INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

[A Working Group of the Hydrographic Services and Standards Committee (HSSC)]

Chairman: Peter JONES
Secretary: Andrew HEATH-COLEMAN

UK Hydrographic Office
Admiralty Way, Taunton, Somerset
TA1 2DN, United Kingdom

Telephone:
(Chairman) +44 (0) 1823 337900 ext 5035
(Secretary) +44 (0) 1823 337900 ext 3656
Facsimile: +44 (0) 1823 325823
E-mail: peter.jone@ukho.gov.uk
andrew.coleman@ukho.gov.uk

CSPCWG Letter: 05/2012

UKHO ref: HA317/010/031-09

To CSPCWG Members

Date 27 February 2012

Dear Colleagues,

Subject: Draft revision of S-4:

- **Section B-300 to B-330 – Round 2**
- **Section B-340 to B-390 – Round 1**

We sent out the 'Round 2' version of the revision of B-300-330 with CSPCWG Letter 03/12. We suggested there was no need to respond if you are content with the proposed changes, but inviting comments if required by 21 February. We only received one comment, from France, querying the use of the legend 'Hulk' in the graphic at B-330. Consequently, we plan a small change to this specification as follows (new text in red):

> The legend 'Hulk' in upright text should be placed adjacent to the outline or symbol, to distinguish it from a wreck. If useful, the vessel's name or the present function of the hulk may be shown in addition to or in place of the legend. ~~upright text adjacent to the outline or symbol.~~

We assume that this part section is now ready for Member State approval. However, we have already prepared the remainder of Section B-300 for your consideration. We hope we can progress this reasonably quickly and then join the two parts together for Member States' consideration.

So, the next major task is for you to review Section B-340 to B-390; the first draft accompanies this letter. This has been fully revised, trying to achieve a balance between conciseness and sufficient explanation to assist and educate novice compilers (in recognition of this IHO 'standard' being a resource to support capacity building). We also took account of the discussions we had about some particular paragraphs during CSPCWG8. Agenda items 8.11, 8.15, 9.2 (marginal notes referring to WG8 indicate these).

As usual, we would be grateful for your comments on the draft, paying particular attention to all the track changes and marginal comments. Marginal comments prefixed 'DID' are instructions to an

internal UKHO section, who will be responsible for preparing the draft for publication and updating the graphics before submitting to Member States; you can ignore these comments. Blue text is used to give visibility to new text or minor changes which we believe to be uncontroversial.

For your convenience, we have included a response form at Annex B with particular questions on which we would welcome your views; however, please feel free to comment on any other points as well.

Please respond, using Annex B, but also with a track change version of Annex A if necessary, **by 30 April 2012.**

Yours sincerely,

Peter G.B. Jones,
Chairman

Annex A: Draft revision of S-4 Section B-340 to B-390 – Round 1 (sent separately)

Annex B: Response form and questionnaire

Annex A to CSPCWG Letter 05/2012

PART B

_____

SECTION 300

TOPOGRAPHY

Page intentionally left blank

SECTION 300 - TOPOGRAPHY

RECORD OF CORRECTIONS

Specification Number	Amendment Number	Circular Letters		Remarks
		Promul-gated by	Approved by	
Section 300 Preliminary Edition	—	21/1979	—	Facsimile reproduction of Specifications drawn up by the NSICC and the CSC. Then adopted by 1982 Conference. Decision No. 23.
B-313.4-B-320.1 B-326.2-B-326.7 B-328.3-B-366.2 B-380.2-B-380.3 B-382.1	—	—	—	Included in Cummulative Correction No. 1/1986.
B-327.1-B-373.1 B-373.6-B-375.4 B-382.1-B-390	2/1987	27/1987	14/1988	
Section 300 1988 edition	—		—	New loose-leaf edition - including symbols from chart INT 1.
B-381.4	1/1989	31/1989	52/1989	New specification.
B-390	1/1990	47/1990	—	Amendment to the title of the paragraph.
B-390.1	1/1990	47/1990	—	Former specification 390.
B-390.2	1/1990	47/1990	—	New specification.

Specification Number	Amendment Number	Circular Letters		Remarks
		Promul-gated by	Approved by	

CONTENTS

Section 300 - TOPOGRAPHY

Deleted: in
Deleted: R
Deleted: ,
Deleted: Lava flow
Deleted: Artificial
Deleted: in
Deleted: ,
Deleted: ,
Deleted: ,
Formatted: Left
Deleted: ¶

Deleted: Bridges and overhead obstructions: clearances

Deleted: Views and sketches, Viewpoints

B-340 LANDMARKS, CONSPICUOUS OBJECTS: GENERAL

A landmark, in this context, is any object (natural or artificial) on land which is **prominent from seaward** and can be used to determine a direction or position. The term excludes objects specifically erected for navigational purposes; these are sometimes referred to as daymarks (see B-455.9). For charting purposes, the term should not be used in its meaning of a structure marking a boundary on land (see B-306).

Ease of positive identification is almost as important as prominence. An unusual or unique feature (eg a church with two spires where others have single spires or towers) or a universally recognizable shape (eg a wind turbine, a chimney), may qualify as a landmark even if not particularly prominent.

B-340.1 **Prominence** varies with the location of the observer and with lighting and atmospheric conditions; despite this, it is usually possible for the hydrographic surveyor to distinguish **conspicuous and prominent objects** from other landmarks and provide this information to the cartographer.

Other landmarks include identifiable objects (as opposed to unremarkable hills or urban areas) which by their nature are likely to be visible or prominent from certain directions and distances offshore. It will often be impossible for the cartographer to know whether an object is visible from seaward or not; in general, therefore, all tall features, such as towers, masts and chimneys, should be charted within a specified distance inland, which will depend on chart scale and nature of the relief.

B-340.2 **Charting landmarks.** Symbols must be used as widely as possible for charting landmarks to reduce language difficulties. Where a specific symbol does not exist, a building block or position circle may be used instead. Examples:

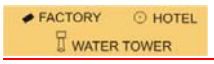
E1

Where there is no space for pictorial symbols, including cases where the symbols would have to break the coastline, small position circles (B22) and legends should be used.

To aid identification by the mariner it may be useful to add: name or description of the feature, the height above ground level (see B-303) or above the general height datum (see B-302); identifying features, eg twin spires (possibly by a pictorial sketch, see B-390)

B-340.3 **Conspicuous objects.** A conspicuous object should meet the following conditions: it should be plainly visible over a large area of sea (except in narrow approach channels), in varying conditions of light, and should be easily identifiable. The cartographer has the responsibility of making conspicuous objects stand out from other topographic detail and charting an adequate symbol or legend for positive identification by the navigator, where possible.

Conspicuous landmarks must be emphasized by adding a legend in sans-serif capital letters, even if the symbol used is a distinctive one. Examples:



E2

If a position circle (B22) is used, it should be the larger, 2mm diameter, version. Abbreviations for conspicuous landmarks should only be used if space is limited. Identifying features may be added in parenthesis, if useful, eg: '(red)', '(2 spires)'.

The following former practices have been discontinued:

Deleted: is

Deleted: in determining

Deleted: expressly

Deleted: seamarks or

Comment: Do we need new definition by HDWG?

Deleted: **Prominence is the first requisite for a landmark, but e**

Deleted: The

Deleted: a red cliff amongst grey ones, or

Deleted: well

Deleted: A conspicuous object should meet the following conditions; it should be plainly visible over a large area of sea (except in narrow approach channels), in varying conditions of light, and should be easily identifiable. The cartographer has the responsibility of making conspicuous objects stand out from other topographic detail and charting an adequate symbol or legend for positive identification by the navigator, where possible.

Deleted: (with central dots) (see B-305.1

Deleted: **; see later paragraphs.**¶
¶
A symbol representing a c

Deleted: **feature**

Deleted: distinguished from one representing the same type of feature, eg a water tower, when it is not thought to be conspicuous. This should be achieved

Deleted: though

Deleted: Thus where a water tower is known to be conspicuous it will be charted:

Deleted: or, if space is limited, 

IE 2¶
¶

- adding the abbreviation '(conspic)', or equivalent, adjacent to the legend;
- including a list of conspicuous objects on the chart.

B-340.4 **Aids to navigation which are daymarks,** eg beacons and lighthouses, are designed to be prominent from seaward. Only where they are exceptionally conspicuous should they be emphasized by the method in 340.3. See also B-455.1 and B-457.3.

B-340.5 **Pictorial sketches of landmarks** may be used where available; see B-390.

Deleted: and where it is not: . . . . . **IE 1**

Deleted: ¶
. . See B-340.3 for style of legends.¶
¶
. . Where there is no space for pictorial symbols, including cases where the symbols would have to break the coastline, position circles (with central dots) (see B-305.1) and legends should be used (see B-340.3).¶
Page Break
B-340.3 . . **Legends** for all landmarks are not normally necessary when a pictorial symbol is used, but if required should preferably be in bold sans serif lettering. Lettering defining a conspicuous object, eg "Spire", should when used be in capital letters. Lettering associated with other landmarks should not be in capitals apart from initial letters. Abbreviations for "conspicuous" and its equivalents, eg "conspic", "rem" (French), "auff" (German), "Kenb" (Dutch), shall not normally be used.¶
¶
B-340.4 . . **A list of conspicuous objects** on charts is not recommended because it would increase correctional work and duplicate information in the Sailing Directions.¶
¶
B-340.5 . . **Position circles** for conspicuous objects for which there is no pictorial symbol shall be of not less than 2mm in diameter, with a dot in the centre.¶
¶
. . . . . HOTEL . . . . . **IE 2**¶
¶
. . Smaller circles may be used for other landmarks (see B-305.1).¶
¶
. . . . . **IE 1**¶ ... [1]

Deleted: by their nature have a considerable degree of prominence

Deleted: may

Deleted: 471.6

Deleted: S

Deleted: Views and Sketches

B-350 NATURAL FEATURES: GENERAL

Natural topographic features shown on charts are grouped under four headings: relief, drainage (including ice/glaciers), vegetation and volcanic activity. The types of features charted and the distance inland to which they are shown will vary with chart scale, type of terrain and possibly adequacy of aids to navigation. The significance to the mariner must be judged by the requirements of both visual and radar navigation; see also B-300.2.

