INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

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

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CSPCWG Letter: 03/2012

UKHO ref: HA317/010/031-08

To CSPCWG Members

Date 24 January 2012

Dear Colleagues,

Subject: Draft revision of S-4 Section B-300 to B-330 – Round 2

Thank you to the 21 WG members who responded to Letter 03/2011; I apologise for the delay in progressing this. As usual, Andrew and I have consolidated the responses, including all the comments, into Annex A. As you will see, there was a good consensus on most of the questions we asked (even where the answer was 'no'). Some other answers were less clear cut, but usually the associated comments guided us in an outcome which we hope will be acceptable. There were lots of other helpful comments, and I have responded to all these, many of them resulting in some adjustments to the proposed text.

We have now prepared a 'round 2' version of the section, as Annex B (although because of size, we have converted this to PDF and attached as a separate document). As usual, those changes which were not challenged in the first round have now been converted to blue text. Most deletions have been left in the margins for the moment to help the translators when we produce the final version. Some of the graphics still require work; these are indicated by comments with the prefix 'DID'.

Some of the items covered may require new or revised definitions in S-32. I would be grateful if Jeff Wootton, as Vice-Chairman and member of HDWG would give this consideration.

While you are, of course, welcome to comment on any part of the text, we suggest you should primarily study the new track changes in Annex B and my responses in Annex A. There is no need to respond if you are content with the proposed changes. If you do have further comments, please respond **by 21 February 2012.**

Yours sincerely,

Peter G.B. Jones,
Chairman

Annex A: Consolidated Responses to CSPCWG Letter 03/2011

Annex B: Draft revision of S-4 Section B-300 to B-330 – Round 2 (sent separately)

CONSOLIDATED RESPONSES TO CSPCWG LETTER 03/2011

S-4 SECTION B-300 TO B-330 – ROUND 1

Chairman's comments in red.

Specification	Question	Yes	No
304.2	Should we 'retire' symbol B21 and related specification? Unanimous decision to retire B21.	AU, BR, CA, DE, DK, ES, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA	
304.3	Should we 'retire' symbol B23 and related specification? Consensus to retire B23. NZ can retain as national symbol, although it seems unlikely that engineers will use nautical charts as guidance for finding benchmarks.	AU, BR, CA, DE, DK, ES, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, UA, UK, US(NOAA), ZA	NZ
305.1	This specification is generic (not limited to topography. Should we move it to B-125.3? Majority favour a move. Although a fixed point is almost always on land (one exception is a 'pipe'), other symbols are deliberately chosen to give examples of both land and sea symbols.	AU, BR, DE, DK, ES, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, UA, UK, US(NOAA), ZA	CA, NZ
	Should we 'retire' symbol B33 and related specification? Consensus to retire B33. It is doubtful that the mariner would understand the subtle difference between the symbols; the 'PA' legend is more useful. In INT1, the '(accurate positions)' in B32 will need to be removed. INT1 producers please note.	AU, BR, CA, DE, DK, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA	ES
312.1	The C3 symbols are hand drawn. Should these be replaced by computer generated symbols? FR's point is valid, but it is intended that the symbols shown in S-4 (and INT1) should be modernized (not a new symbol). The old hand-drawn symbols would still be recognised, and therefore do not need to be shown as obsolescent.	AU, BR, CA, DE, DK, ES, [ESRI], FI, GR, IN, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA	FR
312.2	The middle version in C7 is hand drawn. Can we remove this version? Unanimous decision to retire the middle version of C7: INT1 producers please note.	AU, BR, CA, DE, DK, ES, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA	
313.1	Can we remove the second version of F1 for standardization? Significant case made to retain both symbols.	BR, CA, ES, [ESRI], FI, IN, NO, NZ, UK, ZA	AU, DE, DK, FR, GR, IT, JP, LV, NL, UA, US(NOAA)

Specification	Question	Yes	No
321	Do you agree that it is logical to include all specifications related to berths in this sub-section, therefore moving the content of existing B-323 here (ie new B-321.6-8)? As done.	AU, BR, CA, DE, DK, ES, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA	
324.3	Do you agree to move 'pontoon' here, instead of at B-326.9, as it is more appropriately described as a 'landing' rather than a 'dock'? All except CA agree to move B-326.9. The majority have accepted my original proposal, although the arguments in favour of moving pontoon to the section on berthing structures have merit. We have added a comment about berthing within the text, as suggested by FR and a cross reference from B-321.	BR, DE, DK, [ESRI], FI, FR, GR, IN, IT, JP, NL, NO, NZ, UK, US(NOAA), ZA	AU, CA, ES, LV, UA (see also comments by FI and FR)
326.6	Should we delete '*is an enclosure at the entrance to a non-tidal basin or within a canal, used to raise or lower a vessel to a different water level. Its ends are closed by lock gates which*'? It seems unnecessary to describe a lock in such detail. It will be retained.	[ESRI], UK	AU, BR, CA, DE, DK, ES, FI, FR, GR, IN, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA
327.1	Would a small solid black square be a better symbol for a dolphin than the open square (similar to the solid circle for a post)? The existing symbol will be retained. Given that the reasons for omitting the land tint do not apply for modern data capture techniques, we will make the option more positive (ie land tint should be inserted in the symbol).	BR, DE, ES, [ESRI], FR, GR, JP, ZA	AU, CA, DK, FI, IN, IT, LV, NL, NO, NZ, UA, UK, US(NOAA)
328.3	Should we 'retire' symbol F53.3 and related specification? As the 'symbol' is actually just a position circle with legend, it can be retired from INT1 and specifications. Should it be useful to chart one, as India suggests, the normal principle of a position circle plus legend would apply anyway.	AU, BR, CA, DE, DK, ES, [ESRI], FI, GR, IT, JP, LV, NL, NO, NZ, UA, UK, US(NOAA), ZA	FR, IN
330	Do you agree with the placement of B-330? Consensus for B-330.	AU, BR, CA, DE, DK, ES, [ESRI], FI, FR, GR, IN, IT, JP, LV, NL, NO, UA, UK, US(NOAA), ZA	NZ

Further comments

(Chairman's responses are in red, except where already provided in the table above.)

AU (AUSTRALIA) (track change copy also supplied)

B-300.3(b): One of the issues that AU has encountered with its topographic detail is the fact that general topographic content is not normally subject to update through chart maintenance processes, as it is not seen to be of sufficient navigational significance to warrant Notices to Mariners action. This detail is therefore only reviewed when a New Edition of a chart is being compiled, and in some cases this may not occur for many years. As a result, information charted such as the extent of built-up areas can quickly become out of date in areas where populations are rapidly expanding, which is a common occurrence in Australia. This has been reported by some of our chart users to be confusing, especially when navigating at night. Consequently, we no longer depict the extent of built-up areas on our navigational products, and only centralise the name in the built-up area. While AU has no issue with the wording of this paragraph, it may be worth mentioning somewhere in this General section that the maintenance cycle for charts is another consideration when determining topographic content.

Chairman: we have added some words in B-300.1.

B-300.3(c): Regarding Comment: AU only charts roads that are important to port infrastructure; are prominent from seaward and hence can be used as a navigational aid (e.g. there is a road in Sydney that runs straight up the side of a step hill from the coast, which is used by mariners as a fixing aid); or roads on the approach to a bridge over water navigable at the scale of the chart (to indicate the purpose of the bridge). AU has no objection to the wording in this paragraph, but this should be taken into account when reviewing B-365.

Chairman: We have noted this.

Suggest amending the 1st sentence to read: Topography of relevance to the mariner should be most detailed in areas immediately adjacent to the coast (up to about 1 mile inland) and to areas further inland which are clearly visible from seawards (e.g. on a sea-facing hillside) or the navigable parts of rivers." for ease of reading and completeness.

Chairman: Done (but phrase re '1 mile' deleted following discussions at CSPCWG8).

What is the purpose of the last sentence in this paragraph? The preceding guidance includes "areas immediately adjacent to the coast (up to about 1M inland) and to areas further inland which are clearly visible from seawards (e.g. on a sea-facing hillside).". As this guidance includes areas that are visible from seaward, would this not include all significant buildings and other fixing marks?

Chairman: We think this sentence has value for charting prominent detail beyond the limits where more detailed topography is not shown.

B-303: The first paragraph is a bit difficult to review as there are changes from the original wording that are not indicated by blue text or track changes.

Chairman: As usual, we have changed wording no longer used such as 'it is recommended', 'thus', etc where that is standard (and shown it in blue, so it is not hidden); other changes remain visible as either deletions or insertions. This enables WG members to focus on factual changes.

How is the "or in addition to" new text in the first paragraph to be implemented on charts, and what is the point of showing both? Does this mean that two heights can be shown next to a charted symbol? If so, then an example should be included in S-4 (and possibly INT1).

Chairman: this is not a change to charting practice; the statement just makes the options more explicit. There is no need for an example, as it is simply placing two different methods of showing height against one symbol.

B-304.3: Benchmarks in Australia are not visible from a navigational respect. They are usually bolts or small plaques fixed into solid ground at a known location. Therefore, if a decision is taken to retain this guidance, I am not sure how relevant the "visible mark" part is.

Chairman: replaced 'visible' by 'reference'.

If the decision is made to "remove" these clauses, should they be treated similarly to the way we treated similar clauses in B-480 by stating that "these features were formerly charted as", and that "it is no longer useful to chart these features"?

Chairman: done

B-305.1: Agree to re-locate this clause. Suggest that the new clause B-125.3 be headed "The position of symbols", and re-order the clause so that "fixed point" comes after "symbols shown in profile" and "symbols shown in plan".

Chairman: Agreed.

B-305.2: Is this a type of control point? In INT1, the reference to the symbol that has been added at this clause (C11) references B-352.1 and B-352.2, and this symbol is already included in both clauses. Suggest that the text of this clause be moved to B-352, such that B-352 reads: "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. For heights of survey control points, see B-304. For plane of reference for heights, see B-302.". The entire B-305 could then be "Not currently used".

Chairman: agreed.

AU only other concern with this statement is the reference to indicating the height in metres. At B-421.1 there is a statement which indicates that ~~depths~~ [heights] under 5 metres are to be shown in metres and decimetres, and an example with the spot height is included (INT1 – K10). Should this therefore read "… indicating the height in metres, or metres and decimetres for heights of less than 5 metres."?

Chairman: B-421.1 deals with dangers. Such precision in this topography section is not required (and it would be rare to show spot heights less than 5m, except to indicate a flat coast).

B-312.1: AU does not distinguish between the nature of its steep coast on its paper charts. We have only one type of computer generated cliff symbol that we use in all cases to indicate steep coast. Do other HOs distinguish between rocky cliffs and step coast without rocky cliffs?

