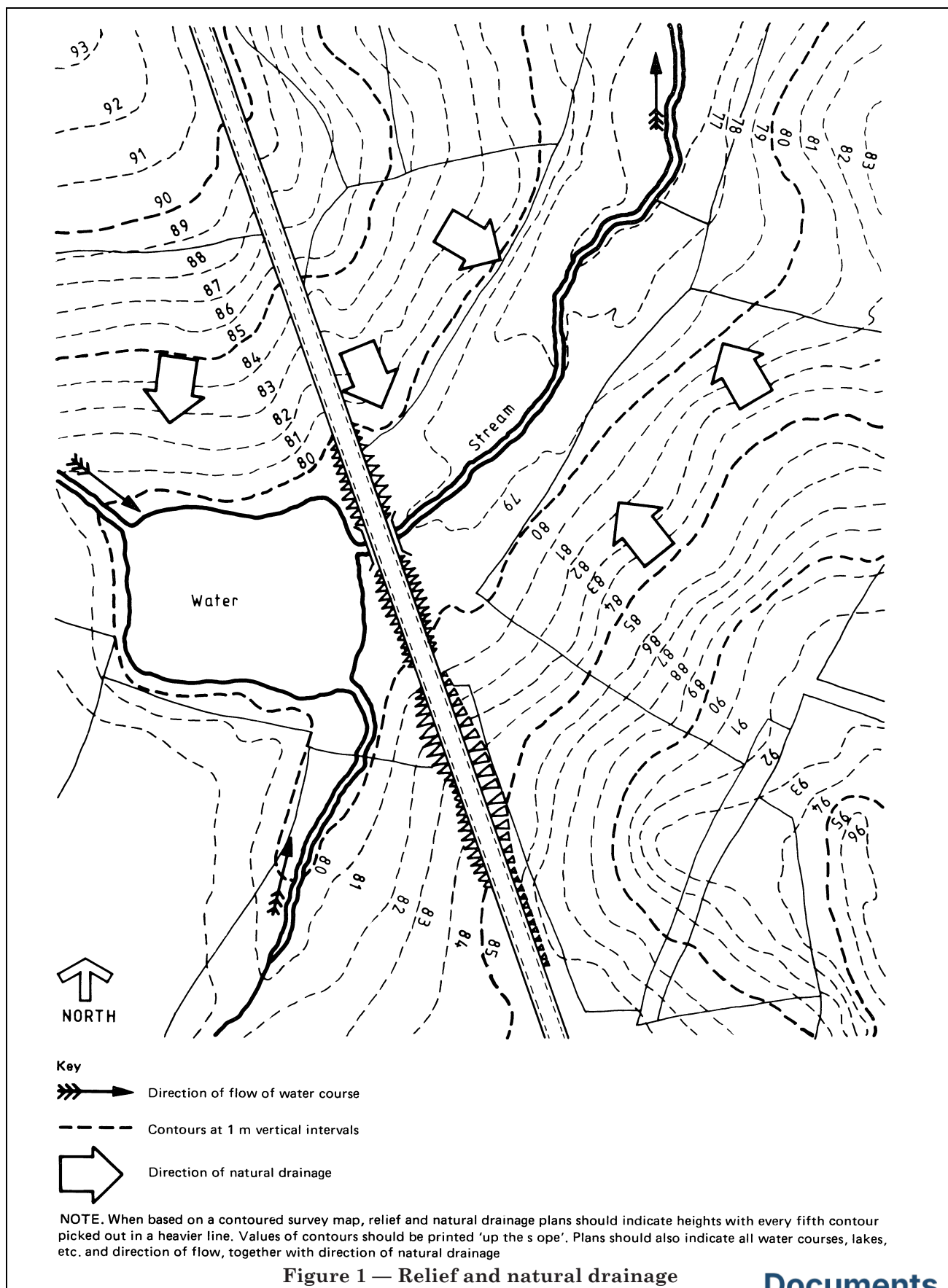
Job stage	Subject	Recommended scales ^a											
		1 : 50 000	1 : 25 000	1 : 10 000	1 : 2 500	1 : 1 250	1 : 500	1 : 200	1 : 100	1 : 50	1 : 20	1 : 10	1 : 5
1 Data collection	Geology and soils ^b	•	•	•	•	•							
	Contours and gradients:												
	(vertical intervals) 10.0 m	•	•	•	•								
	5.0 m			•	•	•							
	2.0 m				•	•	•						
	1.0 m					•	•	•					
	0.5 m					•	•	•					
	0.25 m						•	•	•				
	Hydrology and drainage	•	•	•	•	•	•						
	Vegetation, habitat factors, climate and microclimate			•	•	•	•						
	Structures, roads and services					•	•	•	•				
2 Appraisal	Access and communications, archaeological and local history data, land use, pollution factors, legal and planning aspects	•	•	•	•	•	•						
	Social and demographic factors	•	•	•									
	Appraisal of site data, appraisal of client's brief, feasibility study		•	•	•	•	•						
3 Design	Development sketch, preliminary sketch plan, final sketch plan		•	•	•	•	•	•					
	Layout				•	•	•	•					
	Details					•	•	•	•				
4 Production	Location plan	•	•	•	•	•							
	Site plan (general location)			•	•	•	•						
	Setting out plan, preparatory works, groundworks				•	•	•	•					
	Hard construction, services co-ordination, planting plan						•	•	•	•			
	Construction details									•	•	•	•
5 Post construction	Record and maintenance drawing				•	•	•	•					