The navigator sees the coast in profile; the cartographer sees it in plan and must always be aware that the navigator's interest in land detail is at its greatest at the coastline and falls off rapidly inland; see also B-300.4. On a low-lying coast, even minor indicators to position near the coast, eg sand dunes, hillocks, low bluffs, may be very useful on larger scale charts. On steep coasts with deep water close inshore, sea traffic is likely to be concentrated off projecting points of land, and the nature of each headland must be made clear, eg whether it has vertical cliffs, is sloping or has a low profile.

Off coasts inadequately marked by aids to navigation, detailed topography near the coast will allow the mariner to clear dangers with the aid of visual transists of charted topographical features.

No definite standards can be stated, but useful guidance is provided in B-300.1-.4. The following principles should be observed:

a. Topographic detail should be kept to a minimum consistent with providing navigators with all identifiable features and a general picture of the relief as far as the probable horizon. This practice should enable landmarks to stand out from less important detail, unlike a typical topographic map.

b. Portrayal of detail should vary with distance inland, eg inconspicuous features such as marshes, minor lakes and streams should be shown only when close to the coast.

B-350.1 Harbour plans. The portrayal of natural features must be determined in conjunction with urban detail: see B-320.

B-350.2 Coastal and approach charts. Inshore navigation requires the navigator to pay constant attention to his precise position, often by visual means, because of the danger of running aground. Natural features close to the coast are most important on charts used for this purpose.

B-350.3 Landfall and passage charts. Where relief is required it may have to be shown further inland than on the larger scales, because distant hills may be visible (by radar and sight) from well offshore. Minor features, such as vegetation, should only exceptionally be charted (see B-354).

B-350.4 Navigable rivers, lakes and canals should be shown as completely as possible on the larger scales.

B-351 RELIEF: CONTOURS

Mariners only require a general impression of the landscape viewed from some distance, not a detailed map. They will understand most methods of representation of relief where presented clearly. Hydrographic offices may choose the representation of relief most suitable to the terrain being charted, source material and the navigational requirements (see B-350). Generalized contours with spot heights for significant elevations is a commonly used and effective method. Another effective technique in mountainous areas is to use unlabelled closely spaced contours in a subdued colour, which can provide a good indication of relief without detracting from the

Deleted: IN

Deleted: availability of source data

Deleted: clues

Deleted: the

Deleted: or a

Deleted: , for example

Deleted: in

Deleted: al belt

Deleted: improvised

Deleted: but t

Deleted: The density of t

Deleted: shown

Deleted: with

Deleted: skyline

Deleted: Treatment

Deleted: and

Deleted: within about a mile of

Deleted: treatment

Deleted: Largest scale continuous coastal series.

Deleted: this scale

Deleted: Smaller scale

Deleted: largest

Deleted: FORM LINES, SHADING

Deleted: It is assumed that mariners,

Deleted: with little difficulty

Deleted: In general it is assumed that h

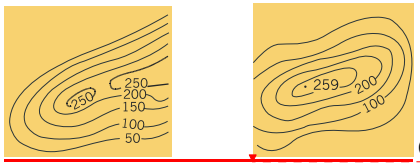
Deleted: will

significant detail. The result is similar to the labour-intensive artistic form lines and shading which were formerly used.

B.351.1(I) **On international charts,** relief must be shown in such a manner that a printer nation must be able to reproduce repromat provided by the producer; hill shading (tinting) must not be inserted on international charts unless it can easily be eliminated from repromat without also eliminating significant topographic detail.

B-351.2 **Omission of contours from smaller scales.** Where it would not be worthwhile to contour smaller scale charts, spot heights, with a name if known, may be used to emphasize individual features.

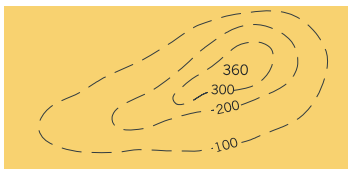
B-351.3 **Contour lines** should be fine continuous lines.



C10

To retain clarity for the mariner, black contours must be broken for more significant detail, eg: names, buildings, roads, pictorial symbols, but may be continued through urban areas

B-351.4 **Approximate contours.** Fine dashed lines may be used for approximate contours.

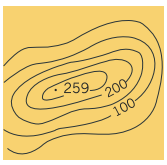


C12

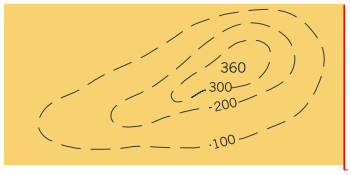
B-351.5 **The contour interval** must be uniform within a single chart, or series of overlapping charts on the same scale, except that the lowest contour may be a **supplementary** one, eg: 25m where the basic interval is every 50m, 10m where the basic interval is every 25m.

Ideally the contour interval should be chosen so that not more than 10 contours are needed for the full range of height on a single chart or particular series of charts (for clarity and economy).

B-351.6 **Height labels,** with the height in metres above height datum (see B-352), must be placed at intervals on sufficient contours. The figures should be a light font and oriented so that they are always easily readable from the southern margin of the chart.



C10



C12

Comment: Inger – do you have an appropriate example for S-4 (similar to what you sent, but without a light or any non-INT symbols)!

Deleted: It is therefore left to national discretion to:¶
¶
. . . a. . omit all relief representation, except dykes and sea walls;¶
¶
. . . b. . omit all relief representation, except spot heights and cliffs;¶
¶
. . . c. . show relief by contours (and spot heights); or¶
¶
. . . d. . show relief by form lines (and spot heights).

Deleted: shall readily

Deleted: cannot be accepted

Deleted: any contours

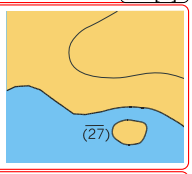
Deleted: form lines (emphasizing a few 'remarkable' hills) and

Deleted: **B-351.3** . . **Contours: use of colour.** Contours and form lines should be shown preferably in black but other colours r ... [2]

Deleted: scribed

Deleted: but **index contours,** usually every fifth one, ma ... [3]

Deleted:



Deleted: Where slopes are steep, contours should not ... [4]

Deleted: Contours should reflect the nature of the ... [5]

Deleted: and similar detail

Deleted: (the distinction between these and form lin ... [6]

Deleted: for any

Deleted: or

Deleted: the general datum for heights

Deleted: all

Deleted: weight

Deleted: legible

Deleted: sheet.

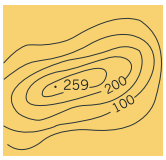
Comment: DID: please improve graphic, so that ... [7]

B-352 RELIEF: SPOT HEIGHTS

For the plane of reference for topographic heights (sometimes referred to as height datum), see B-302.

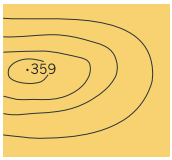
B-352.1 **Location of spot heights.** Spot heights on charts should normally be confined to summits of hills, mountains and cliffs, particularly on charts from which contours have been omitted; navigators will generally assume that heights selected for charting are summits.

B-352.2 **A point or summit, the height of which has been determined,** must be represented by a dot accompanied by a figure indicating the height in metres adjacent to it. It should be on the landward side if space allows.



C10

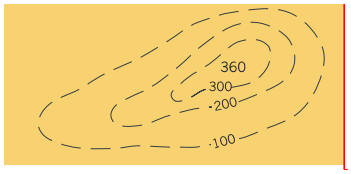
C11



C13

The name of the summit, if shown, should ideally be aligned with the height figure and placed above it. The dot may be replaced by a triangulation point (B20, see B-304.1) if appropriate.

B-352.3 **Approximate heights** may sometimes be charted without a precise position, the position of the figures representing the location, eg a figure alone may be used to indicate the height of a flat topped cliff. Figures for approximate heights should be in round numbers but in the same style as other spot heights.



C12

B-352.4 **The height of top of trees** may be charted in wooded areas where the ground level is not visible. Such heights should be shown as approximate heights with a bar — above them. Generally the appropriate symbol for woodland (see B-354.1) will also be shown thus:

Comment: Form lines deleted as agreed at WG8

Deleted: B-351.7 . . Form lines must be shown as continuous lines, preferably made bolder in the SE quadrant to represent light coming from the NW. They should where possible be shown in conjunction with spot heights (or approximate spot heights) as the lines themselves cannot be given height labels.¶

¶

C13¶

¶

Deleted: symbols used for the location of heights, see B-304, and for

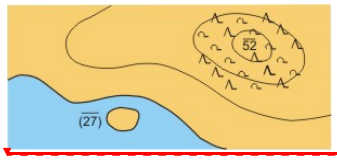
Deleted: shall generally

Deleted: and form lines

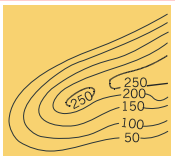
Deleted: Precise spot heights are indicated by upright figures adjacent to a control point symbol, usually a dot.

Comment: Moved from B-305.2 (and changed slightly)

Comment: DID: please improve graphic, so that there are no tiny portion of contours left beside the labels



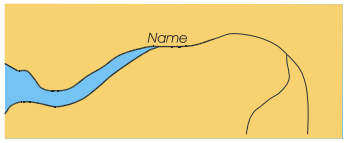
C14

Deleted: 

B-353 **DRAINAGE: RIVERS, LAKES, GLACIERS**

Inland navigable waters must be charted as fully as practicable, consistent with chart scale. Other rivers and lakes are to be charted only in a limited way to assist in providing a general indication of the topography (except close to the coastline where they may be of direct significance to the mariner). See section B-400 for charting navigable estuaries and rivers wide enough to contain hydrographic details at chart scale.

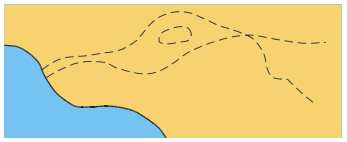
B-353.1 **The symbol** for rivers and streams should be a single line of coastline thickness, becoming a double line where scale permits. Where a double line is used the tint between the lines should be the same as at the navigable water at the entrance to the river, ie either blue or intertidal tint.



C20

B-353.2 **Names** of rivers must be in sloping lettering along the course of the river, if possible above the line viewed from the south edge of the chart, see C20 above.

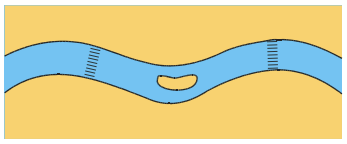
B-353.3 **Intermittent rivers** are those that are dry some of the time. The symbol must be a dashed line. Where both banks can be shown, or where, in the case of 'braided' rivers, the normal flow does not fill the river bed but is carried in a number of small channels, the bands and intermediate channels are each to be shown by dashed lines. Land tint is to be carried across such rivers.