Chairman: As discussed at CSPCWG8, some nations do distinguish, which is why there are two symbols available in INT1. Minor reordering made to clarify.

B-313.1: AU uses a slight variation of this symbol on its charts, as for cuttings and embankments.

B-313.2: This clause recommends a symbol for seawalls for use on smaller scale charts. Is this in agreement with the introductory guidance at B-300.3 in regard to scale being a factor when determining the level of topographic detail? What is the purpose of showing a seawall on a smaller scale chart? AU only shows seawalls on harbour charts and plans, using the symbol F2.1.

Chairman: 'smaller scale' in the context compares with 'very large-scale'. The degree of generalization is at the compilers discretion, but it may be appropriate to indicate a protection structure without specifying on the chart whether it is masonry or an earth bank.

B-313.3: The F3 symbol included in the draft has the text "Causeway" in sloping text (as does UKHO BA5011). S-4 Revision 4.1.0 and INT1 (BSH 2011) shows the text in upright text. As the symbol includes parts of the causeway that are always dry, AU considers that the text should be in upright text to be consistent with convention elsewhere in S-4 (refer comment in draft at B-322.3). Should there be a statement here that if the entire causeway covers and uncovers, the legend should be in sloping text? In regard to this, should there be a statement in B-100 regarding the conventions for the use of upright and sloping text? AU could not find any such guidance in S-4.

Chairman: A causeway is defined (Oxford English Dictionary) as 'a raised road or track across low or wet ground'. We would normally simply chart this as a road (or track), perhaps with an embankment. It is only where a causeway crosses a tidal area, where at least part of the causeway sometimes covers at high water, that it would usefully be labelled 'causeway' **on a chart**. Whether this should then be labelled in upright or sloping text can be (and is) argued both ways. Consequently, it will appear on charts labelled either upright or sloping; but does it really matter? The graphics in S-4 and INT1 are inconsistent because different views have been taken by the editors; it is not critical to the chart user and not worth pushing for a consistent application.

I agree the general convention about use of sloping/upright text should be stated somewhere in S-4: in fact, the Secretary has already got a note to do this, perhaps at B-129 or B-133. Interestingly, a trainer of yacht masters (of 20 years experience) recently stated he had never realised there is such a convention!

B-313.4: AU has no problem with the existing symbols for groynes. The symbol agrees with current convention elsewhere in S-4 of having intertidal in dashed lines (causeways, piers, ramps, slipways

etc) and submerged in dotted lines (danger lines). In regard to the smaller scale chart single lines, should we be stating that the lineweight is thicker than for the coastline or double-sided symbols (BSH INT1 uses 0.3mm lineweight, which is different from the 0.5mm specified at B-322.2)?
Chairman: see comment at NZ.
B-324.1: INT1 F23 includes the term Ramp. There is no corresponding S-4 guidance for depicting ramps on paper charts. In AU we use the legend "Ramp" to distinguish between a slip and a ramp (boat ramps are much more prevalent in Australia than slipways, although most are associated with small craft, but we still chart them on port charts). Suggest that some guidance be included in S-4 for ramps.
The term "patent slip" is defined in S-32 using the term "marine railway" (according to S-32, patent slip is UK usage). AU has attempted to tidy this clause up a bit, and add some guidance for depicting ramps, in the amended draft submitted with this response. AU further suggests that one of the symbols at F23 in INT1 (preferably the bottom left one), include the legend "Ramp" in upright text.
Chairman: Done
B-324.3: AU would prefer to see this clause moved to B-321 (as B-321.9) as most pontoons these days are used as berthing facilities, mainly for small craft in boat harbours (the clause also mentions pierheads). Pontoons that are not connected to the shore do not, in AU's opinion, constitute a "landing", but could still be a berthing facility.
B-326.6: Descriptions of other types of docks in this clause have been included, so see no reason why this should be deleted. Also, the clause only describes the way the lock gates are depicted, not the lock itself, so the text beforehand is a good preamble to the presentation guidance.
B-327: In S-57, stake, pole, perch or post is defined by the same enumerate value (BCNSHP = 1). To be consistent with S-57 (and the resultant entry in the IHO Hydrographic Registry), suggest the statement "For perches, poles [stakes], etc …." be amended to "For stakes, poles, perches or posts…".
Chairman: this is only a cross reference. We have made it more consistent with what is actually found at B-456.1.
B-327.1: Using a small filled black square would result in there being very little difference between the portrayal of a post (filled circle) and a dolphin (is this an issue for the chart user?). In these days of digital chart production, AU has adopted the square black outline symbol with a buff infill, rather than whatever depth related colour is underneath. We have been using this for a number of years and have had no reports of confusion. Suggest that this could be adopted.
B-328.3: S-57 Use of the Object Catalogue (clause 4.6.9.3 – Remarks) states that "The position of a sheerleg or travelling crane is defined in its resting position". This is a rare case where there is encoding/portrayal guidance in the UOC which is not in S-4. Suggest that a similar statement be included at B-328.3.
Chairman: I would not expect a sheerlegs crane to move. A travelling crane is on a rail and could be anywhere along the line which depicts the rail. It is unlikely that the cartographer will know the 'resting position' if there is one and anyway it has no value to the mariner. Rather, is it not better to place the symbol in the middle of the line?
B-330: Note that the definition for **HULKES** in S-57 is simply "A permanently moored ship". The differences between the S-57 and S-32 definitions have been identified for rectification in S-32 and the IHO Registry. Note also that B-445.5 is titled "Moored vessels" (as related to offshore production). This clause will need to be cross-referenced from B-330, and perhaps re-named to avoid any possible confusion (e.g. Moored offshore production vessels).
Chairman: cross reference added. We will amend the heading at B-445.5 accordingly at the next opportunity.
Jeff: Please ensure that our proposed definition for Hulk is considered by HDWG.

BR (BRAZIL)

B-326.6: We believe that the description of lock is useful. We recommend retaining it.

CA (CANADA)

304.2 Not used on CA charts
304.3 Not used on CA charts
305.1 B33 CA has a national symbol for this already
312.1 CA has a computer generated symbol for this already
313.1 CA does not use the 2nd version of F1
321 This is better organized as presented
324.3 CA prefers to leave this where it is
326.6 Retain definition as this is good to describe to a new cartographers who may have a GIS background but not a marine background
327.1 CA shows a dolphin with a national symbol as an open circle, labelled as required
328.3 CA currently charts this as a crane symbol
330 Agree with the placement in this section

DE (GERMANY)

300.3c We wondered about the last sentence. Especially in large scales roads will be charted.
Chairman: A chart is not a map, so only roads of clear use to the mariner should be charted. However, sentence now deleted following discussions at CSPCWG8; see also comment at NZ.
302.2 Picture for H20: delete "I" from IH 20 in the legend.
Chairman: done, more modern graphic now inserted.
312.1 Has somebody such a computer generated symbol already in use?
Chairman: UK has.
313.1 We use the second symbol of F1 in large scale charts.
321.7 Add a third example with more digits, e.g. "A 54" for F 19.1
Chairman: will be done
326.6 If we delete this sentence than we have to delete all the other definitions of this chapter. For the cartographer it is helpful to distinguish between them, perhaps the descriptions can be shortened a bit.
327.1 Buff in the symbol will also be a solution.
330 We should add a second symbol for small scales. We wonder these hulks should be always not floating? In this case we have to correct INT 1.
Chairman: we should show a true to scale example (as in UK's 5011) and a symbol where scale does not allow. A hulk may or may not be floating; however, it would be always above water and permanently fixed in position, so for consistency, we suggest the associated text ('Hulk' or its name) should always be upright.

DK (DENMARK)

304.2, 304.3 + 305.1: DK does not use these symbols.
327.1: DK agrees with the comments that the solid black square could easily be mistaken for a solid circle.
328.3: DK does not use this symbol.

ES (SPAIN)

305.1: This office receives information from several (non-official) sources regarding the position of features (soundings, wrecks, cables...) with an unverifiable accuracy, so consequently they are represented on nautical charts using symbol B33.
Chairman: all the examples quoted have actual symbols, which should be marked as PA. It is very doubtful if any chart user would understand the difference between a fixed point shown by a small circle compared with a small circle with dot inside.
324.3: It is our view that a pontoon is a feature related to mooring vessels, so it would be more convenient to list pontoons under para B-321 (berth: quays, wharves… (321.9) rather than B-324 (landing and launching places).
326.6: It is our opinion that the current definition included in S-4 correctly describes a "lock".

ESRI

304.2 and 304.3: Observation spots and bench-marks are still valid S-57 attributes, which, in some systems, are used to render ENCs with S-4 symbology. If these entries are removed from S-4, how should such software systems handle CTRPNT objects that contain this attribution (CATCTR = 2 OR CATCTR = 4)? It is possible to return "no symbol", but I would want to verify that this is the expectation.

Chairman: DIPWG & TSMAD will be informed of the intention to make these symbols obsolescent on paper charts, as it is not considered relevant for the chart user.

312.1: From the industry's perspective, it would be ideal if the Working Group could collaborate with the industry to derive symbols to replace C3 that satisfies the WG, Mariners and, from a technology standpoint, are feasible to implement. We have tried to emulate these symbols with software, however, as you can imagine, it is difficult to achieve the effect of scribed symbols with software.

327.1: No opinion in terms of technology limitations, but would agree, from a purely cartographic perspective, with AU that a unique symbol, such as the type described by AU, could even go so far as to eliminate the necessity of a legend.

328.3: Similar to 304.2 and 304.3, these are still valid features in the ENC (where the object is CRANES and the attribute CATCRN = 3 (sheerlegs)). If the specification is removed, how should systems that use ENC to create paper charts handle these features?

Chairman: there would be no change; a position circle plus legend would apply.

FI (FINLAND)

324.3: Or even to B-321 Berths (Berthing Structures).

326.6: This is not as obvious as one could think. I have just recently used this sentence to clarify for an operator the difference between a lock and a lock gate.

FR (FRANCE)

302.2: It is written that the plane of reference for all heights must normally be a HW. Should the "must normally be" be replaced by a "should be", if we have only the three possibilities beyond "must", "should" and "may" (cf. B110)?

Chairman: 'must normally' is correct, as the exception is given in the following sentence.

302.3: FR suggests adding a reference to 305.2 at the end of the first sentence.

Chairman: we inserted a reference to B-352 (which is currently valid and is where the existing B-305.2 will be transferred).

307: The unit of measurement appears before the number in the illustration of B25.1 and the text says after the number.

Chairman: corrected.

311: FR prefers the present title "Coastline inadequately surveyed" because the representation by dashed line or not, depends partly of the scale of the chart. The coastline can be considered inadequately surveyed at one scale, and sufficiently surveyed at a smaller scale.

Chairman: 'inadequate' is a subjective word. The question of scale is addressed by the fact that the dashed coastline symbols should be used on large-scale charts.