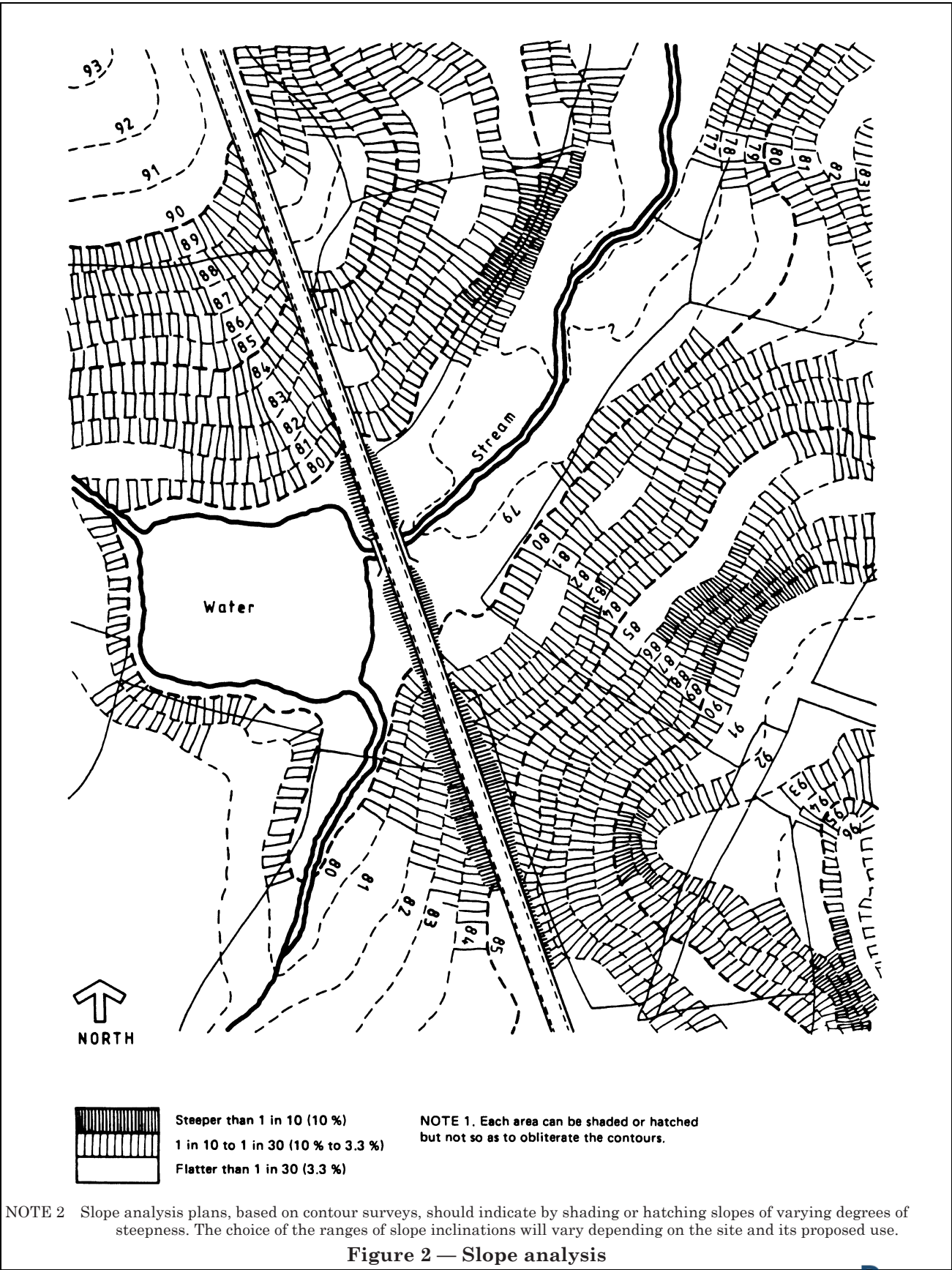
^a It should be noted that increasing use is being made internationally of scales 1 : 1 000 and 1 : 2 000.