C21

B-353.4 **Rivers navigable by sea-going vessels** must be represented in the normal way as for perennial rivers (see B-353.1).

B-353.5 **Rapids and waterfalls** in otherwise navigable rivers must be represented, where scale permits, by a block of dashes drawn parallel to the stream:



C22

B-353.6 **Lakes** must be shown where part of the course of navigable rivers, or close to the coastline. Lakes should contain blue tint. Names of lakes must be in sloping lettering.

Comment: Tapering removed, following discussion at WG8

Deleted: . . The paragraphs below are not intended to cover estuaries and rivers in which depths are charted on the scale of chart under construction.¶
¶

Deleted: line

Deleted: tapering: thin in the upper reaches, and

Deleted: width

Deleted: in the lower reaches

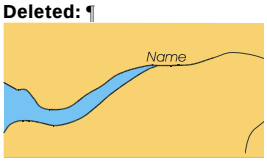
Deleted: Lakes should have blue tint.

Deleted: aligned roughly with

Deleted: preferably with the bottoms of the letters nearest to the line symbol

Comment: This could be simply a comment under the graphic in B-353.1 – but B-353.2 would then be redundant.

Deleted: ¶

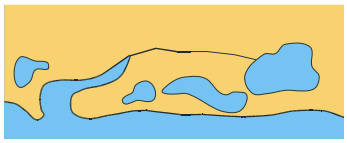


C20¶

Deleted: most

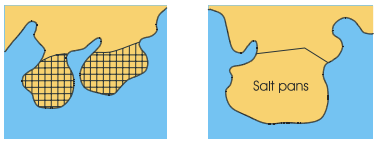
Comment: Does anyone know of a reason to keep this sentence?

Deleted: major



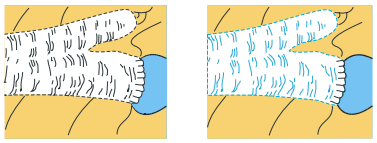
C23

B-353.7 **Salt pans,** in which sea water is evaporated, must be represented by a pattern of small squares, if charted. The horizontal and vertical lines must be parallel to the chart borders and the area must be enclosed by a continuous line. Land tint must be shown over salt pans. Where scale permits the outline of the individual salt pans may be charted. An extensive area may, exceptionally, be represented by a legend.



C24

B-353.8 **Glaciers.** The ice front symbol (N60.1) must be inserted where a glacier meets the sea, with a date if considered useful. The inland edges of a glacier must be delimited by a fine black or blue dashed line. Land tint must be omitted over the glacier. Groups of fine black or blue lines may be inserted across the glacier, to give the impression of an uneven slope; alternatively, the lines may be omitted and the legend 'Glacier' or the name of the glacier may be inserted in upright sans-serif black text.



C25

B-354 **VEGETATION**

In most areas, the vegetation cover is of negligible importance on charts with the exception of:

a. areas where trees (including mangroves), reeds or marsh form the apparent coastline; see B-312;

b. isolated trees or clumps of trees forming landmarks, eg on an isolated low-lying island;

c. where, near the coast, wooded areas alternate with areas without tree cover and so may assist in identifying location.

The following features should be omitted from even the largest scale charts:

- Grassland, cultivated fields (including paddy fields), bushes.
- Trees along roads, fences, ditches, and scattered trees (unless landmarks).
- Woodland cover within urban areas (unless adjacent to the coast).
- Woodland cover which is the general ground cover and therefore useless for identification of position.

Comment: Can we decide a preference?

Deleted: No l

Deleted: shown

Deleted: within which shall be drawn to give the effect of declivity, a convenient number of broken lines approximately parallel to the contour lines of adjacent areas. These lines may be in black or blue. No land tint shall be shown over the glacier.

Comment: The cross lines would be very difficult to computer generate. Options: rely on legend 'glacier'; leave blank (white), develop a computer generated fill symbol, eg 'random' short lines on a grey background, similar to ECDIS symbol, a regular pattern of ice crystals (blue version of K11), repeat of ice edge symbol, use of blue hachures (blue steep coast symbol)…

Deleted: headlands or other stretches of coastlineposition

Deleted: of

B-354.1 **Woods in general** must be represented by the symbol below, though an extensive area may, exceptionally, be represented by the legend 'Wooded', or equivalent, spaced out appropriately in the area.

C30

B-354.2 **Prominent trees** when found in small groups (as opposed to stretches of woodland) may be represented by pictorial symbols. When the position of an individual isolated tree is known, and is of use in position-fixing, a small circle must be inserted at the base of the symbol.

	Prominent Trees / Isolated Tree	
a. Deciduous		**IC 31.1**
b. Evergreen		**IC 31.2**
c. Coniferous		**IC 31.3**
d. Palm		**IC 31.4**
e. Nipa palm		**IC 31.5**
f. Casuarina		**IC 31.6**
f. Filao		**IC 31.7**
g. Eucalypt		**IC 31.8**

Comment: We were tasked by WG8 to consider removing some of these symbols. Suggest retain 'a', described as 'unspecified tree' and remove 'b' - which is so similar to 'a' it is doubtful if the mariner would notice the difference. Suggest retain 'c' and 'd'. Nipa palm ('e') is a type of mangrove and could simply be added into that symbol (ie at B-312.4). Casuarinas (including filao) are superficially like conifers, so we could extend 'c' to mean 'conifers and casuarinas'. Eucalypts are very wide and variable and no more distinctive than many other trees which do not have or require separate symbols, eg other distinctive trees such as scots pine, cedar, monkey puzzle, Lombardy poplar, sequoia ….

B-355 **VOLCANIC ACTIVITY**

Deleted: **A LAVA FLOW**

B-355.1 **An active volcano** may be identified by the legend '(volcano)', abbreviation '(vol.)', or equivalent, under the name. Dormant volcanoes do not need any distinguishing legend.

Note: if volcanic activity (on land or underwater) may be a hazard to vessels, consideration should be given to inserting a cautionary note and associated area on the chart.

B-355.2 **A lava flow,** if likely to be visible from the sea and reasonably recent, must be represented;

Deleted: by a continuous line, inside which shall be drawn a number of small circles and dashes of various lengths running parallel with the direction of flow. Land tint must be superimposed.

C26

Comment: A computer generated fill similar to this should be possible. UK does not have one yet; does anyone else?

Land tint must be inserted over the lava flow. Lava flows tend to lose prominence with time.

B-360 **CULTURAL (MAN-MADE) FEATURES: GENERAL**

The principles stated in B-350 (Natural features: general) are applicable to cultural features also. In particular, the significance to the mariner must be judged by the requirements of both visual and radar navigation.

B-360.1 **Harbour plans:** see B-320.

B-360.2 **Coastal and approach charts.** For inshore navigation such features as roads and railways running down to, or along, the coast, buildings near the coast, and tall or distinctive structures which may be visible should be charted to assist identification of position, usually by visual means. The approximate limits of a built-up area are important because, at night, the lights of aids to navigation may be difficult to identify in the vicinity of a well-lit urban area.

B-361 **CANALS**

Canals should be charted if they are navigable by sea-going vessels. Other less important canals may be charted (especially on larger scale charts) if they are of interest to small craft (leisure users) or if they form an important aspect of background information, eg linking ports to the interior.

A note may be inserted on the chart, advising where the necessary nautical information concerning canals for inland navigation is to be found [IHO Technical Resolution 4/1919].

Charts of major canals of relevance to sea-going vessels have certain features to which special consideration should be given, as follows:

B-361.1 **Minimum depths** or **maximum authorised draught** should be stated. These may be, in a tabular form if there are several entrance locks of differing size. Actual depths in the canal may be shown, if known.

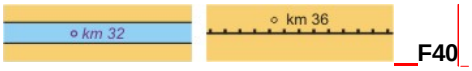
B-361.2 **Overhead clearances:** see B-380.

B-361.3 **Distances** along canals should usually be charted: see B-307.

B-361.4 **Locations** of lock and other traffic signals, and of the offices of the controlling authorities, should be made as clear as possible: see B-495.

B-361.5 **Lock and lock gate symbols:** see B-326.6.

B-361.6 **Canals on smaller scale charts.** The following symbols should be used, as appropriate to scale:



F40

F41.2

B-362 **RAILWAYS**

In urban areas, depiction of railways is part of the chart's function in giving a general indication of the degree of land development. In largely undeveloped areas, railways may be charted to

Deleted: ARTIFICIAL

Deleted: IN

Deleted: in

Deleted: artificial

Deleted: minor buildings and roads should be omitted from areas away from the vicinity of the coast

Deleted: Largest scale continuous coastal series

Deleted: and even minor tracks

Deleted: all

Deleted: At night t

Deleted: the

Deleted: s

Deleted: particularly

Deleted: such times

Comment: Do we need new definition by HDWG?

Comment: Changed to 'may' following discussions at WG8. The TR will need to be cancelled.

Deleted: , preferably

Deleted: Where possible, a canal should be shown by a double line, preferably with blue tint between the lines

Deleted: . Where the scale is too small to use a double line, the following symbols should be used

Comment: DID: replace graphics with latest versions from 5011.

Deleted: ized

Deleted: within some miles of the coast

Deleted: the depiction of

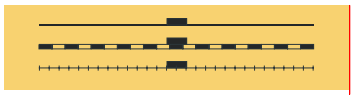
draw attention to isolated ports. Railways should be charted on large and medium scales.

Where railways run just inshore of the coast, or down to it, they may provide useful identification features.

Disused railways (if still largely intact) may be marked 'Disused', or equivalent. Dismantled railways should not be charted, although embankments and cuttings near the coast may be charted if considered useful, see B-363.

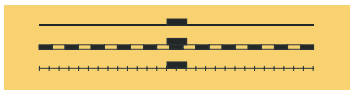
For dock railways, see B-328.4.

B-362.1 **A railway line or tramway** must be shown by one of the following symbols:



D13

B-362.2 **Railway station buildings** may be shown true to scale. On smaller scales, the symbol of a black rectangle contiguous to the railway must be used.



D13

On harbour plans, the names of railway terminals or main stations may be shown. The legend 'Station', abbreviation 'Sta', or equivalent, should be omitted for minor stations as the symbol is self-evident.

Railway sidings may be generalised.