312.1: Some charts can still include such representation derived from a former edition and issued from raster data.

Chairman: provided the computer-generated version is very similar to the old hand drawn version, the mariner is unlikely to be confused.

To answer AU's question, FR does not distinguish between the natures of its steep coast on its paper charts too.

312.2: FR agrees to consider the middle version of C7 obsolescent even it is very explicit. FR suggests that the symbol and some comments about the former use of this symbol are added as it is done for the mangrove shore (B-312.4) or for Wind turbine (B-374.6).

Chairman: This could lead to S-4 being expanded to include all obsolescent symbols. On reflection, I think it is only useful to retain obsolescent symbols where S-4 needs an explanation

of why a feature is no longer to be charted (as with windmotors, radiobeacons and now observations spots, etc). In such cases, obsolescent symbols will remain in INT1, for reference. An explanation of this convention could be included at B-120. We have also removed the relevant sentence about mangroves, for consistency.

In general, if it is accepted to retire it from S-4, how can we consider charts including such "old-INT" representation: will they become "out-of-law" vs S-4 or not? Can we still declare them as following the International standard?

Chairman: we discussed this inconclusively at CSPCWG8 (9.8).

In another way, considering this representation more explicit, should we accept this simplification definitively without counting on an improvement of the capacities of the software to draw this kind of more complex symbol?

Chairman: Our intention should be to simplify symbology for the user, ensuring they are not confused. I do not believe they will be confused by variations between hand drawn and computer-generated symbols and the latter are more efficiently produced.

313.1: FR considers the second version of F1 more explicit.

313.2: FR does not agree to delete the more traditional symbol similar to the second version of F1 as it is very explicit and may be more familiar.

Chairman: retained

313.3: Following the comment of AU about "Causeway", FR considers that "Causeway" is for the part of the road which covers and uncovers. Otherwise, it is a road which does not require any qualification. FR considers for this reason that "Causeway" should be in sloping text.

Chairman: see comment under AU.

324.3: The description of the function should include at least the berthing alongside a pontoon.

Chairman: Agree; reference to use as berthing platform included.

326.6: It can be useful for non English speaker to have a complete description of the context.

330: FR suggests to add in the description, the use of moored vessels as breakwater.

Chairman: included as suggested.

GR (GREECE)

313.1: The exact same symbol is also used in the second version of F2.2 (Seawall on smaller scale charts), in F3 (Causeway) and in D15 (Embankment), and the same but reversed symbol is used in D14 (Cutting). If the second version of F1 is removed, shouldn't all the aforementioned symbols be removed as well, for standardization?
GR proposes that this symbol remains in all these cases in order to depict embankment structures visible from seaward.

326.6: GR proposes that the Lock definition stays as it is, since all definitions in paragraph B-326 (Docks) are as detailed as this one (see p. B-300.17, 300.18, and 300.19).

IN (INDIA)

304.2, 304.3: Use of symbol B21-23 may be left with HOs for their national version of charts.

Chairman: the use of this symbol will remain available at national discretion; it will simply no longer be an INT symbol.

300.1, 300.2, 300.3, 300.4: Mentioning about purpose of chart, source data and other user need are of no relevance at this point. These can be accommodated in B-100 General.

Chairman: This is general guidance specific to topography, which is the subject of this section.

326.6: The description about the lock will help mariner to know more about the symbol and its purpose. Therefore the text needs to be retained.

327.1: A solid black square may create confusion with similar symbol used for building (INT1, D-5). Therefore existing symbol could be retained as per F-20.

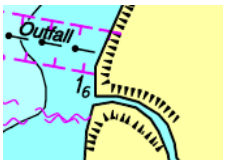
328.3: This could be a useful aid to the mariner while navigating on berthing charts. Therefore F53.3 should be retained.

JP (JAPAN)

304.3: The Benchmark is described by the symbol 'BM' in Japan.
313.1: Being described is more comprehensible for the user. Therefore it should not be especially deleted.
326.6: Being described is more comprehensible for the user. Therefore it should not be especially deleted.

LV (LATVIA)

313.1. LV The symbol better describes the earth and rubble elevation (more consistent with steep coast generalized symbol) (agree with the US comment). As steep coast (generalized, computer generated) symbol we use .



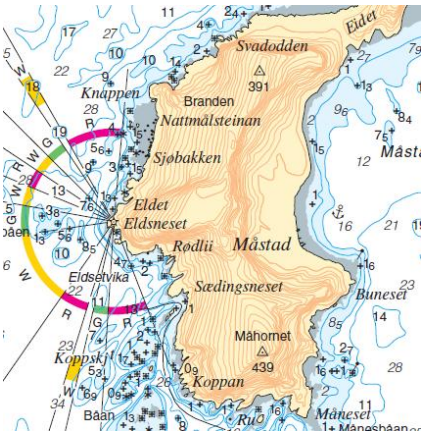
324.3. LV agrees more with the AU observation.
326.6. LV thinks that the description of that is adequate
327.1. LV would prefer to chart an open square with the land tint in it.
330. And LV also agree with AU proposal for further action

NL (NETHERLANDS)

313.1 Symbol is still in use in NLHO
326.6 Retain this information. Useful for mariners
327.1 NL is still in favour of existing symbols

NO (NORWAY)

300.2 'User Needs. Despite the increasing reliance for positioning placed on global navigation satellite systems (GNSS), both its continued vulnerability (eg to interruption) and the good practice of using independent methods to confirm position are such that it is still important to chart sufficient topographic detail to enable position fixing by traditional methods'.
NO Comment: This is a very long and complicated sentence that should be rewritten.
Chairman: accepted; rewording attempted.
300.2 a., b., c., and 300.3 a: NO Comment: 'he' and 'his' to be replaced by 'the mariner', 'the mariner's' or 'the vessel's'.
Chairman: done
300 NO Comment: Topography may on multicoloured charts be shown by the use of tinted land elevation curves.



(Small part from NO chart 71.
Due to i.a. innovative use of colour awarded best Navigational Chart at the ICA International Cartographic Exhibition 2009 in Chile.)
A general comment to the S-4 and INT-1 symbols to be used for land presentation is that they are agreed upon many years ago and today they feel very old fashioned for use in modern chart production.

Chairman: It is accepted that standardization of topography is less important than hydrography, provided detail useful to the mariner is not obscured. We understand that there may be production efficiencies in accessing mapping and this may introduce different presentation styles. The needs of printer nations should be considered. This does not seem appropriate for this general section, which does not give detail about the symbols to be used. It may be more appropriate for consideration at the section on relief (B-350).

300.3 'b. Port approach and coastal navigation charts (1:30 000 to 1: 350 000 approximately): A general depiction of relief (eg island heights, mountains by contours and spot heights, rivers, major lakes) and prominent fixing marks should ~~to~~ be shown.'

Chairman: Done.

301 LAND TINT NO Comment: Buff is not a commonly known colour among people not having English as their first language. (Doing a quick check we can state that none of the NHS production staff asked could give the definition of the colour buff.) We suggest pale yellow to be used instead of buff.

Chairman: Added '(yellow)', as at B-143.

305.2 **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.

NO Comment: We assume 'accompanied by' also covers the NO way of showing heights where the height in metres is placed underneath the point symbol, the same way as we do for Trig. Points.

Chairman: the text does not specify where the figure is placed, although as far as we know most countries follow the convention of placing the figure alongside the dot, as shown in the example.

327.1 NO Comment: Land tint inside the small square the same way as for the large scale dolphin symbol.

NZ (NEW ZEALAND)

300.3b: We chart minor roads to the coast in isolated areas. Perhaps reword the last sentence to 'Coastal features and roads and railways between settlements and to the coast in isolated areas may be shown.'

Chairman: done.

300.3c: Regarding the statement 'There is usually no need to chart roads at this scale.' – There is possibly no navigational purpose but they help the mariner locate facilities e.g. customs office, harbourmasters office. We think roads are useful for this purpose. Also, this statement contradicts B-320 second paragraph.

Chairman: removed from here, addressed at B-320 (also following discussions at WG8: item 9.2).

301: The Note assumes lithographic printing. It may be worth prefixing this note with 'For lithographic printing, if the minimum…'.

Chairman: additional words and cross reference inserted, but avoided reference to printing techniques.

301.1: NZ charts have land tint removed from behind the title, tide tables, source data diagram and scales. We show land tint behind compass roses. We recommend that 'should normally' in the first sentence be changed to 'may'.

Chairman: discussed at WG8 (item 8.17) – no change required.

302.2: TR 3/1919 says that HAT should be adopted. It will be many years before we can adopt this for all areas of NZ as we either don't have sufficient tidal data to calculate HAT or don't have the capacity to convert our charts from MHWS to HAT. The first paragraph seems to understand these limitations but the quote from TR 3/1919 almost contradicts this.

Perhaps change the statement before the quote of TR 3/1919 to '…contains the following statements, which should be implemented where possible:'

Chairman: we cannot alter or undermine a TR. Part 2b only applied to vertical clearances, which are explained in more detail at B-380. There is no requirement to convert all heights on a chart from MHWS to HAT.

304.1: We think that this symbol should only be used where the trig structure is visible from sea. Perhaps change the second sentence to: 'This symbol should be used to indicate the existence of a pillar or structure that is visible from sea.'

Chairman: done (but 'may be' rather than 'is', as the cartographer will not always know).

304.3: We chart benchmarks in ports for the benefit of engineers, not mariners. When charted they don't tend to cause any problem with clutter and we consider it useful to continue to chart them.

Chairman: the use of this symbol will remain available at national discretion; it will simply no longer be an INT symbol.

305.1: B22 is used maybe entirely on land, so this specification should stay here. Perhaps the examples B30 and B32 could be changed to land examples only. For example D17 (airport), E1 & E2 (building), E32 (tanks)
The second paragraph says the symbol 'must be about 2mm'. This seems odd use of English. Perhaps change to 'should be 2mm'.

Chairman: A clear majority favour moving the paragraph to be more generic (as the positions of symbols certainly apply on land and sea). The existing choices are intended to reflect that fact and should not be changed to 'land only' examples. We will change to 'should be 2mm' and similarly remove the other 'abouts' in this section.

305.2: Recommend adding a diagram showing the dot and height figure.

Chairman: already done.

307: The second paragraph should state that the unit of measurement should be shown 'before' the number, as in the first paragraph and diagram.

Chairman: corrected.

312.1: The new steep coast symbol needs to be less prominent, as the hand drawn symbol is more prominent than the cliff symbol.

Chairman: Agree.

312.2: Could the sandy shore symbol be tidied up to show the line of dots as parallel to the coastline and not touching it?
Is the term 'saltings' for marshy shore commonly used? We have not heard of this.