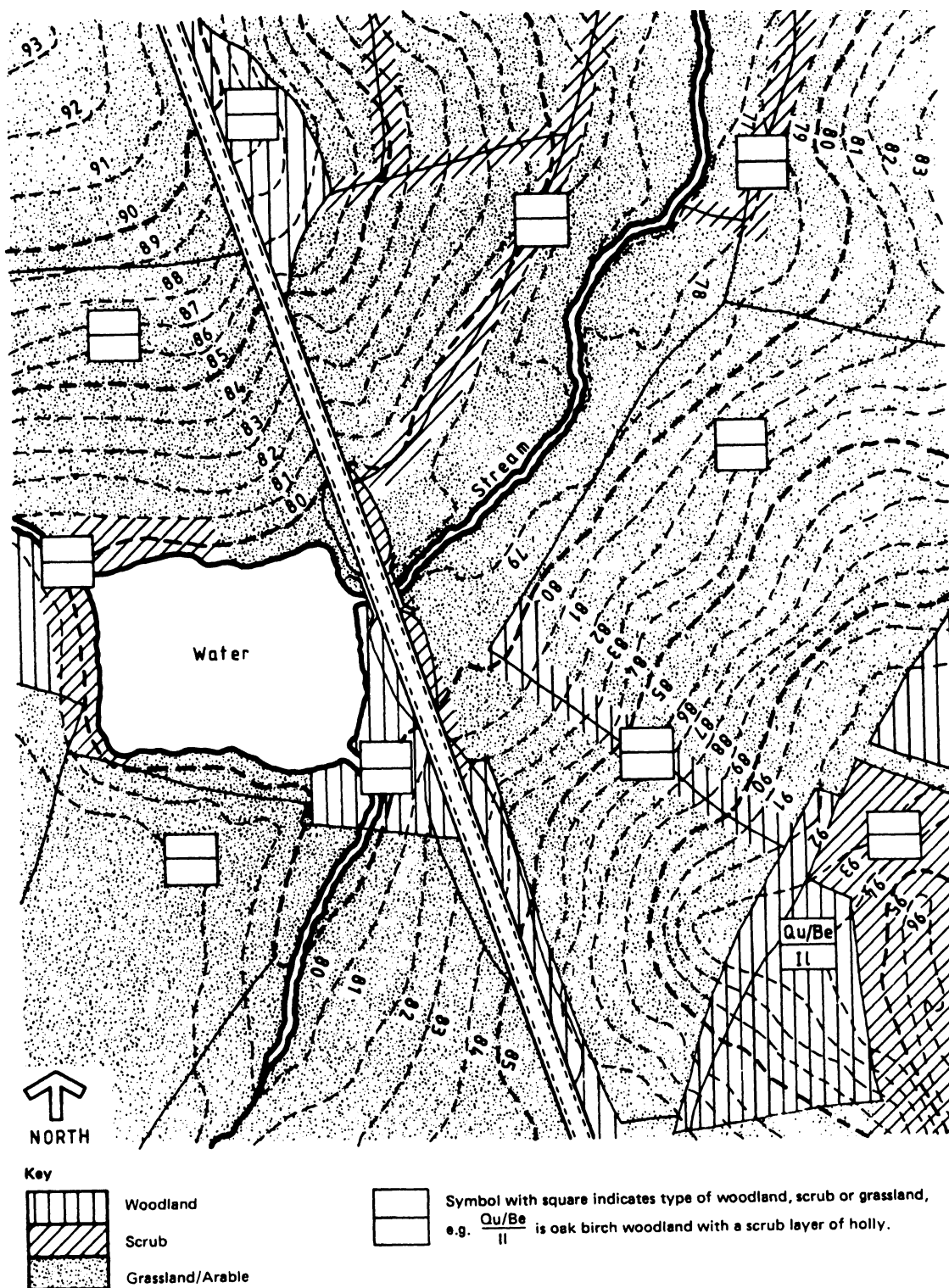
^b Certain data is only available in imperial scales. e.g. 6" : 1 mile.