B-363 **TUNNELS AND CUTTINGS**

B-363.1 **A tunnel entrance**, if required to be charted, must be represented:

D16

The line of the railway or road underground must be represented by dashed lines.

B-363.2 **A cutting**, if required to be charted, must be represented:

D14

Cuttings should be charted only if likely to be visible from seaward, eg when cutting through the skyline.

B-364 **EMBANKMENTS AND DAMS**

For coastal embankments, including dykes and levees designed to prevent inundation, seawalls and causeways, see B-313.

B-364.1 **Embankments** inland should be charted only if likely to be visible from seaward. Short lengths

Deleted: draws attention to such ports and¶ may be some maritime interest for transport purposes

Deleted: together with associated bridges, signal posts and other structure,

Deleted: essential

Deleted: It should not generally be necessary to chart the smaller associated features - post, gantries etc.¶

Comment: Why chart at all?

Deleted: Abandoned

Deleted: those which are mostly

Deleted: should be charted but

Deleted: should be shown

Comment: Is it possible to choose one symbol and make the rest obsolescent?

Deleted: must

Deleted: where possible

Deleted: generally

Deleted: should be

Deleted: indicated by a sign similar to a bracket;

Deleted: the line of the railway or road underground must be represented by dashed lines.

Comment: DID: please replace new version with larger brackets

Deleted: by hachures, the wider parts of the hachures representing the upper parts of the slopes

Comment: DID: please replace with computer generated version

Deleted: The symbols for

Deleted: are described in

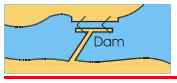
Deleted: See B-313 also for such coastal features as seawalls and causeways.¶

of embankment may be shown by hachures with road or rail symbols along the crest as appropriate.

D15

Comment: DID: use computer-generated version

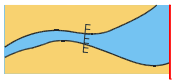
B-364.2 **A dam** must be represented either true to scale, with legend 'Dam', or equivalent, eg:



F44

or by the symbol drawn across and slightly overlapping the banks of the river, the 'teeth' pointing in the direction of the flow:

Deleted: a comb-shaped



F44

Comment: DID: this graphic is wrong. You would expect the 'lake' to be above the dam. Please turn the dam symbol to point the other way and then reverse the whole graphic, so that the lake is on the left.

INT1 producers: we will need to correct INT1.

For an opening flood barrage, see B-326.7.

B-365 ROADS AND TRACKS

A nautical chart is not intended to serve as a road map. Therefore roads should only be charted if of navigational significance or to give a general portrayal of development.

On coastal and approach charts, roads running down to or along the coast should be charted where scale permits, including local roads serving minor piers, boat hards and landings. Inland, major roads within a few miles of the coast should be charted to give a general indication of the degree of development, but tracks and all or some of the minor roads should be omitted. In largely undeveloped areas, with very few roads, it may be desirable to chart even minor roads inland.

Deleted: the

Deleted: largest scale continuous coastal series of charts, and larger scales,

Deleted: all

Deleted: and tracks

Deleted: line

Deleted: shall

Deleted: . Particular attention should be given to

On very large scale harbour charts, roads may be shown true to scale, if required. However, they are usually of little navigational significance unless they run uphill away from the coast, and are therefore useful as a landmark, or occasionally in the approaches to bridges (to distinguish them from other bridges). For roads and streets in urban areas, see B-370 and B-371.

The following classes of road may be distinguished, if required, by means of symbols:

Deleted: Except on smaller scale charts, it is preferable to distinguish between t

Deleted: On very large scales, roads may be shown true to scale. For roads and streets in urban areas, see B-370 and B-371.

a. Motorways, road numbers may be shown if desired;

b. Other hard surfaced roads; major road numbers may be shown;

c. Unsurfaced or loose-surfaced tracks and paths.

B-365.1 **Motorways**, if it is useful to distinguish them from other roads, may be shown by three parallel lines, total width 1,8mm. The centre line should be finer than the outer lines. Approach roads and intersections may be shown by two fine parallel lines on very large scale charts.

Deleted: on large scales

Deleted: two bold

Deleted: apart

Deleted: with a fine line between them.

Deleted: clover leaf

Deleted: shall

D10

Comment: DID: need to replace with symbol dimensions conforming to description. (DE: can you provide your version?)

B-365.2 **Roads** generally must be represented by two fine parallel lines, normally 0,5mm apart. Where

there is some advantage in distinguishing major roads from the majority, a width of 0,9mm may also be used.

D11

B-365.3 **Tracks and paths** (where charted) must be represented by dashed lines, double or single.

D12

B-365.4 **On smaller scale charts** roads should generally be omitted.

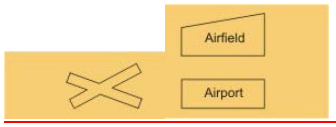
B-366 **AIRPORTS**

Airports (including airfields and heliports) within a few miles of the coast must be charted on large and medium scales; they are significant to coastal navigation because of the many visual and aural features associated with them and the related air traffic.

For lights associated with air navigation, see B-476.

B-366.1 **Airports and airfields on large scale charts** must normally be represented by:

- a true to scale outline of the main runways or
- if the outline of the runways is not known, by the boundary (where known) and the name or legend:



D17

If the neither the outline of the runways or the boundary is known, the airport must be represented by symbol:

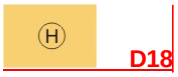
D17

The characteristic pattern of the first option should be sufficient to identify the feature but the name of the airport may be added. The control tower and other major buildings should be charted on large-scale charts, if significant to the mariner.

B-366.2 **Airports on smaller scale charts**, when near the coast and of maritime importance, should be shown by the symbol, with a name if considered useful:

D17

B-366.3 **Heliports** must be charted, if required, by a black circle 3mm in diameter containing the **international abbreviation** 'H':



D18

Helipads should not be charted.

Deleted: shall

Deleted: FIELDS

Deleted: (or

Deleted: air

Deleted: shall

Deleted: navigational aids

Deleted: and air obstruction lights, see the paragraphs on navigational aids

Deleted: by

Deleted: not known,

Deleted: airfield

Deleted: the boundary (where known) and the name or descriptive legend.

Deleted: airfield

Deleted: if necessary

Deleted: the

Deleted: st scales

Deleted: Airfields

Deleted: should be shown

Deleted: or

Deleted: .¶
¶
. . Airfields may be shown

Deleted: shown below or by their actual boundary and a legend.

Comment: Discussed at WG8. Suggested new specification, symbol and INT1 ref. The symbol should be smaller than D17, because of its relative insignificance.

For pilots transferred by helicopter, see B-491.2.

B-366.4 **Navigational restrictions in airport approaches** should be charted by a restricted area (N2.1), with an explanatory note, if required, giving details of the restrictions, eg limited air draught.

B-367 QUARRIES AND MINES

B-367.1 On larger scale charts, quarries likely to be visible from seaward must be represented by cliff symbols. A legend is not usually required.

E35.1

Conspicuous structures associated with mines or quarries must be shown in accordance with the specifications for chimneys, towers, etc.

B-367.2 **On smaller scale charts** mines and quarries may, if considered useful, be represented by the symbol of two crossed hammers:

E35.2/E36

B-368 CARAVAN AND CAMPING SITES

Caravan and camping sites should only be charted, on coastal and approach charts, if they are likely to be visible from seaward, when they may provide useful identification features.

A site for towed and motorised caravans may be shown, if required, by the symbol (height about 2.5mm):

E37.1

A camping (or camping and caravan) site should be shown, if required, by the symbol (height about 3.0 mm):

E37.2

The tent symbol (E37.2) is suitable for use for combined camping and caravan sites and for sites dedicated only to caravans. However, the caravan symbol (E37.1) may be used only, if required, for sites dedicated only to caravans. It would usually be more appropriate to treat sites containing permanently sited large caravans (ie mobile homes) as urban areas (D1).

If it is useful to show the extent of the site, the symbols may be shown within a black continuous line. The chart user will understand that in some areas such sites may be seasonal, so there is no need to include a note or legend stating that fact.

Deleted: shall

Comment: DID, please replace with computer generated (HDB) cliff symbol

Deleted: worth charting at all

Comment: DID: please replace symbols by 5011 entries (ie with FLT background) .

Deleted: For

Deleted: it would usually be more appropriate to treat

Deleted: dashed

Comment: This would be better as a continuous line, in common with other land boundaries, eg cemetery, airfield.

B-370 BUILDINGS AND URBAN AREAS

Waterfront, landmark and some public buildings must be charted precisely and individually on the larger scale charts. When representing buildings generally, including urban and other built-up areas, the aim of the cartographer must be to create the correct impression of the extent of the built-up area and the density of the buildings. The following specifications relate primarily to large scale charts.

B-370.1 **Waterfront buildings** in port and harbour areas are of navigational interest and must be charted in detail, not over-generalised. Buildings between the waterfront and buildings lining the first street paralleling the shore may be individually represented, scale permitting. Away from ports and other built-up areas, even a minor building should be charted individually where it may be a landmark.

B-370.2 **Landmark buildings.** See B-340.

B-370.3 **Within urban areas,** only waterfront, landmark, and some public buildings of interest to mariners should generally be shown individually. Major roads, streets, railways, etc may be shown in port areas, adjacent to coasts and elsewhere if of significance to navigation.

B-370.4 **The extent of urban areas** may be depicted in one of the following ways:

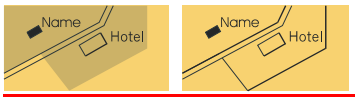
a. By using a street pattern of either single or double lines to represent urban areas. The southern and eastern sides of blocks may be emphasied by a bolder line (indicating shadow).

b. By the use of urban tint.

c. By a combination of a and b, eg:

D1

Landmark and public buildings of interest to mariners may be shown individually within an urban area:



D6

B-370.5 **Scattered inland buildings** which are not landmarks and are of no maritime importance must be omitted. Nearer the shore they may be generalised by charting a few representative buildings, sufficient to give the correct impression of building density. It is important not to exaggerate the extent of urban areas, or to turn villages into towns, by enclosing a fringe of lower density buildings within urban blocks.

Where urban areas are shown by the use of blocks with shadow edging, the visual weight of the blocks must be balanced against the weight of solid black shapes for single buildings. In such cases, buildings which, when drawn true to scale, measure less than 1,2mm in any direction must be shown as solid black shapes. Buildings which, when drawn true to scale, measure less than 0,6mm in any direction must (if of sufficient interest to be charted) be enlarged to a black rectangle of minimum size 0,6 x 0,9mm.