Chairman: we will improve C6. 'Saltings' is a common term in UK.

312.4: The legend 'Mangroves' in the second paragraph should be italic, as it falls in intertidal areas.

Chairman: when we reviewed the mangrove symbol, it was agreed the legend should be upright, for the reason stated in the sentence immediately following.

313.1 & 2: The simple seawall symbol, where it is parallel to the coast, could be confused with a railway line. We suggest a symbol with a thin line parallel to the coast and a thick line inshore and parallel to it. It would look like F1 where the dyke is not adjacent to the coast.

Chairman: second symbol retained. Your suggested symbol is really the inland portion of the existing first symbol at F1.

313.3: The legend 'Causeway' in the paragraph should be shown in italics.

Chairman: see comment under AU.

313.4: Removing the dotted line and using a dashed line instead would match the symbol for a training wall and simplify the symbol.

Chairman: this is a good idea! The use of a dotted line seems inappropriate in this context; it adds to cartographic complexity and is likely to confuse the user. It is not a danger line (as described in B-420.1) used to highlight a feature. The dashed line is sufficient to warn the chart user of the extent of the feature underwater. This can be applied to groynes, training walls and slips. It will mean some rationalization of the graphics in S-4 (derived from GB5011) and INT1. The training wall graphics (extending from the coastline) actually contradict the specification which refers to them being alongside a channel; F5 actually appears to be more appropriate depictions for groynes.
Consequently we have proposed revised wording and/or graphics at B-313.4, B-322.2 and B-324.1.

320: We chart shore facilities that are not strictly for 'maritime interest' e.g. hospital, post office. Perhaps remove the text '…of maritime interest.' from the second paragraph.

Chairman: A hospital is of maritime interest and has its own symbol (F62.2). Value of a post office is questionable (and difficult to maintain on charts; we no longer chart them in UKHO).

326.6: The description of a lock is in keeping with other descriptions and explanations in S-4. The legend 'Lock' in the second paragraph should be shown in italics.

327.1: A solid black square would be duplicating the isolated building symbol. We think an open square is fine.

328.3: The crane symbol is small. Recommend enlarging the symbol to a circle of about 1.5mm.

Chairman: As cranes are shown as an indication of facilities, rather than as a position fixing mark, the small symbol seems adequate. Cranes are very variable in size, although it is unlikely that the cartographer will have the knowledge to differentiate. For particularly conspicuous cranes (such as sheerlegs), the option still exists to use the larger position circle and legend CRANE or more specifically SHEERLEGS if appropriate. We have made a small modification to the specification.

330: This section could be added to B322, Structures not intended for berthing alongside.

UA (UKRAINE)

324.3 I support a position of Australia: moving in 321.9 will be quite logical, and here as to "landing" - the we does not support.

US(NOAA)

313.1 Recommend retaining the second symbol. It is distinctive and unmistakable, whereas the first symbol could easily be mistaken for a road. The United States makes extensive use of the second symbol.

324.1 This section does not clearly differentiate between a "slipway", which according to S-32, is an inclined surface in which a vessel is constructed, a "marine railway (patent slip)", which is a TRACK and WINDING mechanism for hauling vessels out of the water for servicing and then vessel can be released back down the track, and "ramp", which is a sloping structure that can be used as a landing place. A real-world ramp may have parallel guiding structures or be just a sloping surface. It is difficult to tell from the images shown in B-324.1 (or INT 1 F23) which function is being served by which symbol unless labels such "mar railway", "ramp" or "slip" are added. It would be helpful if the appropriate symbol was shown in S-4 after each individual feature is addressed, such as patent slip. In the U.S., most marine railways (patent slips) are too narrow to be shown to scale, so a railroad track symbol is shown for the portion that is always dry.

Chairman: Done.

326.6 The description of lock is useful and does no harm. I recommend retaining it.

327.1 Australia's suggestion for using a buff fill for a dolphin has appeal. It would more clearly indicate that this is a different feature than a black filled pile symbol and the buff fill would clearly indicate to a mariner that the feature extends above the water surface at all times. It is closer in appearance to the symbol that mariners are accustomed to may be less confusing to mariners than the change to black. Either change may become an issue for member-states that do not yet have single-line production systems to quickly convert thousands of dolphin symbols. The open symbol and new symbol would have to be shown in INT 1 for a period of time for new editions to catch up to the new symbolization.

ZA (SOUTH AFRICA)

300 Delete the word 'REMARKS' in heading text and CONTENTS page.

Chairman: done.

321.6 **Names of berthing structures**, if shown on appropriate large-scale charts, must be in black upright text.

Chairman: done, thank you.

Annex B to CSPCWG Letter 03/2012

CONTENTS

Comment: This draft revision covers only as far as B-330.

Comment: The contents list will actually be automatically generated and conform to the layout in other parts of S-4.

Deleted: Other control points

SECTION 300 - TOPOGRAPHY

B-300 TOPOGRAPHY (LAND REPRESENTATION): GENERAL

B300.1 The requirements for the representation of land (both natural and man-made features) on nautical charts are different from topographic maps. Conventional topographic maps show land features in accordance with the scale and purpose of the map. The purpose of a chart means that only a limited selection of topographic detail is required and usually only in areas adjacent to the coast. Too much detail may obscure the relevant information that the mariner requires and, for the cartographer, may cause resource problems in its maintainance for those features which are subject to change, eg the extent of built-up areas.

Comment: Following suggestion from AU

The main factors affecting the extent and selection of topographic detail are:

- User needs
- The scale and purpose of the chart
- The source data available.

B-300.2 **User Needs.** There is increasing reliance on Global Navigation Satellite Systems (GNSS) for vessel positioning. However, it is not completely reliable (eg it is vunerable to interruption, spoofing, distortion, gaps in coverage); good practice requires the continued use of independent methods to confirm vessel position. Therefore, it is still important to chart sufficient topographic detail to enable position fixing by traditional methods. The mariner also needs to be able to visualize, from the chart, the general lie of the land and to be presented with detail of maritime interest in port areas. The charted representation of topography, especially the coast, should be adequate to compare with the radar image for operations such as blind pilotage and radar fixing. The mariner uses topography in varying circumstances (eg day or night, good or bad visibility, under pressure in busy shipping areas) and for the following main purposes:

Comment: Reworded at suggestion of NO, to make more readable.

a. To confirm a landfall. In this case, the mariner will be interested in general representation of topography in the coastal zone, including relief (eg flat areas, cliffs, valleys). Where the coastal zone is flat or featureless, but backed by a mountain range, details of these mountains should be charted.

b. To visually fix the vessels's position or to check on a position already established by other means, eg GNSS. The items of principal interest will be concentrated in the coastal or near-coastal zone and will range from prominent features (eg tall buildings, isolated hills, cliffs) to less prominent, but unusual or unique, features (eg: a boathouse on a deserted shoreline, a monument, a waterfall).

c. To find and enter a port or harbour and to berth the vessel. In this case the mariner will be interested in prominent marks around the port and details of quays, berth numbers and relevant buildings (eg: harbour offices, customs) in the port itself.

d. To identify and use natural transit and clearing lines particularly in rocky areas lacking aids to navigation.

e. To deduce bathymetric relief as a continuation of land gradients, especially in areas of sparse hydrographic survey detail.

Some chart users (eg leisure, cruise, defence, research) may have a requirement for additional topography. This may be included as appropriate to the likely need, providing clarity for the primary chart user is not compromised.

B-300.3 **The scale and purpose of the chart.** The following guidelines apply in most cases, although

there may be variations and exceptions:

a. **Landfall charts** (smaller than about 1:350 000): The navigator using such charts will be primarily interested in recognising a landfall, in fixing position and in locating ports, harbours, anchorages, etc. Topography shown should be limited to meeting these needs. See C-301 for small-scale INT charts.

b. **Port approach and coastal navigation charts** (1:30 000 to 1: 350 000 approximately): A general depiction of relief (eg island heights, mountains by contours and spot heights, rivers, major lakes) and prominent fixing marks should be shown. Settlements should be shown sufficiently to provide a guide to size and extent (which may be prominent at night), but detailed road layouts should not be shown in towns. Dependant on scale, settlements may be symbolized by one building (eg church) plus the settlement name. All ports should be clearly named. Coastal features and roads and railways between settlements, and to the coast in isolated areas, may be shown.

c. **Large-scale Harbour plans** (usually larger than 1:30 000): Topography of relevance to the mariner should be most detailed in areas immediately adjacent to the coast and to areas further inland which are clearly visible from seawards or from the navigable part of a river (e.g. on a sea-facing hillside). Outside these areas, only significant buildings and other fixing marks should be shown.

Comment: Deletion as agreed at WG8

Deleted: (up to about 1 inland)

Deleted: There is usually no need to chart roads at this scale.

Deleted: approximate limits

B-300.4 **Source data.** The mariner always sees the land in profile, whereas it is depicted on the chart in plan. The cartographer's source data is also generally in plan. It is a cartographic skill to perceive a plan image in profile in order to select relevant detail to make this process as easy as possible for the chart user (ie to make the chart easy to interpret). The cartographer should, if possible:

a. Study any hydrographic surveys (and associated reports) that are available for an indication of topography which is of value to the mariner.

b. Supplement this with examination of any perspective views, aerial photographs (particularly obliques) and imagery which may be available.

c. Study the relevant official and commercial pilot books (including views) and port handbooks.

d. Consult the best and appropriate scale topographic maps available, particularly examining the relief in coastal areas.

B-301 LAND TINT

B-143 states that a colour, usually buff (yellow) or grey, must be used as a land tint.

Note: If the minimum four colours (ie black, magenta, blue and buff) are used, the land tint colour must be carefully selected so that a satisfactory green colour over inter-tidal areas is derived from printing the land tint over the shallow water blue tint, see B-147.

B-301.1 **Land tint should normally be shown continuously** over all land areas and not be broken for the title, tidal tables, compass roses, scales, etc.

Exceptions to this rule are:

- diagrams where it is necessary to make a distinction between land and sea, ie:
  - source or Zones of Confidence (ZOC) diagrams (see B-293.3)

- diagrams showing the incidence of grid letters (see B-215.2 and B-298.1)
- diagrams showing the limits of larger scale charts (see B-254.2 and B-298.1)

- glaciers (see B-353.8).

B-302 PLANE OF REFERENCE FOR HEIGHTS

The Hydrographic Dictionary (S-32) defines 'height' as:

> 'The vertical distance of a level, a point or an object considered as a point, measured from a specified datum'

and as:

> 'The vertical dimension of an object'

In the latter definition, this is used to describe the vertical length of an object, ie its height above ground level, see B-303.

The Hydrographic Dictionary (S-32) defines 'elevation' as:

> 'The vertical distance of a level, on or affixed to the surface of the Earth measured from Mean Sea Level. The term elevation is sometimes used synonymously with Altitude which in modern use refers particularly to the distance of points or objects above the Earth's surface, and also as an area higher than its surroundings, as a hill'

In most charting contexts, the words (in English) are synonymous. In S-4 (and INT1) the word 'height' is generally used, except that 'elevation' is used, in accordance with tradition, to describe the height of the focal plane of a light above height datum. (Note: only S-32 refers to Mean Sea Level; other dictionaries refer to sea level or a given level).

This sub-section **excludes drying heights,** ie heights of features submerged at high water; for drying heights, see B-413.1.

For vertical clearances of bridges and other obstructions, see B-380.

B-302.1 **The explanatory notes** beneath the chart title must always quote the plane of reference for heights. See B-241.6.

B-302.2 **The plane of reference** for all heights (including elevations of lights but excluding drying heights) must normally be a High Water (HW) datum, eg Mean High Water Springs (MHWS), Mean Higher High Water (MHHW), Highest Astronimical Tide (HAT). Where there is little appreciable tide or change in water level at the adjacent shoreline, then Mean Sea Level (MSL) may be used.

Comments: TR 3/1919 (as amended 2008), contains the following statements:

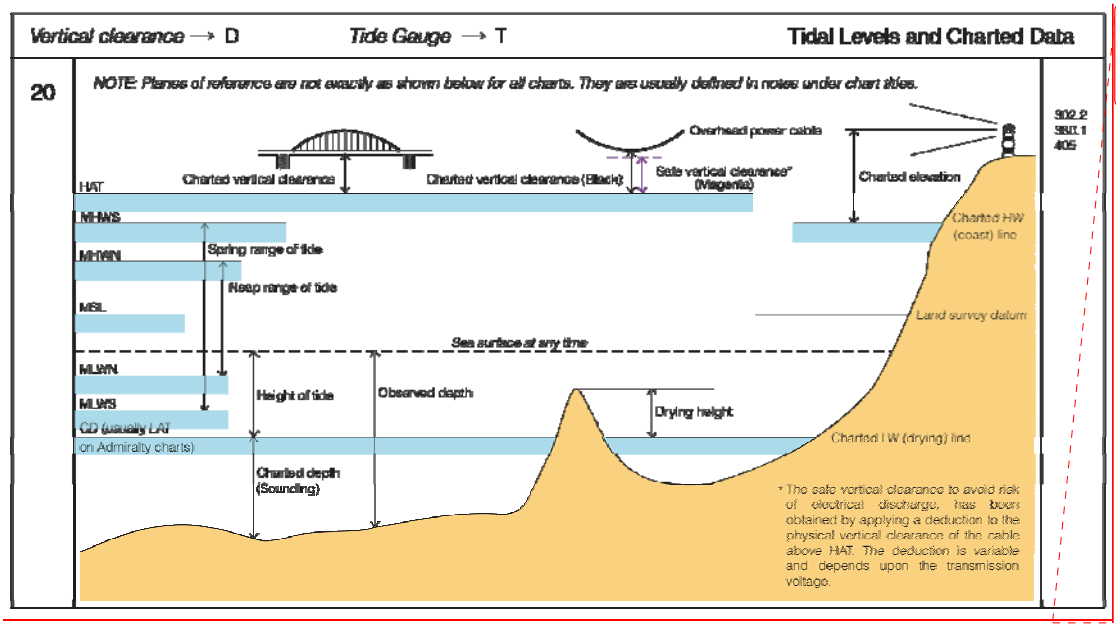
1. It is resolved that heights on shore, including elevations of lights, should be referred to a HW datum. Heights should be referred to Mean Sea Level (MSL) where the tidal range is not appreciable. The datum used should be clearly stated on all charts.

2b. 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.

Deleted: In correct English usage the word "elevations" should, strictly, be substituted for "heights" where heights above a sea level datum are meant. "Heights" should be reserved for such purposes as heights of structures above ground level; see B-303. However, in common usage, this distribution is usually made only when describing lights and light structures; see B-471.6.¶
¶

Deleted: . Elsewhere, it is recommended that a High Water (HW) datum is used.

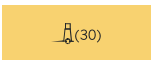
Deleted: paragraphs 1 and 2, resolve that heights on shore and elevations of lights shall be referred to mean sea level. However, the use of a HW datum in tidal areas is necessary for clearances under bridges and is consistent with the definition of the coastline (see B-310). It is also a safety factor for navigators using a quoted height and vertical angle to determine distance offshore. Many IHO members use an HW datum for elevation of lights.¶



Comment: DID: some small changes required to this graphic. A marked up copy will be supplied.

B-302.3 **All height figures** relating to features on land must be upright. Height figures relating to a summit or spot height must be placed immediately adjacent to the symbol marking the position, see B-352.

All other 'out of position' height figures are to be enclosed in brackets (see also B-421.1), except elevations of lights forming part of a light description (see B-471.6), eg:



E4

B-303 **HEIGHTS ABOVE GROUND LEVEL**

Deleted: PHYSICAL

It may help identify some structures, such as chimneys and towers, if their heights are given above ground level, if known, instead of or in addition to the height of its top above the plane of reference. In such cases, the height of a structure above ground level should be shown by the symbol placed above the figures, eg:

Deleted: aid recognition

Deleted: of

Deleted: on charts. Also, it may happen that only the heights of the structure

Deleted: not

Deleted: normal

Deleted: (ie, its elevation)

E5

The figures are enclosed in brackets because they are necessarily displaced to one side of the symbol for the structure.

Comment: DID: please insert symbol.

B-304 **SURVEY CONTROL POINTS**

Special symbols of interest mainly to the hydrographic surveyor rather than the navigator must normally be limited to the largest scale charts or omitted altogether.

Comment: Jeff: Do we need new definition by HDWG?

B-304.1 **A triangulation point** must be represented (if shown) by the symbol:

B20

This symbol should be used to indicate the existence of a pillar or other mark that may be visible from sea.

Deleted: visible

B-304.2 **An observation spot,** as used by surveyors for determining a precise position by astronomical means, were formerly charted as:

B21

Comment: B21 to be † marked in INT1

It is no longer useful to chart observation spots.

B-304.3 **A benchmark,** ie, a reference mark whose height is precisely known relative to a particular datum, were formerly charted as:

Deleted: visible

Deleted: must be represented (if shown) by the symbol:

B23

Comment: B23 to be † marked in INT1

It is no longer useful to chart benchmarks.

B-305 **Not currently used**

Deleted: **OTHER CONTROL POINTS**

New B-125.3 Postion of symbols.

The position of symbols shown in profile (pictorial symbols) is usually a very small position circle (0,5mm diameter) without centre dot, in the middle of the baseline:

B31

Note: there are a few profile symbols which do not have a position circle incorporated into the symbol. If such symbols incorporate another position feature, eg a light star, then that is the position. If such symbols have a baseline, then the position is the centre of the baseline (eg deviation dolphin, F21; notice board Q126). Where there is no baseline, the position is the centre of the symbol (eg reported anchorage, N10; mark, Q101).

The position of symbols shown in plan is the centre dot or, where there is no centre dot, the position is represented by the centre of the primary symbol (ie excluding associated text, detached lines, flares).

B30

B32

A fixed point, ie, a point whose position has been accurately determined, where not represented by another symbol, must be represented by a small circle with a dot in the middle, generally referred to in these specifications as a ‘position circle’:

B22

The larger position circle, used for conspicuous objects, should be 2mm in diameter. The smaller circle, used for other objects, should be 1mm in diameter. See B-340.5. Where the position circle does not represent a physical feature, then it should be in magenta.

It was formerly the practice to omit the centre dot in the position circle where an object was located only **approximately** on the chart:

former **B33**

Comment: Existing B33 to be † marked in INT1.

As this small difference was unlikely to be understood by the chart user, this is no longer the practice; the smaller version of B22 should be used. The **International Abbreviation** 'PA' should be placed adjacent to the legend to alert the user to possible positional inaccuracy.

B-305.2 **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 (or metres and decimetres if less than 5m).

·359 **C11**

Comment: This guidance will be transferred to B-352.

B-306 BOUNDARY MARKS

If required to be charted, a boundary mark may be portrayed by an appropriate existing symbol which corresponds to the natural form of the boundary mark. If necessary, a descriptive legend may be added adjacent to the symbol.

Deleted: It is left to the discretion of each country to choose a conventional sign

B-307 DISTANCE MARKS

Marks which indicate distances along a channel (eg nautical miles, kilometres), may be shown where considered useful. A small black circle (diameter about 0,5mm) or an appropriate symbol should be used, either ashore or in the channel, where it represents a visible mark, eg a notice board (Q126). The unit of measurement (eg M, km) must be shown, before the number alongside the symbol.

Deleted: or some other unit

Deleted: shall

Deleted: and will be chosen at the discretion of each country

B25.2

Comment: DID: insert version of B25.1, but standard width as for most S-4 graphics

Where there are no visible marks, the distance figures should be shown in magenta with a small magenta circle (diamenter about 0,5mm). The unit of measurement (M, km, etc) must be shown, before the number alongside the symbol.

B25.1

B-310 COASTLINE: GENERAL

The following paragraphs deal primarily with the line of high water (HW) and features on the landward side of it. For the line of low water (LW or drying line) and drying areas, see B-411 and B-413.

Comment: Jeff: Do we need new definition by HDWG?

The coastline (shoreline) must be a representation of the high water mark or the line of mean sea level where there is no appreciable tide or change in water level. In tidal waters where there is a beach the coastline is the landward limit of the beach and therefore corresponds approximately to the high water mark of the highest tides, see B-302.2.

B-310.1 **A surveyed coastline** must normally be represented by a continuous bold line (see B-127), delimiting the land. It should be unbroken by text and other detail as far as possible.

Deleted: tint

C1

B-310.2 **The coastline must be generalized** as necessary according to chart scale, but its essential characteristics must be preserved. An islet too small to be shown true to scale must not be reduced to a width less than the width of the coastline symbol to ensure visibility.

Deleted: (smoothed)

Deleted: avoid confusion with pinhole imperfections in chart

B-310.3 The line weight used for the coastline (see B-310.1) may be varied for quays, see B-321.

Deleted: plates).

B-311 UNSURVEYED COASTLINE

Deleted: INADEQUATELY SURVEYED

An unsurveyed (or approximate) coastline must be represented on large-scale charts by a dashed line delimiting the land.

Deleted: tint

C2

B-312 COAST, NATURAL FEATURES

Deleted: ¶
. . The following paragraphs deal primarily with the HW line and features to landward of it. For drying areas and LW linesee B-413 and B-41.¶

B-312.1 **A steep and high coast,** eg, a coast backed by rock or earth cliffs, may give a good radar return and be useful for visual identification from a distance.

Deleted: ie

Deleted: considerable

Where **cliffs** are prominent features they should be charted on scales larger than 1:500 000. Clifftop heights may be used for estimating distance off (eg, for clearing inshore dangers) and should be shown where possible.

Deleted: off, where cliffs alternate with low lying coast along the shoreline.

A coast backed by rocky cliffs must be charted with the cliff top in its true position on large-scale charts. On medium scales the cliff top may have to be displaced inland slightly for the symbol to be shown clearly.

Deleted: generally; as an exception, where cliffs predominate over extensive stretches of coastline, it may be neither feasible nor particularly useful to insert a cliff symbol throughout

C3

A steep coast without rocky cliffs should be charted by hachures, thus:

Deleted: steep

Comment: DID: please replace symbol by computer generated version

C3

Cliffs inland may, where prominent from seaward, also be represented by the above symbols. As the top of the cliff is more important for estimating distance offshore, any necessary displacement of the symbol should be made along the base.

Prominent small hills adjacent to the coast may be portrayed by simple hachures if the contour interval is too large to show the outline.

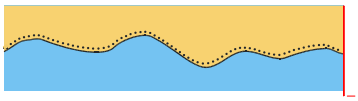
C4

B-312.2 **A flat coast** is represented simply by the absence of a cliff or steep coast symbol (and topographic contours):

C5

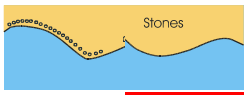
Spot heights may also be shown behind the coastline to indicate its low-lying nature.

A sandy shore must be represented, if useful on large-scale charts, by a single dotted line on the land side of the coastline:



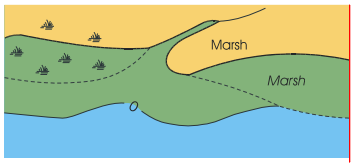
C6

A stony shore must be represented, if useful on large-scale charts, by a band of small circles or by a legend on the land side of the coastline:



C7

A marshy shore (sometimes called saltings) must be represented, if useful on large-scale charts, either by marsh symbols or, exceptionally, by a legend. They may be shown either side of the coastline:



C33

Where the seaward edge of the marshes represents the only visible indication of the drying line, it must be shown by a fine dashed line (as used for delimiting intertidal areas of different characteristics, see B-426.1) in addition to the actual coastline (HW line). Land tint should not extend beyond the HW line.

Comment: DID: please replace symbol by computer generated version

Deleted: than the base

Deleted: ,

Deleted: ock

Deleted: Cliffs inland may, where prominent from seaward, be represented by the above symbols. As the crest of the cliff is more important for fixing than the base, any necessary displacement should be made along the base.

Comment: Consider the flat nature of the coastline to be symptomatic enough of "low number" spot heights without stating the fact. These words may encourage compilers to look for lesser value spot heights at the expense of higher values.

Deleted: but, in order to draw the navigator's attention to the fact that a coast is very lowlying, it is often preferable, at least on the largest scales, to use the following symbols, where appropriate.¶
¶

IC 5

Deleted: ward

Comment: DID: please improve C6 so that the dots are exactly parallel with the shore

Deleted: or shingly

Deleted: exceptionally,

Comment: DID: please redesign graphic to omit irregular stones (central version), but maintain a continuous coastline.

Comment: DID: replace by new version of C33.

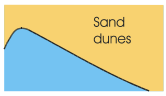
Where it is not possible to determine the HW line, an approximate coastline should be charted at the outer limits of vegetation emerging at high water, ie, the apparent coastline.

Reed beds may be charted using the same symbol as marsh; however, reed beds may extend beyond the low water line.

B-312.3 **Prominent sandhills or dunes** adjacent to the coast should be portrayed:

C8

For extensive areas a legend may be used.



C8

B-312.4 **Mangroves.** The seaward limit of mangroves must be a fine dashed line, backed by small mangrove symbols at intervals of about 10mm. The area of mangroves should normally be covered by intertidal tint. The landward limit of the mangrove area (where it is the high water line) must be shown as coastline, using C1 or C2 as appropriate. On smaller scale charts or if detailed information on the extent of the intertidal area is not available it may be sufficient to show the seaward limit only, with land tint on the landward side.

If the area is extensive, mangrove symbols may be spread across it spaced in a diagonal pattern about 10mm apart. Alternatively, a legend 'Mangroves' may be inserted within the area, repeated as necessary. The legend should be in upright type, as the actual mangroves are an above water feature.

C32

Note that the seaward limit of the mangrove area may not coincide with the low water line (eg if mudflats extend further seaward), nor the landward limit coincide with the high water line. In such cases, the limits of the mangrove area must be depicted by a fine dashed line backed by mangrove symbols, as an isolated area within a larger intertidal area.

If it is required to show an individual mangrove tree, the symbol **C31.2** should be used. If it is conspicuous, the legend 'TREE' should be inserted alongside the symbol.

Note: A mangrove shore was formerly always shown with land tint extending to the seaward limit of the mangrove area as this represents the apparent coastline and the limit of navigation. With the increasing use of charts for non-navigational purposes, it is now considered better to show the 'real-world' situation, ie areas of mangroves should be shown over intertidal tint, as mangroves only exist in intertidal areas.

B-313 **COASTAL PROTECTION STRUCTURES**

The following paragraphs concern features found mainly outside ports and harbours. For piers, jetties, breakwaters, etc, associated with harbours, see B-321. Dykes, seawalls and groynes generally have regular outlines and the cartographer should be careful not to mislead the

Deleted: The cartographer should ascertain, where possible, that the part of the marsh or swamp shown as land is visible to the navigator at all normal stages of the tide and in all seasons.

Deleted: by a dotted surface in which the shadow effects of the dunes shall be produced by enlarging some of the dots and deleting others.

Deleted: exceptionally

Deleted: the

Comment: DID: Insert 3 new C32 graphics as in existing S-4

Comment: DID: insert individual tree symbol C31.2

Deleted: represented as below,

Comment: Deleted following consideration of FR comment related to B-312.2 (see Annex A to Letter 3/2012)

Deleted: The following symbols are now obsolescent.¶

Deleted: ARTIFICIAL

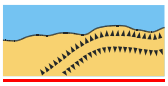
Deleted: FEATURES

navigator into thinking that a seawall is a wharf where a ship could lie alongside, or that a groyne is a jetty or other landing place. Dykes and seawalls are primarily designed to prevent inundation. For other types of embankment, see B-364.

B-313.1 **A dyke, levee** or similar embankment (usually composed of earth or rubble) should be represented by:

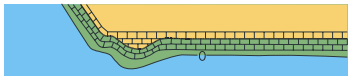
F1

but may be represented by:



F1

B-313.2 **A seawall** is a solid structure, usually of masonry, with a sloping face. If, on very large-scale charts, an accurate representation of a seawall is considered useful, it should be shown thus:



F2.1

On smaller scale charts, a seawall may be shown by the same symbol as used for a dyke.

or

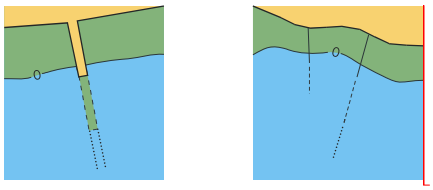
F2.2

B-313.3 **A causeway** is a raised road of solid structure built primarily to provide a route across wet ground or an intertidal area. It must be represented by the symbol for a road or track as appropriate (see B-365.2) with land tint and the legend 'Causeway' or equivalent. If scale permits and useful, the embankment may be represented by hachures. Where a causeway is intertidal, it must be represented by dashed lines, with intertidal tint and the legend '*Causeway*' or equivalent.

F3

B-313.4 **A groyne** (US: groin) is a low wall-like structure, usually extending at right angles from the shore, to reduce coastal erosion. Groynes submerged at high water may be a danger to small craft. On large-scale charts, groynes should be charted in their true positions:

- by continuous bold (coastline thickness) lines where they are above height datum and
- by dashed bold lines to show their full extent below high water:



F6

Lacking more specific knowledge, it may be assumed that the top of the groyne will be above high water through the charted intertidal area.

Deleted: must

Deleted: one of the following symbols

Deleted: The double line symbol (in which the seaward line is the thinner one) is preferred as it is less laborious to draw over long stretches.¶
¶

Deleted: may

Deleted: See also B-322.1 Breakwaters.

Deleted: way

Comment: DID: please replace text in 5011 version with italics

Deleted: where they cross drying areas and by dashed lines of the same weight (unless they are known to be above water at all times) where they extend beyond the low water line and are submerged at Chart Datum. If any part of the groyne is known to be always underwater, it should be shown as a dotted line

Comment: DID: please amend graphics to replace dotted sections with dashes. Trim the firm/FLT sections back to conincide with the drying line. Make the lines, including the dashes, coastline thickness.

Deleted: The assumption is

Deleted: that over at least part of its course over the drying area, the top of the groyne will at all times be above water level, and part of the groyne beyond the low water line will dry out

On smaller scale charts, numerous groynes may be shown by a regular series of short continuous lines. See also B-322.2, training walls.

B-320 PORTS AND HARBOURS IN GENERAL

The following specifications mainly concern detail shown on large-scale charts of ports and harbours. On smaller scale charts, many features will be omitted or, in the case of coastline details, greatly generalised.

On large-scale harbour charts, it is unnecessary to strive too hard for standardization. However, the preferred representation is: sufficient details of roads and buildings in dock areas and adjacent to the coastline to enable a mariner unfamiliar with the port to be aware of the layout of the port and access to shore facilities of maritime interest. Depiction of landmarks is required but surrounding built-up areas should be shown in accordance with B-370.4. Berth designations and names of quays, docks, etc, may provide useful identification information for the mariner.

B-320.1 **Fishing harbours or ports** are equipped to provide for the particular needs of fishing boats. Fishing harbours must be shown, if required, by the following magenta symbol:

F10

B-320.2 **Boat harbours and marinas** are areas of sheltered water, often within larger harbours or ports, set aside for the use of small craft, usually with moorings, buoys and berthing facilities. Boat harbours or marinas must be shown, if required, by the following magenta symbol:

F11.1 (formerly U1.1)

Yacht berths without facilities must be shown, if required, by the magenta symbol (diameter about 3.5mm):

F11.2

A yacht club or sailing club must be shown, if required, by the magenta symbol (height about 3mm):

F11.3

If required, the name of the marina, berth or club must be inserted in upright black text.

B-321 BERTHING STRUCTURES

Large-scale charts should make clear whether any structure along the coastline is intended for berthing alongside or not. In most instances, the associated detail, in addition to the distinctive outline of such features as piers, will be sufficient to show that ships may come alongside. Additionally, the thickness of the charted coastline may be increased up to approximately 0,5mm so that it is visibly bolder for the length of the berth. For the means of indicating positively that it would be dangerous to come alongside certain structures, see B-322.

As far as possible, all berths should be named on large-scale charts. For berth designations, see B-321.6-8. The general depths alongside should be charted, the distance off for depths selected being appropriate to the size of vessel using the berth, if possible; see also B-412.2.

The following terms are defined according to normal usage; however, sometimes the usage is inconsistent (in English) and names may be applied differently (eg 'West Pier' may actually be a jetty, according to the definitions below).

For anchor berths see B-431.2 and for berths at mooring buoys see B-431.6. For pontoons, which may also be used as berths, see B-324.3.

B-321.1 **Quays and wharves.** A **quay** is a solid structure usually of stone, masonry or concrete (as distinguished from a pile structure) alongside which vessel may lie to work cargoes. It usually

Deleted: it is generally accepted that topographic detail in proximity to the harbour should be fairly comprehensive even though inessential for navigation. The charting of significant inland features such as a hospital and main post office usually results also in the inclusion of an outline of streets and buildings extending from the vicinity of the harbour to the charted inland features. However, there are very wide differences in the practice of chart producers, varying between those who show virtually no buildings - except landmarks - or roads, and those who show map-like detail right up to the chart limits; to some extend, the differences reflect broad topographic differences in the countries concerned.¶
¶
. . Because the extra detail is not of great importance,

Deleted: general

Deleted: QUAYS, WHARVES, PIERS, MOLES, JETTIES ¶

Deleted: ships to

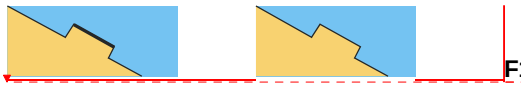
Deleted: (name or berth number, depths alongside, dolphins, cargo sheds, cranes or railway lines)

Deleted: usually

Deleted: changing

Deleted: or wharf generally

runs along or nearly along the line of the shore. A **wharf** is a structure similar to a quay but usually constructed of wood, iron or concrete and supported on piles. It may be either in continuous contact with the land or connected to the shore by one or more approach piers. On charts, they will usually only be distinguished by the name.



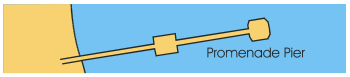
F13

B-321.2 **A pier** is a long narrow structure, usually on piles, extending into the water to provide a berth at the pierhead on the seaward end. The legend 'Pier', or equivalent, may be needed if the pier is small and could be confused with a groyne.

F14

Deep water terminals are generally piers, often with dolphins to take mooring lines.

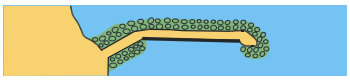
Piers built only as promenades for recreational purposes should be distinguished by a legend such as 'Promenade pier', or equivalent.



F15

Note: the English word 'pier' may also be used for a bridge support.

B-321.3 **A mole** is a breakwater at which vessels may berth alongside the sheltered side. Also, a concrete or stone structure, within an artificial harbour, at right-angles to the coast or the structure from which it extends, alongside which vessels can lie.



F12

B-321.4 **A jetty** is a pier-like structure alongside which vessels may lie parallel with the main axis. Note: in US usage a jetty is a form of training wall or breakwater, see B-322.

B-321.5 **A roll on, roll off ferry** is one designed to allow road vehicles to drive on and off. Berthing facilities for roll on, roll off ferries should be identified by the **international abbreviation**:

RoRo F50

B-321.6 **Names of berthing structures,** if shown on appropriate large-scale charts, must be in black upright text.

B-321.7 **Berth designations** should be shown on appropriate large-scale charts. The number (or letter) must be inserted in a circle, all in magenta. Numbers and letters should be upright. If necessary, eg to contain a 3-figure, or longer, designation, the circle may be extended to an oval.

④ Ⓑ F19.1

B-321.8 **A visitors' berth** (for example in a marina) may be indicated by the magenta symbol (diameter about 2.5mm):

F19.2

Deleted: The general depths alongside should be charted, the distance off for depths selected being appropriate to the size of vessel using the quay, if possible.

Comment: DID: please make the LH graphic so that the thin and thick sections form a continuous straight shore line.

Deleted: runs parallel with the shoreline and is used for loading and discharging cargo. The general depths alongside should be charted, the distance off for depths selected being appropriate to the size of vessel using the quay, if possible.¶
¶

Deleted: generally

Deleted:

Deleted: requiring very deep water,

Deleted: on each side of the pierhead

Deleted: the tanker's

Deleted: harves and jetties with

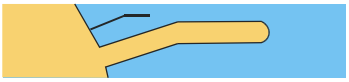
Comment: DID: please replace with latest version from 5011

Comment: Moved from B-323

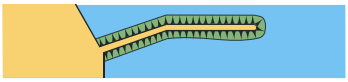
Comment: DID: please replace by latest version from 5011, including an oval berth designator.

B-322 STRUCTURES NOT INTENDED FOR BERTHING ALONGSIDE

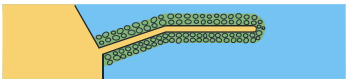
B-322.1 **A breakwater** is generally not intended for berthing, even on the sheltered side (except moles, see B-321.3). On very large-scale charts, the above-water nature of the structure may be represented, to give an indication that ships do not go alongside, by showing the sloping sides. Examples of appropriate symbols are the use of hachures, small circles indicating loose boulders, or the seawall symbol (see B-313.2) indicating a slope of masonry or concrete.



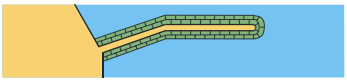
F4.1



F4.1

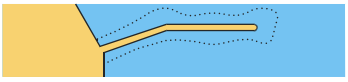


F4.2



F4.3

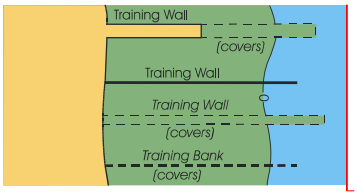
If there is a possibility of misinterpretation by the mariner, a danger line (K1) may be inserted around the structure to indicate the danger.



F4.1

B-322.2 **A training wall** is a structure built alongside a channel to direct water flow through the channel to promote a scouring action. Training walls are often submerged at high water.

Unless the scale is large enough to show the actual outline, with appropriate coloured tint, a training wall should be shown as a very bold line (approximately 0,5mm width), continuous where the wall always remains above water, dashed where it may be submerged. Any associated lettering should be upright, unless no part of the training wall is above HW.



F5

Deleted: although there may be exceptions, as the use of the terms for structures protecting harbours is far from precise, in English

Deleted: often

Deleted: may be given

Deleted: irregular

Deleted: the tidal stream or currents

Deleted: The recommended symbol, u

Deleted: If submerged, or partly submerged, a

Deleted: the breakwater is always entirely submerged

Inserted: the breakwater is always entirely submerged

Comment: DID: we need a new graphic, without coastline, showing the training wall alongside a channel, including above water (solid) and below water (dashed) sections. Examples on chart 3268. Please ask for a sketch if required.

B-323 **Not currently used**

Comment: Incorporated into B-321.

B-324 **LANDING AND LAUNCHING PLACES**

Structures which are partially submerged at some states of the tide must be represented as follows:

a. The parts which are always dry must be delimited by the coastline and must have land tint;

b. The parts which cover and uncover must be delimited by a dashed line and must have intertidal tint;

c. The parts which never dry must be delimited by a danger line (K1).

B-324.1 **A Slipway** is a reinforced slope where vessels may be constructed or repaired. Slipways must be shown in accordance with the principles above. The **international legend** 'Slip' should be used where necessary to avoid misinterpretation; lettering should be upright.

F23

A Patent slip (Marine railway, US usage) is a slipway with rails for ship cradles. They should be distinguished on the largest scale charts by two parallel lines inserted down the centre of the slip. A legend may be added to help identify the feature:

Deleted: If it is required to distinguish patent slips

Deleted: , the two parallel lines may be omitted from other slipways and a

Deleted: used

Comment: DID: please add legend 'Patent slip' (upright text)

F23

B-324.2 **Landings** for boats, if shown, may take the form of very small piers, ramps or areas of hard bottom where the rest of the foreshore is mud.

A Ramp (a slope used for landing small boats, or driving cars on and off a ferry, etc) must be shown, where required, as for slipways. The legend 'Ramp' should be used where space permits to avoid misinterpretation; lettering should be in upright.

F23

Comment: DID: please add legend 'Ramp' (upright text).

A hard area should be delimited by dashed lines. On large-scale charts, the **international abbreviation** 'Lndg' should be added in sloping text if it is sometimes submerged or upright text if it is always above water.

Deleted: In the latter case, the h

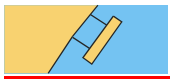
Deleted: is used for boat landings.

F17

B-324.3 **A pontoon** is a floating structure, usually rectangular in shape, which often serves as a landing, a pierhead or a berthing platform. A pontoon must be charted by a true to scale outline, filled with land tint. The legend '*Pontoon*', or equivalent, may be added where space permits, or, if more appropriate the **international abbreviation** '*Lndg*', in sloping text in all cases. A legend may be needed because the symbol is not a distinctive one.

Deleted:

Deleted: or



F16

B-324.4 **Steps and landing stairs** may be shown on large-scale charts by the symbol:

F18

Comment: DID: please insert F18

B-325 **HARBOUR OFFICES**

The symbols below may be used on large-scale port charts. The outlines of the building may also be shown where scale permits.

Deleted: should

Deleted: Symbols should not be placed beside the buildings to which they refer because there would in some cases be no means of knowing whether the symbol was 'out of position' or not.

For pilot stations and certain other marine services, see section B-490.

B-325.1 **A harbour-master's office** must be shown, if required, by:

Deleted:

F60

B-325.2 **A custom office** must be shown, if required, by:

Deleted: by

Deleted: a circle with a horizontal band

F61

B-325.3 **A health office, or quarantine building** must be shown, if required. by:

Deleted: :

F62.1

A hospital may be distinguished by the legend 'Hospital' or equivalent, with its name if considered useful.

F62.2

Deleted: of possible maritime interest may be shown by the same symbol and

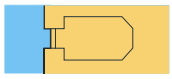
B-326 **DOCKS**

Comment: Jeff: Do we need new definition by HDWG?

Large-scale charts should show clearly which docks and basins are normally enclosed and which are normally open to the sea. All docks should be portrayed as true to scale as possible. Locks, caissons and gates should always be charted in the closed (to the sea) position.

B-326.1 **A dry dock (or graving dock)** is an artificial basin into which a vessel can be floated for cleaning and repairs. The entrance can be closed by gate or caisson and the water pumped out to expose the vessel's bottom. Land tint must be shown over dry docks to distinguish them from wet docks (see B-326.3). Exceptionally, the legend 'Dry Dock' or equivalent, in upright text, may be used where the outline of the dock might be mistaken for another feature.

Deleted: ¶
. . The chart representation shall be a true to scale outline of the upper part of the dock walls.



F25

B-326.2 **A floating dock** is a form of dry dock consisting of a floating structure, which can be partly submerged by controlled flooding to receive a vessel, then raised by pumping out the water.

A floating dock must be shown, if required, by the symbol, portrayed as true to scale as possible:

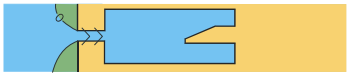
F26

The bold lines may be omitted when the symbol is reduced to minimum size (about 4mm long):

F26

Land tint should be inserted on floating dock symbols. Legends, if required for the smaller version to distinguish it from other features such as pontoons, should be in sloping text.

B-326.3 **A wet dock or non-tidal basin** is an artificially enclosed area within which water can be maintained at any level to keep ships afloat. It is entered either through a lock, or by means of a gate which can be opened at a high water level.

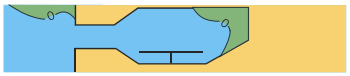


F27

The name of a wet dock, where shown, should be in sloping text.

The minimum water level within a wet dock does not normally correspond to chart datum for depths outside the dock. Where a constant level is maintained, an explanatory note may be added (see B-242). Blue shallow water tint should be consistent with that shown on the chart.

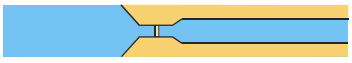
B-326.4 **A tidal basin** or **tidal harbour** is one in which the water level freely rises and falls, ie there is no gate to regulate water level.



F28

The name of a basin, where shown, should be in sloping text. Depths and tints within a tidal basin must be shown in the same way as elsewhere on the chart for non-enclosed waters.

B-326.5 **A caisson** is a steel structure which either floats or slides into place to close the entrance to a dry dock, lock or non-tidal basin. It must be charted in the closed position, usually by a double line filled with land tint, thus:



F42

B-326.6 **A lock** is an enclosure at the entrance to a non-tidal basin or within a river or canal, used to raise or lower a vessel to a different water level. Its ends are closed by lock gates which must be shown by one of the following symbols, depending on scale:

F41

On large-scale charts, there may be two or more symbols, according to the number of gates represented. On smaller scale charts, one '<' is sufficient representation for a single lock, or even for a flight of locks. If required, the legend '*Lock*' or the name of the lock may be added in sloping text.

Deleted: , not normally shown,

Deleted: (French: "bassin à flot")

Deleted: while loading or discharging cargo, etc

Deleted: sometimes

Deleted: normally

Deleted: (French: "bassin de marée")

Deleted: The name of a basin should be shown in sloping lettering. Depths and tints within a tidal basin shall be represented in the same way as elsewhere in non-enclosed waters.

Deleted: should be

Deleted: in

Deleted: with the lines of the dock entrance carried across the ends

Deleted: or non-tidal basin

Deleted: true to scale outline on large scales. Where true to scale representation is not possible,

Deleted: shall be in the form of wide V

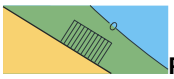
Deleted: V

Deleted: , shall be

B-326.7 **A flood barrage** is an opening dam across a channel which, when required, is closed to control flood waters. The outline of the barrage must be charted, true to scale if possible, with the sections normally open to traffic shown as dashed lines. A legend, in upright text, should be added if space permits:

F43

B-326.8 **A gridiron**, careening or scrubbing grid is a flat structure in the intertidal zone to support vessels at low stages of the tide to permit work on the exposed portion of the vessel's hull. The symbol for a gridiron is:



F24

If the legend 'Gridiron', etc, or equivalent, is used, it should be in sloping text.

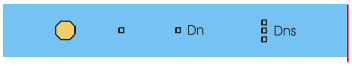
B-327 **DOLPHINS, POSTS AND PILES, BOLLARDS**

The features described below are associated with moorings (and include remains of posts which may be a danger).

For minor marks such as poles (or stakes) and perches used for marking navigable channels, see B-456.1.

B-327.1 **A dolphin** is a very substantial post, group of posts or structure used for mooring or hauling off vessels or for the protection of other ships or constructions. It is usually located in the water.

Where dolphins are very large, eg on either side of the pierhead of a deep-water terminal, their outlines should be shown true to scale (possibly with small light stars where appropriate). Land tint should be inserted. Small dolphins (or large ones on smaller scale charts) must be shown symbolically by a small square, aligned with the centre line of any moored vessel. Single dolphins to which vessels may secure in any direction must be shown with the symbol having two sides horizontal. Land tint may be omitted from the small square symbol. The **international abbreviation** 'Dn' or 'Dns' should be inserted if the nature of the feature is unclear or the dolphin is isolated.



F20

B-327.2 **A deviation dolphin** is one which a vessel swings around for compass adjustment. The symbol is:

F21

A legend may be added if considered necessary.

B-327.3 **Minor posts or piles** should be represented by small circles filled in black:

•

F22

B-327.4 **A bollard** is a small, shaped post mounted on a wharf, dolphin, etc, to which a vessel's mooring

Deleted: in its closed

Deleted: or open position by means of bold dashed lines and legend.

Deleted: flat erected on the foreshore so that a small vessel may dry out on it for painting or repair at low water.

Comment: Jeff: Do we need new definition by HDWG?

Deleted: shall be a series of parallel lines with intertidal tint carried across them

Deleted: word

Comment: B326.9 moved to B324.3

Deleted: out

Deleted: (French: "duc d'Albe")

Deleted: tanker

Deleted: superimposed

Deleted: two of the sides being

Deleted: need be shown on

Deleted: , or equivalent

Deleted: only

Deleted: not self-evident

Comment: DID: please replace SWB by FLT inside the dolphin symbols

Deleted: to be used for a deviation dolphin (with legend if considered necessary).

line is secured. Bollards are not generally charted.

B-327.5 **Stumps of posts or piles** which are wholly submerged at times and may be dangerous to surface navigation must be represented either as an obstn **(K40)** or by the symbol:

K43.1

In the latter case, if required to show the exact position of the object, a small circle must be added at the base of the sloping stroke:

K43.2

Where stumps of posts or piles exist in groups close together, they may be enclosed by a danger line **(K1)** and accompanied by a legend in sloping text.

Comment: To be moved to B-422, once revision approved (already agreed)

Deleted: dotted

Deleted: For wellheads, see B-445.1.

B-328 DOCKSIDE BUILDINGS AND STRUCTURES

The purpose of charting these features is primarily to assist the mariner in identifying particular berths, not to give definitive information on the facilities available (such as cranes).

Deleted: etc,

For Harbour Offices, see B-325. For overhead transporters and conveyors, see B-382.3.

B-328.1 **Transit sheds and warehouses** are generally to be charted as individual buildings on large-scale port plans. If they are numbered, the numbers may be charted:

F51

B-328.2 **A timber yard,** where stacked timber may be a prominent feature near the coastline, may be indicated by legend or the symbol (which may be repeated for extensive areas):

F52

B-328.3 **A crane** must be represented by the symbol:

F53.1

Travelling cranes may be represented by crane symbols superimposed on the railway symbol (see B-328.4).

Large container cranes may be represented by the symbol:

F53.2

The lifting capacity of cranes may be shown where considered useful.

A conspicuous crane, eg a sheerlegs (tripod structure), may be shown by a position circle and legend:

Deleted: C

Deleted: a

Deleted: F53.3

Comment: F53.3 to be retired from INT1.

B-328.4 **Dock railways** should be charted as part of the general detail but sidings should be generalised. For symbol, see B-362.1.

B-329 WORKS UNDER CONSTRUCTION AND PROJECTED

A chart can seldom show the exact state of work under construction because it may not be known by the cartographer and, even if known, is liable to change. Explanatory legends are usually necessary on the chart and should be phrased as specifically as possible within a few words, ending with the year date of the information eg.

Comment: Subject to action 19 from CSPCWG7; may need additional specification or cross reference to B-414.6 for 'development dredging'

Under construction (1998)
Works in progress (1998)

F 32

Comment: DID: please change date to 2011

B-329.1 **Works on land.** Features likely to be prominent from seaward should be shown by a dashed outline and legend, in upright text. New docks, locks, canals, etc, being excavated should be charted similarly; land tint should extend across them until completion.

Deleted: , where possible,

F 30

Comment: DID: please change date to 2011

B-329.2 **Works at sea which will extend the coastline seaward.** Where the line of the future coastline (including piers, etc) is known, it should be charted by a bold dashed line with a legend, in upright text. The existing coastline should remain until the new coastline can be shown as a continuous line. The area of reclamation or construction should be left without any colour tint.

Deleted: preferably

F 31

Comment: DID: please change date to 2011

B-329.3 **Works at sea which will be wholly or partly submerged** when completed, such as training walls or pipelines should be shown by the symbol used for completed features of that nature, but with a legend such as 'Under construction (2011)'. For areas being dredged, see B-414.6

Comment: If approved

B-329.4 Where information is lacking, or the scale of the chart is too small to show detailed limits of work under construction, a legend such as 'Works in progress (2011)', spaced out if necessary to cover the approximate area, should be inserted.

Deleted: detailed

B-329.5 **Limits of works marked by buoys or lights.** Because buoys and lights may be moved without notice as construction or reclamation progresses, their positions should be shown only where they are likely to be stable (eg buoys marking the outer limit of the planned works). In other cases, a legend such as '(Outer end marked by red lights)' may be more appropriate.

Deleted: it seems safe to do so

Deleted: subsidiary

Deleted: added

B-329.6 **Work projected** must not be inserted on charts unless it is about to begin, in which case it must be indicated as work under construction.

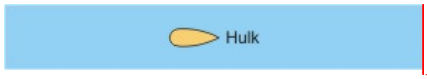
B-330 MOORED AND FIXED VESSELS, HULKS

Vessels may be built for, or converted to, some use which does not require them to move, eg museum ships, houseboats, floating hotels or conference centres, storage hulks, a breakwater. Permanently fixed vessels should normally be charted as a true to scale and orientation outline, filled with land tint, eg:

Comment: Added as suggested by FR

If scale does not allow, the symbol should be used:

Comment: DID: please insert true to scale example (as LH version of 5011 F34)



F34

Comment: DID: The symbol should be smaller, 3.6mm by 1.8mm with a more obvious boat shape, inc flat stern)

If useful, the vessel's name may be shown in upright text adjacent to the outline or symbol.

A hulk may be defined as the hull of an old vessel from which fittings and superstructure have been removed. It may be abandoned or put to some non-navigable use.

For moored offshore production vessels, see B-445.5.

Comment: We have deliberately not included whether it is floating or beached in the specification as this is not relevant to the user or how it should be charted.

Comment: Jeff: please ensure considered by HDWG