^a It should be noted that increasing use is being made internationally of scales 1 : 1 000 and 1 : 2 000.

^b Certain data is only available in imperial scales, e.g. 6" : 1 mile.

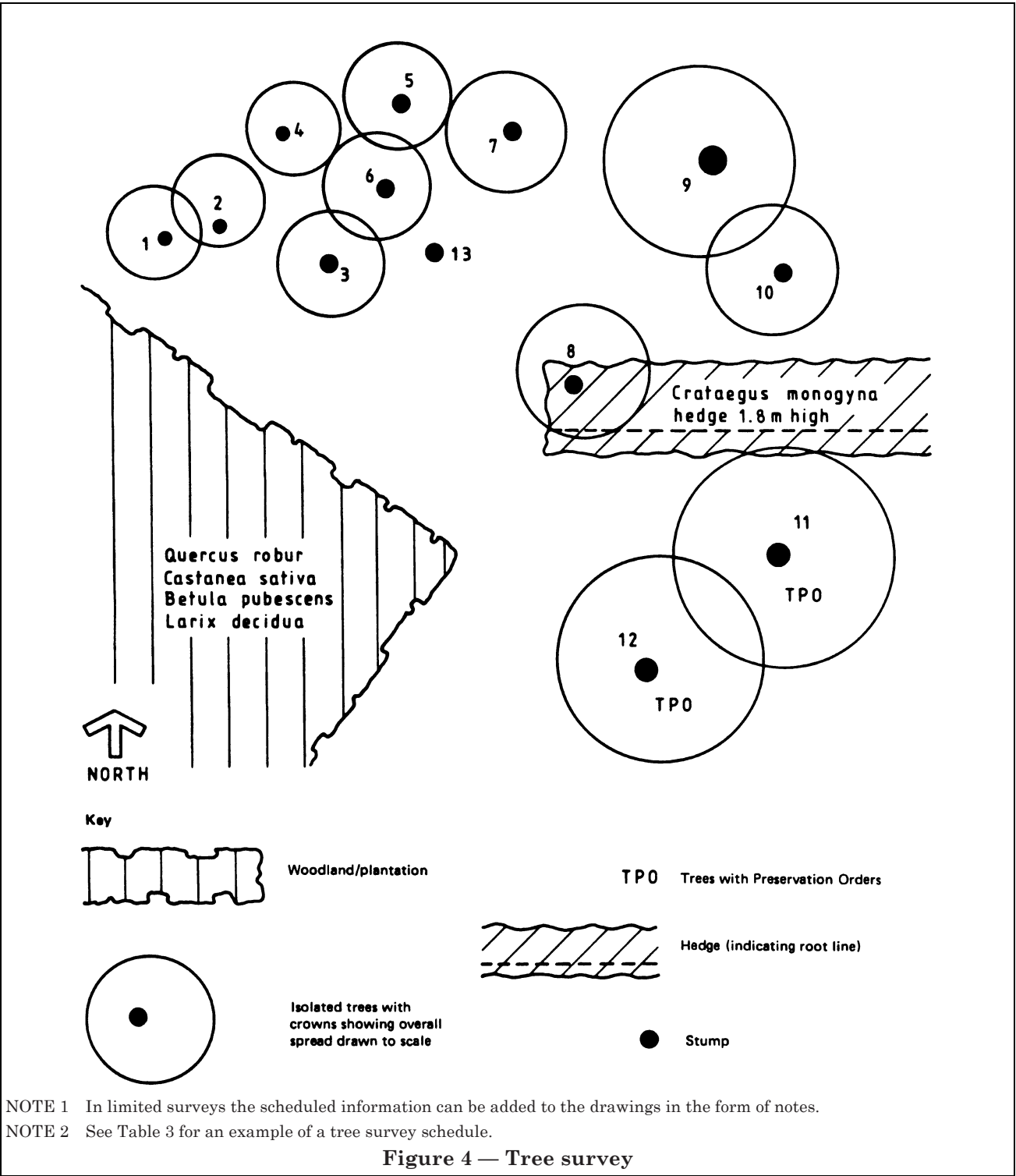






NOTE Vegetation surveys are prepared following site investigation, and the use of aerial survey photographs when necessary. They should show at least three major plant divisions e.g. woodland, scrub/shrub and grassland/arable, indicated by hatching. Further subdivision may be necessary. Within this broad category each area should be defined and catalogued according to the sub-type, i.e. variety of dominant plants, presence of sub-layers of vegetation and presence of other species.

Figure 3 — Vegetation survey



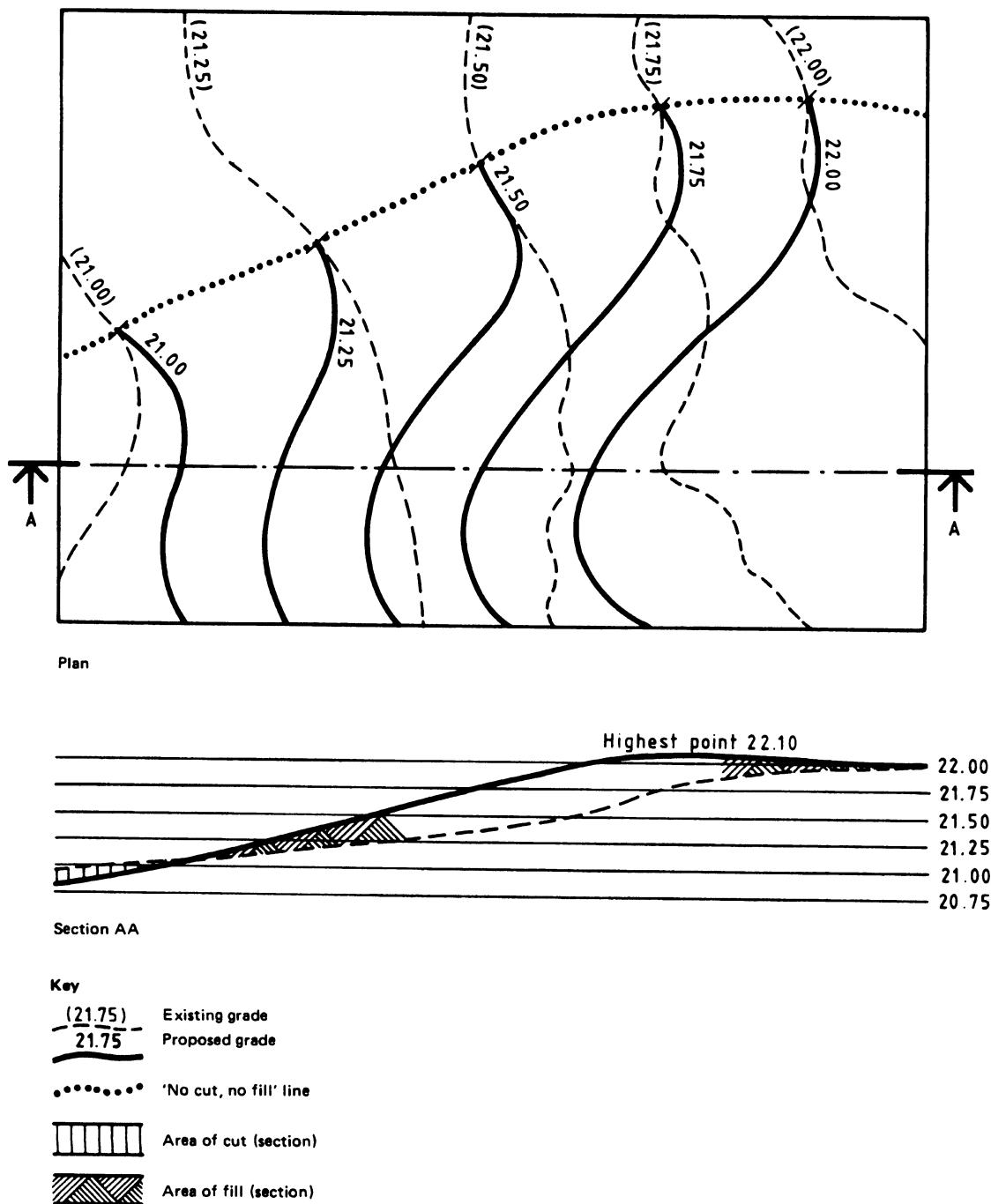


Figure 5 — Grading