Deleted: BUILT-UP
Deleted: are to
Deleted: forming
Deleted: and suburban areas, villages,
Deleted: some
Deleted: In ports, b
Deleted: the generally more 'solid' line of
Deleted: should
Deleted: s (such as a boathouse)
Deleted: where they lie close to the coastline
Deleted: To aid identification by the mariner it may be useful to add the height above ground level (see B-303) or above the general height datum (see B-302).
Deleted: built-up
Deleted: certain
Deleted: shall
Deleted: should
Deleted: In such cases the urban areas are to be divided preferably into a number of blocks by the diagrammatic representation of major street of the actual street pattern. The size of the blocks shall depend on chart scale, decreasing as scale decreases. Large open spaces within built-up areas may be shown as such. The preferred method of representing blocks of buildings, or large individual buildings is the semi-pictorial one of using a bold line (indicating shadow) for the southern and eastern sides of the blocks. Providing the blocks are not too large, they will stand out reasonably well (without ... [8]
Deleted: built-up
Deleted: shall
Deleted: a. . By extending the use of blocks giving a ... [9]
Deleted: Hatching or tinting will not normally be required.
Deleted: hatching or a
Deleted: individual
Deleted: when more than about 1 mile inland
Deleted: built-up
Deleted: built-up
Deleted: measure

D2

D5

B-370.6 **Inland villages** may be represented, where appropriate, by a symbol for the most prominent building, eg a place of worship, and a name only.

In flat areas where continuous dykes hide the greater part of urban areas, the taller buildings may be similarly used to represent the locations of both villages and towns.

D4

B-370.7 **On medium scale charts,** ie, about 1:500 000 in this context, the location of villages (near the coast) and small towns should be shown by a black circle 1mm in diameter or by a black rectangle and a name.

D3

B-370.8 **Refuges,** usually in Antarctica, should be charted by an appropriate building symbol with the **international abbreviation** 'Ref' adjacent.

B-371 STREET AND ROAD NAMES

Street and road names are not normally of much value on charts but, exceptionally, may be given on large scale harbour plans if required. Such names should be in sans-serif capital letters and placed, where possible, within the lines marking the road.

D7

B-372 PUBLIC BUILDINGS

For harbour offices (Harbour Master, Customs, Quarantine, Health Office, Hospital), see B-325.
For places of worship, see B-373.
For railway stations, see B-362.2.
For representation of conspicuous buildings, see B-340.3.
Public buildings, except where they could be useful landmarks for navigation, should generally be charted only on large scale harbour plans with a name or descriptive legend.

B-372.1 **Post offices** may be shown, if required, by the symbol.

F63

B-373 PLACES OF WORKSHIP AND ASSOCIATED FEATURES

Deleted: Church

Deleted: built-up

Comment: As agreed during CSPCWG2 (item 8.3): 'An additional entry should be drafted for refuge buildings under M-4 B-370.8'

Deleted: the need arises

Deleted: s

Deleted: See B-325 f

Deleted: Harbour

Deleted: Offices

Deleted: See B-373 f

Deleted: Churches

Deleted: See B-362.2 f

Deleted: Railway

Deleted: Stations

Deleted: with the possible exception of Post Office and Hospitals, are charted mainly as visual features or points of reference ashore, not for their interest for particular functions. E

Deleted: they

Comment: Post offices are not of navigational significance and difficult to maintain knowledge of continung existence. Should we make obsolescent?

Deleted: should

Deleted: where appropriate

Places of workship often form significant landmarks; their size and structure incorporating towers, spires, cupolas, etc often make them conspicuous. These buildings, when known to be prominent or conspicuous, should be charted up to several miles inland, with sufficient information to enable them to be easily identified. When scale permits, the building outline should be shown with attention being drawn to any significant features. For representation of conspicuous buildings, see B-340.3. For use of pictorial sketches, see B-390.1.

Where scale or the nature of the chart is such that symbols would be more appropriate, those in the following paragraphs should be used. To indicate the conspicuous nature of a place of workship, the general rules given in B-340 should be followed.

Where a place of workship is unlikely to be a landmark itself but is the focus of a settlement, the appropriate symbol and place name may be used to represent such a settlement, see B-370.6.

B-373.1 **A church** should normally be represented by the symbol of a Maltese cross:

E10.1

On large scale charts, the outline of the building may be shown. A cross should be placed within the outline, eg:

E10.1

An indication of whether the church has a spire, twin spires, tower, cupola, etc may be given by means of an appropriate abbreviation or descriptive legend, see B-373.2, or by a small pictorial sketch replacing the symbol or placed near to it, see B-390.1.

The name of the church should be given in the national language where it may be useful in relating the symbol to a reference in nautical publications, eg Sailing Directions.

B-373.2 **Churches: related abbreviations:**

A church with a tower must be indicated by the **international abbreviation** 'Tr'.

E10.2

A church with a spire, or steeple, with pointed apex must be indicated by the **international abbreviation** 'Sp'.

E10.3

A church with a cupola, ie a rounded or dome-like roof, must be indicated by the abbreviation 'Cup', or equivalent.

E10.4

The **international abbreviation** 'Ch' may be used as an abbreviation for 'church' if it is not possible to use the Maltese cross symbol.

Deleted: Buildings constructed as p

Deleted: render

Deleted: shall generally

Deleted: although a simple cross, with or without a central position circle, is also acceptable.

Deleted: symbol is to be placed in the position of the highest point of the church

Deleted: the outline of the building should also be shown if scale permits

Deleted: , or by an appropriate abbreviation or descriptive legend, see B-373.2

Deleted: If a sketch is out-of-position it should be shown in colour, preferably magenta,

Deleted: on large scale charts and on other

Deleted: the

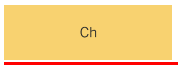
Deleted: If a sketch is out-of-position it should be shown in colour, preferably magenta.

Deleted: , or equivalent

Deleted: , or equivalent

Deleted: apex

Deleted: , or equivalent,



E10.1

Chapels are not usually prominent buildings and would not usually be charted. No specific symbol or abbreviations therefore exists.

B-373.3 **A temple** (including pagoda, shrine, marabout, joss house) must be represented by the following symbol, placed if possible in the position of the highest point of the building.

E13-16

An appropriate name or description may be added if considered useful.

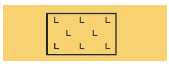
The former symbol 卍 used to distinguish a Buddhist temple or shrine should no longer be used

B-373.4 **A mosque** and its associated **minaret(s)** must normally be represented by the following symbol, the position circle corresponding to the position of the minaret, where known. Where scale permits, the building outline should be shown with the minaret(s) symbols in their appropriate positions.

E17

B-373.5 **Not currently used.**

B-373.6 **Cemeteries** should only be charted when prominent or conspicuous. A cemetery must normally be represented:



E19

or, exceptionally, by the word ‘Cemetery’, or equivalent.

B-374 **CHIMNEYS, TOWERS, WINDMILLS, WIND TURBINES, FLAGSTAFFS**

The following structures are possible landmarks and may be charted, depending on height and the topographic relief, up to several miles inland. The colour may be given, preferably by abbreviations beneath the symbol, as for an aid to navigation.

The structure should be represented by symbols where possible; where space does not allow the use of a symbol, a position circle with appropriate abbreviation or other legend may be used. Where symbols are used, the true position is the centre of the base of the symbol, see B-125.3. Some of the taller structures may have air obstruction lights: see B-476.

B-374.1 **A chimney (stack)** must normally be represented by the symbol:

E22

Exceptionally, it may be necessary to chart a chimney as the highest point of a building: in this case, and when space does not permit the symbol to be used, a position circle and **international abbreviation** ‘Chy’ must be used.

Comment: Assess impact on INT1 E11.

Deleted: shinto

Deleted: or

Deleted: shall generally

Deleted: a rectangle with two diagonal lines extending slightly beyond the rectangle,

Deleted: being

Deleted: If it is necessary to distinguish

Deleted: , the following symbol shall

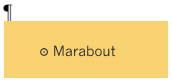
Comment: WG8 agreed to make this symbol obsolescent. There is no ENC equivalent.

Deleted: shall generally

Comment: Retire E18 from INT as not a symbol? Incorporated in .3 above.

Deleted: **A marabout** (shrine marking the burial place of a Moslem holy man, mainly confined to N Africa) should be represented by a position circle and appropriate legend, where likely to be visible from seaward.¶

¶



E18¶

Deleted: shall generally

Deleted: described below

Deleted: generally to be regarded as

Deleted: navigational

Deleted: pictorial

Deleted: precludes

Deleted: shall

Deleted: pictorial

Deleted: shall be

Deleted: shall

Deleted: short

Deleted: **legend (or abbreviation)**

E22

Comment: DID: add legend Chy against dot/circle

Flare stacks, normally showing flames and located at refineries, must normally be represented by the symbol.

E23

No light flare must be used. For offshore flare stacks, see B-445.2c.

Deleted: (patch)

Deleted: See also

Deleted: 6

Deleted: shall

B-374.2 **A water tower** must normally be represented by the symbol:

E21

A position circle and the legend 'Water Tr', or equivalent, must be used where space does not permit the symbol to be used.

B-374.3 **A tower in general** must normally be represented by the symbol:

Deleted: shall

E20

A position circle and the **international abbreviation** 'Tr' must be used where space does not permit the symbol to be used.

Deleted: The **recommended abbreviation is "Tr" (for use** where the pictorial symbol is inappropriate.

If it will be of use in identification, the name of the tower in the national language should be placed adjacent to the symbol or position circle, where scale permits.

Deleted: should be given

For towers (beacon towers, cairns, disused lighthouses) which were specially erected as aids to navigation, see B-455 to B-457.
For refuge towers or beacons in shallow water, see B-456.4.
For church towers, see B-373.
For towers associated with signal stations, harbour control, pilot's lookouts, etc, see B-490.
For latticed towers associated with radio communications, see B-375.
For pillars representing survey control points, see B-304.

Deleted: old

B-374.4 **A monument** (including a column, pillar, obelisk, Calvary cross or statue) must normally be represented by the symbol:

Comment: Add calvary here, (and retire E12), noting option to include a description, as stated below?

Deleted: shall

E24

A position circle and the **international abbreviation** 'Mon' must be used where space does not permit the symbol to be used.

If it will be of use in identification, the name of the monument in the national language, or its description (eg: 'Statue', 'Cross') should be placed adjacent to the symbol or position circle, where scale permits.

Deleted: The **recommended abbreviation** Mon.

B-374.5 **A windmill** must normally be represented by the symbol:

Deleted: See B-306 for boundary marks.¶

Deleted: shall

E25.1

If a windmill has had its sails removed, it should be distinguished by the **international abbreviation** 'Ru':

E25.2

B-374.6 **Wind turbines** are generally tall, multi-bladed structures, usually with two or three blades, often visible over long distances. Their purpose is to generate electricity for large communities, or to feed a national power grid. They are often in groups (known as wind farms) and may be sited off-shore (see B-445.8-9). Individual wind turbines must be shown by the symbol:

E 26.1

Small wind turbines, usually associated with a small isolated community for which they provide power, were formerly charted by the obsolescent windmotor symbol  . If such features are sufficiently prominent to justify charting, the symbol  may be used.

Wind farms. On-shore wind turbines are charted as landmarks where visible from the sea. It is therefore preferable to chart the individual turbines in their actual positions. However, where scale or available information does not permit this, an on-shore wind farm may be shown by the centred wind farm symbol, within a black dashed limit if scale and source information allows:

E 26.2

B-374.7 **A flagstaff** or flagpole must normally be represented by the symbol:

E27

A position circle and the **international abbreviation** 'FS' must be used where space does not permit the symbol to be used.

For signal stations, see B-494.

B-375 **RADIO MASTS AND TOWERS**

Radio and television masts and towers are likely to be visible over long distances, especially at night as they usually carry air obstruction lights: see B-476.2. They should be charted as landmarks, even when well inland.

For pylons carrying power transmission lines, see B-382.

B-375.1 **A radio or television mast** is a tall, thin structure. It must normally be represented by the symbol:

Comment: IHO CL 14/2005 refers

Comment: DID: please add FLT background

Deleted:

Deleted:

Comment: Would this be better as a continuous line, in common with other land boundaries, eg cemetery, airfield?

Comment: DID: please add FLT to both graphics

Deleted: shall

Deleted: Where the pictorial symbol is inappropriate, a position circle should be used with the **abbreviation** 'FS'., or equivalent.¶

Deleted: and

Deleted: generally

Deleted: They will usually carry air obstruction lights: see B-476. Masts and towers must be represented by pictorial symbols where possible; where space precludes the use of a symbol, a position circle with appropriate abbreviation or legend shall be used. Where pictorial symbols are used the true position shall be the centre of the base of the symbol.¶

Deleted: held vertical by guylines

Deleted: is to

E28

A position circle and the legend 'Radio Mast', 'TV Mast', or simply 'Mast' or equivalent, must be used where space does not permit the symbol to be used.

B-375.2 **A radio or television tower** is a latticed structure which is self-supporting. It must normally be represented:

E29

A position circle and the legend 'Radio Tr' or 'TV Tr', or equivalent, must be used where space does not permit the symbol to be used.

B-375.3 For **radar structures**, see B-487.3.

B-375.4 **A dish aerial** must normally be represented by the symbol:

E31

A position circle and the legend 'Dish aerial', or equivalent, must be used where space does not permit the symbol to be used.

B-375.5 **Any structure** which is also a functioning radio or radar aid to marine navigation must have a magenta 'radio circle' (see B-480) added, centred on the base of the symbol or on the position circle, as appropriate.

B-376 CYLINDRICAL TANKS

Isolated tanks or gasholders may be good landmarks and should be represented true to scale where possible. Groups of tanks, eg at a refinery, may be useful for general identification of position but cannot usually be used for precise position-fixing because of uncertainty of the location of individual tanks. Legends to indicate what the tanks contain are not needed.

A water tank (cylindrical or otherwise) on a tower must be shown as a water tower; see B-374.2.

B-376.1 **Individual tanks** must be drawn true to scale using the symbol:

E32

(to enable a tangent from one side to be used in position-fixing). When the symbol is 2mm or less in diameter, it must be shown as solid black.

B-376.2 **Large groups of tanks** may be represented by the **international legend** 'Tanks'.

B-376.3 **Cylindrical silos** should be shown either by an open outline, true to scale, with the legend 'Silo', or equivalent, or by a position circle and legend.

E33

Deleted: is to

Comment: Can these features really be distinguished? Should we just use E28 for generic 'communication structures'?

Deleted: (Spare)

Deleted: shall

Deleted: . or, exceptionally, by a position circle and descriptive term.¶

Deleted: aid shall be represented primarily as in 480 "Radio Fixing Stations", but the pictorial symbols may be used in addition

Deleted: as

Deleted: bur

Deleted: whether gas or oil is held

Deleted: generally

Comment: DID: please replace with latest version

Deleted: s

Deleted: to their

Deleted: s

Comment: A cylindrical silo is a tall tank. Is there any reason for not using the same symbol (with the legend 'Silo' to indicate it will be tall)?

Other silos should be shown using an appropriately shaped building symbol. Many silos are conspicuous, see B-340.3.

B-377 PIPELINES ON LAND

A pipeline on land should not normally be charted but may be shown in black, if required, eg: if elevated; as a continuation of a major submarine supply pipeline (see B-444) or a pipe over navigable water (see B-383).

D29

Buried pipes on land should not be charted.

For sewer pipes, see B-444.2.

B-378 RUINED BUILDINGS AND STRUCTURES

The outlines of buildings and other structures on land in a prominent position or close to the coast should be shown by dashed lines when in ruins. The **international abbreviation** 'Ru' should generally be added to distinguish ruins from features under construction. When added to another legend or name, the abbreviation should be in brackets: '(ru)'.

B-378.1 **The high water outline** of ruined piers, wharves and other structures on or near the coastline must be shown in a continuous line, with sections submerged at HW in dashed lines. In all cases, the **international abbreviation** 'Ru' must be added, eg:

F33

B-378.2 **A ruined landmark,** must normally be shown by its symbol, with the **international abbreviation** 'Ru'.

D8

E25.2

If, for reasons of space, the symbol is replaced by a position circle and legend, or the structure is named, the abbreviation should be placed in brackets adjacent to the legend or name: '(ru)'.

B-379 FORTIFIED STRUCTURES

Some coastlines have prominent defensive structures, often disused, decayed, or used for non-defence purposes. Such structures range from major castles and forts to minor lookout posts and may be the main distinctive features of headlands or stretches of coastline. Any such features that are likely to be visible from seaward should be charted.

B-379.1 **On large scale charts, fortified structures** should be represented by true-to-scale outlines, generalised where necessary. The symbols used must be the normal symbols for individual buildings, with embankment or steep coast symbols (C3) if appropriate. Detached walls must be

Deleted: P
Deleted: s
Deleted: are generally to be omitted
Deleted: necessary
Deleted: , in association with pipes over navigable waterways (see B-383).
Deleted: (
Deleted:)
Deleted: parts
Deleted: for the information of the mariner
Deleted: such as a tower, shall generally
Deleted: National regulations permitting, a
Deleted: as
Deleted: are to
Deleted: represented on
Deleted: s
Deleted: are to
Deleted: hachures to indicate steep

represented by bold lines or two parallel lines. Where appropriate, the structure should be named. Buildings which are clearly in ruins must be shown in dashed lines with the **international abbreviation** 'Ru' or '(ru)' (see B-378).

E34.1

B-379.2 **On smaller scale charts,** where a true-to-scale outline would not allow a structure to be charted adequately, the following symbols should be used:

Major fortified structures such as castles, forts and blockhouses of considerable size and prominence must be represented by the following symbol. Any associated structures, such as towers or flagstaffs, should be shown using the appropriate legend or abbreviation: see B-374.

E34.2

Minor fortified structures, such as small forts, batteries or 'pillboxes', must, if required to be charted, be represented by the symbol:

E34.3

B-380 **OVERHEAD OBSTRUCTIONS AND CLEARANCES: BRIDGES, CABLES, PIPES**

On charts which include vertical clearances under overhead obstructions, a statement of the height datum from which the vertical clearance is measured must always be given in the title block, see B-241.6.

B-380.1 **Vertical clearance:** IHO Technical Resolution 3/1919 (as amended 2008), paragraph 2b, states that:

> It is resolved that Highest Astronomical Tide (HAT) be adopted as the datum for vertical clearances where tides have an appreciable effect on the water level. Alternatively the differences between HAT and national datums for vertical clearances may be specified on nautical documents. If high water levels in a specific area frequently deviate from HAT, the datum for vertical clearances may be adapted accordingly. It is further resolved that a HW datum be used for vertical clearances in non-tidal waters.

Vertical clearances must be rounded **down** to the nearest whole metre (unless under 10m, when m and dm may be quoted, if the measurements are considered to be sufficiently accurate). The principle aim is to chart the predicted minimum safe clearance.

Comment: Is this unnecessarily complex – including the black squares in the INT1 example?

Deleted: possible

Comment: DID: please removed '(disused)'.

Deleted: in the following paragraphs

Deleted: shall

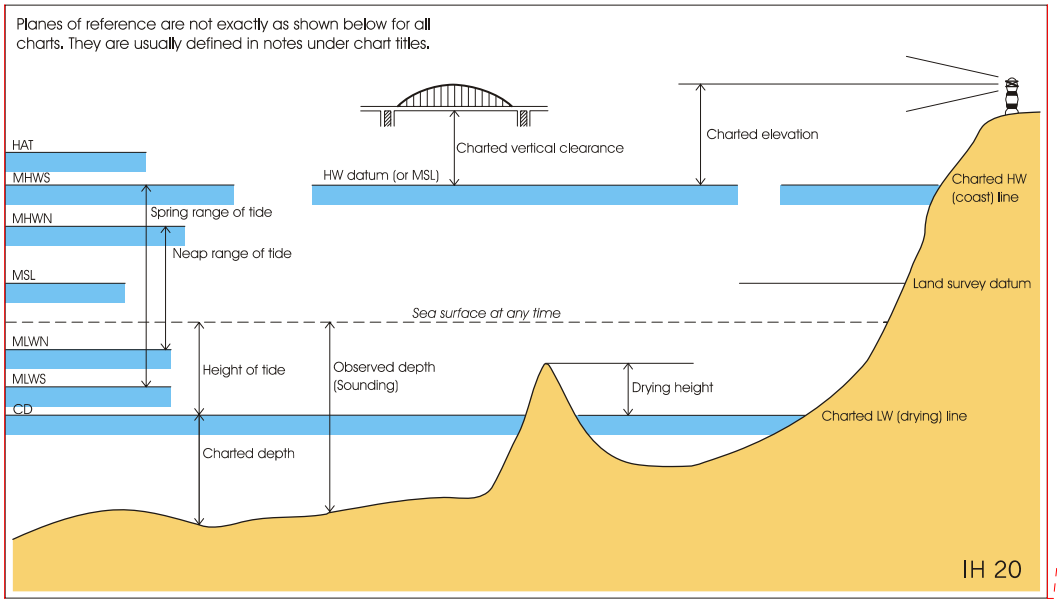
Deleted: **AND OVERHEAD OBSTRUCTIONS : CLEARANCES**

Deleted: A statement of the vertical clearance between (high) water level and any fixed overhead obstruction is always to be given on large scale charts intended for navigation under the obstruction or for detailed passage planning.

Deleted: the datum above which clearances are given must be a high water level, preferably mean high water springs,

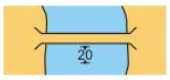
Deleted: It shall be given on the chart

Deleted: In areas where the tide is not appreciable it shall be Mean Sea Level (MSL). Necessary variations of significance to the mariner shall be stated on the chart.



Comment: DID: replace by same graphic as B-302.2, updated as in latest printing of 5011. Also amend legend to left of bridge to 'Physical vertical clearance (black)' and change the legend to the right to magenta text: 'Safe vertical…'. Asked for a marked up copy if necessary. (Following discussions at WG8)

B-380.2 **The figure** denoting the vertical clearance must be charted either alongside the obstruction:

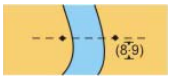


D20

Deleted: s

Deleted: thus

or on the adjacent land:



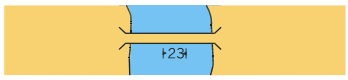
D20

Deleted: thus

As far as possible, the charted physical clearance above the stated height datum should be the minimum allowing for meteorological changes such as heat expansion, ice weight and any other possible physical variations. For safe vertical clearance to avoid risk of electrical discharge under power cables, see B-382.1

Comment: Added following discussion at WG8

B-380.3 **Horizontal clearance,** if required to be charted, must be rounded down to the nearest whole metre:



D21

Deleted: shown

Deleted: shall

Deleted: also

Deleted: given

Deleted: , and charted next to the vertical clearance figures thus

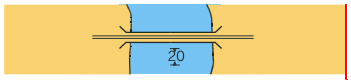
B-381 **BRIDGES**

Charts must always make it clear whether a bridge is fixed (by indicating the vertical clearance, D20) or opening (by a legend and/or symbol, D23). This applies over navigable water at the scale of the chart and on smaller scales for planning purposes. On very large scales, the outline of the bridge should be shown true to scale. Bridges may be named. The purpose of a bridge may be indicated by, eg: a railway crossing it, a road leading to and from it.

Deleted: The largest, and possibly smaller, scale c

For bridge signals and lights, see B-495.3.

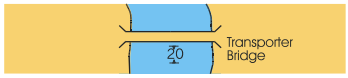
B-381.1 **Fixed bridges.** The type of bridge should not normally be stated, unless sufficiently distinctive to be a landmark, eg a suspension bridge, a viaduct or aqueduct with numerous arches. The general symbol for a bridge or a viaduct is two parallel lines with the ends turned outwards:



D22

Where the chart is sufficiently large scale to be used for navigation, the vertical clearance must be given (see B-380). Vertical clearance must normally be given between high water (see B-380.1-2) and the lowest part of the bridge structure, to give the minimum clearance. Exceptionally, when the navigation channel is through an arch, clearance may be given to the highest part of the arch above the navigation channel, or separate clearances may be given for each navigation channel under a bridge. For portrayal in profile, see B-381.5.

B-381.2 **Transporter bridges** have towers on each side of the waterway connected by a girder system on which a carriage runs. They are generally conspicuous and should be described on the chart as 'Transporter', or equivalent, but using the symbol for a fixed bridge. The vertical clearance must be given under the lowest part of the fixed structure (and above any navigation channels, if different).



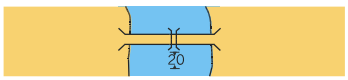
D24

For aerial cableways, see B-382.3

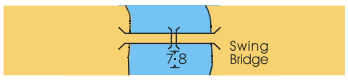
B-381.3 **Opening bridges** are generally of two types:

- swing bridges, which pivot on a pillar either in mid-channel or at one side of the channel, and
- lifting bridges (which may also be described as bascule or drawbridges).

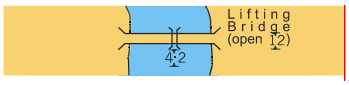
Opening bridges must generally be represented in the closed (to water traffic) position. The symbol must be the same as for a fixed bridge except that the position of the opening part should if possible be indicated by two curved lines. The fact that a bridge opens may be shown by the symbol (D23) or a legend such as 'swing', 'lifting', 'opening', or equivalent.



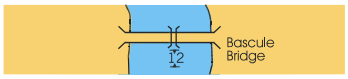
D23.1



D23.2



D23.3



D23.4

Deleted: and B-495.4

Deleted: may, where important, be named

Deleted: is not generally

Deleted: indicated

Deleted: except for

Deleted: s which are often conspicuous; for the same reason viaducts may also be described as such.

Deleted: shall be

Comment: DID: replace by current D22 (no road or railway).

Deleted: shall

Deleted: .2

Deleted: is generally

Deleted: ie

Deleted: ; but

Deleted: opening

Deleted: is

Deleted: provided this is

Deleted: navigable

Deleted: .

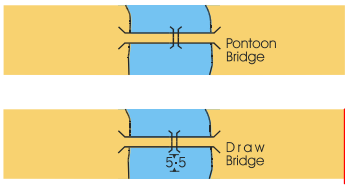
Deleted: stated

Deleted: between high water and

Deleted: Where important, bridges be named; in all cases where over navigable water (except on very small scales), a legend such as 'swing', 'lifting', 'opening', or equivalent, must be shown. Vertical clearance need not be shown except where there is a headway, limitation even when the bridge is open, in which case a legend such as '20m when open' should be used.¶

Deleted: must

Comment: DID: improve text spacing to match others



D23.5

D23.6

Vertical clearance may usefully be shown if there is passage for smaller vessels under the bridge when closed. If there is a vertical limitation even when the bridge is open, a legend such as '(open 20m)' should be used.

B-381.4 **Submersible bridges** are lowered below the water surface so that vessels can pass over them. The symbol should be as for a fixed bridge with a note alongside, eg 'Submersible bridge, 3.5m below CD when lowered', or equivalent.

B-381.5 **Bridge supports** may be an obstruction to navigation and should be charted (if the positions are known). It is difficult to be prescriptive about how they should be charted, as circumstances may vary considerably. Some options (which may be combined) are:

- Where bridge supports carry navigation lights (and/or daymarks), chart as small light stars (and/or beacons) with appropriate descriptions. Add a legend, eg 'TOWER', 'Pylon', as appropriate to distinguish between lights on the bridge superstructure and on bridge supports (examples A to C);
- For suspension bridges, or others for which the supports extend above the bridge, a position circle symbol with legend should be shown, eg 'TOWER', 'Pylon' (example B) or, if large enough scale, the tower can be shown to scale (examples B and F);
- Where bridge supports are wider than the actual bridge, show to scale in plan outline (usually continuing the bridge sides through the widening, unless it is known that the bridge itself widens at those points) (example C and D);
- The supports may also be shown as lines across the bridge, even if they do not protrude beyond the width of the bridge or above the bridge (examples E to G);
- Insert a large-scale inset plan to enable the above actions to be taken (example F and G);
- Add a profile view diagram (example H and I):

B-381.6 **Depth (including obstructions) under bridges.** The physical presence of a bridge can affect the flow of water and hence the location of shoals and deeper channels in its vicinity, including underneath it. Normal sounding selection principles apply in the waters either side of a bridge. However, it may be appropriate to select a sounding (or obstruction) which is under the bridge (either because it is a controlling depth or because depth varies significantly across the width of a bridge span). In such cases it should be shown as a 'sounding out of position', in accordance with the guidance at B-412.2. I11 (using a pointer) is preferred to I12, as the exact position under the span may be important (Example A).

Alternatively, soundings may be shown in their true positions, with the bridge and land tint retained over the top (Example B).

Depth contours should normally be broken at the bridge as it will usually be obvious where the contours go. On very large scale charts, where the bridge is shown true to scale and it clarifies the picture, the contours may be continued through the bridge.

[Note: Bridge graphics omitted from Word document to avoid too big a file size]

B-382 **OVERHEAD CABLES**

Comment: Does anybody chart pontoon bridges? Is this example relevant?

Comment: DID: improve text spacing to match others

Comment: This seems to be the same as a bascule bridge; can we remove it?

Deleted: sea

Deleted: recommended is that

Comment: Does anybody know of any examples of these? We believe this is not the same as the submerged tunnels we discussed at WG8 (which we agreed did not need to be symbolized at present).

Deleted: datum

Comment: Sub sections B-381.5-6 CL14/10 refers, approved by CL52/10.

Deleted: S-4

Deleted: to be

Deleted: can

Comment: DID: Need to amend the clearance at Forth Bridge to black.

All cables over navigable water must be charted. A vertical clearance under the lowest part of the cable should be given, in accordance with B-380, unless a lesser safe clearance is given (see B-382.1). The vertical clearance over any charted shipping channel may also be shown, if different from the clearance at the lowest point of the cable.

B-382.1 **Power transmission lines** must be represented, where over or close to navigable waters, by a dashed line with black dots of about 0,6mm in diameter at intervals of about 10mm (or closer where lines cross narrow channels), and with an electric flash midway between each pair of dots.

The actual position of **pylons** supporting the cables may be indicated by position circles and the **international abbreviation** 'Pyl', where likely to be useful for position-fixing; normally, only the pylons immediately adjacent to a navigable channel should be shown individually.

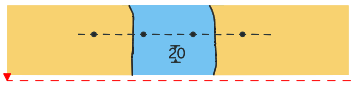
In the case of cables carrying very high voltages, an additional clearance of from 2 to 5 metres may be needed to avoid an electrical discharge. If known, the authorised safe clearance (known in the UK as the Safe Vertical Clearance), which is the physical clearance minus a safety margin, must be stated on the chart in magenta:

D26

Note: this symbol is only used to apply a safety margin from electrical discharge; for allowances for variations of the cable's catenary (curve) due to meteorological conditions, see B-380.2.

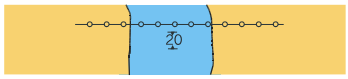
Radar echoes may be received from overhead cables crossing a channel; in general, warnings of such effects should be confined to Sailing Directions

B-382.2 **Telephones lines** passing over navigable waters must be charted by the same symbol as power lines but without the electric flashes:



D27

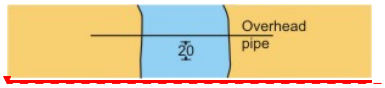
B-382.3 **An overhead transporter**, eg elevated conveyor belt, aerial cableway (other than a transporter bridge, see B-381.2) must be charted over any navigable channel or, as a landmark where likely to be visible from seaward, using the symbol:



D25

B-383 **OVERHEAD PIPES**

Overhead pipes must be represented by a firm black line with explanatory legend. The vertical clearance must be given under the lowest part of the fixed structure (and above any shipping channels, if different), see B-380.



D28

Deleted: overhead

Deleted: are to

Deleted: with t

Deleted: heir

Deleted: s

Deleted: ,

Deleted: ,

Deleted: , with central dot

Deleted: and

Deleted: or equivalent,

Deleted: The vertical clearance must be quoted for the distance between high water and the lowest part of the cable where it crosses a navigable channel . **D27**but i

Deleted: ¶
¶
When

Deleted: Overhead

Comment: Added following discussions at WG8

Comment: Not required, propose delete.

Deleted: . . The physical clearance between high water and the lowest part of the cable must be charted; see B-380.2.¶
¶

Deleted: or telepheric

Deleted: .¶
¶
. . The recommended representation is:

Comment: Why is an overhead pipe shown with a firm line, rather than using the same black symbol as B-377 (D29)?

Deleted: The vertical clearance between high water and the lowest part of the pipe must be stated:

Deleted:

B-390 **PICTORIAL REPRESENTATIONS**

B-390.1 **Pictorial sketches or photographs** of landmarks, prominent buildings, beacons and lighthouses may be shown on charts if useful to aid identification. Where sited in true position, the sketch should be in black, with a small position circle in the base, eg:

E3.1

If a sketch is out-of-position it should be shown in magenta, or may be shown in another colour, except black. The latitude and longitude of the landmark and any details, such as its principal colour(s), name, height should be given under the sketch, to aid identification and location on the chart, eg:

E3.2

Suitable photographs may be used as an alternative to sketches.

B-390.2 **Panoramic views.** Hand-drawn sketches of coastal views and islands are no longer shown on modern charts. They have generally been replaced by photographs, more appropriately inserted in nautical publications, such as Sailing Directions.

Deleted: **VIEWS AND SKETCHES, VIEWPOINTS**

Deleted: **Small**

Deleted: or

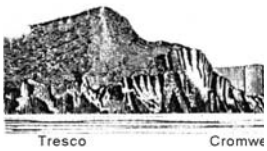
Formatted: Font: Bold

Deleted: desired

Deleted: colour, preferably

Deleted: See . . B-340.7 . . Sketchs of landmarks¶ . . . . 373.1 . . Church symbols¶ . . . . 456.5 . . Beacons¶ . . . . 457.3 . . Lighthouses¶

Deleted: **A viewpoint** should be shown by a legend, in the language of the country issuing the chart, placed at the position from which the view was takeneg See View B.¶ ¶ . . The latitude and longitude of the viewpoint may be given under the view.¶ ¶



View B
(at 49

Comment: As discussed at WG8.

Deleted: °58,75′N 6°21,80′W)

Page intentionally left blank

Page 46: [1] Deleted **colemana** **08 February 2012 4:17**

See B-340.3 for style of legends.

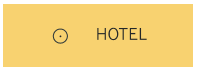
Where there is no space for pictorial symbols, including cases where the symbols would have to break the coastline, position circles (with central dots) (see B-305.1) and legends should be used (see B-340.3).

Page Break

B-340.3 **Legends** for all landmarks are not normally necessary when a pictorial symbol is used, but if required should preferably be in bold sans serif lettering. Lettering defining a conspicuous object, eg "Spire", should when used be in capital letters. Lettering associated with other landmarks should not be in capitals apart from initial letters. Abbreviations for "conspicuous" and its equivalents, eg "conspic", "rem" (French), "auff" (German), "Kenb" (Dutch), shall not normally be used.

B-340.4 **A list of conspicuous objects** on charts is not recommended because it would increase correctional work and duplicate information in the Sailing Directions.

B-340.5 **Position circles** for conspicuous objects for which there is no pictorial symbol shall be of not less than 2mm in diameter, with a dot in the centre.



IE 2

Smaller circles may be used for other landmarks (see B-305.1).

IE 1

Page 48: [2] Deleted **colemana** **26 January 2012 3:44**

B-351.3 **Contours: use of colour.** Contours and form lines should be shown preferably in black but other colours may be used.

Page 48: [3] Deleted **colemana** **15 December 2011 4:47**

but **index contours,** usually every fifth one, may be emphasized by use of a bolder line.

Page 48: [4] Deleted **colemana** **26 January 2012 3:51**

Where slopes are steep, contours should not be merged but intermediate ones may be omitted to leave a space of about 0,3mm between those shown. Index contours, if used, should not be omitted.

Page 48: [5] Deleted **colemana** **15 December 2011 4:49**

Contours should reflect the nature of the topography, eg they should not be rounded or smoothed (by generalisation) when they should really be angular. They

Page 48: [6] Deleted **colemana** **26 January 2012 3:57**

(the distinction between these and form lines being that the contours may be labelled with the approximate heights)

Page 48: [7] Comment **colemana** **08 February 2012 5:09**

DID: please improve graphic, so that there are no tiny portion of contours left beside the labels

Page 58: [8] Deleted **colemana** **06 July 2011 4:58**

In such cases the urban areas are to be divided preferably into a number of blocks by the

diagrammatic representation of major street of the actual street pattern. The size of the blocks shall depend on chart scale, decreasing as scale decreases. Large open spaces within built-up areas may be shown as such. The preferred method of representing blocks of buildings, or large individual buildings is the semi-pictorial one of using a bold line (indicating shadow) for the southern and eastern sides of the blocks. Providing the blocks are not too large, they will stand out reasonably well (without altogether dominating such features as relief and landmarks) and therefore not require hatching or tinting

Page 58: [9] Deleted **colemana** **06 July 2011 5:01**

a. By extending the use of blocks giving a diagrammatic representation of the street pattern, as described in 370.3.

b

DRAFT REVISION OF S-4 SECTION B-340 TO B-390 – ROUND 1

Response Form
(please return to CSPCWG Secretary by 30 April 2012)
andrew.coleman@ukho.gov.uk

Specification	Question	Yes	No
B-353.4	We do not understand the purpose of this sentence, which appears to deliberately follow the specification on intermittent rivers. Should it be deleted? (If you can explain its purpose, please do so below)		
B-353.8	We need to indicate a preferred ('should') method of depicting glaciers; please indicate your order of preference (ie1,2,3,4,5) in the 'yes' column:		
	a. blue outline + legend		
	b. blue outline + blue cross lines		
	c. black outline + legend		
	d. black outline + black cross lines		
	e. a new computer-generated infill symbol, eg: • 'random' short lines on a grey background, similar to ECDIS symbol,		
	• 'ice crystals (blue version of K11)',		
	• repeated ice edge symbol,		
	• blue hachures,		
	• other (please specify below).		
B-354.2	Do you agree that symbol 'a' should be used for any unspecified tree (or group of trees)?		
	Do you agree that symbol 'b' should be obsolescent?		
	Do you agree to expand term for symbol 'c' to be 'conifers and casuarinas'?		
	Do you agree that symbol 'd' should remain unchanged?		
	Do you agree that symbol 'e' should be obsolescent and the 'mangroves' section should be expanded to include nipa palms?		
	Do you agree that symbols 'f' should be obsolescent?		
	Do you agree that symbol 'g' should be obsolescent?		
B-355.2	Do you have a computer-generated infill symbol for a lava flow?		
	If 'yes', would you be prepared to provide it for use by other HOs?		
B-362	Is there any useful purpose in charting disused railways?		
B-362.1	We need to indicate a preferred ('should') line style for railways; please indicate your order of preference (ie1,2,3) in the 'yes' column.		
	a. top (single bold line)		
	b. middle (alternating black and white sections)		
	c. bottom (cross lines)		
	Can we make any of the 3 styles obsolescent (please specify)?		

Specification	Question	Yes	No
B-368 B-374.6	Do you agree that boundaries of features on land should be fine continuous lines (as with cemetery, airfield)?		
B-372.1	Do you agree to make the post office symbol obsolescent?		
B-373.3	Box E11 in INT1 is empty. Do you agree that the addition at B-373.3 is adequate guidance for chapels and no symbol is required?		
B-373.5	Do you agree to retire this specification and entry E18 in INT1? (Some rationalization of E13-18 in INT1 may be needed)		
B-374.4	Box E12 in INT1 is empty. Do you agree that the addition at B-374.4 is adequate guidance for Calvary crosses and no symbol is required?		
B-375.1-2	Can we really distinguish between radio/TV towers and masts; should we use just one symbol (E28) and retire E29? (A similar question would then apply to E30.1/30.2)		
B-376	A cylindrical silo is really no different (except possibly in terms of height) from other cylindrical tanks. Should we retain the separate symbol (E33)? Note: if retained, the term should be 'Cylindrical silo' in INT1.		
B-379.1	Do we need to retain the more complex E34.1 (two parallel lines plus tower squares), as well as the simpler version? (Currently the simpler version is shown in S-4. If the answer is yes, we will ask DE to supply their version of the symbol for S-4).		
B-381.3	Is the example of a pontoon bridge required (D23.5)?		
	Do you agree to remove the example of a drawbridge (D23.6) as it is the same as a bascule bridge?		
B-382.1	Do you agree to delete the sentence about radar echoes?		
B-383	Should the overhead pipe symbol be replaced by D29?		

Further comments:

Name:
Member State: