

**METRIC**

MIL-C-89202A(DMA)

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SUPERSEDING

MIL-C-89202

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**MILITARY SPECIFICATIONS****COMBAT CHARTS**

This specification is approved for use by the Defense Mapping Agency, and is available for use by all Departments, and Agencies of the Department of Defense.

**1. SCOPE**

1.1 Scope. This specification defines requirements for the Defense Mapping Agency's (DMA) Combat Charts.

1.2 Purpose. The purpose of this specification is to assure uniformity of treatment among mapping and charting elements, primarily DMA and its contractors, engaged in a coordinated production and maintenance program for this product. Feature requirements are stated in terms of DMA's Feature/Attribute Coding Standard (FACS), to maintain consistency between various DMA production methods. The use of FACS in this specification is not intended to imply any external digital data coding standard. FACS is the internal coding standard used by DMA's Digital Production System (DPS), which is the primary intended, but not exclusive, method for production of this product at this time. The Digital Geographic Information Exchange Standard (DIGEST) Feature Attribute Coding Catalog (FACC), not FACS, is the approved coding standard for the exchange of digital geographic data, as well as the standard for DMA's Vector Product Format product line. FACC may be included in, or replace FACS in a future edition of this specification.

**1.3 Security.**

1.3.1 Security Classification. The security classification of the products generated by the use of these specifications will be the lowest

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Director, Defense Mapping Agency, ATTN: PR, ST A-13, 8613 Lee Highway, Fairfax, VA 22031-2137 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

AREA MCGT

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category practicable. When it is necessary to assign a security classification to the product, it shall be in accordance with established national security procedures.

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the current Department of Defense Index of Specifications and Standards (DODISS) and the supplement thereto, cited in the solicitation (see 6.2).

## SPECIFICATIONS

MIL-H-89201A(DMA) - Harbor, Approach, and Coastal Charts  
MIL-T-89301A(DMA) - 1:50,000 Scale Topographic Maps

## MILITARY STANDARDS

MIL-STD-129 - Marking for Shipment and Storage  
MIL-STD-2402(DMA) - MC&G Symbology for Graphic Products  
MIL-STD-2403(DMA) - MC&G Product Generation Rules  
MIL-STD-2408(DMA) - Mapping, Charting & Geodesy Glossary of Feature and Attribute Definitions  
MIL-STD-2409 - MC&G Accuracy  
MIL-STD-2410(DMA) - MC&G Reproduction and Printing  
MIL-STD-2414 - Defense Mapping Agency Bar Coding

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DMA Standard Supporting Mark 90, Section 500 - Geographic Names  
STANDCONTABLE 02 - Standard Conversion Table No. 2  
STANDCONTABLE 03 - Standard Conversion Table No. 3  
STANDCONTABLE 04 - Standard Conversion Table No. 4

(Copies of the above publications are available from the Defense Mapping Agency, ATTN: TIJ, ST A-10, Fairfax, VA 220031-2137).

DMA TM 8358.1 - Datums, Ellipsoids, Grids and Grid Reference Systems

(Copies of the above publications are available for DoD users from the Defense Mapping Agency Combat Support Center, 6001 MacArthur Boulevard, Bethesda, MD 20816-5001.

Chart No. 1 - Nautical Chart Symbols and Abbreviations  
PUBS 110-116 (LLPUB) - List of Lights  
N M - Notice to Mariners (NM)

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PUB117 - Radio Navigation Aids  
SDPUB - Sailing Directions

(Copies of the above publications are available for DoD users from the Defense Mapping Agency Combat Support Center, 6001 MacArthur Boulevard, Bethesda, MD 20816-5001. Other users may obtain these publications from the National Ocean Service, and its authorized sales agents).

## 2.2 Non-Government publications.

IHO Special Pub. 46 - Correction of Echo Soundings

(Copies of the above publication are available on disc or paper format, upon request, from the International Hydrographic Organization - Monaco)

NP139 - Echo Sounding Correction Tables (3rd or latest edition)

(Copies of the above publication are available from the British Admiralty, Taunton, U.K.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or MS standards) the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. REQUIREMENTS

3.1 First Article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

### 3.2 Accuracy.

3.2.1 Horizontal accuracy. Absolute horizontal accuracy for Combat Charts is 1.0mm (50 meters) CE at the 90% confidence level.

### 3.2.2 Vertical accuracy.

3.2.2.1 Topographic. Absolute vertical accuracy (land) is one contour interval LE at the 90% confidence level.

3.2.2.2 Hydrographic. Absolute vertical accuracy for depths shown on Combat Charts is 0.3 meters (from 0 to 30 meters), and 1% of depth (greater than 30 meters), linear error (LE), at a 90% confidence level. See 6.5 for definition of LE.

3.2.3 Hydrographic data accuracy. DMA strives to compile Combat Charts with the most accurate information available, but DMA charts are compiled from a variety of sources, with varying accuracies. Often the metric accuracy (expressed as circular and linear error at a certain level of confidence) of the hydrographic and bathymetric data is unknown, or the information is not available to DMA. In this case, a subjective determination of accuracy is made, based on the survey dates, scale, and originating agency of the source.

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3.2.4 Displaced features. Feature symbols which are displaced, as identified in Table I of this specification (reference: displacement rules found in MIL-STD-2403) are excluded from the accuracy requirement stated above.

3.3 Datum.

3.3.1 Horizontal datum. For new production, and as map/chart sheets are revised or updated for periodic maintenance, the WGS 84 or NAD 83 datum and where appropriate a revised Military Grid system shall be depicted as the primary grid. The old (local) datum will be depicted as a secondary grid with tick marks along the border of the sheet. A grid conversion note shall also be placed in the margin area. Additionally, both the old and new 100,000 meter square two-letter identifiers shall be depicted on the map/chart, if applicable. Appropriate margin notes shall be added to explain the dual lettering.

3.3.2 Vertical datum. In areas where tides are significant (generally greater than 0.3 meter range), Combat Charts have three vertical datums. The contours and heights of topographic features are referenced to Mean Sea Level. The coastal shoreline (2A010) is referenced to Mean High Water. Hydrographic features are referenced to a vertical datum based on a low water tide level, called the sounding datum or hydrographic datum. The specific low water datum used depends on the type of tide in the area or the number and magnitude of high and low tides in one tidal cycle. In areas where tidal range is not significant, i.e., less than about 0.3 meters, Mean Sea Level (MSL) may be used as the vertical datum for hydrography, shoreline and elevations. The datums of shoreline, topography, and hydrography are identified in the chart margin (see 3.11.31).

3.4 Adjoining data set and chart match.

3.4.1 Overlap area. Adjacent Combat Charts shall have an area of overlap between them to make it easier to transfer positions from one chart to the next.

3.4.2 Chart detail. When adjoining charts are compiled at the same time, chart detail in the overlap area must be identical, except in cases where the newest Combat Charts are based on later date sources. In these cases, the new Combat Charts shall show the later information. If the differences in the overlap area are critical for safe navigation, the previously published Combat Charts shall be updated by Classified Notices to Mariners.

3.4.3 New or new edition. When new or new edition Combat Charts are produced and the adjacent charts are not updated, chart detail in the overlap area shall be identical to the previously published charts, except as noted in 3.4.2.

3.5 Series. Combat Charts produced as part of a series shall be outlined in a location diagram in the margin.

3.6 Scale.

3.6.1 Standard scale. Combat Charts and Combat Training Charts are constructed at a standard scale of 1:50,000. The linear dimensions (length, width, area, etc.) expressed in TABLE I of this specification are based on a map distance to ground distance ratio of 1:50,000.

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Therefore, this specification is intended for production of Combat Charts at this standard scale only.

3.6.2 Pervious non-standard scales. In the past, some Combat Charts have been produced at a scale of 1:25,000. The linear dimensions expressed in TABLE I of this specification will not support production of charts at scales other than 1:50,000, without modification. Based on the categorization established in STANAG 1022, Combat Charts, Amphibious Charts, and Combat Landing Charts, these larger scale charts would be considered Amphibious Assault Charts, rather than Combat Charts.

3.6.3 Data density. The standard 1:50,000 scale of the Combat Chart is adhered to even in areas where the corresponding topographic map coverage is at 1:100,000 scale. The level of topographic detail and density shown on Combat Charts shall commensurate with 1:50,000 scale.

### 3.7 Chart design.

a. Combat Charts provide chart coverage for approximately fifteen nautical miles landward and fifteen nautical miles seaward (total thirty nautical miles); however, the proportion of land and water may vary for special user requirements. The charts shall be oriented east-west or north-south. The long edge of a Combat Chart runs generally perpendicular to the coastline to provide sufficient coverage inland and out to sea.

b. Combat Charts are rectangular in shape, except where a small island falls just outside the limits of a chart, and is not shown on another chart in the series, an extension is added to the chart to include the island, rather than make a new chart just for the island.

c. An area of overlap is provided for ease of transition from one chart to the next. The width of this overlap area is variable but shall not be less than 1 minute or greater than 2 minutes.

3.8 Size and dimensions. The standard trim size for charts oriented east-west or north-south is 105.4 cm by 147.3 cm (41-1/2 inches by 58 inches). The standard neatline size for east-west chart is 78.7 cm by 137.2 cm (31 inches by 54 inches). The standard neatline size for north-south charts is 81.3 cm by 134.6 cm (32 inches by 53 inches). See APPENDICES B and C (Style Sheets).

3.9 Projection. Combat Charts are constructed on the Transverse Mercator projection.

#### 3.9.1 Graticule lines and subdivisions.

a. Parallels and meridians are shown in black (Standard Printing Color (SPC)-58600) at 4 minute intervals, except as noted in 3.9.4.

b. Full minute ticks are shown along the neatline.

c. Minute ticks are shown along a selected central meridian and a selected central parallel. The central meridian and parallel which is subdivided is selected on the basis of clarity of presentation with preference given to open water area wherever possible. Another major consideration in the portrayal of subdivisions along projection lines is the location of rows of grid labels. See APPENDICES B and C for examples of minute tick subdivisions.

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d. Five second ticks subdividing one minute are shown at two selected locations on each neatline, central meridian and central parallel. Locations are selected on the basis of clarity of presentation with preference given to open water areas.

### 3.9.2 Graticule labeling.

a. Geographic coordinates showing degrees, minutes, and seconds are shown on all four neatline corners. The appropriate suffix N, S, E, or W is shown with full coordinate values (degrees, minutes, and seconds) at the lower left and upper right corners.

b. Parallels, meridians and minute tick labels are shown along the neatline. The subdivided central parallel and meridian labels show the degree and minute values at the neatline.

c. Every minute tick on the subdivided central parallel and meridian shows a minute label except at the 4 minute graticule which shows a label with the whole degree and minute value.

d. Five second subdivision tick labels are shown at the 15", 30", and 45" ticks.

3.9.3 Additional graticule information. Refer to APPENDICES B and C, Style Sheets for additional information about labeling and subdivision.

3.9.4 Exception to graticule intervals. Although meridians and parallels are usually shown at 4 minute intervals, this interval becomes too dense (approximately 3 inches) at 60 degrees latitude and greater. Whenever the graticule interval measures less than 7.6 cm (3 inches), the interval is increased. For Combat Charts at 60 degrees latitude and greater, the interval for meridians is 10 minutes and the interval for parallels is 5 minutes.

### 3.9.5 Graticule and grid accuracy.

a. The intersections of parallels and meridians shall be within 0.1mm of computed positions.

b. The overall distance between the first full grid lines adjacent to opposite neatlines shall not vary by more than 0.3mm from their computed measurements. The distances between adjacent grid lines will not vary by more than 0.1mm from the computed grid interval.

### 3.10 Reference systems.

3.10.1 Military grids. The Military Grid System is shown in accordance with the Defense Mapping Agency Technical Manual 8358.1 "Datums, Ellipsoids, Grids, and Grid Reference Systems." A maximum of three grids are portrayed on Combat Charts.

3.10.2 Major grid. The major (or primary) grid is normally one of two universal grids, either the Universal Transverse Mercator (UTM), or the Universal Polar Stereographic (UPS). The primary grid is shown in purple (SPC-96532). Normally, only one major grid is shown on the chart, unless the area covered by the chart overlaps the junction between the two universal grids as set forth in DMA TM 8358.1.

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3.10.3 Additional grids. Up to two additional grids may be portrayed. They are shown in order of precedence first in blue (SPC-48253), and then if needed, in red-brown (SPC-61121). No more than three grids are shown on a Combat Chart. Additional grids are portrayed in the following order of precedence:

a. Overlapping grid. If any area covered by the chart is within 40 kilometers of a grid zone junction, or ellipsoid junction, or as set forth in DMA TM 8358.1, the overlapping grid is also shown.

b. Local grid. In accordance with agreements between DMA and other producers, or other necessity as set forth in DMA TM 8358.1, a local grid (such as a pre-WGS grid) may be shown (see 3.3.1). Examples of these local grids include the French Lambert North African Grids, Madagascar Grid, and Ceylon Belt.

### 3.10.4 Grid portrayal.

a. The 1000 meter northing grid lines are labeled to the right of each 10,000 meter easting grid line and the 1000 meter easting grid lines are labeled above each 10,000 meter northing grid line.

b. The dimensions, size and style, and placement of marginal data relating to grids and grid formats are contained in the style sheets. For an example of a Combat Chart with major and overlapping grids, see APPENDIX B. For an example of a Combat Chart with only a major (primary) grid, see APPENDIX C.

### 3.11 Margin data.

3.11.1 General. Refer to APPENDIX B - East-West Style Sheet and APPENDIX C - North-South Style Sheet for graphic illustrations of the design, the composition, and location of margin data. Notes and diagrams that will vary from chart to chart are indicated by accompanying notation on the style sheets. Variations on those examples are explained in this section. All combat chart margin notes shown in section 3.11 of this specification are portrayed in a convenient font type and size. The correct fonts (type size and style), color, justification, format, and placement for all margin notes and diagrams are provided in APPENDICES B and C.

#### 3.11.2 Source diagram.

3.11.2.1 Use. The source diagram is a miniature representation of the chart, that graphically illustrates the location of the various sources shown in the source data list (see 3.11.10). Source diagrams are shown on all charts.

3.11.2.2 Content. The diagram shows the shoreline, the outlines of individual topographic map sheets in the area of combat chart, corresponding sheet numbers, outlines of hydrographic sources, corresponding letter designators keyed to the source data list, and an outline of areas covered by differing contour intervals if more than one interval is used. The source diagram is shown in black (SPC-58600) except for the map sheet outlines and numbers in green (SPC-52813), the topographic contour interval information in red-brown (SPC-61121), and water tint in blue (SPC-48253, 31% screen, 45° angle). The diagram is located in the lower chart margin on east-west oriented charts and in the right margin on north-south oriented charts.

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3.11.2.3 Topographic map sheet disclaimer. The following note is shown near, or preferably within the land area of the source diagram, if topographic maps do not exist over all or part of the area covered by the combat chart: "For index purposes only - not necessarily an indication of published maps." Type is 6 point Swiss 742 upper and lower case, green (SPC-52813).

3.11.2.4 Contour interval note. If more than one contour interval is shown on the combat chart, due to source materials utilizing different contour intervals, the areas covered by different contour intervals are shown in the Source Diagram. If adjoining topographic sheets utilize different intervals, a dashed red-brown line, linewidth 0.2mm, dash length 2.0mm, dash space 0.5mm, is shown displaced 0.2mm away from the green sheet boundary line, and 7 point light condensed red-brown type is used to label the contour intervals for the different areas, for example, "Contour interval 10 meters" and "Contour interval 20 meters". If political boundaries, water bodies, or other natural features make it obvious where the boundary between contour intervals is, the dashed line may be omitted, and labels alone used to indicate the different contour intervals.

3.11.3 Buoyage notes. The buoyage note tells the user that the International Association of Lighthouse Authorities (IALA) Maritime Buoyage System is either in effect or will be in effect in the area covered by the chart. One of four buoyage notes is shown in the margin of the chart, depending on the status of IALA conversion in the area. The type for the headings - "BUOYAGE" and "CHANGES IN BUOYAGE" is 9 point Swiss 742, upper case black (SPC 58600). The type for the text of the note is 7 point Swiss 742 upper and lower case black (SPC 58600). The buoyage note is positioned in the chart margin where space is available.

a. When the IALA Buoyage System, Region A, is in effect in the area covered by the chart, the note in FIGURE 1 is shown.

### BUOYAGE

IALA Buoyage System, Region A,  
is in effect in the area covered  
by this chart. See Chart No. 1.

FIGURE 1. IALA buoyage note-Region A.

b. When the IALA Buoyage System, Region B, is in effect in the area covered by the chart, the note in FIGURE 2 is shown.

### BUOYAGE

IALA Buoyage System, Region B,  
is in effect in the area covered  
by this chart. See Chart No. 1.

FIGURE 2. IALA buoyage note-Region B.

c. When the aids to navigation in the area covered by the chart are in the process of being converted to the IALA Maritime Buoyage System, Region A, the note in FIGURE 3 is shown.



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## CHANGES IN BUOYAGE

Certain buoys, lights, and beacons within the area of this chart will be affected by the conversion to IALA Maritime Buoyage System, Region A. For further explanation, see annual Notice to Mariners 1(6) and Chart No. 1.

FIGURE 3. Buoyage note-conversion to Region A.

d. When the aids to navigation in the area covered by the chart are in the process of being converted to the IALA Maritime Buoyage System, Region B, the note in FIGURE 4 is shown.

## CHANGES IN BUOYAGE

Certain buoys, lights, and beacons within the area of this chart will be affected by the conversion to IALA Maritime Buoyage System, Region B. For further explanation, see annual Notice to Mariners 1(6) and Chart No. 1.

FIGURE 4. Buoyage note-conversion to Region B.

3.11.4 Bar scales. Bar scales are shown on each chart. They are shown in black (SPC-58600) and include statute miles, nautical miles and meters. Expanded Bar scales indicating 40,000 yards are shown in the chart margins, parallel to the neatlines on opposite sides of the chart and adjacent to the water area.

3.11.5 Catalog number. Catalog numbers are no longer shown on Combat Charts. Classified charts may be found in the classified chart catalog, and unclassified charts may be found in the unclassified chart catalog.

3.11.6 Cautions and general notes.

a. Cautions are notes to the mariner warning of specific dangers that exist in specific geographic positions within the chart, or dangerous conditions that apply to the entire area covered by the chart. They are used for situations that are too complex or too unusual to be portrayed by standard symbology.

b. Cautions referring to a specific geographic position require a legend in the general location of the danger to direct the mariner to the text of the caution in the margin. If a single caution appears on the chart the legend shall read "SEE CAUTION." If multiple cautions are shown on the chart, they are numbered and the legends read "CAUTION NO 1, CAUTION NO 2, CAUTION NO 3," and so on. Note that the "SEE" is not shown for multiple cautions, and that there is no period after the abbreviation "NO"

c. The text of each caution is shown in the margin of the chart. Single cautions are not numbered and the caution title reads "CAUTION." If multiple cautions are shown, each caution is numbered and the caution title reads "CAUTIONS." The caution text in the margin is surrounded by a 0.3 mm linewidth box.

d. The caution box is positioned in the chart margin where space is available. Type for the caution legends is 12 point Swiss 742 upper case. Type for the caution title is 9 point Swiss 742 upper case. Type for the text of the caution notes is 7 point Swiss 742 upper and lower case. All caution information is shown in green (SPC-52813).

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e. General notes are used to present information specific to the chart, not concerned with dangers to navigation. They are treated the same as cautions, with the exception that they are shown in black instead of green, and the legends "SEE CAUTION, CAUTION NO 1, CAUTIONS, etc." are replaced by the legends "SEE NOTE, NOTE NO 1, NOTES, etc."

3.11.7 Chart numbers. Chart numbers are shown on each chart; outside the upper left, lower left, and lower right neatline in black (SPC-58600). Chart numbers are in 30 point Swiss 742.

# 801426

FIGURE 5. Example chart number.

3.11.8 Classification explanation. Classification explanations are shown on all classified charts in black (SPC-58600) in 8 point Swiss 742, upper case. They are located in the lower right chart margin, 3mm below and centered under the declassification note. For charts whose classification is based exclusively on the location and existence of the chart, the standard note is shown (see style sheets, APPENDICES B and C). If classified information is shown on the chart, the note is tailored to indicate the classified content. See FIGURE 6.

**WARNING NOTICE - SECURITY CLASSIFICATION IS BASED ON TOPOGRAPHY (SECRET), HYDROGRAPHY (CONFIDENTIAL), AND THE FACT OF EXISTENCE AND AVAILABILITY OF THIS SHEET. TO ENABLE UNCLASSIFIED REQUISITIONING, THIS SHEET MUST BE ORDERED BY STOCK NUMBER.**

FIGURE 6. Example classification explanation note.

3.11.9 Classification notes.

a. Classification notes are shown on each classified Combat Chart in black (SPC-58600) (see FIGURE 7). Classification will be either SECRET or CONFIDENTIAL.

b. Classified combat charts carry the classification in the following four places in the chart margin in 30 point Swiss 742, upper case.

- (1) Between the seal and the chart title block (north-south) or above the chart title block (east-west).
- (2) In the upper left margin, next to the chart number.
- (3) In the lower right chart margin, next to the subtitle.
- (4) In the left lower chart margin, next to the user's note.

# CONFIDENTIAL      SECRET

FIGURE 7. Classification notes.

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c. Unclassified Combat Charts and Combat Training Charts have a limited distribution and shall show the note (see Figure 8) in place of the classification note, in positions 3.11.9.b.2 and 3, described above. No notes are shown in positions 3.11.9.b.1 and 4.

## LIMITED DISTRIBUTION

FIGURE 8. Limited distribution note.

d. Type for the limited distribution is 18 point Swiss 742, upper case.

e. The following note (see FIGURE 9) shall be shown under the LIMITED DISTRIBUTION note in the lower right margin (position 3.11.9.b.3 described above). Type for this note is 8 point Swiss 742, Upper and lower case.

Distribution authorized to DoD, and to nonDoD Government Agencies, IAW 10 U.S.C. Sect. 130 & 2796. Release authorized to U.S. DoD contractors IAW 48 C.F.R. Sect. 252.245-7000. Refer other requests to Headquarters, DMA, ATTN: Release Officer, Stop A-10. Destroy as "For Official Use Only." Removal of this caveat is prohibited.

FIGURE 9. Distribution guidance note.

3.11.10 Source data list. Source Data is shown in black (SPC-58600) on all charts. The source data list is shown to the right of the source diagram on east-west oriented charts and below the source diagram on north-south oriented charts. Source data is shown in 6 point Swiss 742 upper and lower case type. Five point type size and/or condensed type may be used for large source data lists, if space is limited.

3.11.10.1 Use. The source data list provides information on the origins, scales and dates of the hydrographic sources, and the origin and currency of topographic sources, so the user can generally determine their quality. The primary purpose of the hydrographic source data listing, used in conjunction with the source diagram, is to guide navigators and those involved in planning "navigational operations" on the degree of confidence they should have in the adequacy and accuracy of charted depths and positions. As a secondary function, the source listing serves as a readily accessible, but not necessarily comprehensive, record of the sources that were used to compile the chart.

3.11.10.2 Content. The source data list consists of four parts; the topographic source listing, the hydrographic source listing, the note "With additions from other sources," and miscellaneous notes. See FIGURE 10 for an example of a source data list.

3.11.10.2.1 Topographic source listing. The topographic source listing identifies the DMA or foreign topographic map series used as the basis for the Combat Chart, along with the edition date (printed date) and scale of the maps. Individual sheet numbers are normally shown in the source diagram (see 3.11.2), rather than in the source listing. The currency date of the topographic maps, i.e. the "MAP INFORMATION AS OF (date)", or the currency date of the Combat Chart, if it has been

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photo-revised past the currency date of the maps, should be shown. See MIL-T-89301 (latest edition), section 3.11.21.

3.11.10.2.2 Hydrographic source listing. The hydrographic source listing provides data about the hydrographic sources shown in the source diagram. Each source is identified by a letter which is keyed to a specific area in the source diagram. If only one source was used, the letter identifier is not shown on either the source data or the source diagram. In all cases, an attempt will be made to cite the original survey data of U.S. and foreign sources being used in each area. Only if the original survey sources are unknown will the charts which contain information from original surveys be cited.

a. For hydrographic survey sources (direct or from foreign charts), the country of origin, date and scale shall be listed. Surveys of similar origin, type, date and scale may be grouped together to avoid too long a list or too complex a diagram, for example, French Surveys, 1978-1983, 1:20,000-1:30,000. Dates are grouped as follows: prior to 1940 (no sonar), 1940s (sonar but no electronic positioning), and 1950s and later (both sonar and electronic positioning). Lead line and echo-sounder surveys should not be grouped together.

b. For chart sources, the producing country, chart number, edition number (if applicable), edition date, correction date (if different than the edition date), and scale shall be listed. Charts are cited only if no information about the surveys used to compile them is known. If the survey(s) used to make a source chart are known, either with geographic limits, or only as general information, the foreign chart is not cited as the source, and the survey information shall be shown (see paragraph a above).

c. If known, the type of survey, such as "sketch survey" or "reconnaissance survey" shall be shown. These terms imply that there is a significant risk of undetected dangers, even if the survey is of a recent date. "Random track data" (i.e., IHO passage soundings) implies soundings acquired on an uncoordinated basis over a period of years. "Unsurveyed" indicates no data of any kind; it should be written in the appropriate area on the diagram, but not shown in the source listing. Qualifying terms such as "leadline" or "no sonar" may be added after the type of survey where the date does not give sufficient indication of the survey methods. Where a charted survey is supplemented by occasional soundings from older or later sources, only the main survey should normally be listed.

d. If unconventional or remotely collected bathymetry was used, it shall be identified in the source listing. An example is shown in FIGURE 10.

e. In listing sources, the only country name that shall be abbreviated is the U.S. All other country names shall be spelled out. "British Admiralty" shall be spelled out when citing chart sources, and "British" shall be used when citing surveys, originating from the Hydrographic Department, Ministry of Defence of the United Kingdom. Surveys made by non-government agencies, such as oil companies, shall be called "Commercial Surveys."

3.11.10.2.3 Other sources note. At the bottom of the source listing is the note "With additions from other sources". This part of the note allows minor sources to be used for enhancement, without listing them in the source data.

3.11.10.2.4 Miscellaneous notes. Notes are sometimes shown below the source list to provide the user with additional information about sources.

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<b>Topography</b>	
DMA Maps, Series A1234 (Ed, 1984).....	1:50,000
Map Information as of 1993	
<b>Hydrography</b>	
* A. U.S. Navy Surveys, 1976-1980.....	1:30,000-1:50,000
* B. U.S. Navy Surveys, 1946.....	1:25,000
C. British Survey, 1980 (Reconnaissance survey).....	1:75,000
D. Commercial Surveys, 1977-1986.....	1:18,000-1:24,000
E. Finnish Surveys, 1967-1972.....	1:20,000-1:40,000
* F. Finnish Surveys, 1929-1950, no other information provided	
G. British Admiralty Chart 1234.....	1:40,000
(Ed. 1988, Corr. 1992, sources not identified)	
+ H. Swedish Chart 942.....	1:200,000
(3rd. Ed., 1958, sources not identified)	
I. Multispectral (LANDSAT), 1988	
J. Airborne Laser Sounder, 1993	
K. Random track data	
With additions from other sources	
* Uncorrected soundings	
+ Meters and half meters	

Source    Example of:

Topo	DMA 1:50,000 scale map sheets, printed in 1984, photo-revised in 1993.
A.	Uncorrected soundings, scales, and dates (all after 1950) grouped together.
B.	Uncorrected soundings, date prior to 1950 shown as separate source.
C.	"British" survey, that is also a special type of survey.
D.	Commercial surveys, grouped into similar scales and ranges.
E.	Finnish surveys identified in the source diagram of a Finnish source chart.
F.	Finnish survey information taken from Finnish chart(s), where only a range of dates of surveys was provided, i.e., as given in the chart title block.
G.	"British Admiralty" chart, with edition and correction dates, but no edition number, and with no source data provided.
H.	Chart with edition number and date, and no source data provided. Depth units are meters and half meters.
I., J.	Examples of unconventional surveys.
K.	Random track data, which is listed after all other hydrographic sources.

FIGURE 10. Example of a source data list.

a. If soundings from a source cannot be corrected for sound velocity the source shall be identified in the source diagram. A note shall be added at the bottom of the list of hydrographic sources. It shall read: "\*\* Uncorrected soundings" An asterisk shall be added to both the source reference line, as shown by sources A and B in FIGURE 10, and to the corresponding source identifier in the source diagram. If all soundings on a chart are either corrected for sound velocity or uncorrected, the "Uncorrected soundings" note is not required in the source diagram and the presence or absence of the corrected sounding note in the vertical datum note (see 3.11.31) shall be used to indicate if the soundings are corrected for sound velocity.

b. Miscellaneous notes are also used to identify sources with different units of soundings than what is shown on the majority of the chart, as shown by source H in FIGURE 10.

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3.11.11 Datum conversion note.

a. Datum conversion notes are shown on Combat Charts that are not constructed on the World Geodetic System 1984 (WGS-84) datum. The datum note indicates the necessary correction required to place the chart on WGS-84. The datum note is based on one of the following conditions.

(1) If a shift can be derived from the chart datum to WGS, the following note shall be shown:

**COORDINATE CONVERSION - EUROPEAN DATUM TO WGS**

**GRID: Subtract 65 m E; Subtract 296 m N**  
**Geographic: Subtract 3.5° Long; Subtract 3.0° Lat.**

FIGURE 11. Example of a datum note for shift to WGS.

Note that the grid and geographic coordinates and the directions shown above are examples and will vary from chart to chart.

(2) If the chart cannot be shifted to WGS because of a lack of geodetic data or if the chart is internally inconsistent, the following note shall be shown:

**WORLD GEODETIC SYSTEM DATUM ADJUSTMENT**

**Due to the unavailability of geodetic data, this chart cannot be placed on the World Geodetic System 1984 (WGS-84) Datum.**

FIGURE 12. Datum note used when chart cannot be shifted to WGS.

(3) When the chart is constructed on the World Geodetic System 1984 (WGS-84), no datum note is required.

b. These notes are shown in black (SPC-58600) in the upper right chart margin on north-south oriented charts, with the right end aligned with the right chart border, and in the top margin on east-west oriented charts. Type is 9 point Swiss 742 upper case for the title and 7 point Swiss 742 upper and lower case for the text.

3.11.12 Declassification notes. Declassification notes are shown on all classified charts in black (SPC-58600) 8 point Swiss 742, upper case type. They provide the authority for classification and downgrading instructions for the charts. They are located in the lower margin, 3mm below and centered on the classification note in the right lower margin.

<p><b>CLASSIFIED BY: DMAM C5231.1</b>  <b>DECLASSIFY ON: OADR</b></p>
---------------------------------------------------------------------------

FIGURE 13. Declassification note.

3.11.13 Depth conversion scale. A standard depth conversion scale showing the relationship between feet, meters and decimeters, and fathoms and feet is shown on each chart in black (SPC-58600). It is located in the lower chart margin on all charts.

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3.11.14 Disclaimer note. A disclaimer note, if applicable, is shown in the chart margin to indicate that boundaries are not necessarily authoritative. This note appears in black (SPC-58600). The type is 8 point Swiss 742, upper and lower case. The disclaimer note is not shown on charts of U.S. domestic areas.

## NOTE

Boundary representation is not necessarily authoritative.

FIGURE 14. Boundary disclaimer note.

3.11.15 DMA Seal. The DMA seal is shown on each chart. The standard 19mm Defense Mapping Agency seal is shown in black (SPC-58600) above the title block on north-south charts and in the top margin on east-west charts.



FIGURE 15. DMA seal.

3.11.16 Bar code and stock numbers.

3.11.16.1 National stock number. The National Stock Number (NSN), and the edition number, in both bar code and human readable form, is shown on each chart, to uniquely identify the chart in the DoD Logistics Standard Systems (DLSS). The first four digits of the NSN indicate the Federal Supply Classification (FSC), which is 7642 for hydrographic products. The next two digits indicate the National Codification Bureau that assigned the item identification number to the item of supply. The remaining seven digits are a nonsignificant, serially assigned item identification number. The letters "NSN" are shown in front of the human readable national stock number to distinguish it from the DMA stock number (see below).

3.11.16.2 DMA stock number. The DMA stock number, in human readable form only, is shown in addition to the NSN and edition number, for internal DMA use. Stock numbers and bar codes are shown in accordance with MIL-STD-2414. The bar codes and stock numbers are shown in the lower right margin of the chart, 5 mm below the chart number. The first five letters of the DMA stock number are COMBT, followed by the six digit chart number.



FIGURE 16. Example stock numbers and bar codes.

3.11.17 Edition number and date. The edition number and date are shown in black (SPC-58600). The edition date is the date of the latest unclassified Notice to Mariners checked for changes on source charts. All first and subsequent chart editions will show edition

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number and date followed by the correction note. This note is placed below the lower left corner on all charts, in 8 point Swiss 742, upper and lower case type. Classified Combat Charts will be referenced to the Classified Notice to Mariners.

3rd Ed., May 7, 1994, Correct through NM 19/94

FIGURE 17. Edition number/date/correction note for unclassified Notices to Mariners.

1st Ed., Feb. 26, 1994, Correct through CNM 2/94

FIGURE 18. Edition number/date/correction note for classified Notices to Mariners.

3.11.18 First edition date. The first edition date identifies the earliest date that the chart was published and gives an approximation of the date of original compilation. The first edition date is shown on each chart in black (SPC-58600) in 7 point Swiss 742 type. The First Edition Date is shown below and centered on the Horizontal Datum Note.

1st Ed., Sept. 1985

FIGURE 19. Example first edition date.

3.11.19 Glossary. The glossary is shown in black (SPC-58600) and located in the right chart margin on north-south oriented charts, and in the top chart margin on east-west oriented charts. When the native language is other than English, all generic terms appearing on the chart are translated in the glossary. Since one glossary may be utilized for a group or series of charts, all items appearing in the glossary may not apply to any one chart. The heading is shown in 9 point Swiss 742, upper and lower case type and the translations are in 7 point Swiss 742, upper and lower case type.

#### GLOSSARY

Ayer.....	stream
Batu (Et.).....	rock, stone, bank, reef, shoal
Darat.....	coast, land
Kepulauan.....	islands
Pulau (pu.).....	islet, island
Tanjung (Tg.).....	cape, point

FIGURE 20. Example glossary.

3.11.20 Grid reference box.

a. The grid reference box is shown on each chart. It contains instructions and an example for composing a standard grid reference. The grid reference box also contains diagrams identifying the applicable grid zone designations and grid square identifications. See DMA Technical Manual 8358.1, "Datums, Ellipsoids, Grids, and Grid Reference Systems."

b. The grid reference box and instructions are shown in purple (SPC-96532). The sample point is shown as it appears inside the neatline. When only the primary grid is shown, the grid zone



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designation and 100,000 meter square identification letters are also shown in purple. When there is a grid zone junction on or near the chart, and primary and overlapping grids must be shown, the grid zone designation is shown in black (SPC-58600), and the 100,000 meter square identification letters are shown in the grid color. APPENDIX B (East-West Style Sheet) shows an example of a grid reference box when two grids are shown. APPENDIX C (North-South Style Sheet) shows an example of a grid reference box when only the primary grid is shown.

c. The grid declination from true north for each grid appearing on the chart is shown by a note under the grid box, for the approximate mid-latitude of the east and west chart edges. A declination diagram is also shown in the margin of the chart (see MIL-T-89301A, Section 3.11.16). This diagram shows the departure from grid north of true north (with star), and magnetic north (with half-arrowhead). Positioning of the declination diagram on the Combat Chart is under the publication note for east-west charts (see APPENDIX B), and under the declination note for north-south charts (see APPENDIX C).

### 3.11.21 Heights note.

a. A heights note, indicating the unit of measure for heights, is shown on each chart. The first line of the note "HEIGHTS IN METERS"; is shown in black (SPC-58600) in 14 point Swiss 742, upper case type. Notes indicating the contour interval and reference to supplementary contours, if required, are shown in red-brown (SPC-61121) under the first line. Contour information is in 8 point Swiss 742, upper and lower case, and supplementary contour information is in 7 point Swiss 742, upper and lower case type.

## HEIGHTS IN METERS

Contour interval 20 meters  
(supplementary contours shown in dashed lines at 10 meter interval)

FIGURE 21. Example heights note.

b. The information contained in the heights note is repeated in the vertical datum note and these notes must be in agreement regarding contour interval, and supplementary contour interval if applicable.

c. If more than one contour interval is shown on the chart, the interval covering the greater part of the land area, or the more topographically significant part, is indicated in the margin, and the second contour interval is identified only in the source diagram (see 3.11.2.4).

### 3.11.22 Horizontal datum note.

a. Horizontal datum notes are shown on each chart and contain the following information:

- (1) Type of projection - Transverse Mercator
- (2) Horizontal datum - see below
- (3) Grid interval - 1000 meters
- (4) Grid zone and ellipsoid - see below
- (5) Scale - 1:50,000

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b. The horizontal datums, grid zones, and ellipsoids used on Combat Charts are those specified in the latest edition of DMA Technical Manual 8358.1, "Datums, Ellipsoids, Grids and Grid Reference Systems."

c. Type is Swiss 742, upper case. The type of projection is in 10 point, the rest of the horizontal datum note is 8 point. The type of projection, datum, and scale are shown in black (SPC-58600). UTM primary grid information is shown in purple (SPC-96532), and any UTM overlapping grid information, if required, is shown in blue (SPC-48253). Occasionally a third grid is required; either a local grid or a secondary grid. If the third grid is required, it and all related notes are shown in Red-Brown (SPC-61121).

**TRANSVERSE MERCATOR PROJECTION**  
**WORLD GEODETIC SYSTEM-1984 DATUM**  
**PURPLE LINES AND TICKS INDICATE THE 1000 METER**  
**UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 59N, INTERNATIONAL ELLIPSOID**  
**BLUE LINES AND TICKS INDICATE THE 1000 METER**  
**UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 60N, INTERNATIONAL ELLIPSOID**  
**SCALE: 1:50,000**

FIGURE 22. Example horizontal datum note.

### 3.11.23 Location diagram.

a. A location diagram is shown on each chart. The diagram portrays the location of the chart in relation to other charts in the series by a heavy outline of the chart. Degree graticule lines are shown and labeled. Shoreline and major names (country, city or town and water area identification) are shown. The diagram is black (SPC-58600), except for water area names, which are blue (SPC-48253), and water areas, which are tinted blue (SPC-48253, 31% screen, 45° angle). Location diagrams are not shown for isolated Combat Charts.

b. The diagram is located below the title block in the right chart margin on north-south oriented charts and in the top chart margin on east-west oriented charts. Land names are shown in Swiss 742 type; country names are in 10 point, upper case, city or town names are 8 point, upper and lower case; chart numbers are 8 point Swiss 742 type, and water area names are 10 point Swiss 742 italic type.

### 3.11.24 Main title.

a. The main title is shown on each chart. It includes the following information:

- |       |                                                            |
|-------|------------------------------------------------------------|
| CHART | (1) Type of chart - either COMBAT CHART or COMBAT TRAINING |
|       | (2) Major water name - geographic name of ocean or sea     |
|       | (3) Country name - name of nation                          |
|       | (4) Chart title - geographic name of specific locality     |

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**COMBAT TRAINING CHART  
CARIBBEAN SEA  
PUERTO RICO  
ISLA DE VIEQUES**

FIGURE 23. Example main title.

3.11.25 Publishing and copyright note. The DMA publishing note identifies the Defense Mapping Agency as the publishing authority, and identifies the product as copyrighted material. The note is shown on each chart in black (SPC-58600) and is centered between the right and left neatlines in the lower chart margin. Type is 8 point, Swiss 742, upper & lower case for the first line, 8 point, Swiss 742, upper case for the second and third lines, and 6 point, Swiss 742, upper case for the fourth line. The copyright sign is Posicut #227.

Prepared and published by the  
DEFENSE MAPPING AGENCY

© COPYRIGHT (year of publication) BY THE UNITED STATES GOVERNMENT  
NO COPYRIGHT CLAIMED UNDER TITLE 17 U. S. C.

FIGURE 24. Publishing and copyright note.

3.11.26 Sounding note. The unit of measurement used for soundings appears in purple (SPC-96532) and is located in the top and bottom margins on all charts. The type is 30 point Swiss 742, upper case.

## SOUNDINGS IN METERS

FIGURE 25. Sounding note.3.11.27 Subtitle.

a. The Subtitle is shown on each chart. It identifies the following information:

(1) Type of chart - either COMBAT CHART or COMBAT TRAINING CHART

(2) Chart title - geographic name of specific locality. This name must be the same as the one in the main title.

(3) Unit of measure for soundings - Meters

(4) Scale - 1:50,000

b. The subtitle is shown in black (SPC-58600). The type of chart is in 10 point Swiss 742 Light Condensed, upper case type, the chart title is in 14 point Swiss 742 Light Condensed, upper and lower case type, and unit of soundings and scale is in 8 point Swiss 742 Light Condensed, upper case type. It is located below the lower right chart corner.

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## COMBAT TRAINING CHART

## Isla de Vieques

SOUNDINGS IN METERS - SCALE 1:50,000

## COMBAT CHART

## Zoster

SOUNDINGS IN METERS - SCALE 1:50,000

FIGURE 26. Example subtitle.3.11.28 Symbol legend.

a. A symbol legend is shown on each chart. The symbol legend defines and illustrates the features most frequently represented in a series of charts. It is the same legend that is used on the equivalent scale topographic maps of the same area (see MIL-T-89301, latest edition), with additional hydrographic features added. These features are a light (2C050) which replaces the topographic symbol for lighthouse, a submerged rock (2D130 VRC=004), a rock awash (2D130 VRC=002), foreshore (2A020), a sunken wreck (2D180 VRC=004), an exposed wreck (2D180 VRC=001), a hydrographic danger (2D000 SFC=002 without a label), a reef (2D120 VRC=002), a depth curve (2E010 CRV=010), and a sounding (2E020 SND=006 HDP=3).

b. The legend shall be bilingual when the equivalent scale topographic maps are shown with a second language. The English descriptive type shall be vertical and the foreign language type shall be italic.

c. The legend is located below the glossary on north-south oriented charts and in the top margin on east-west oriented charts. The legend title is shown in 10 point Swiss 742, upper case type. The names of the symbols are in 5 point Swiss 742, upper case type (for major items), or upper and lower case type (for sub-items). Color for this type is black (SPC-58600).

d. The symbols and symbol labels in the legend are shown the same as they appear inside the chart neatlines and are specified in MIL-STD-2402.

e. The red light readability of the chart shall be shown by a note centered under the legend: "THIS CHART IS RED-LIGHT READABLE". Type is 8 point Swiss 742, upper case. The color of this note is Red-Brown (SPC-61121). See APPENDICES B and C.

3.11.29 Tide box.

a. A tide box is shown when sufficient data is available. Tidal information includes the name of the tidal stations located on the chart, or the most representative tidal station within 9 kilometers (5 nautical miles) of the chart limits, and the height of tides in relation to the datum of soundings. The height of tides is indicated by gradients of higher and lower Spring and Neap tides or mean ranges as appropriate. Extreme Low Water may also be shown if sufficient information is available. Place names and tidal heights shown in TABLES 27-29 are examples.

(1) Diurnal tides are tides with a single high and a single low water each day. Tide boxes shall show the tide levels of the mean heights of high and low water, as well as Mean Sea Level. The positions in the tide box for the Mean Lower High Water and the Mean Higher Low Water are left blank. A statement indicating the type of tide shall be included.

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TIDAL INFORMATION					
Place	Height above datum of soundings				
	Mean High Water		Mean Sea Level	Mean Low Water	
	Higher	Lower		Lower	Higher
	meters	meters	meters	meters	meters
Abadan	1.3	-	0.7	0.1	-
Karg Island	1.1	-	0.5	0.0	-

Tide is usually diurnal

FIGURE 27. Example of a tide box for diurnal tides.

(2) Semi-diurnal tides are tides with two high waters and two low waters each day, and the difference between the two high waters and the differences between the two low waters is small. The tide box shall show the mean heights of the high and low water at both springs and neaps, and Mean Sea Level.

TIDAL INFORMATION							
Place	Lat	Long	Height above datum of soundings				
			Mean High Water		Mean Sea Level	Mean Low Water	
			Springs	Neaps		Springs	Neaps
			meters	meters	meters	meters	meters
Jutland	59° 42'N	009° 14'E	1.5	1.3	0.8	0.1	0.4
Helgoland	52° 22'N	007° 46'E	1.4	1.1	0.7	0.0	0.2

FIGURE 28. Example of a tide box for semi-diurnal tides.

(3) Mixed tides are tides with two high waters and two low waters each day with a large difference between the heights of the highs and/or a large difference between the heights of the lows. Tide boxes shall show the mean heights of the two daily high and low waters, and Mean Sea Level.

TIDAL INFORMATION					
Place	Height above datum of soundings				
	Mean High Water		Mean Sea Level	Mean Low Water	
	Higher	Lower		Lower	Higher
	meters	meters	meters	meters	meters
Tokyo Wan	1.3	0.8	0.5	0.1	0.4
Yokosuka	1.1	0.5	0.3	0.0	0.1

FIGURE 29. Example of a tide box for mixed tides.

b. If full information is not available, partly complete data, for example, a height for springs only, may be given. Other spaces are left blank.

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c. FIGURE 28 shows an example of a tide box with geographic positions. The geographic coordinates of tide stations (to the nearest minute) are given when one or more of the following conditions exist:

(1) The tide station listed in the box falls outside the limits of the chart. Tide stations that are less than nine kilometers (five miles) outside the limits of the chart may be used if no appreciable difference in tide height will result.

(2) The tide station cannot be readily located on the chart.

d. Tidal information is shown in black (SPC-58600) and located in the lower left chart margin on east-west oriented chart and in the right chart margin on north-south oriented charts. All type is 7 point Swiss 742 caps and lowercase, with the exception of the title, which is 7 point Swiss 742 caps.

e. When no tidal information is available for a chart, the following note is shown in the space specified above for tidal information:

**TIDAL INFORMATION**

There is no tidal information available for the area covered by this chart.

FIGURE 30. Note for no tidal information.

3.11.30 User's note. The DMA user's note provides instructions for users to provide comments and suggestions for improving the chart. The note appears in black (SPC-58600) and is located in the bottom left margin below the edition number and date on all charts. The type is 8 point Swiss 742, upper and lower case.

USERS SHOULD REFER CORRECTIONS, ADDITIONS,  
AND COMMENTS FOR IMPROVING THIS PRODUCT  
TO: DIRECTOR, DEFENSE MAPPING AGENCY,  
ATTN: PR, 8613 LEE HIGHWAY, FAIRFAX, VA 22031-  
2137.

FIGURE 31. Users' note.

3.11.31 Vertical datum notes.

a. Vertical datum notes are shown on each chart and contain the following information:

(1) Unit of soundings - meters

(2) Unit of soundings to greater precision - identifies the depth to which soundings are shown in meters and decimeters.

(3) Sounding datum - identifies the vertical datum to which depth information is referenced. When the vertical datum for depths is a low water datum the note is "reduced to the approximate level of (datum name)." When the vertical datum for depths is Mean Sea Level, the note is "reduced to approximate Mean Sea Level."

(4) Sounding correction note - indicates that the soundings on the chart have been corrected for sound velocity. The absence of this note indicates that not all or none of the soundings have been corrected for sounding velocity

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(5) Datum of shoreline - identifies the vertical datum to which the coastal shoreline is referenced, either a high water datum, or Mean Sea Level in areas with no significant tidal range (see 3.3.2).

(6) Unit of measure for heights - meters

(7) Contour interval - identifies the contour interval

(8) Supplementary contour note - indicates that the supplementary contours are shown as dashed lines and provides the supplementary contour interval. This note is shown only when supplementary contours are shown on the chart.

b. Type is Swiss 742. Unit of soundings is in 10 point, upper case, soundings differing from the main unit soundings are in 8 point, upper and lower case, sounding datum is in 8 point, upper and lower case, height units and height datum are in 10 point, upper case, contour intervals are in 8 point, upper and lower case, and supplementary contours are in 7 point, upper and lower case. The vertical datum note is shown in black (SPC-58600), except the contour and supplementary contour intervals which are shown in red-brown (SPC-61121).

**SOUNDINGS IN METERS**  
(Under 21 in meters and decimeters)  
reduced to the approximate level of Mean Low Water Springs  
Soundings on this chart have been corrected for sound velocity  
Datum of shoreline is Mean High Water

**HEIGHTS IN METERS ABOVE MEAN SEA LEVEL**  
Contour interval 20 meters  
(supplementary contours shown in dashed lines at 10 meter interval)

**SOUNDINGS IN METERS**  
(Under 31 in meters and half meters)  
reduced to approximate Mean Sea Level  
Datum of shoreline is Mean Sea Level

**HEIGHTS IN METERS ABOVE MEAN SEA LEVEL**  
Contour interval 20 meters

FIGURE 32. Examples of vertical datum notes.

3.11.32 Warning note. One of the following warning notes, as appropriate, is shown in the chart margin in purple (SPC-96532). The type for the title is 9 point Swiss 742, upper case, and the type for the text is 7 point Swiss 742, upper and lower case:

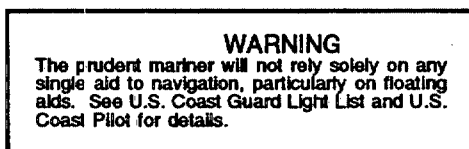
a. For charts of foreign waters, see FIGURE 33.

<p><b>WARNING</b> The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See paragraph No. 1 of Notice to Mariners No. 1 or Sailing Directions Planning Guides for information relative to DMA Charts.</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

FIGURE 33. Warning Note for charts of foreign waters.

b. For charts of U.S. waters, see FIGURE 34.

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FIGURE 34. Warning Note for charts of U.S. waters.

### 3.12 Culture.

a. Combat Charts provide a combination of hydrographic chart and topographic map for use in amphibious operations. Therefore, the cultural information shown on Combat Charts is the same as shown on the 1:50,000 scale topographic maps, as specified in MIL-T-89301 (latest edition), with the exception of certain marine aids to navigation.

b. Combat Training Charts shall show the same information that is shown on 1:50,000 Combat Charts.

c. Certain marine aids to navigation are shown on Combat Charts differently than on topographic line maps. Refer to Category 2C code features in Table I of this specification for specific feature requirements.

(1) Operational lighthouses are shown as marine navigational lights (2C050) rather than as buildings (1L015).

(2) Other marine lights and beacons are shown on Combat Charts even though they are not shown at all on topographic maps.

### 3.13 Hydrography.

a. The hydrography is compiled from the latest and most reliable hydrographic survey data available. Due to the sparsity of hydrographic surveys and the normal inaccessibility of foreign survey smooth sheets, the most frequently utilized source materials are published nautical charts.

b. The unit of measure for all hydrographic data is meters. Depths under 21 meters are shown in meters and decimeters if source data is available.

c. Soundings shown on Combat Charts shall be corrected for sound velocity where possible. Soundings shallower than 200 meters shall be corrected whenever bar checks, sound velocity, or temperature/salinity data are available (SVC=004). Soundings 200 meters or deeper shall be corrected using Echo-Sounding Correction Tables, NP 139 (latest edition) issued by the British Admiralty Hydrographic Department (SVC=003). If directly observed sound velocity data are available, they should be used if considered to be more reliable than the average correction values for the zones in NP 139.

d. Charts showing only corrected soundings (SVC=003 or 004) shall show a note with the other vertical datum notes as specified in 3.11.31.a.(4). This note shall be omitted from charts that show soundings that have not been corrected for sound velocity, charts that show a mixture of corrected and uncorrected soundings, or charts that show soundings that could not be determined corrected/uncorrected.

e. If it is not possible to correct the soundings from sources used on a Combat Chart, and therefore a mixture of corrected and



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uncorrected soundings are shown, those sources with uncorrected soundings shall be identified in the compilation data list as described in 3.11.10.

f. Consult IHO Special Publication 46, Correction of Echo Soundings (latest edition) or the producing agency to determine if soundings on foreign source charts require sound velocity corrections. Soundings on most foreign charts have already been corrected for sound velocity. If it cannot be determined whether or not a source is corrected, soundings shall be portrayed as shown on the source.

g. Sources in fathoms and feet that have been corrected for sound velocity shall be converted to meters using Standard Conversion Table No. 4. Sources in fathoms and feet that have not been corrected for sound velocity and have an assumed speed of sound in salt water of 1500 meters per second (820 fathoms per second) shall be converted to meters using Conversion Table No. 4 before sound velocity corrections are applied. Sources in fathoms and feet that have not been corrected for sound velocity and have an assumed speed of sound in salt water of 1463 meters per second (800 fathoms per second) shall be converted to meters using Standard Conversion Table No. 3 before sound velocity corrections are applied. See Publication NP 139.

h. Hydrography on Combat Charts is portrayed primarily by soundings, and supplemented by depth curves. The soundings and depth curves must present a representation of the bottom that will allow a mariner to interpolate the depth of water at places where soundings and depth curves are not shown, with some degree of accuracy. Therefore, the selection of soundings to be shown on the chart is critical to the usability of the chart. Rules for sounding selection are presented in 3.24 of this specification, but rules cannot cover every conceivable situation. The judgment of an experienced nautical cartographer must be the final authority on the correct selection of soundings.

i. Soundings can be classified as either critical soundings, support soundings, or fill soundings. Critical soundings are those soundings which identify the shoals and soundings which provide essential information required for navigation in non-dangerous areas. Support soundings provide additional information about the shape of the bottom around critical soundings and shoals, or are used to provide identifiers to depth curves and to show changes in bottom slope away from shoals or deeps. Fill soundings are used to fill in flat areas and to fill in deep areas that are not adequately defined by support soundings.

j. Emphasis must be placed on selecting a density of soundings for natural channels, shoals or other hazardous areas that are sufficiently close together so that these areas are properly highlighted (by dense sounding pattern) for quick recognition by the mariner. Additional supportive soundings and fill soundings are selected at a lesser density to complete the bottom description.

k. To support ship to shore movement, the hydrographic detail inside the 10 meter depth curve must be as detailed as possible. Sounding density in this area is greatest, and all dangers and bottom characteristics must be shown. Depth curves at 1, 2, 3, 5, and 7 meters should be shown if sounding data is sufficient to support them.

l. The depth curve interval may be modified to better fit the configuration of the bottom. Depth curve interval may be increased in areas with a steeply sloping bottom, and decreased in areas of gently sloping bottom. Depth curve interval is also dependent on the source material. Depth curves can be interpolated at the desired interval from hydrographic surveys but when published nautical charts are used as the

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primary source depth curve interval will be dependent on what is shown on source charts.

m. In certain areas, difficulties for navigators may arise in determining the direction of a lateral buoyage system, i.e., IALA. Examples of this situation might be in a one-way traffic lane where the direction of buoyage is opposed to the traffic direction, the "straight through" buoyage of a strait overrides the "approach from seaward" convention, or where two opposing directions meet, or where the lateral system extends a long way offshore and, at its outer end, has a local direction opposed to the general direction (as occurs in the northern part of the outer Thames Estuary). The mariner's problem is not that of interpreting charted buoyage, but of knowing which side to pass when confronted with a "new danger" (described by IALA as one that has been marked by buoys, but not yet charted).

For potentially confusing situations, the following symbol shall be included on the chart to indicate the direction of lateral buoyage. It shall be placed in the water, in the general area of the confusing situation, and point in the direction of buoyage for the area. The note is generally shown in conjunction with the symbol, but the symbol alone may be shown in congested areas.

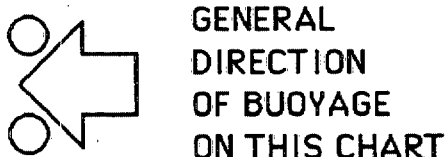


FIGURE 35. Direction of buoyage symbol.

### 3.14 Hypsography/Physiography.

a. The hypsography and physiography are generally portrayed on Combat Charts the same as on equivalent scale topographic maps, MIL-T-89301 (latest edition).

b. Tints are used to emphasize land and water areas of the chart. A yellow tint (SPC-57377, 31%, 15° angle screen) is printed over land areas of the chart, and land areas of all applicable diagrams in the chart margin. Land tint is also printed in offshore features (outside the shoreline) that are above the high water plane of reference (VRC=001), such as breakwaters, piers, cribs, or offshore loading facilities. Land tint is not printed over glaciers or snowfields, which have a white background.

c. Water tint (SPC 48253, 31%, 45° angle screen) is used to emphasize water areas that are less than 10 meters deep. Water tint is shown from the shoreline to the 10 meter depth curve, and overprints the foreshore (2A020), features that cover and uncover with the rise and fall of the tide (VRC=008), and features that are entirely under water (VRC=004).

3.15 Vegetation. Vegetation is portrayed on Combat Charts the same as on equivalent scale topographic maps, MIL-T-89301 (latest edition).

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3.16 Demarcation.

a. Boundaries and identification of administrative divisions shall be in accordance with current U.S. Department of State policy.

b. Portrayal of international and first order administrative land boundaries on Combat Charts are portrayed the same as on the equivalent scale topographic maps, MIL-T-89301 (latest edition). The Boundaries Graphic in the margin of topographic maps is not shown on Combat Charts. Political boundaries shall not be shown in the water.

c. Hydrographic demarcations are generally limited to those features that affect safety to surface navigation. Boundaries for other regulated areas, such as fishing prohibited areas or traffic separation schemes, are not shown because they would not be in force or of interest to forces conducting amphibious operations in wartime.

d. Hydrographic demarcations on Combat Charts are symbolized in black or green. Purple symbols are not used because they would visually conflict with the purple UTM grid lines.

3.17 Aeronautical. Aeronautical information is portrayed on Combat Charts the same as on equivalent scale topographic maps, MIL-T-89301 (latest edition).

3.18 Names and labeling.

a. Refer to MIL-STD-2402, MIL-STD-2403 and the DMA Standard Supporting Mark 90, Section 500 - Geographic Names, for proper naming and labeling of applicable features.

b. The following is a list of features which may not appear in Table I, but may be named on the final product. Definitions for the following features may be found in the DMA Standard Supporting Mark 90, Section 500 - Geographic Names.

<u>Name</u>	<u>Example</u>
Banks	Outer Banks
Basin	Great Basin
Bay	Chesapeake Bay
Beach	Virginia Beach
Bench	
Bend	
Bluff	
Bottom	
Break	
Butte	
Canyon	Grand Canyon
Cape	Cape of Good Hope
Channel	English Channel
City	New York City
Cliff	
Corner	Tyson's Corner
Cove	
Crossing	
Desert	Sahara Desert
Dispersed Village	
Dome	
Everglade	Florida Everglades
Falls	
Flat	
Flats	
Forest	

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<u>Name</u>	<u>Example</u>
Gap	
Gorge	
Gulch	
Gulf	Gulf of Mexico
Gut	
Hamlet	
Harbor	Boston Harbor
Head	
Highland	
Hill	
Hole	
Hollow	
Inlet	Hamilton Inlet
Island Chain	Hawaiian Islands
Junction	
Jungle	
Knob	
Knoll	
Lagoon	
Lake	
Lands	
Lookout	
Mesa	
Mountain	
Marina	
Mountain Range	Rocky Mountains
Narrows	
Neck	
Ocean	Atlantic Ocean
Park	Yellowstone National Park
Pass	
Passage	
Patch	
Peak	Pikes Peak
Plain	Great Plains
Plateau	Colorado Plateau
Point	
Pool	
Port	
Range	Coastal Range
Ravine	
Region	
Ridge	
River	
Roadstead	
Rock	
Sands	
Scattered Village	Comunidades of South America, Streusudlung of Europe
Sea	Caribbean Sea
Sea Mount	
Shelf	
Shoals	
Sink	
Sound	Puget Sound
Spit	
Spring	
Spur	
Strait	Bering Strait
Summit	
Town	
Valley	Death Valley

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<u>Name</u>	<u>Example</u>
Village	Greenwich Village
Wood	

c. The names on Combat Charts shall be the same names shown on the equivalent scale topographic maps, MIL-T-89301 (latest edition). If possible, names and labels for land features shall not be placed in the water where they might obscure hydrographic detail. Geographic names on offshore features should be the same as shown on hydrographic charts covering the same area. Named features that are described in the Sailing Directions publications should also be named.

3.19 Radar. This section is not applicable to this specification.

3.20 Intelligence information. This section is not applicable to this specification.

3.21 Special areas. This section is not applicable to this specification.

3.22 Symbology. Symbology for Combat Charts shall be in accordance with MIL-STD-2402.

3.23 Reproduction. Reproduction of Combat Charts is by lithography. The final product conforms to the best lithographic quality standards with respect to clarity, conformance to specified colors and screens, and accuracy of registration.

3.23.1 Paper. Combat charts are printed on high wet strength E50 chart paper. The standard trim size is 105.4 cm (41 1/2 inches) by 147.3 cm (58 inches) for all Combat Charts (north-south and east-west).

3.23.2 Colors and inks. Printing colors and screens shall conform to information and items illustrated in MIL-STD-2410.

3.23.3 Red-light readability. The colors used on Combat Charts are designed to be readable in both white and red light. The fact that the chart is red light readable is identified in the margin (see 3.11.28). For a better understanding of the impact of various lighting on the readability of Combat Charts, the following visual efficiency figures are provided:

<u>SPC Number</u>	<u>Color Name</u>	<u>Visual Efficiency (%)</u>		
		Daylight	Redlight	Bluelight
46351	Aero-blue	85	86	57
48253	Hydro-blue	62	86	17
52813	Green	60	76	72
57377	Yellow	12	3	84
58252	Brown	64	50	85
58600	Black	91	90	91
61121	Red-brown	82	68	90
95151	Magenta *	81	57	65
96532	Hydro-purple	74	62	49

\* Used for single color overprint (SCO) updates.  
Source: Standard Printing Color Catalog for Mapping, Charting, Geodetic Data, and Related Products, January 1987.

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### 3.24 Magnetic variation.

3.24.1 Compass rose portrayal. Magnetic variation data is shown on Combat Charts by means of black (SPC-58600) compass roses oriented to true north and a legend in the center of each compass rose indicating the magnetic variation (to the nearest minute) at the position of the compass rose, and annual change (to the nearest second). Refer to the Style Sheets, APPENDICES B and C, for graphic examples of compass roses.

a. In rounding off to nearest minutes and seconds, 29 minutes and 29 seconds are rounded down, and 30 minutes and 30 seconds are rounded up.

b. Magnetic variation data is shown for the five year epoch in which the edition date falls. For example, a chart published in 1993 shows magnetic data for the epoch year 1990. Magnetic variation data shall not be updated for intermediate years.

3.24.2 Compass positions. The positions of compass roses are chosen to meet the following criteria:

a. Placed in the water areas of the chart in such a way that they do not obscure dangers, shoal soundings, or aids to navigation.

b. Placed in the vicinity of the meridians which are central to the areas where the compass roses will most likely be used. This minimizes the error introduced by the convergence of meridians on the Transverse Mercator projection.

c. Clear of chart folds.

d. Provide coverage over the chart so that no water area, excluding inland hydrography, is farther than 45 cm from a compass rose.

### 3.24.3 Compass rose specifications.

a. A compass rose consists of 360 ticks radiating out from the center of the compass rose. On a full size rose, the ticks begin at a radial distance of 63 mm from the center of the compass rose. Reduced size roses, with radial distances of 56, 49, or 42 mm, may be shown if space is not available to show the full size rose. Tick lengths are as follows: 10° ticks are 3.0 mm long, 5° ticks are 2.0 mm long, and 1° ticks are 1.0 mm long. All lineweights are 0.15 mm.

b. Ten degree ticks (0, 10, 20, 30, 40, ... 350) are labeled with 7 point type, with the numbers oriented so they are reading from the bottom of the chart (90 and 270 are vertical and reading from the inside of the compass rose). No degree signs are shown. Space between the end of the 10° ticks and the base of the type is 1.0 mm.

c. In addition to these ticks, extended ticks are shown at 0°, 90°, 180° and 270°. These ticks are 5.0 mm long and begin 1.0 mm outside of the numbers 0, 90, 180 and 270.

d. A five pointed star is shown above the tick over the number 0. The star is 7.5 mm in diameter and is shown by a perimeter line (0.15 mm lineweight). Each point of the star is then divided by another line down the centerline of the point (0.15 mm lineweight). The right half of each point (proceeding clockwise around the star) is shaded by lines, parallel to the center line and spaced at 0.2 mm interval (lines are 0.10 mm lineweight). The star is positioned so one of the points is pointing true north and the end of the tick above the number "0" is touching the perimeter of the star opposite the top point.

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e. The cross at the center of the compass rose is 0.15 mm linewidth. Ticks are oriented 90 degrees to each other and are positioned at cardinal directions (north-south, east-west). The overall tick length is 2.0 mm.

### 3.25 Feature/Attribute.

3.25.1 General. This section contains feature, feature attributes category, feature attribute category value, inclusion condition and specific rules corresponding to Combat Chart production.

3.25.2 Feature/Attribute category, inclusion conditions and product generation rules. The following is an explanation of the header format for Table I:

<b>FCode</b> (1)	<b>Feature</b> (2)	
<b>Feature type</b> (3)		
<u>Attributes</u>		
<b>ACode</b> (4)	<b>Attribute</b> (5)	<u>Rules</u> (7)
	<u>Inclusion conditions</u> (6)	

(1) F(Feature)Code - Five digit alpha numeric, Feature Attribute Coding Standard (FACS) Code assigned to each feature (e.g. 1N010 - R/R Tracks). The first two digits identify the category and subcategory to which each feature belongs (e.g., 1 - Culture Category, N = Transportation R/R subcategory).

(2) Feature - Name of feature as specified in the FACS. A feature is a physical (e.g., Bridge) or conceptual (e.g., Route - Nautical) entity of the real world which has one or more set of coordinates to be included on a product.

(3) Feature Type - designation of a feature type.

Area - More than two sets of coordinates defining a closed area; areas may span more than one map sheet or geographic area requirement.

Line - Two or more coordinate sets defining a series of line segments.

Point - One set of coordinates.

If there is more than one Feature Type for the feature, then the ACode and Inclusion conditions are stated separately for each type.

(4) A(Attribute)Code - Three digit alpha or alpha numeric character (acronym) FACS code assigned to each attribute category which identifies the attribute category (e.g., EXS - Existence Category). Attribute categories are defined by mutually exclusive sets of attribute values which are feature dependent. Attribute values relative to product are normally contained in MIL-STD-2402 under column headed "SValue", a few exceptions are contained in the inclusion conditions.

(5) Attribute - Name of attribute category required by the feature as specified in the FACS. Attribute categories are characteristics in menu form relative to a specified feature or features.

(6) Inclusion conditions - Conditions under which the feature/attribute(s) are required by the product (e.g., R/R Yard, 1N080

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FACS Code, is included on a particular product only if Length  $\geq$  450m). Conditions should be stated in Boolean logic.

(7) Rule - 5 digit alpha-numeric code indicating rules (listed in MIL-STD-2403) which specify requirements for feature to satisfy final product format/requirements. APPENDIX A of this specification provides the rule numbers and rule text for each feature and feature type shown on the Combat Chart.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. Visual examination (see 4.4)
- b. Review of construction records (see 4.5)

4.3 First article inspection. When a first article inspection is required (see 3.1 and 6.2), it shall be examined for defects as specified in 4.4, and the construction record reviewed for compliance with 4.5.

4.4 Visual examination. The map/chart shall be examined for defects and errors as specified by the contract or Government. Required corrections shall be made to manuscripts, drafting positives, and reproducible material before the map/chart is sent to the next production stage. Defects detected during the inspection of the printed "catch copy" shall be evaluated by DMA for criticality, and suitable corrective action.

4.5 Review of construction records. Records about the construction of the map/chart shall be maintained. The records shall document sources, decisions regarding reconciliation of conflicting data, etc. Chart records/construction histories shall be reviewed concurrently with visual examinations (see 4.4) to ensure that proper cartographic procedures have been followed.

4.6 Government furnished material. The contractor shall not duplicate, copy, or otherwise reproduce the MC&G property for purposes other than those necessary for the performance of the contract.



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4.7 Government property surplus. At the completion of performance of the contract, the contractor, as directed by the contracting officer, shall either destroy or return to the Government all Government-furnished MC&G property not consumed in the performance of the contract.

5. PACKAGING.

5.1 General. Combat Charts may be issued as flat stock, i.e., unfolded, or folded and packaged in accordance with the provisions in this section. Unless a specific requirement exists for initial automatic distribution of flat stock to support certain agencies and users, all Combat Charts shall be folded and packaged as described below. Flat stock will not be available after automatic distribution.

5.2 Folding.

5.2.1 Number of folds. Combat Charts are folded into sixteenths (16 panels).

5.2.2 Method of folding. The first fold shall be horizontal, with the top edge of the chart (when the printed side is up) folded down to the bottom neatline. This fold obscures all chart detail except for that in the lower margin. This includes the chart number, subtitle, stock number/bar code, and classification notes. The chart is then repeatedly folded, to create a 16 panel fold. When folded, the classification note and stock number/bar code located in the lower right corner of the chart shall remain visible. On classified charts, the classification note in the lower left margin shall remain visible on the back side of the folded chart, in accordance with DoD security marking policy.

5.3 Packaging.

5.3.1 Level of protection. Packaging shall be Level C (see 6.2) unless otherwise specified. This packaging provides minimum protection, and is needed to protect material under known favorable conditions. The following criteria determine the requirements for this degree of protection.

- a. Use or consumption of the item at the first destination.
- b. Shock, vibration, and static loading during the limited transportation cycle.
- c. Favorable warehouse environment for a maximum of 18 months.
- d. Effects of environmental exposure during shipment and intransit delays.
- e. Stacking and supporting superimposed loads during shipment and temporary storage.

5.3.2 Package size. Folded Combat Charts are shrink-wrapped in packages of twenty five copies of the same chart. When packaged, the bar code of the top chart shall be visible through the wrapping.

5.4 Marking. In addition to any special markings required by the contract or order, markings shall be in accordance with the requirements of MIL-STD-129 for military levels of protection.

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## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory).

6.1 Intended use. Combat Charts are 1:50,000 scale charts used to support amphibious operations, to include joint air/ground tactical operations, land combat operations, naval gunfire support, and special operations planning.

6.2 Acquisition requirement. Acquisition documents must specify the following:

- a. Title, number and date of this specification.
- b. Issue of the DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. When a first article is required (see 3.1, 4.3, and 6.3).
- d. Levels of packaging (see 5.3).

6.3 First article. When a first article is required, it shall be inspected and approved under appropriate provisions of FAR 52.209. The contracting officer shall specify the appropriate type of first article and the number of units to be furnished in the solicitation/contract. The contracting officer shall also include specific instructions in acquisition documents regarding arrangement for selection, inspection, and approval of the first article.

6.4 Supersession. These specifications supersede Military Specifications for Combat Charts, MIL-C-89202, 20 August 1990.

6.5 Definitions.

6.5.1 Circular error (CE). - An accuracy figure representing the stated percentage of probability that any point expressed as a function of two linear components (e.g., horizontal position) will be within the given figure.

6.5.2 Linear error (LE). - A one dimensional error (such as an error in elevation) defined by the normal distribution function.

6.6 Standardization agreements.

Certain provisions of this specification may be subject to international standardization agreement. When amendment, revision, or cancellation of this specification is proposed that will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations.

6.6.1 NATO Standardization Agreements (STANAGs).

STANAG 1022, Combat Charts, Amphibious Assault Charts, and Combat/Landing Charts.

STANAG 2211, Geodetic Datums, Spheroids, Grids, and Grid References.

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STANAG 3673, Identification of Source Data on Nautical and Special Naval Charts

6.6.2 Quadripartite Standardization Agreements (OSTAGs).

This section is not applicable to this specification. . . .

6.6.3 Air Standardization Coordinating Committee Agreements (ASCCs).

This section is not applicable to this specification.

6.6.4 International MC&G Agreements.

This section is not applicable to this specification.

6.6.5 Executive Orders.

This section is not applicable to this specification.

6.6.6 Inter-Agency Agreements.

This section is not applicable to this specification.

6.6.7 Other Documentation.

This section is not applicable to this specification.

6.7 Subject term (key word) listing.

Amphibious  
Bathymetry  
Beach  
Charting  
Defense Mapping Agency (DMA)  
Hydrography  
Landing  
Marine  
Maritime  
MC&G (Mapping, Charting and Geodesy)  
Nautical  
Navigation  
USMC

6.8 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

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**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Extraction (1A)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1A010 MINE  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0007	L-4007
EXS EXISTENCE CATEGORY	G-0010	L-4008
LMC LANDMARK CATEGORY	G-0012	L-4010
MIN MINING CATEGORY	G-0013	R-2244
NAM NAME CATEGORY	L-0061	R-2494
PRO PRODUCT CATEGORY	L-3801	

Inclusion Conditions:

EXS(EXISTENCE CATEGORY) 0(UNKNOWN) or 28(OPERATIONAL)  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square

OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and EXS(EXISTENCE CATEGORY) 6(ABANDONED)  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square

**POINT**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	D-1653
EXS EXISTENCE CATEGORY	G-0005
LMC LANDMARK CATEGORY	L-0061
MIN MINING CATEGORY	L-3801
NAM NAME CATEGORY	L-4007
PRO PRODUCT CATEGORY	L-4010
	R-2248

Inclusion Conditions:

EXS(EXISTENCE CATEGORY) 0(UNKNOWN) or 6(ABANDONED) or 28(OPERATIONAL)  
 and ARA(AREA COVERAGE ATTRIBUTE) < 15,625 m square  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1A030 QUARRY  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0007
EXS EXISTENCE CATEGORY	G-0010
LMC LANDMARK CATEGORY	G-0012
PRO PRODUCT CATEGORY	G-0013
	L-0061
	L-3801
	L-4010
	R-2494

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and EXS(EXISTENCE CATEGORY) 0(UNKNOWN) or 28(OPERATIONAL)

OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and EXS(EXISTENCE CATEGORY) 6(ABANDONED)  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square

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**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT:    COMBAT CHARTS  
 CATEGORY:    Culture (1)  
 SUBCATEGORY:    Extraction (1A)

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**1A030 QUARRY (Cont.)****POINT**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	D-1653
EXS	EXISTENCE CATEGORY	G-0005
LMC	LANDMARK CATEGORY	L-0061
PRO	PRODUCT CATEGORY	L-3801
		L-4010
		L-4010
		R-2248

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) < 15,625 m square  
 and EXS (EXISTENCE CATEGORY) 0 (UNKNOWN) or 6 (ABANDONED) or 28 (OPERATIONAL)  
 and LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1A040 RIG /SUPERSTRUCTURE****POINT**

<u>Attributes</u>		<u>PG Rules</u>
COE	CERTAINTY OF EXISTENCE	L-0061
HGT	HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC	LANDMARK CATEGORY	L-3972
LOC	LOCATION /ORIGIN CATEGORY	L-5040
PRO	PRODUCT CATEGORY	R-0046
ZVL	Z VALUE	R-3674
		T-0304

Inclusion Conditions:

LOC (LOCATION/ORIGIN CATEGORY) 2 (OFF-SHORE)

OR LOC (LOCATION/ORIGIN CATEGORY) 9 (OTHER)  
 and HGT (HEIGHT ABOVE SURFACE LEVEL) >= 46 m

OR LOC (LOCATION/ORIGIN CATEGORY) 9 (OTHER)  
 and HGT (HEIGHT ABOVE SURFACE LEVEL) < 46 m  
 and LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1A050 WELL****POINT**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
EXS	EXISTENCE CATEGORY	D-1653	L-4813
HYC	HYDROGRAPHIC CATEGORY	L-0061	O-3155
LMC	LANDMARK CATEGORY	L-3801	R-2244
NAM	NAME CATEGORY	L-4008	R-2248
PRO	PRODUCT CATEGORY	L-4009	T-0300
SCC	SPRING /WELL CHARACTERISTIC CATEGORY	L-4706	
WFT	WELL FEATURE TYPE		

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**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Extraction (1A)

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**1A050 WELL (Cont.)  
POINT**

Inclusion Conditions:

PRO(PRODUCT CATEGORY) 0(UNKNOWN) or 12(NATURAL GAS) or 18(OIL)  
and EXS(EXISTENCE CATEGORY) 28(OPERATIONAL)  
OR PRO(PRODUCT CATEGORY) 0(UNKNOWN) or 12(NATURAL GAS) or 18(OIL)  
and EXS(EXISTENCE CATEGORY) 6(ABANDONED)  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)  
OR PRO(PRODUCT CATEGORY) 27(WATER)  
and HYC(HYDROGRAPHIC CATEGORY) 0(UNKNOWN) or  
or 6(NON-PERENNIAL/INTERMITTENT/FLUCTUATING)  
or 8(PERENNIAL/PERMANENT)  
and EXS(EXISTENCE CATEGORY) 28(OPERATIONAL)  
OR PRO(PRODUCT CATEGORY) 27(WATER)  
and EXS(EXISTENCE CATEGORY) 6(ABANDONED)  
and HYC(HYDROGRAPHIC CATEGORY) 3(DRY)  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1B000 DISPOSAL SITE /WASTE PILE  
AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
LMC LANDMARK CATEGORY  
PRO PRODUCT CATEGORY

PG Rules

G-0006  
G-0010  
G-0012  
L-0061  
L-3801  
R-2494

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1B010 WRECKING YARD /SCRAP YARD  
AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
LMC LANDMARK CATEGORY

PG Rules

G-0010  
G-0012  
L-3801  
R-2494  
R-3730  
R-3732  
R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Processing Industry (1C)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1C000 PROCESSING PLANT /TREATMENT PLANT  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
NAM	NAME CATEGORY	G-0012
PRO	PRODUCT CATEGORY	L-0061
WID	WIDTH	L-3801
		L-4008
		L-4010
		L-4027
		L-4813
		R-2494

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

POINT

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	C-0022
NAM	NAME CATEGORY	D-1653
PRO	PRODUCT CATEGORY	L-0061
		L-3801
		L-4008
		L-4010
		L-4813
		R-2248

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) < 15,625 m square

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1C020 CATALYTIC CRACKER

POINT

<u>Attributes</u>		<u>PG Rules</u>
	NO ATTRIBUTE REQUIRED	C-0005
		D-1653
		L-3505
		L-3801

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1C030 SETTLING BASIN /SLUDGE POND

AREA

<u>Attributes</u>		<u>PG Rules</u>
LMC	LANDMARK CATEGORY	G-0006
WID	WIDTH	G-0012
		L-3505
		L-3801
		R-2494

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Processing Industry (1C)

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**1C030 SETTLING BASIN /SLUDGE POND (Cont.)  
 AREA**

Inclusion Conditions:

WID(WIDTH) >= 125 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1D010 POWER PLANT FACILITY  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
LMC	LANDMARK CATEGORY	G-0012
NAM	NAME CATEGORY	L-0050
PPC	POWER PLANT CATEGORY	L-3801
WID	WIDTH	L-4008
		L-4011
		L-4813

Inclusion Conditions:

WID(WIDTH) >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1D020 SOLAR PANEL  
 POINT**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	C-0022
		D-1653
		L-3505
		L-3801
		R-2248

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 65 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1D030 SUBSTATION /TRANSFORMER YARD  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
WID	WIDTH	G-0006
		G-0010
		G-0012
		L-3505
		L-3506
		L-3801

Inclusion Conditions:

WID(WIDTH) >= 40 m

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## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT:      COMBAT CHARTS  
 CATEGORY:      Culture (1)  
 SUBCATEGORY:      Power Generation (1D)

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**1D030 SUBSTATION /TRANSFORMER YARD (Cont.)**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
LMC	LANDMARK CATEGORY	C-0022
WID	WIDTH	D-1653
		L-3801
		R-2248

Inclusion Conditions:

WID(WIDTH) < 40 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1F010 CHIMNEY /SMOKESTACK**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
COE	CERTAINTY OF EXISTENCE	D-1653
HGT	HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC	LANDMARK CATEGORY	L-5040
ZVL	Z VALUE	R-0046
		R-2248

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1F020 CONVEYOR**  
**LINE**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	G-0012
LMC	LANDMARK CATEGORY	L-3801
		R-2331

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 375 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1F030 COOLING TOWER**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
COE	CERTAINTY OF EXISTENCE	D-1653
HGT	HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC	LANDMARK CATEGORY	L-5040
ZVL	Z VALUE	R-0046
		R-2248

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Associated Industrial Structures (1F)

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**1F030 COOLING TOWER (Cont.)**  
**POINT**

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1F040 CRANE**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	D-1653
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC LANDMARK CATEGORY	L-5040
ZVL Z VALUE	R-0046
	R-2248

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1F070 FLARE PIPE**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	D-1653
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801
LOC LOCATION /ORIGIN CATEGORY	L-5040
ZVL Z VALUE	R-0046
	R-2248
	R-2251

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 2(OFF-SHORE)  
 OR LOC(LOCATION/ORIGIN CATEGORY) 3(ON GROUND SURFACE)  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1H045 FIRING RANGE**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	L-3505
WID WIDTH	L-3506
	L-3801

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Institutional /Governmental (1H)

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**1E045 FIRING RANGE (Cont.)  
 AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1E050 FORT  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
NAM	NAME CATEGORY	G-0010
WID	WIDTH	G-0012
		L-0050
		L-3801
		L-4008
		L-4813

Inclusion Conditions:

WID (WIDTH)  $\geq$  40 m

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**POINT**

<u>Attributes</u>		<u>PG Rules</u>
LMC	LANDMARK CATEGORY	C-0022
NAM	NAME CATEGORY	D-1653
WID	WIDTH	G-0008
		L-3801
		L-4008
		L-4813

Inclusion Conditions:

WID (WIDTH)  $<$  40 m  
 and LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1I020 MOBILE HOME PARK  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
LMC	LANDMARK CATEGORY	G-0012
		L-0050
		L-3801
		R-2494
		R-3730
		R-3732
		R-3733

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Residential (1I)

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**1I020 MOBILE HOME PARK (Cont.)**  
**AREA**

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1J030 FEED LOT /STOCKYARD /HOLDING PEN**  
**AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 LMC LANDMARK CATEGORY  
 TXT TEXT ATTRIBUTE

PG Rules

G-0012  
 L-0050  
 L-3505  
 L-3506  
 L-3801  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

---

**POINT**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 LMC LANDMARK CATEGORY  
 TXT TEXT ATTRIBUTE

PG Rules

L-3505  
 L-3801

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) < 15,625 m square  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1J050 WINDMILL /WINDMOTOR**  
**POINT**

Attributes

COE CERTAINTY OF EXISTENCE  
 HGT HEIGHT ABOVE SURFACE LEVEL  
 LMC LANDMARK CATEGORY  
 ZVL Z VALUE

PG Rules

D-1653  
 L-3801  
 L-5040  
 R-0046  
 R-2248

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Recreational (1K)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1K020 AMUSEMENT PARK ATTRACTION  
 POINT

<u>Attributes</u>		<u>PG Rules</u>
APS	AMUSEMENT PARK STRUCTURE	D-1653
COE	CERTAINTY OF EXISTENCE	L-3801
HGT	HEIGHT ABOVE SURFACE LEVEL	L-5040
LMC	LANDMARK CATEGORY	R-0046
ZVL	Z VALUE	R-2248

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1K030 AMUSEMENT PARK  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
LMC	LANDMARK CATEGORY	G-0012
NAM	NAME CATEGORY	L-0050
		L-3801
		L-4008
		L-4813
		R-2494
		R-3730
		R-3732
		R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1K040 ATHLETIC FIELD  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0006
LMC	LANDMARK CATEGORY	G-0012
NAM	NAME CATEGORY	L-0050
		L-3801
		L-4008
		L-4813
		R-2494

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 8,125 m square  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Recreational (1K)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K060 CAMPGROUND /CAMPSITE**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0012
LMC LANDMARK CATEGORY	L-0050
NAM NAME CATEGORY	L-3801
	L-4008
	L-4813
	R-2242
	R-2494
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K070 DRIVE-IN THEATER**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LMC LANDMARK CATEGORY	G-0012
	L-3801
	R-2494
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K090 FAIRGROUNDS**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LMC LANDMARK CATEGORY	G-0012
NAM NAME CATEGORY	L-0050
	L-3801
	L-4008
	L-4813
	R-2494
	R-3730
	R-3732
	R-3733

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Recreational (1K)

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**1K090 FAIRGROUNDS (Cont.)**  
**AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K100 GOLF COURSE**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LMC LANDMARK CATEGORY	G-0012
NAM NAME CATEGORY	L-0050
	L-3801
	L-4008
	L-4813
	R-2494
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K115 OUTDOOR THEATER / AMPHITHEATER**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0012
LMC LANDMARK CATEGORY	L-3801
NAM NAME CATEGORY	L-4008
	L-4813
	R-2494
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K120 PARK**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	L-0050
LMC LANDMARK CATEGORY	L-3505
NAM NAME CATEGORY	L-3506
USE USE STATUS	L-3801
	L-4008
	R-2494
	R-3730
	R-3732
	R-3733

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Recreational (1K)

---

**1K120 PARK (Cont.)  
 AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and USE (USE CATEGORY) 4 (NATIONAL)  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K130 RACE TRACK  
 LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
LMC LANDMARK CATEGORY	L-3505
NAM NAME CATEGORY	L-3801
	L-4008
	L-4813

Inclusion Conditions:

LEN (LENGTH/DIAMETER)  $\geq$  65 m  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K150 SKI JUMP  
 LINE**

<u>Attributes</u>	<u>PG Rules</u>
HGT HEIGHT ABOVE SURFACE LEVEL	G-0012
LEN LENGTH /DIAMETER	L-3505
	L-3801
	O-0020

Inclusion Conditions:

LEN (LENGTH/DIAMETER)  $\geq$  125 m

---

**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	D-1653
HGT HEIGHT ABOVE SURFACE LEVEL	L-3505
LEN LENGTH /DIAMETER	L-3801
ZVL Z VALUE	L-5040
	R-0046

Inclusion Conditions:

LEN (LENGTH/DIAMETER)  $<$  125 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1K160 STADIUM  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0012
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC LANDMARK CATEGORY	L-4008
NAM NAME CATEGORY	L-4813



## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Recreational (1K)

---

**1K160 STADIUM (Cont.)**  
 AREA

AttributesPG Rules

R-2240  
 R-2494  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

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**POINT**AttributesPG Rules

COE CERTAINTY OF EXISTENCE  
 HGT HEIGHT ABOVE SURFACE LEVEL  
 ZVL Z VALUE

L-3801  
 L-5040  
 R-0046

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

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**1K170 SWIMMING POOL**  
 AREA

AttributesPG Rules

ARA AREA COVERAGE ATTRIBUTE  
 LEN LENGTH /DIAMETER  
 LMC LANDMARK CATEGORY  
 WID WIDTH

G-0012  
 L-3801  
 O-1101  
 R-9037

Inclusion Conditions:

LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

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**1K180 ZOO**  
 AREA

AttributesPG Rules

ARA AREA COVERAGE ATTRIBUTE  
 LMC LANDMARK CATEGORY  
 NAM NAME CATEGORY

G-0010  
 G-0012  
 L-0050  
 L-3801  
 L-4008  
 L-4813  
 R-2494  
 R-3730  
 R-3732  
 R-3733

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Recreational (1K)

**1K180 ZOO (Cont.)**  
**AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L015 BUILDING**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	D-1652	O-3008
BFC BUILDING FUNCTION CATEGORY	D-1654	O-6200
EXS EXISTENCE CATEGORY	G-0012	R-0046
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801	R-2265
HWT HOUSE OF WORSHIP TYPE	L-3959	R-2293
LEN LENGTH /DIAMETER	L-3960	R-2337
LMC LANDMARK CATEGORY	L-4008	R-2340
NAM NAME CATEGORY	L-4018	R-2341
TUC TRANSPORTATION USE CATEGORY	L-4028	R-2495
WID WIDTH	O-0020	

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 625 m square  
 and WID (WIDTH) >= 25 m

**LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
BFC BUILDING FUNCTION CATEGORY	D-1652	O-3008
EXS EXISTENCE CATEGORY	D-1654	O-6200
HGT HEIGHT ABOVE SURFACE LEVEL	G-0012	R-0046
HWT HOUSE OF WORSHIP TYPE	L-3801	R-2265
LEN LENGTH /DIAMETER	L-3959	R-2293
LMC LANDMARK CATEGORY	L-3960	R-2337
NAM NAME CATEGORY	L-4008	R-2340
TUC TRANSPORTATION USE CATEGORY	L-4018	R-2341
WID WIDTH	L-4028	R-2495
	O-0020	

Inclusion Conditions:

LEN (LENGTH/DIAMETER) >= 25 m  
 and WID (WIDTH) < 25 m

**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	C-0022	L-4018	R-2265
AOO ANGLE OF ORIENTATION	D-1652	L-4028	R-2337
ARA AREA COVERAGE ATTRIBUTE	D-1654	L-4813	R-2340
BFC BUILDING FUNCTION CATEGORY	G-0008	L-5040	R-2341
COE CERTAINTY OF EXISTENCE	L-3801	O-3008	R-2495
EXS EXISTENCE CATEGORY	L-3959	O-6200	R-3740
HGT HEIGHT ABOVE SURFACE LEVEL	L-3960	R-0046	R-9041
HWT HOUSE OF WORSHIP TYPE	L-4008		
LEN LENGTH /DIAMETER			
LMC LANDMARK CATEGORY			
NAM NAME CATEGORY			

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Miscellaneous Features (1L)

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11015 BUILDING (Cont.)  
 POINT

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
TUC TRANSPORTATION USE CATEGORY			
ZVL Z VALUE			

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) < 625 m square  
 and LEN(LENGTH/DIAMETER) < 25 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

11020 BUILT-UP AREA  
 AREA

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0006	R-2305
BAC BUILT-UP AREA CLASSIFICATION	G-0010	R-2333
EXS EXISTENCE CATEGORY	G-0012	R-2334
	L-0020	R-2345
	L-1650	R-3730
	R-2178	R-3732
	R-2179	R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and BAC(BUILT-UP AREA CATEGORY) 1(SPARSE TO MODERATE) or 2(DENSE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

11025 CAIRN  
 POINT

<u>Attributes</u>	<u>PG Rules</u>
LMC LANDMARK CATEGORY	-None

Inclusion Conditions:

LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

11030 CEMETERY  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LMC LANDMARK CATEGORY	G-0012
NAM NAME CATEGORY	L-0050
REL RELIGIOUS DENOMINATION	L-3801
WID WIDTH	L-4008
	L-4813
	R-2333
	R-3730
	R-3732
	R-3733

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Miscellaneous Features (1L)

**1L030 CEMETERY (Cont.)  
 AREA**

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

**POINT**

Attributes  
 EXS EXISTENCE CATEGORY  
 LMC LANDMARK CATEGORY  
 REL RELIGIOUS DENOMINATION

PG Rules  
 D-1653  
 G-0004

Inclusion Conditions:

EXS(EXISTENCE CATEGORY) 31(ISOLATED)  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L060 DRAGON (TIGER) TEETH  
 LINE**

Attributes  
 WID WIDTH

PG Rules  
 G-0012

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 125 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L070 FENCE  
 LINE**

Attributes  
 LEN LENGTH /DIAMETER  
 LMC LANDMARK CATEGORY  
 PFH PREDOMINANT FEATURE HEIGHT

PG Rules  
 G-0012  
 R-2352  
 R-2353

Inclusion Conditions:

PFH(PREDOMINANT FEATURE HEIGHT) >= 2.0 m  
 and LEN(LENGTH/DIAMETER) >= 125 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L085 GEOPHYSICAL PROSPECTING GRID  
 LINE**

Attributes  
 LEN LENGTH /DIAMETER

PG Rules  
 G-0012  
 L-4260

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Miscellaneous Features (1L)

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**1L085 GEOPHYSICAL PROSPECTING GRID (Cont.)**  
**LINE**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 625 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L100 HUT**  
**POINT**

Attributes

LMC LANDMARK CATEGORY

PG Rules

C-0022  
L-3505  
L-3801  
R-2343

Inclusion Conditions:

LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L130 MONUMENT**  
**POINT**

Attributes

COE CERTAINTY OF EXISTENCE  
HGT HEIGHT ABOVE SURFACE LEVEL  
LMC LANDMARK CATEGORY  
NAM NAME CATEGORY  
SSC STRUCTURE SHAPE CATEGORY  
ZVL Z VALUE

PG Rules

L-3505  
L-3801  
L-4008  
L-5040  
R-0046  
R-2248

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L135 NATIVE SETTLEMENT**  
**AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
NAS NATIVE SETTLEMENT TYPE

PG Rules

R-2333

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
and NAS(NATIVE SETTLEMENT TYPE) 2(CONTINUOUS HABITATION)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L140 NUCLEAR ACCELERATOR**  
**AREA**

Attributes

LEN LENGTH /DIAMETER  
LMC LANDMARK CATEGORY

PG Rules

G-0010  
G-0012  
L-3505  
L-3801

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Miscellaneous Features (1L)

**1L140 NUCLEAR ACCELERATOR (Cont.)  
 AREA**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L160 PIPELINE /PIPE  
 LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	G-0012	L-4014	R-2208
DEP DEPTH BELOW SURFACE LEVEL	L-0061	L-4260	R-2231
EXS EXISTENCE CATEGORY	L-3633	L-4261	R-2249
HSB HEIGHT ABOVE SEA BOTTOM	L-3801	L-4743	R-2349
LEN LENGTH /DIAMETER	L-4010	L-4862	R-2818
LMC LANDMARK CATEGORY	L-4012	O-3427	R-2937
LOC LOCATION /ORIGIN CATEGORY	L-4013	R-2180	R-3920
OWO OVER WATER OBSTRUCTION			
PLT PIPELINE TYPE			
PRO PRODUCT CATEGORY			

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 1(BELOW GROUND SURFACE) or 3(ON GROUND SURFACE) or 4(SUSPENDED OR ELEVATED ABOVE GROUND OR WATER)  
 and PRO(PRODUCT CATEGORY) 0(UNKNOWN) or 6(CHEMICAL) or 12(NATURAL GAS) or 13(GASOLINE) or 18(OIL) or 27(WATER)  
 and LEN(LENGTH/DIAMETER) >= 1,250 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 OR LOC(LOCATION/ORIGIN CATEGORY) 4(SUSPENDED OR ELEVATED ABOVE GROUND OR WATER)  
 and OWO(OVER WATER OBSTRUCTION) 1(FEATURE CROSSES NAVIGABLE WATER) or 2(FEATURE CROSSES OVER NON-NAVIGABLE WATER)  
 OR LOC(LOCATION/ORIGIN CATEGORY) 11(ON SEA BOTTOM) or 12(SUSPENDED OR ELEVATED ABOVE SEA BOTTOM)  
 and PLT(PIPELINE TYPE) 1(TRANSPORT) or 3(INTAKE)  
 OR LOC(LOCATION/ORIGIN CATEGORY) or 11(ON SEA BOTTOM) or 12(SUSPENDED OR ELEVATED ABOVE SEA BOTTOM)  
 and PLT(PIPELINE TYPE) 2(OUTFALL)  
 and PRO(PRODUCT CATEGORY) 0(UNKNOWN) or 6(CHEMICAL) 19(OTHER) or 27(WATER) or 35(SEWAGE)  
 OR LOC(LOCATION/ORIGIN CATEGORY) 10(BELOW SEA BOTTOM)  
 and EXS(EXISTENCE CATEGORY) 28(OPERATIONAL)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L170 PLAZA /CITY SQUARE  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
NAM NAME CATEGORY	G-0006
WID WIDTH	G-0012
	L-0050
	L-4008
	R-3903

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Miscellaneous Features (1L)

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**1L170 PLAZA /CITY SQUARE (Cont.)**  
**AREA**

Inclusion Conditions:

WID(WIDTH) >= 25 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L180 PUMPING STATION**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>
LMC	LANDMARK CATEGORY	G-0012
PRO	PRODUCT CATEGORY	L-0061
WID	WIDTH	L-3801
		R-2333

Inclusion Conditions:

WID(WIDTH) >= 125 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

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**POINT**

<u>Attributes</u>		<u>PG Rules</u>
LMC	LANDMARK CATEGORY	D-1654
PRO	PRODUCT CATEGORY	G-0008
WID	WIDTH	L-0061
		L-3801

Inclusion Conditions:

WID(WIDTH) < 125 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

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\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L200 RUINS**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0006	L-4729
HDI	HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	G-0012	L-4813
HDP	HYDROGRAPHIC DEPTH	L-0050	R-2221
HGT	HEIGHT ABOVE SURFACE LEVEL	L-3505	R-2222
LEN	LENGTH /DIAMETER	L-3506	R-2333
LMC	LANDMARK CATEGORY	L-3801	R-2800
LOC	LOCATION /ORIGIN CATEGORY	L-4008	R-2806
NAM	NAME CATEGORY	L-4702	R-3672
VDC	VERTICAL DATUM CATEGORY	L-4705	R-3708
VDR	VERTICAL DATUM RECORD	L-4722	
VRC	VERTICAL REFERENCE CATEGORY		

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 2(OFF-SHORE)  
 and LEN(LENGTH/DIAMETER >= 200 m)  
 OR LOC(LOCATION/ORIGIN CATEGORY) 3(ON GROUND SURFACE)  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Miscellaneous Features (1L)

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**1L200 RUINS (Cont.)  
POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	C-0022	L-4891
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	D-1654	R-2221
HDP HYDROGRAPHIC DEPTH	D-1909	R-2222
HGT HEIGHT ABOVE SURFACE LEVEL	L-3505	R-2806
LEN LENGTH /DIAMETER	L-3801	R-3672
LMC LANDMARK CATEGORY	L-4702	R-3708
LOC LOCATION /ORIGIN CATEGORY	L-4722	R-3709
VDC VERTICAL DATUM CATEGORY	L-4729	
VDR VERTICAL DATUM RECORD		
VRC VERTICAL REFERENCE CATEGORY		

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 2(OFF-SHORE)  
and LEN(LENGTH/DIAMETER) < 200 m  
OR LOC(LOCATION/ORIGIN CATEGORY) 3(ON GROUND SURFACE)  
and ARA(AREA COVERAGE ATTRIBUTE) < 15,625 m square  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L208 SHANTY TOWN  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
WID WIDTH	G-0012
	L-0050
	R-2178
	R-2179
	R-2333
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
and WID >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L210 SNOW SHED /ROCK SHED  
LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
SIT SHED IDENTIFIER TYPE	L-3801
TUC TRANSPORTATION USE CATEGORY	R-2254
	X-8108

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 75 m

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Miscellaneous Features (1L)

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**1L210 SNOW SHED /ROCK SHED (Cont.)**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	C-0023
SIT	SHED IDENTIFIER TYPE	G-0008
TUC	TRANSPORTATION USE CATEGORY	L-3801 R-2254 X-8108

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 75 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L228 TENT DWELLINGS**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010	L-3506
NAM	NAME CATEGORY	G-0012	L-4008
STL	SEASONAL TENT LOCATION	L-0050	R-3730
WID	WIDTH	L-1001 L-1002 L-3505	R-3732 R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

**POINT**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	L-1001
LMC	LANDMARK CATEGORY	L-1002
NAM	NAME CATEGORY	L-3505
STL	SEASONAL TENT LOCATION	L-4008

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) < 15,625 m square  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L240 TOWER (NON- COMMUNICATION)**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
COE	CERTAINTY OF EXISTENCE	L-3505
HGT	HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC	LANDMARK CATEGORY	L-5040
TTC	TOWER TYPE CATEGORY	O-3008
ZVL	Z VALUE	R-0046 R-2240

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## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**      COMBAT CHARTS  
**CATEGORY:**      Culture (1)  
**SUBCATEGORY:**      Miscellaneous Features (1L)

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**1L240 TOWER (NON- COMMUNICATION) (Cont.)  
POINT**

Inclusion Conditions:

TTC(TOWER TYPE CATEGORY) 0(UNKNOWN) or 2(OBSERVATION/LOOKOUT) or 3(OTHER)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L250 UNDERGROUND DWELLING  
POINT**

Attributes

LMC    LANDMARK CATEGORY

PG Rules

L-3505

Inclusion Conditions:

LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1L260 WALL  
LINE**

Attributes

LEN    LENGTH /DIAMETER  
LMC    LANDMARK CATEGORY  
PFH    PREDOMINANT FEATURE HEIGHT

PG Rules

G-0012

L-0051

L-3801

R-2250

R-2353

Inclusion Conditions:

PFH(PREDOMINANT FEATURE HEIGHT) >= 2.0 m  
and LEN(LENGTH/DIAMETER) >= 125 m  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1M010 DEPOT (STORAGE)  
AREA**

Attributes

LMC    LANDMARK CATEGORY  
LOC    LOCATION /ORIGIN CATEGORY  
WID    WIDTH

PG Rules

G-0006

G-0012

L-0050

L-3801

L-4016

R-2494

Inclusion Conditions:

WID(WIDTH) >= 125 m  
OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1M020 GRAIN BIN  
AREA**

Attributes

LEN    LENGTH /DIAMETER

PG Rules

C-0022

G-0007

G-0012

L-3801

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## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Storage (1M)

1M020 GRAIN BIN (Cont.)  
 AREA

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 40 m

POINT

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	C-0022
	D-1654
	G-0005
	L-3505
	L-3801

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1M030 GRAIN ELEVATOR  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
HGT HEIGHT ABOVE SURFACE LEVEL	G-0007
LEN LENGTH /DIAMETER	G-0012
	L-3801
	O-0020

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 40 m

POINT

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	L-3505
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801
LEN LENGTH /DIAMETER	L-5040
LMC LANDMARK CATEGORY	R-0046
ZVL Z VALUE	

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 40 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1M050 SILO  
 POINT

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	L-3505
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC LANDMARK CATEGORY	L-5040
ZVL Z VALUE	R-0046

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Storage (1M)

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**1M050 SILO (Cont.)  
POINT**

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
and HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1M060 STORAGE BUNKER /STORAGE MOUND  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0006
PRO PRODUCT CATEGORY	G-0012
	L-0050
	L-0061
	L-3505
	L-3506
	L-3801

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 40 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0004
PRO PRODUCT CATEGORY	L-0061
	L-3801

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1M070 TANK  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
HGT HEIGHT ABOVE SURFACE LEVEL	G-0012
LEN LENGTH /DIAMETER	L-0061
LOC LOCATION /ORIGIN CATEGORY	L-3801
PRO PRODUCT CATEGORY	L-4034
	O-0020
	T-0301

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 40 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	L-0061
HGT HEIGHT ABOVE SURFACE LEVEL	L-3505
LEN LENGTH /DIAMETER	L-3801
LOC LOCATION /ORIGIN CATEGORY	L-4034
PRO PRODUCT CATEGORY	L-5040
ZVL Z VALUE	R-0046

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Storage (1M)

1M070 TANK (Cont.)  
 POINT

Attributes

PG Rules  
 T-0301

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 40 m  
 and LOC(LOCATION/ORIGIN CATEGORY) 3(ON GROUND SURFACE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1M080 WATER TOWER  
 POINT

Attributes

COE CERTAINTY OF EXISTENCE  
 HGT HEIGHT ABOVE SURFACE LEVEL  
 LMC LANDMARK CATEGORY  
 ZVL Z VALUE

PG Rules  
 L-3505  
 L-3801  
 L-5040  
 R-0046  
 R-2240

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1N010 RAILROAD TRACK  
 LINE

Attributes

ACC ACCURACY CATEGORY  
 EXS EXISTENCE CATEGORY  
 GAW GAUGE WIDTH  
 LOC LOCATION /ORIGIN CATEGORY  
 LTN LANE/TRACK NUMBER  
 NAM NAME CATEGORY  
 RGC RAILROAD GAUGE CATEGORY  
 RPS RAILROAD POWER SOURCE  
 RRC RAILROAD /ROAD CATEGORIES  
 RTA RAILROAD TRACK ARRANGEMENT  
 VRC VERTICAL REFERENCE CATEGORY

PG Rules

C-0017  
 D-1650  
 G-0012  
 L-3801  
 L-3956  
 L-3957  
 L-3961  
 L-3962  
 L-3963

PG Rules

L-4008  
 L-4016  
 L-4260  
 L-4261  
 L-4284  
 R-2229  
 R-2324  
 R-2327  
 R-2328

PG Rules

R-2329  
 R-2601  
 R-3672  
 R-3706  
 R-3708  
 R-3801  
 S-0103  
 S-7030

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1N050 RR SIDING /RR SPUR  
 LINE

Attributes

EXS EXISTENCE CATEGORY  
 RGC RAILROAD GAUGE CATEGORY  
 RPS RAILROAD POWER SOURCE  
 RSA RAIL SIDING /SPUR ATTRIBUTE

PG Rules

C-0017  
 D-1651  
 G-0012  
 L-3801  
 L-4284  
 R-2239  
 R-2326  
 X-8110

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Transportation R/R (1N)

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**1N050 RR SIDING /RR SPUR (Cont.)**  
**LINE**

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1N075 RR TURNTABLE**  
**POINT**

Attributes  
 NO ATTRIBUTE REQUIRED

PG Rules  
 G-0008

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1N080 RR YARD**  
**AREA**

Attributes  
 EXS EXISTENCE CATEGORY

PG Rules  
 G-0006  
 G-0010  
 G-0012  
 L-3562  
 L-3633  
 L-3801  
 O-0002  
 R-2238  
 X-8110

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1N090 TRAMWAY /INCLINE RAILWAY**  
**LINE**

Attributes  
 LEN LENGTH /DIAMETER  
 LMC LANDMARK CATEGORY

PG Rules  
 G-0012

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 375 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1P010 CART TRACK**  
**LINE**

Attributes  
 LEN LENGTH /DIAMETER  
 TUC TRANSPORTATION USE CATEGORY  
 WTC ROUTE WEATHERABILITY CATEGORY

PG Rules  
 D-1652  
 G-0012  
 O-0004  
 O-3156  
 R-2341  
 T-0022

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## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Transportation /Roads (1P)

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1P010 CART TRACK (Cont.)  
 LINE

Inclusion Conditions:

WTC(ROUTE WEATHERABILITY CATEGORY) 2(FAIR/DRY WEATHER) or 3(WINTER ONLY)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1P020 INTERCHANGE  
 LINE

<u>Attributes</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	G-0012
LOC LOCATION /ORIGIN CATEGORY	R-2233
LTN LANE/TRACK NUMBER	
RST ROAD/RUNWAY SURFACE TYPE	
TUC TRANSPORTATION USE CATEGORY	
WTC ROUTE WEATHERABILITY CATEGORY	

Inclusion Conditions:

RST(ROAD/RUNWAY SURFACE TYPE) 1(HARD/PAVED)  
 and TUC(TRANSPORTATION USE CATEGORY) 4(ROAD) or 7(THROUGH ROUTES)  
 and EXS(EXISTENCE CATEGORY) 5(UNDER CONSTRUCTION) or 28(OPERATIONAL)  
 and WTC(ROUTE WEATHERABILITY CATEGORY) 1(ALL WEATHER)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1P030 ROAD  
 LINE

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	C-0009	L-3953	R-2233
EXS EXISTENCE CATEGORY	C-0017	L-3955	R-2300
LEN LENGTH /DIAMETER	D-1510	L-4008	R-2301
LOC LOCATION /ORIGIN CATEGORY	D-1652	L-4016	R-2305
LTN LANE/TRACK NUMBER	D-7027	L-4260	S-0102
MED MEDIAN CATEGORY	G-0012	L-4261	S-1010
MWD MEDIAN WIDTH	L-3801	O-0004	T-0020
NAM NAME CATEGORY	L-3951	O-0026	T-0021
RST ROAD/RUNWAY SURFACE TYPE	L-3952	R-0060	
TUC TRANSPORTATION USE CATEGORY			
WTC ROUTE WEATHERABILITY CATEGORY			

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 80 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

1P050 TRAIL  
 LINE

<u>Attributes</u>	<u>PG Rules</u>
LMC LANDMARK CATEGORY	C-0009
WTC ROUTE WEATHERABILITY CATEGORY	D-1652
	G-0012
	L-4033
	O-0004
	T-0022

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Transportation /Roads (1P)

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**1P050 TRAIL (Cont.)**  
**LINE**

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q010 AERIAL CABLEWAY LINE /SKI LIFT LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
LMC LANDMARK CATEGORY	L-3801
OWO OVER WATER OBSTRUCTION	L-4260
USE USE STATUS	L-4261

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 375 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 OR OWO(OVER WATER OBSTRUCTION) 1(FEATURE CROSSES NAVIGABLE WATER) or 2(FEATURE CROSSES  
 NON-NAVIGABLE WATER)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q040 BRIDGE /OVERPASS /VIADUCT**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
BOT BRIDGE OPENING TYPE	C-0008
BVC BRIDGE/VIADUCT CATEGORY	G-0012
EXS EXISTENCE CATEGORY	L-3505
LEN LENGTH /DIAMETER	L-4008
LMC LANDMARK CATEGORY	O-0023
NAM. NAME CATEGORY	R-2236
OWO OVER WATER OBSTRUCTION	R-2316
TUC TRANSPORTATION USE CATEGORY	R-9035
	S-0104

Inclusion Conditions:

TUC(TRANSPORTATION USE CATEGORY) 1(BOTH ROAD AND RAILROAD) or 3(ROAD) or 4(RAILROAD) or 19(AQUEDUCT)  
 or 20(CANAL)  
 and LEN(LENGTH/DIAMETER) >= 75 m  
 OR TUC(TRANSPORTATION USE CATEGORY) 17(PEDESTRIAN)  
 and LEN(LENGTH/DIAMETER) > 75 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 OR TUC(TRANSPORTATION USE CATEGORY) 17(PEDESTRIAN)  
 and LEN(LENGTH/DIAMETER) > 75 m  
 and OWO(OVER WATER OBSTRUCTION) 1(FEATURE CROSSES NAVIGABLE WATER) or 2(FEATURE CROSSES  
 NON-NAVIGABLE WATER)

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
BVC BRIDGE/VIADUCT CATEGORY	C-0006
COE CERTAINTY OF EXISTENCE	C-0007
EXS EXISTENCE CATEGORY	L-3505
LEN LENGTH /DIAMETER	L-4008
LMC LANDMARK CATEGORY	L-5040
NAM NAME CATEGORY	S-0104
OHB OVERALL HEIGHT OF BRIDGE	



## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Culture (1)  
 SUBCATEGORY: Associated Transportation (1Q)

**1Q040 BRIDGE /OVERPASS /VIADUCT (Cont.)**  
**POINT**

Attributes  
 TUC TRANSPORTATION USE CATEGORY  
 ZVL Z VALUE

PG Rules

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 75 m  
 and TUC(TRANSPORTATION USE CATEGORY) 1(BOTH ROAD AND RAILROAD) or 3(RAILROAD)  
 or 4(ROAD) or 19(AQUEDUCT) or 20(CANAL)  
 OR TUC(TRANSPORTATION USE CATEGORY) 17(PEDESTRIAN)  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and LEN(LENGTH/DIAMETER) < 75 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q050 BRIDGE SUPERSTRUCTURE**  
**POINT**

Attributes  
 COE CERTAINTY OF EXISTENCE  
 OHB OVERALL HEIGHT OF BRIDGE  
 ZVL Z VALUE

PG Rules  
 L-3505  
 L-5040

Inclusion Conditions:

OHB(OVERALL HEIGHT OF BRIDGE) >= 46 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q060 CONTROL TOWER**  
**POINT**

Attributes  
 COE CERTAINTY OF EXISTENCE  
 HGT HEIGHT ABOVE SURFACE LEVEL  
 ZVL Z VALUE

PG Rules  
 L-3801  
 L-5040  
 O-3008  
 R-0046  
 R-2495

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q065 CULVERT**  
**POINT**

Attributes  
 WGP WIDTH WITH GREATER PRECISION

PG Rules  
 C-0007  
 R-0080  
 R-2231

Inclusion Conditions:

WGP(WIDTH WITH GREATER PRECISION) >= 2.5 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Associated Transportation (1Q)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q070 FERRY CROSSING**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	G-0012
FCL FERRY CROSSING LENGTH	L-4008
FER FERRY TYPE	L-4032
NAM NAME CATEGORY	L-4260
TUC TRANSPORTATION USE CATEGORY	L-4261
	L-4813
	R-2232
	R-2320

Inclusion Conditions:

FCL(FERRY CROSSING LENGTH) >= 25 m  
 and EXS(EXISTENCE) 28(OPERATIONAL)  
 OR FCL(FERRY CROSSING LENGTH) >= 25 m  
 and FER(FERRY TYPE) 1(FERRY WITH CABLES)

**POINT**

<u>Attributes</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	L-4008
FCL FERRY CROSSING LENGTH	L-4031
LMC LANDMARK CATEGORY	L-4032
NAM NAME CATEGORY	L-4813
TUC TRANSPORTATION USE CATEGORY	R-2232

Inclusion Conditions:

FCL(FERRY CROSSING LENGTH) < 25 m  
 and TUC(TRANSPORTATION USE CATEGORY) 1(BOTH ROAD AND RAILROAD) or 3(RAILROAD)  
 or 4(ROAD)  
 and EXS(EXISTENCE CATEGORY) 28(OPERATIONAL)  
 OR FCL(FERRY CROSSING LENGTH) < 25 m  
 and TUC(TRANSPORTATION USE CATEGORY) 17(PEDESTRIAN)  
 and EXS(EXISTENCE CATEGORY) 28(OPERATIONAL)  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q110 MOORING MAST**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	L-3801
HGT HEIGHT ABOVE SURFACE LEVEL	L-5040
ZVL Z VALUE	R-0046

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q115 REST AREA /VEHICLE STOPPING AREA**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
LMC LANDMARK CATEGORY	G-0012
WID WIDTH	L-3505
	L-3506
	L-3801
	R-2231

## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**      COMBAT CHARTS  
**CATEGORY:**      Culture (1)  
**SUBCATEGORY:**      Associated Transportation (1Q)

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**1Q115 REST AREA /VEHICLE STOPPING AREA (Cont.)**  
**AREA**

R-2494

Inclusion Conditions:

WID(WIDTH) >= 125 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q116 ROUTE MARKER**  
**POINT**

Attributes

NAM    NAME CATEGORY  
 USE    USE STATUS

PG Rules

L-3801  
 L-3996  
 R-2260  
 R-2264  
 R-2302  
 R-2307  
 R-2312

Inclusion Conditions:

USE(USE STATUS) 4(NATIONAL) or 5(STATE) or 23(INTERNATIONAL)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q131 TUNNEL**  
**LINE**

Attributes

LEN    LENGTH /DIAMETER  
 NAM    NAME CATEGORY  
 TRA    TRAVERSABILITY ATTRIBUTE  
 TUC    TRANSPORTATION USE CATEGORY

PG Rules

G-0012  
 L-4008  
 L-4260  
 L-4261  
 L-4813  
 R-2318  
 R-2325  
 X-8108

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 75 m

---

**POINT**

Attributes

LEN    LENGTH /DIAMETER  
 NAM    NAME CATEGORY  
 TRA    TRAVERSABILITY ATTRIBUTE  
 TUC    TRANSPORTATION USE CATEGORY

PG Rules

G-0012  
 L-3505  
 L-4008  
 R-2318  
 R-2325

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Associated Transportation (1Q)

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**1Q131 TUNNEL (Cont.)**  
**POINT**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 75 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1Q140 VEHICLE STORAGE /VEHICLE PARKING**  
**AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 LMC LANDMARK CATEGORY  
 MOT MODE OF TRANSPORT

PG Rules

G-0012  
 L-3505  
 L-3506  
 R-2494  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and MOT(MODE OF TRANSPORT) 4(AUTOMOTIVE)  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1T005 CABLE**  
**LINE**

Attributes

EXS EXISTENCE CATEGORY  
 LOC LOCATION /ORIGIN CATEGORY  
 USE USE STATUS

PG Rules

R-2211  
 R-2212  
 R-2818

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 6(BELOW WATER SURFACE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1T010 DISH**  
**POINT**

Attributes

COE CERTAINTY OF EXISTENCE  
 HGT HEIGHT ABOVE SURFACE LEVEL  
 LMC LANDMARK CATEGORY  
 ZVL Z VALUE

PG Rules

L-3801  
 L-5040  
 R-0046

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR HGT(HEIGHT ABOVE SURFACE LEVEL) < 46 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Communication /Transmission (1T)  
**\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\***

**1T030 POWER TRANSMISSION LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	G-0012
LEN LENGTH /DIAMETER	L-3801
LMC LANDMARK CATEGORY	L-4012
OWO OVER WATER OBSTRUCTION	L-4260
TST TRANSMISSION LINE SUSPENSION TYPE	L-4261
	R-0006
	R-0030
	R-2275
	R-2492

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 375 m  
 OR OWO(OVER WATER OBSTRUCTION) 1(FEATURE CROSSES NAVIGABLE WATER) or 2(FEATURE CROSSES  
 NON-NAVIGABLE WATER)

**\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\***

**1T040 POWER TRANSMISSION PYLON**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	L-3505
HGT HEIGHT ABOVE SURFACE LEVEL	L-5040
ZVL Z VALUE	

Inclusion Conditions:

HGT(HEIGHT/DIAMETER) >= 46 m

**\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\***

**1T050 COMMUNICATIONS FACILITY**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
NAM NAME CATEGORY	G-0012
NST RADIO NAVIGATION /COMMUNICATION	L-3801
	L-4008
	L-4813

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square

**\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\***

**1T060 TELEPHONE LINE /TELEGRAPH LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	G-0012
LEN LENGTH /DIAMETER	L-3801
LMC LANDMARK CATEGORY	L-4260
OWO OVER WATER OBSTRUCTION	L-4261
	R-0006
	R-0030

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Communication /Transmission (1T)

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**1T060 TELEPHONE LINE /TELEGRAPH LINE (Cont.)**  
**LINE**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 2,500 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 OR OWO(OVER WATER OBSTRUCTION) 1(FEATURE CROSSES NAVIGABLE WATER) or 2(FEATURE CROSSES  
 NON-NAVIGABLE WATER)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1T080 TOWER (COMMUNICATION)**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COE CERTAINTY OF EXISTENCE	G-0008
HGT HEIGHT ABOVE SURFACE LEVEL	L-3801
LMC LANDMARK CATEGORY	L-4813
NAM NAME CATEGORY	L-5040
NST RADIO NAVIGATION /COMMUNICATION	R-0046
ZVL Z VALUE	

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 46 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U025 AIRCRAFT LANDING PAD**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
AFT AIRCRAFT FACILITY TYPE	-None
NAM NAME CATEGORY	
USE USE STATUS	

Inclusion Conditions:

AFT(AIRCRAFT FACILITY TYPE) 2(HELIPORT)  
 and USE(USE STATUS) 10(OTHER) or 43(HOSPITAL)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U030 AIRCRAFT FACILITY**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
AFT AIRCRAFT FACILITY TYPE	G-0010
COD CERTAINTY OF DELINEATION	G-0012
EXS EXISTENCE CATEGORY	L-0050
NAM NAME CATEGORY	L-3801
USE USE STATUS	L-4008
ZVL Z VALUE	L-4813
	R-2333
	R-2494
	R-2495

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Airports (10)

**1U030 AIRCRAFT FACILITY (Cont.)**  
**AREA**

Inclusion Conditions:

AFT(AIRCRAFT FACILITY TYPE) 1(AIRPORT) or 3(SEAPLANE BASE)  
 and COD(CERTAINTY OF DELINEATION) 1(LIMITS AND INFO KNOWN)  
 and EXS(EXISTENCE CATEGORY) 6(ABANDONED) or 28(OPERATIONAL)  
 and USE(USE STATUS) 0(UNKNOWN) or 8(MILITARY) or 22(JOINT MILITARY/CIVILIAN)  
 or 23(INTERNATIONAL) or 49(CIVILIAN)

**POINT**

<u>Attributes</u>	<u>PG Rules</u>
AFT AIRCRAFT FACILITY TYPE	G-0008
COD CERTAINTY OF DELINEATION	L-3801
EXS EXISTENCE CATEGORY	L-4008
NAM NAME CATEGORY	L-5011
USE USE STATUS	O-0024

Inclusion Conditions:

AFT(AIRCRAFT FACILITY TYPE) 1(AIRPORT)  
 and USE(USE STATUS) 0(UNKNOWN)  
 and COD(CERTAINTY OF DELINEATION) 2(LIMITS AND INFO UNKNOWN)  
 OR AFT(AIRCRAFT FACILITY TYPE) 3(SEAPLANE BASE)  
 and USE(USE STATUS) 0(UNKNOWN) or 8(MILITARY) or 22(JOINT MILITARY/CIVILIAN)  
 or 23(INTERNATIONAL) or 49(CIVILIAN)  
 and EXS(EXISTENCE CATEGORY) 6(ABANDONED) or 28(OPERATIONAL)  
 and COD(CERTAINTY OF DELINEATION) 2(LIMITS AND INFO UNKNOWN)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U040 AIRCRAFT FACILITY BEACON**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
COL CHARACTER OF LIGHT	L-4722
	R-2849

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U060 APRON /HARDSTAND**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
WID WIDTH	C-0017
	G-0006
	G-0012

Inclusion Conditions:

WID(WIDTH) >= 20 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Culture (1)  
**SUBCATEGORY:** Airports (1U)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U130 OVERRUN /STOPWAY  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
NO ATTRIBUTE REQUIRED	G-0012

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U160 RUNWAY  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	C-0017
RST ROAD/RUNWAY SURFACE TYPE	G-0012
ZVL Z VALUE	L-3801
	L-4017
	L-4892

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U190 SEAPLANE LANDING OR TAKE-OFF AREA  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	L-4747

Inclusion Conditions:

EXS (EXISTENCE CATEGORY) 28 (OPERATIONAL)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**1U200 TAXIWAY  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
NO ATTRIBUTE REQUIRED	C-0017
	G-0012

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2A010 COASTAL SHORELINE  
 LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	G-0012	R-2372
SLT SHORELINE TYPE CATEGORY	G-0013	R-2437
VDC VERTICAL DATUM CATEGORY	L-4132	R-2440
VDR VERTICAL DATUM RECORD	R-1200	R-3735
	R-2023	R-3910
	R-2316	



## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Coastal Hydro (2A)

2A010 COASTAL SHORELINE (Cont.)  
 LINE

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2A020 FORESHORE  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	L-4705
LOC	LOCATION /ORIGIN CATEGORY	L-4706
MCP	MATERIAL COMPOSITION PRIMARY	L-4722
MCS	MATERIAL COMPOSITION SECONDARY	R-2316
WID	WIDTH	R-2825
		R-2826
		R-3708

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 8(AT SHORELINE)  
 and WID(WIDTH) >= 25 m  
 LOC(LOCATION/ORIGIN CATEGORY) 2(OFF-SHORE)  
 and LEN(LENGTH/DIAMETER) >= 150 m

POINT

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	L-4706
LOC	LOCATION /ORIGIN CATEGORY	L-4722
MCP	MATERIAL COMPOSITION PRIMARY	R-2825
MCS	MATERIAL COMPOSITION SECONDARY	R-2911
		R-3708
		R-3709

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 2(OFF-SHORE)  
 and LEN(LENGTH/DIAMETER) < 150 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2A040 OPEN WATER (EXCEPT INLAND)  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
WID	WIDTH	R-2316
		R-2869
		R-3708

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Ports and Harbors (2B)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2B010 ANCHORAGE AREA**

<u>Attributes</u>	<u>PG Rules</u>
ANC ANCHORAGE TYPE CATEGORY	L-4705
COD CERTAINTY OF DELINEATION	L-4715
LEN LENGTH /DIAMETER	L-4722
NAM NAME CATEGORY	L-4753
TIM TIME ATTRIBUTE	L-4813
WID WIDTH	L-4869
	L-4882
	R-2800
	R-2811

Inclusion Conditions:

COD(CERTAINTY OF DELINEATION) 1(LIMITS AND INFO KNOWN)  
 and LEN(LENGTH/DIAMETER) >= 400 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
ANC ANCHORAGE TYPE CATEGORY	L-4869
COD CERTAINTY OF DELINEATION	R-2811
LEN LENGTH /DIAMETER	
NAM NAME CATEGORY	
TIM TIME ATTRIBUTE	

Inclusion Conditions:

COD(CERTAINTY OF DELINEATION) 1(LIMITS AND INFO KNOWN)  
 and LEN(LENGTH/DIAMETER) < 400 m  
 OR COD(CERTAINTY OF DELINEATION) 2(LIMITS AND INFO UNKNOWN)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2B020 BERTH POINT**

<u>Attributes</u>	<u>PG Rules</u>
BER BERTH IDENTIFIER	L-4727
USE USE STATUS	

Inclusion Conditions:

USE(USE STATUS) 88(ROLL ON ROLL OFF BERTH)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2B040 BREAKWATER AREA**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	L-4725
VRC VERTICAL REFERENCE CATEGORY	R-2741
WID WIDTH	R-2742
	R-2802
	R-2803
	R-3672
	R-3708

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Ports and Harbors (2B)

**2B040 BREAKWATER (Cont.)**  
**AREA**

Inclusion Conditions:

WID(WIDTH) >= 20 m

**LINE**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	L-4725
VRC	VERTICAL REFERENCE CATEGORY	L-4743
WID	WIDTH	R-2741
		R-2742

Inclusion Conditions:

WID(WIDTH) < 20 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B080 DOLPHIN**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
AGO	ANGLE OF ORIENTATION	L-4722
USE	USE STATUS	L-4737
		L-4800
		L-4894
		R-2748

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B090 DRYDOCK**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	L-4709
LMC	LANDMARK CATEGORY	L-4722
LOC	LOCATION /ORIGIN CATEGORY	L-4883
NAM	NAME CATEGORY	R-2804
WID	WIDTH	R-2904
		R-3675

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 7(NON-FLOATING)  
and WID(WIDTH) >= 20 m  
OR LOC(LOCATION/ORIGIN CATEGORY) 7(NON-FLOATING)  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)  
OR LOC(LOCATION/ORIGIN CATEGORY) 5(FLOATING)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

MIL-C-89202A

**TABLE I**                    Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**        COMBAT CHARTS  
**CATEGORY:**        Hydrography (2)  
**SUBCATEGORY:**     Ports and Harbors (2B)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B100 FISHERY /FISH STAKES**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
NO ATTRIBUTE REQUIRED	-None

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B110 FISE TRAP /FISE WEIR**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
NO ATTRIBUTE REQUIRED	L-4722 L-4800

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B115 GRIDIRON**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
LEN    LENGTH /DIAMETER	-None

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 200 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B140 JETTY**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
LEN    LENGTH /DIAMETER	R-2802
VRC    VERTICAL REFERENCE CATEGORY	R-2803
WID    WIDTH	R-3708

Inclusion Conditions:

WID(WIDTH) >= 20 m

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**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN    LENGTH /DIAMETER	-None
VRC    VERTICAL REFERENCE CATEGORY	
WID    WIDTH	

Inclusion Conditions:

WID(WIDTH) < 20 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**      COMBAT CHARTS  
**CATEGORY:**      Hydrography (2)  
**SUBCATEGORY:**      Ports and Harbors (2B)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2B150 LANDING PLACE  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
COD	CERTAINTY OF DELINEATION	L-4802
HOC	HYDROGRAPHIC ORIGIN CATEGORY	
LEN	LENGTH /DIAMETER	

Inclusion Conditions:

HOC (HYDROGRAPHIC ORIGIN CATEGORY) 5 (NATURAL)  
 and COD (CERTAINTY OF DELINEATION) 1 (LIMITS AND INFO KNOWN)  
 and LEN (LENGTH/DIAMETER) >= 150 m

**POINT**

<u>Attributes</u>		<u>PG Rules</u>
COD	CERTAINTY OF DELINEATION	L-4802
HOC	HYDROGRAPHIC ORIGIN CATEGORY	R-3668
LEN	LENGTH /DIAMETER	

Inclusion Conditions:

HOC (HYDROGRAPHIC ORIGIN CATEGORY) 5 (NATURAL)  
 and COD (CERTAINTY OF DELINEATION) 1 (LIMITS AND INFO KNOWN)  
 and LEN (LENGTH/DIAMETER) < 150 m  
 OR HOC (HYDROGRAPHIC ORIGIN CATEGORY) 5 (NATURAL)  
 and COD (CERTAINTY OF DELINEATION) 2 (LIMITS AND INFO UNKNOWN)  
 OR HOC (HYDROGRAPHIC ORIGIN CATEGORY) 4 (MAN-MADE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2B155 MARITIME STATION  
 POINT**

<u>Attributes</u>		<u>PG Rules</u>
SST	SOUND SIGNAL TYPE	C-0030
STN	MARITIME STATION TYPE	L-4722
		L-4837
		L-4838
		L-4839

Inclusion Conditions:

STN (MARITIME STATION TYPE) 17 (FOG SIGNAL)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2B170 OFFSHORE LOADING FACILITY  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	L-4705
NAM	NAME CATEGORY	L-4709
WID	WIDTH	L-4722
		R-9035

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Ports and Harbors (2B)

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**2B170 OFFSHORE LOADING FACILITY (Cont.)  
 AREA**

Inclusion Conditions:

WID(WIDTH) >= 40 m

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**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	L-4709
NAM NAME CATEGORY	L-4860
WID WIDTH	R-9035

Inclusion Conditions:

WID(WIDTH) < 40 m  
 and LEN(LENGTH/DIAMETER) >= 40 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
CHA LIGHT CHARACTERISTIC CATEGORY	L-4709
LEN LENGTH /DIAMETER	L-4722
NAM NAME CATEGORY	R-2849
USE USE STATUS	
WID WIDTH	

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

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**2B190 PIER, WHARF  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
PUC PIER USE CATEGORY	R-2804
WID WIDTH	R-9035

Inclusion Conditions:

WID(WIDTH) >= 20 m

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**LINE**

<u>Attributes</u>	<u>PG Rules</u>
PUC PIER USE CATEGORY	-None
WID WIDTH	

Inclusion Conditions:

WID(WIDTH) < 20 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Ports and Harbors (2B)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B220 RAMP  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
VRC	VERTICAL REFERENCE CATEGORY	L-4803
WID	WIDTH	R-2802
		R-2803
		R-3708

Inclusion Conditions:

WID(WIDTH) >= 20 m

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**LINE**

<u>Attributes</u>		<u>PG Rules</u>
VRC	VERTICAL REFERENCE CATEGORY	L-4803
WID	WIDTH	

Inclusion Conditions:

WID(WIDTH) < 20 m

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 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B225 RIPRAP  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
VRC	VERTICAL REFERENCE CATEGORY	R-2743
		R-2750
		R-3700
		R-3708

Inclusion Conditions:

All required

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 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B230 SEAWALL  
 LINE**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	G-0012

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 100 m

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 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2B240 SLIPWAY  
 LINE**

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	L-4803
VRC	VERTICAL REFERENCE CATEGORY	R-2802
		R-2803
		R-3708

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Ports and Harbors (2B)

**2B240 SLIPWAY (Cont.)**  
**LINE**

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2C010 BUOY**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
BF1 BROADCAST FREQUENCY (1)	D-1914	L-4842	R-2722
BF2 BROADCAST FREQUENCY (2)	D-7013	L-4843	R-2723
CCF COLOR CODE OF FEATURE	L-4709	L-4844	R-2724
CHA LIGHT CHARACTERISTIC CATEGORY	L-4711	L-4845	R-2725
COL CHARACTER OF LIGHT	L-4737	L-4846	R-2726
EOL ELEVATION OF LIGHT	L-4759	L-4849	R-2727
LVR LIGHT VISIBILITY RANGE	L-4761	L-4850	R-2832
MLR MULTIPLE LIGHT RANGES	L-4766	L-4853	R-2849
NAM NAME CATEGORY	L-4767	L-4856	R-2884
PER PERIOD OF LIGHT	L-4768	L-4857	R-2885
RA1 RADIO AID (1)	L-4789	L-4858	R-2886
RA2 RADIO AID (2)	L-4790	L-4868	R-2887
REF RADAR REFLECTOR ATTRIBUTE	L-4831	L-4875	R-2992
SSC STRUCTURE SHAPE CATEGORY	L-4833	L-4876	R-2994
SST SOUND SIGNAL TYPE	L-4834	L-4899	R-2995
TMC TOPMARK CATEGORY	L-4835	R-2295	R-2996
	L-4836	R-2717	R-2997
	L-4837	R-2718	R-3684
	L-4838	R-2719	S-1403
	L-4839	R-2720	T-0845
	L-4840	R-2721	T-0846
	L-4841		

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2C020 CLEARING LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
BRG BEARING OF OBJECT	D-7012
COL CHARACTER OF LIGHT	L-4743
DRP DESCRIPTION OF REFERENCE POINT	L-4830
LAF LINE ASSOCIATED FEATURES	L-4881
	L-7010
	O-3420
	R-2999

Inclusion Conditions:

LAF(LINE ASSOCIATED FEATURES) 1(ONE OBJECT (OTHER THAN A DIRECTIONAL LIGHT) or 2(DIRECTIONAL LIGHT) or 3(TWO OR MORE LIGHTS) or 4(TWO OR MORE BEACONS) or 5(TWO OR MORE OBJECTS (OTHER THAN TWO LIGHTS))

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT



## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Navaids (2C)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2C030 ELECTRONIC BEACON POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
BF1 BROADCAST FREQUENCY (1)	D-7013	L-4850
BF2 BROADCAST FREQUENCY (2)	L-4709	L-4853
BR1 BEACON RANGE (1)	L-4737	L-4899
BR2 BEACON RANGE (2)	L-4783	O-3400
NAM NAME CATEGORY	L-4835	T-0854
RA1 RADIO AID (1)	L-4836	T-0855
RA2 RADIO AID (2)	L-4844	

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2C040 LEADING LINE LINE**

<u>Attributes</u>	<u>PG Rules</u>
BRG BEARING OF OBJECT	D-7012
COL CHARACTER OF LIGHT	L-4743
DRP DESCRIPTION OF REFERENCE POINT	L-4855
LAF LINE ASSOCIATED FEATURES	L-4881
	L-7010
	O-3420
	R-2728
	R-2998
	R-3681

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2C050 LIGHT POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
BF1 BROADCAST FREQUENCY (1)	D-7013	L-4841	O-3400
BF2 BROADCAST FREQUENCY (2)	L-4709	L-4842	O-3415
CCF COLOR CODE OF FEATURE	L-4711	L-4843	R-2259
COL CHARACTER OF LIGHT	L-4737	L-4844	R-2295
EOL ELEVATION OF LIGHT	L-4759	L-4847	R-2716
EXS EXISTENCE CATEGORY	L-4760	L-4848	R-2729
HLT HYDROGRAPHIC LIGHT TYPE	L-4761	L-4849	R-2759
L51 SECTOR LABEL (1)	L-4762	L-4850	R-2832
L52 SECTOR LABEL (2)	L-4783	L-4851	R-2849
L53 SECTOR LABEL (3)	L-4788	L-4852	R-2884
L54 SECTOR LABEL (4)	L-4790	L-4853	R-2887
L55 SECTOR LABEL (5)	L-4792	L-4856	R-2889
L56 SECTOR LABEL (6)	L-4793	L-4857	R-2920
L57 SECTOR LABEL (7)	L-4831	L-4858	R-2992
L58 SECTOR LABEL (8)	L-4833	L-4865	R-3681
L59 SECTOR LABEL (9)	L-4834	L-4867	R-3682
L60 SECTOR LABEL (10)	L-4835	L-4868	R-3683
L61 SECTOR LABEL (11)	L-4836	L-4875	R-3685
L62 SECTOR LABEL (12)	L-4837	L-4876	S-1402
L63 SECTOR LABEL (13)	L-4838	L-4888	T-0826
L64 SECTOR LABEL (14)	L-4839	L-4899	T-0853
L65 SECTOR LABEL (15)	L-4840		
L66 SECTOR LABEL (16)			

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Navaids (2C)

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**2C050 LIGHT (Cont.)**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
L67	SECTOR LABEL (17)		
L68	SECTOR LABEL (18)		
L69	SECTOR LABEL (19)		
L70	SECTOR LABEL (20)		
L71	SECTOR LABEL (21)		
L72	SECTOR LABEL (22)		
L73	SECTOR LABEL (23)		
L74	SECTOR LABEL (24)		
L75	SECTOR LABEL (25)		
LVR	LIGHT VISIBILITY RANGE		
MLR	MULTIPLE LIGHT RANGES		
NAM	NAME CATEGORY		
PER	PERIOD OF LIGHT		
RA1	RADIO AID (1)		
RA2	RADIO AID (2)		
REF	RADAR REFLECTOR ATTRIBUTE		
S51	SECTOR ANGLE (1)		
S52	SECTOR ANGLE (2)		
S53	SECTOR ANGLE (3)		
S54	SECTOR ANGLE (4)		
S55	SECTOR ANGLE (5)		
S56	SECTOR ANGLE (6)		
S57	SECTOR ANGLE (7)		
S58	SECTOR ANGLE (8)		
S59	SECTOR ANGLE (9)		
S60	SECTOR ANGLE (10)		
S61	SECTOR ANGLE (11)		
S62	SECTOR ANGLE (12)		
S63	SECTOR ANGLE (13)		
S64	SECTOR ANGLE (14)		
S65	SECTOR ANGLE (15)		
S66	SECTOR ANGLE (16)		
S67	SECTOR ANGLE (17)		
S68	SECTOR ANGLE (18)		
S69	SECTOR ANGLE (19)		
S70	SECTOR ANGLE (20)		
S71	SECTOR ANGLE (21)		
S72	SECTOR ANGLE (22)		
S73	SECTOR ANGLE (23)		
S74	SECTOR ANGLE (24)		
S75	SECTOR ANGLE (25)		
SSC	STRUCTURE SHAPE CATEGCRY		
SST	SOUND SIGNAL TYPE		
TMC	TOPMARK CATEGORY		

Inclusion Conditions:

HLT (HYDROGRAPHIC LIGHT TYPE) 0 (UNKNOWN) or 1 (SECTORED LIGHT) or 2 (OTHER) or 3 (MOIRE EFFECT LIGHT) or 6 (LIGHTED BEACON)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2C055 MARKER**  
**POINT**

Attributes  
 NO ATTRIBUTE REQUIRED

PG Rules  
 D-7013  
 L-4722

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Nav aids (2C)

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**2C055 MARKER (Cont.)  
 POINT**

Inclusion Conditions:

All required

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**2C060 VISUAL BEACON  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
BF1 BROADCAST FREQUENCY (1)	C-0030	L-4834	L-4844
BF2 BROADCAST FREQUENCY (2)	D-7013	L-4835	L-4849
CCF COLOR CODE OF FEATURE	L-4709	L-4836	L-4850
NAM NAME CATEGORY	L-4737	L-4837	L-4853
RA1 RADIO AID (1)	L-4783	L-4838	L-4868
RA2 RADIO AID (2)	L-4790	L-4839	R-2295
REF RADAR REFLECTOR ATTRIBUTE	L-4793	L-4840	R-2759
SSC STRUCTURE SHAPE CATEGORY	L-4831	L-4841	R-2992
SST SOUND SIGNAL TYPE	L-4833	L-4843	S-1403
TMC TOPMARK CATEGORY			

Inclusion Conditions:

All required

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**2D000 MISCELLANEOUS UNDERWATER FEATURE  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	O-3411
DAT DATE CATEGORY	L-4702	R-2221
DDA DESCRIPTION OF DANGER	L-4707	R-2222
EXS EXISTENCE CATEGORY	L-4708	R-2800
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4722	R-2806
HDP HYDROGRAPHIC DEPTH	L-4729	R-2916
LEN LENGTH /DIAMETER	L-4730	R-3704
SFC SEA FLOOR FEATURE CATEGORY	L-4807	R-3708
VDC VERTICAL DATUM CATEGORY	L-4808	
VDR VERTICAL DATUM RECORD		
WID WIDTH		

Inclusion Conditions:

SFC(SEA FLOOR FEATURE CATEGORY) 1(UNKNOWN (OBSTRUCTION)) or 2(OTHER) or 3(FISH HAVEN)  
 and LEN(LENGTH/DIAMETER) >= 200 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	D-1909	L-4891
DAT DATE CATEGORY	L-4700	O-3411
DDA DESCRIPTION OF DANGER	L-4702	R-2221
EXS EXISTENCE CATEGORY	L-4707	R-2222
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4708	R-2806
HDP HYDROGRAPHIC DEPTH	L-4722	R-2916
LEN LENGTH /DIAMETER	L-4729	R-3704
SFC SEA FLOOR FEATURE CATEGORY	L-4730	R-3708
VDC VERTICAL DATUM CATEGORY	L-4808	R-3709
VDR VERTICAL DATUM RECORD	L-4872	S-1401

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)

**2D000 MISCELLANEOUS UNDERWATER FEATURE (Cont.)**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
WID WIDTH		

Inclusion Conditions:

SFC(SEA FLOOR FEATURE CATEGORY) 1(UNKNOWN (OBSTRUCTION)) or 2(OTHER) or 3(FISH HAVEN)  
 and LEN(LENGTH/DIAMETER) < 200 m  
 OR SFC(SEA FLOOR FEATURE CATEGORY) 4(WELL) or 5(SUBMERGED PRODUCTION PLATFORM)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D010 BREAKERS**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	L-4705
LOC LOCATION /ORIGIN CATEGORY	L-4722
	R-2800
	R-2911

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 8(AT SHORELINE)  
 and LEN(LENGTH/DIAMETER) >= 250 m

**POINT**

<u>Attributes</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700
DAT DATE CATEGORY	L-4706
EXS EXISTENCE CATEGORY	L-4707
LEN LENGTH /DIAMETER	L-4708
LOC LOCATION /ORIGIN CATEGORY	L-4722
	L-4730
	L-4808
	O-3411
	S-1404

Inclusion Conditions:

LOC(LOCATION/ORIGIN CATEGORY) 2(OFF-SHORE)  
 OR LOC(LOCATION/ORIGIN CATEGORY) 8(AT SHORELINE)  
 and LEN(LENGTH/DIAMETER) < 250 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D020 CRIB**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	L-4809
DAT DATE CATEGORY	L-4702	O-3411
EXS EXISTENCE CATEGORY	L-4707	R-2221
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4708	R-2222
HDP HYDROGRAPHIC DEPTH	L-4722	R-2802
LEN LENGTH /DIAMETER	L-4729	R-2911
VDC VERTICAL DATUM CATEGORY	L-4807	R-3672
VDR VERTICAL DATUM RECORD	L-4808	R-3708
VRC VERTICAL REFERENCE CATEGORY		
WID WIDTH		

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)

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**2D020 CRIB (Cont.)**  
**AREA**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 50 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	L-4809
AOO ANGLE OF ORIENTATION	L-4702	O-3411
DAT DATE CATEGORY	L-4707	R-2221
EXS EXISTENCE CATEGORY	L-4708	R-2222
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4722	R-2911
HDP HYDROGRAPHIC DEPTH	L-4729	R-3672
LEN LENGTH /DIAMETER	L-4808	R-3708
VDC VERTICAL DATUM CATEGORY		
VDR VERTICAL DATUM RECORD		
VRC VERTICAL REFERENCE CATEGORY		
WID WIDTH		

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 50 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D030 DISCOLORED WATER**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700
DAT DATE CATEGORY	L-4707
EXS EXISTENCE CATEGORY	L-4708
LEN LENGTH /DIAMETER	L-4722
	L-4730
	L-4808
	O-3411
	R-2287
	R-2911
	R-3708

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 200 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	L-4809
DAT DATE CATEGORY	L-4707	O-3411
EXS EXISTENCE CATEGORY	L-4708	R-2287
LEN LENGTH /DIAMETER	L-4722	R-2911
	L-4730	R-3708
	L-4808	

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)

**2D030 DISCOLORED WATER (Cont.)**  
**POINT**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 200 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D040 EDDIES**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	D-1907
WID	WIDTH	R-2913

Inclusion Conditions:

WID(WIDTH) >= 250 m

**POINT**

<u>Attributes</u>		<u>PG Rules</u>
WID	WIDTH	D-1907

Inclusion Conditions:

WID(WIDTH) < 250 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D050 FOUL GROUND**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ACC	ACCURACY CATEGORY	L-4700	L-4807
DAT	DATE CATEGORY	L-4702	L-4808
EXS	EXISTENCE CATEGORY	L-4707	O-3411
HDI	HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4708	R-2221
HDP	HYDROGRAPHIC DEPTH	L-4722	R-2222
LEN	LENGTH /DIAMETER	L-4729	R-2800
VDC	VERTICAL DATUM CATEGORY	L-4730	R-2806
VDR	VERTICAL DATUM RECORD		

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 200 m

**POINT**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ACC	ACCURACY CATEGORY	D-1909	L-4808
DAT	DATE CATEGORY	L-4700	L-4872
EXS	EXISTENCE CATEGORY	L-4702	L-4891
HDI	HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4707	O-3411
HDP	HYDROGRAPHIC DEPTH	L-4708	R-2221
LEN	LENGTH /DIAMETER	L-4722	R-2222
VDC	VERTICAL DATUM CATEGORY	L-4729	R-2806
VDR	VERTICAL DATUM RECORD	L-4730	R-3709
WID	WIDTH		

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Dangers and Underwater Features (2D)

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2D050 FOUL GROUND (Cont.)  
 POINT

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 200 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2D060 KELP  
 AREA

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 LEN LENGTH /DIAMETER

PG Rules

D-1907  
 R-2913

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 250 m

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POINT

Attributes

LEN LENGTH /DIAMETER

PG Rules

D-1907

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 250 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2D080 OVERFALLS /TIDE RIPS  
 AREA

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 NAM NAME CATEGORY  
 WID WIDTH

PG Rules

D-1907  
 L-4709  
 L-4737  
 R-2913

Inclusion Conditions:

WID(WIDTH) >= 250 m

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POINT

Attributes

WID WIDTH

PG Rules

D-1907

Inclusion Conditions:

WID(WIDTH) < 250 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2D090 PERCH /STAKE  
 POINT

Attributes

SSC STRUCTURE SHAPE CATEGORY

PG Rules

-None

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)

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**2D090 PERCH /STAKE (Cont.)  
POINT**

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D100 PILING  
AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	L-4808
DAT DATE CATEGORY	L-4707	O-3411
EXS EXISTENCE CATEGORY	L-4708	R-2800
LEN LENGTH /DIAMETER	L-4722	R-2914
VRC VERTICAL REFERENCE CATEGORY	L-4730	R-3708
	L-4807	

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 150 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700
DAT DATE CATEGORY	L-4707
EXS EXISTENCE CATEGORY	L-4708
LEN LENGTH /DIAMETER	L-4722
VRC VERTICAL REFERENCE CATEGORY	L-4730
	L-4808
	L-4809
	O-3411
	R-2914

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 150 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D110 PLATFORM  
POINT**

<u>Attributes</u>	<u>PG Rules</u>
CHA LIGHT CHARACTERISTIC CATEGORY	L-4706
NAM NAME CATEGORY	L-4722
NST RADIO NAVIGATION /COMMUNICATION	L-4730
SST SOUND SIGNAL TYPE	L-4839

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT



## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D120 REEF  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	D-1910	L-4807	R-2221
COD CERTAINTY OF DELINEATION	L-4700	L-4808	R-2222
DAT DATE CATEGORY	L-4702	L-4809	R-2802
EXS EXISTENCE CATEGORY	L-4707	L-4811	R-2806
HDE HYDROGRAPHIC DRYING HEIGHT	L-4708	L-4813	R-2915
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4709	O-3411	R-3708
HDP HYDROGRAPHIC DEPTH	L-4722	R-2210	R-9040
MCP MATERIAL COMPOSITION PRIMARY	L-4730	R-2215	
NAM NAME CATEGORY			
VDC VERTICAL DATUM CATEGORY			
VDR VERTICAL DATUM RECORD			
VRC VERTICAL REFERENCE CATEGORY			

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2D130 ROCK  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	D-1909	L-4763	R-2294
DAT DATE CATEGORY	L-4700	L-4808	R-2806
EXS EXISTENCE CATEGORY	L-4702	L-4872	R-2916
HDE HYDROGRAPHIC DRYING HEIGHT	L-4707	O-3411	R-3707
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4708	R-2210	R-3708
HDP HYDROGRAPHIC DEPTH	L-4709	R-2221	R-3709
MCP MATERIAL COMPOSITION PRIMARY	L-4722	R-2222	T-0836
NAM NAME CATEGORY	L-4730		
SOH SEVERITY OF HAZARD			
VDC VERTICAL DATUM CATEGORY			
VDR VERTICAL DATUM RECORD			
VRC VERTICAL REFERENCE CATEGORY			

Inclusion Conditions:

All required

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**2D140 SHAG /STUMP  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	L-4808
DAT DATE CATEGORY	L-4707	L-4809
EXS EXISTENCE CATEGORY	L-4708	O-3411
LEN LENGTH /DIAMETER	L-4722	R-2800
VRC VERTICAL REFERENCE CATEGORY	L-4729	R-2914
	L-4730	R-3708
	L-4807	

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)

**2D140 SNAG /STUMP (Cont.)**  
**AREA**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 150 m

**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4700	L-4872
DAT DATE CATEGORY	L-4702	L-4891
EXS EXISTENCE CATEGORY	L-4707	O-3411
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4708	R-2221
HDP HYDROGRAPHIC DEPTH	L-4722	R-2222
LEN LENGTH /DIAMETER	L-4730	R-2914
VDC VERTICAL DATUM CATEGORY	L-4808	R-3708
VDR VERTICAL DATUM RECORD	L-4809	R-3709
VRC VERTICAL REFERENCE CATEGORY		

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 150 m

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**2D180 WRECK**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
COD CERTAINTY OF DELINEATION	L-4702	R-2802
EPA EXPOSED PORTION ATTRIBUTE	L-4722	R-2806
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4729	R-2911
HDP HYDROGRAPHIC DEPTH	L-4730	R-2916
LEN LENGTH /DIAMETER	L-4808	R-2925
SOH SEVERITY OF HAZARD	L-4812	R-3672
VDC VERTICAL DATUM CATEGORY	R-2221	R-3708
VDR VERTICAL DATUM RECORD	R-2222	
VRC VERTICAL REFERENCE CATEGORY		

Inclusion Conditions:

COD(CERTAINTY OF DELINEATION)=1(LIMITS AND INFO KNOWN)  
 and LEN(LENGTH/DIAMETER) >= 200 m

**POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	D-1900	L-4730	R-2806
AOO ANGLE OF ORIENTATION	D-1909	L-4808	R-2916
COD CERTAINTY OF DELINEATION	L-4700	L-4809	R-3708
DAT DATE CATEGORY	L-4702	L-4872	R-3709
EPA EXPOSED PORTION ATTRIBUTE	L-4707	L-4891	S-1400
EXS EXISTENCE CATEGORY	L-4708	O-3411	T-0801
HDI HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	L-4722	R-2221	T-0810
HDP HYDROGRAPHIC DEPTH	L-4729	R-2222	
LEN LENGTH /DIAMETER			
SOH SEVERITY OF HAZARD			
VDC VERTICAL DATUM CATEGORY			
VDR VERTICAL DATUM RECORD			
VRC VERTICAL REFERENCE CATEGORY			

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Dangers and Underwater Features (2D)

**2D180 WRECK (Cont.)  
 POINT**

Inclusion Conditions:

COD(CERTAINTY OF DELINEATION) 2(LIMITS AND INFO UNKNOWN)  
 OR LEN(LENGTH/DIAMETER) < 200 m

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**2E010 DEPTH CURVE  
 LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	L-4733	R-2814
CRV DEPTH CURVE OR CONTOUR VALUE	L-4734	R-2827
UNI UNITS CATEGORY	L-4776	R-2828
	O-3408	R-2869
	O-3421	R-2874
	R-2201	R-2875
	R-2812	R-2876
	R-2813	R-2882

Inclusion Conditions:

Depth curve interval: 1, 2, 3, 5, 7, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000, 11000, 12000 meters, or as shown on hydrographic source charts.

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**2E020 SOUNDING  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	D-1903	R-2222	R-9021
DAT DATE CATEGORY	D-1912	R-2224	R-9022
EXS EXISTENCE CATEGORY	D-1913	R-2807	R-9023
EDH HYDROGRAPHIC DRYING HEIGHT	L-4700	R-2864	R-9024
EDP HYDROGRAPHIC DEPTH	L-4702	R-2865	R-9025
SND SOUNDING CATEGORY	L-4707	R-2908	R-9026
SVC SOUNDING VELOCITY	L-4708	R-9011	R-9027
VDC VERTICAL DATUM CATEGORY	L-4710	R-9012	R-9028
VDR VERTICAL DATUM RECORD	L-4711	R-9013	R-9029
	O-3403	R-9014	R-9030
	O-3405	R-9015	R-9031
	O-3406	R-9016	R-9032
	O-3411	R-9017	R-9033
	O-3438	R-9018	R-9036
	R-2200	R-9019	T-0822
	R-2207	R-9020	

Inclusion Conditions:

All required

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Bottom Features (2F)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2F010 BOTTOM CHARACTERISTICS**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
CSM SECONDARY MATERIAL CHARACTERISTICS	L-4701
MCC MATERIAL COMPOSITION CHARACTERISTICS	L-4706
MCP MATERIAL COMPOSITION PRIMARY	L-4784
MCS MATERIAL COMPOSITION SECONDARY	R-2282
MCU MATERIAL COMPOSITION UNDERLYING	R-2283
TXT TEXT ATTRIBUTE	R-2284
UMC UNDERLYING MATERIAL CHARACTERISTICS	R-2285
	R-2883
	R-2890
	R-2892

Inclusion Conditions:

All required

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**2G010 CURRENT ARROW /FLOW ARROW**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
CRN CURRENT RATE MINIMUM	C-0014
CRX CURRENT RATE MAXIMUM	L-4709
CUR CURRENT TYPE CATEGORY	L-4794
DOF DIRECTION OF FLOW	R-2436
EXS EXISTENCE CATEGORY	R-2467
HS1 CURRENT INFORMATION (1)	R-2891
HS2 CURRENT INFORMATION (2)	T-0828
NAM NAME CATEGORY	

Inclusion Conditions:

All required

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**2G040 CURRENT DIAGRAM**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
C80 RATE OF CURRENT	L-4806
C81 RATE OF CURRENT (1)	R-2808
C82 RATE OF CURRENT (2)	
C83 RATE OF CURRENT (3)	
C84 RATE OF CURRENT (4)	
C85 RATE OF CURRENT (5)	
C86 RATE OF CURRENT (6)	
C87 RATE OF CURRENT (7)	
C88 RATE OF CURRENT (8)	
C89 RATE OF CURRENT (9)	
C90 RATE OF CURRENT (10)	
C91 RATE OF CURRENT (11)	
D80 DIRECTION OF CURRENT	
D81 DIRECTION OF CURRENT (1)	
D82 DIRECTION OF CURRENT (2)	
D83 DIRECTION OF CURRENT (3)	
D84 DIRECTION OF CURRENT (4)	
D85 DIRECTION OF CURRENT (5)	
D86 DIRECTION OF CURRENT (6)	
D87 DIRECTION OF CURRENT (7)	
D88 DIRECTION OF CURRENT (8)	

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Tide and Current Information (2G)

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**2G040 CURRENT DIAGRAM (Cont.)**  
**POINT**

<u>Attributes</u>	<u>PG Rules</u>
D89 DIRECTION OF CURRENT (9)	
D90 DIRECTION OF CURRENT (10)	
D91 DIRECTION OF CURRENT (11)	

Inclusion Conditions:

All required

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**2H010 AQUEDUCT**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ATC AQUEDUCT TYPE CATEGORY	L-0051
EXS EXISTENCE CATEGORY	L-0062
LOC LOCATION /ORIGIN CATEGORY	L-3518
NAM NAME CATEGORY	L-3641
WID WIDTH	R-2432

Inclusion Conditions:

LOC (LOCATION/ORIGIN CATEGORY) 1 (BELOW GROUND SURFACE) or 3 (ON GROUND SURFACE) or 4 (SUSPENDED OR ELEVATED ABOVE GROUND OR WATER)  
 and ATC (AQUEDUCT TYPE CATEGORY) 2 (OTHER) or 3 (QANAT/KANAT/KAREZ TUNNEL)  
 and WID (WIDTH) >= 25 m

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
ATC AQUEDUCT TYPE CATEGORY	D-1654
EXS EXISTENCE CATEGORY	G-0012
LEN LENGTH /DIAMETER	L-0051
LOC LOCATION /ORIGIN CATEGORY	L-3970
OWO OVER WATER OBSTRUCTION	R-2432
WID WIDTH	R-2433

Inclusion Conditions:

LOC (LOCATION/ORIGIN CATEGORY) 1 (BELOW GROUND SURFACE) or 3 (ON GROUND SURFACE) or 4 (SUSPENDED OR ELEVATED ABOVE GROUND OR WATER)  
 and ATC (AQUEDUCT TYPE CATEGORY) 2 (OTHER) or 3 (QANAT/KANAT/KAREZ TUNNEL)  
 and LEN (LENGTH/DIAMETER) >= 75 m  
 and WID (WIDTH) < 25 m  
 OR LOC (LOCATION/ORIGIN CATEGORY) 4 (SUSPENDED OR ELEVATED ABOVE GROUND OR WATER)  
 and WID (WIDTH) < 25 m  
 and OWO (OVER WATER OBSTRUCTION) 1 (FEATURE CROSSES NAVIGABLE WATER) or 2 (FEATURE CROSSES NON-NAVIGABLE WATER)

**POINT**

<u>Attributes</u>	<u>PG Rules</u>
ATC AQUEDUCT TYPE CATEGORY	D-1654
LOC LOCATION /ORIGIN CATEGORY	R-0034
	R-0035

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Inland Water (2H)

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**2H010 AQUEDUCT (Cont.)**  
**POINT**

Inclusion Conditions:

ATC(AQUEDUCT TYPE CATEGORY) 1(QANAT/KANAT/KAREZ MAINTENANCE SHAFT)

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**2H020 CANAL**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	G-0003	L-4261
EXS EXISTENCE CATEGORY	G-0010	L-4702
HDP HYDROGRAPHIC DEPTH	G-0012	L-4813
HYC HYDROGRAPHIC CATEGORY	G-0013	L-4885
LEN LENGTH /DIAMETER	L-0051	R-2316
NAM NAME CATEGORY	L-0062	R-3673
SLT SHORELINE TYPE CATEGORY	L-4008	S-1500
WID WIDTH	L-4260	

Inclusion Conditions:

HYC(HYDROGRAPHIC CATEGORY) 3(DRY) or 8(PERENNIAL/PERMANENT)  
and WID(WIDTH) >= 25 m

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**LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
EXS EXISTENCE CATEGORY	G-0012	L-4702
HDP HYDROGRAPHIC DEPTH	G-0013	L-4813
HYC HYDROGRAPHIC CATEGORY	L-0051	L-4885
LEN LENGTH /DIAMETER	L-4008	O-0005
NAM NAME CATEGORY	L-4260	R-2231
WID WIDTH	L-4261	

Inclusion Conditions:

HYC(HYDROGRAPHIC CATEGORY) 3(DRY) or 8(PERENNIAL/PERMANENT)  
and WID(WIDTH) < 25 m

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**2H030 DITCH**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
HYC HYDROGRAPHIC CATEGORY	D-1653	L-4260
LEN LENGTH /DIAMETER	G-0003	L-4261
WID WIDTH	G-0010	R-2231
	G-0012	R-2316
	G-0013	R-3673
	L-0062	S-1500

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Inland Water (2H)

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**2H030 DITCH (Cont.)  
 AREA**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 320 m  
 and WID(WIDTH) >= 25 m

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**LINE**

<u>Attributes</u>	<u>PG Rules</u>
HYC HYDROGRAPHIC CATEGORY	D-1653
LEN LENGTH /DIAMETER	G-0012
WID WIDTH	G-0013
	L-4260
	L-4261
	O-0005
	R-2231
	R-2267

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 320 m  
 and WID(WIDTH) < 25 m

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**2H040 FILTRATION /AERATION BEDS  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
LMC LANDMARK CATEGORY	G-0012
WID WIDTH	L-3505
	L-3506

Inclusion Conditions:

WID(WIDTH) >= 75 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

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**2H050 FISH HATCHERY  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
LMC LANDMARK CATEGORY	G-0006
WID WIDTH	G-0012
	L-3505
	L-3506
	R-2231
	R-9037

Inclusion Conditions:

WID(WIDTH) >= 75 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Inland Water (2H)  
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**2H060 FLUME**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
LMC LANDMARK CATEGORY	L-4260
LOC LOCATION /ORIGIN CATEGORY	L-4261
	R-2231

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 75 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**2H070 FORD**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
	L-4260
	L-4261
	R-2232
	R-2321
	R-3902

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 25 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0008
	R-2232
	R-2321
	R-3902

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 25 m

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**2H075 INLAND SHORELINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	G-0012	R-2425
AHC ASSOCIATED HYDROGRAPHIC CATEGORY	G-0013	R-2426
SLT SHORELINE TYPE CATEGORY	L-4132	R-2739
	R-2023	R-3735
	R-2316	R-3910
	R-2372	

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## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Inland Water (2H)

2H075 INLAND SHORELINE (Cont.)  
 LINE

Inclusion Conditions:

All required

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2H080 LAKE /POND  
 AREA

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010	L-4722
BYC HYDROGRAPHIC CATEGORY	G-0012	L-4821
LMC LANDMARK CATEGORY	G-0013	R-2270
NAM NAME CATEGORY	L-0050	R-2316
WID WIDTH	L-3983	R-2425
WSC WATER SALINITY CATEGORY	L-4005	R-3673
ZVL Z VALUE	L-4008	

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

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2H090 LAND SUBJECT TO INUNDATION  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
HOC HYDROGRAPHIC ORIGIN CATEGORY	G-0012
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

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2H110 PENSTOCK  
 LINE

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
LMC LANDMARK CATEGORY	L-4260
LOC LOCATION /ORIGIN CATEGORY	L-4261
	R-3930

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 75 m  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Inland Water (2H)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2H120 RAPIDS**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
WID WIDTH	G-0012
	G-0013
	L-3505
	R-2232
	R-2429
	X-8101

Inclusion Conditions:

WID(WIDTH) >= 25 m

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**POINT**

<u>Attributes</u>	<u>PG Rules</u>
LMC LANDMARK CATEGORY	C-0007
WID WIDTH	L-3505
	R-2232
	X-8101

Inclusion Conditions:

WID(WIDTH) < 25 m  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2H130 RESERVOIR**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
EXS EXISTENCE CATEGORY	G-0012
LMC LANDMARK CATEGORY	L-3505
NAM NAME CATEGORY	L-3506
	R-2230
	R-9037

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
OR LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2H140 RIVER /STREAM**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	G-0003	L-4008
HYC HYDROGRAPHIC CATEGORY	G-0010	L-4824
LEN LENGTH /DIAMETER	G-0012	R-0031
NAM NAME CATEGORY	G-0013	R-2299
SLT SHORELINE TYPE CATEGORY	L-0051	R-3673
TID TIDAL /NON-TIDAL CATEGORY	L-0062	S-1500
WID WIDTH	L-3506	

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## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT:    COMBAT CHARTS  
 CATEGORY:    Hydrography (2)  
 SUBCATEGORY: Inland Water (2H)

**2H140 RIVER /STREAM (Cont.)  
 AREA**

Inclusion Conditions:

HYC (HYDROGRAPHIC CATEGORY) 3 (DRY) or 6 (NON-PERENNIAL/INTERMITTENT/FLUCTUATING)  
 or        8 (PERENNIAL/PERMANENT)  
 and WID (WIDTH)  $\geq$  25 m .

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
EXS    EXISTENCE CATEGORY	G-0012
HYC    HYDROGRAPHIC CATEGORY	G-0013
LEN    LENGTE /DIAMETER	L-0051
NAM    NAME CATEGORY	L-4008
TID    TIDAL /NON-TIDAL CATEGORY	L-4260
WID    WIDTH	L-4261
	R-0031
	R-2299

Inclusion Conditions:

HYC (HYDROGRAPHIC CATEGORY) 3 (DRY) or 6 (NON-PERENNIAL/INTERMITTENT/FLUCTUATING)  
 or        8 (PERENNIAL/PERMANENT)  
 and WID (WIDTH) < 25 m

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**2H145 RIVER OR STREAM VANISHING POINT  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>
DOF    DIRECTION OF FLOW	G-0008
HFC    HYDROGRAPHIC FORM CATEGORY	R-2232
	R-3901

Inclusion Conditions:

All required

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**2H150 SALT EVAPORATOR  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA    AREA COVERAGE ATTRIBUTE	G-0010
LMC    LANDMARK CATEGORY	G-0012
	G-0013
	L-3505
	L-3506
	R-3730
	R-3732
	R-3733

## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT:    COMBAT CHARTS  
 CATEGORY:    Hydrography (2)  
 SUBCATEGORY:    Inland Water (2H)

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**2H150 SALT EVAPORATOR (Cont.)**  
**AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2H160 SABKHA**  
**AREA**

Attributes

ARA    AREA COVERAGE ATTRIBUTE  
 WID    WIDTH

PG Rules

G-0010  
 G-0012  
 G-0013  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2H170 SPRING**  
**POINT**

Attributes

DOF    DIRECTION OF FLOW  
 HYC    HYDROGRAPHIC CATEGORY  
 SCC    SPRING /WELL CHARACTERISTIC CATEGORY

PG Rules

G-0008  
 L-3505  
 L-4009  
 R-2231  
 R-3900

Inclusion Conditions:

HYC (HYDROGRAPHIC CATEGORY) 3 (DRY)  
 or    6 (NON-PERENNIAL/INTERMITTENT/FLUCTUATING)  
 or    8 (PERENNIAL/PERMANENT)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2H180 WATERFALL**  
**LINE**

Attributes

LEN    LENGTH /DIAMETER  
 NAM    NAME CATEGORY

PG Rules

G-0012  
 G-0013  
 L-3505  
 L-4008  
 L-4813  
 R-2232  
 X-8101

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## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Inland Water (2H)

2H180 WATERFALL (Cont.)  
 LINE

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 25 m

POINT

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	C-0004
NAM	NAME CATEGORY	G-0008
		L-3505
		L-4008
		L-4813
		R-2232
		X-8101

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 25 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2I010 CISTERN  
 POINT

<u>Attributes</u>		<u>PG Rules</u>
NO ATTRIBUTE REQUIRED		C-0022
		G-0008
		L-3505

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2I020 DAM  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
EXS	EXISTENCE CATEGORY	C-0017
MCP	MATERIAL COMPOSITION PRIMARY	G-0012
NAM	NAME CATEGORY	L-3505
TUC	TRANSPORTATION USE CATEGORY	L-4008
WID	WIDTH	L-4813
		R-0004
		V-1013
		X-8101

Inclusion Conditions:

WID(WIDTH) >= 25 m

LINE

<u>Attributes</u>		<u>PG Rules</u>
EXS	EXISTENCE CATEGORY	C-0017
LEN	LENGTH /DIAMETER	G-0012
MCP	MATERIAL COMPOSITION PRIMARY	L-3505
NAM	NAME CATEGORY	L-4008
TUC	TRANSPORTATION USE CATEGORY	L-4813
WID	WIDTH	R-0004

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Miscellaneous Inland Water (2I)

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## 2I020 DAM (Cont.)

## LINE

AttributesPG Rules

R-2232  
 V-1013  
 X-8101

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 25 m  
 and WID(WIDTH) < 25 m

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## POINT

AttributesPG Rules

EXS EXISTENCE CATEGORY  
 LEN LENGTH /DIAMETER  
 MCP MATERIAL COMPOSITION PRIMARY  
 NAM NAME CATEGORY

C-0003  
 C-0017  
 C-0023  
 L-3505  
 L-4008  
 L-4813  
 R-2232  
 V-1013  
 X-8101

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 25 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## 2I030 LOCK

## AREA

AttributesPG Rules

NAM NAME CATEGORY  
 WID WIDTH

G-0007  
 G-0012  
 L-4008  
 L-4813  
 R-2232  
 R-2371  
 R-9037  
 X-8103

Inclusion Conditions:

WID(WIDTH) >= 25 m

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## POINT

AttributesPG Rules

LMC LANDMARK CATEGORY  
 WID WIDTH

L-3505  
 R-2232  
 R-2371  
 X-8103

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Miscellaneous Inland Water (2I)

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**2I030 LOCK (Cont.)  
 POINT**

Inclusion Conditions:

WID(WIDTH) < 25 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2I040 SLUICE GATE  
 LINE**

Attributes  
 LEN LENGTH /DIAMETER

PG Rules  
 G-0012  
 L-3505  
 R-2232  
 R-2371

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 25 m

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**POINT**

Attributes  
 LEN LENGTH /DIAMETER  
 LMC LANDMARK CATEGORY

PG Rules  
 L-3505  
 R-2232  
 R-2371

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 25 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2I050 WATER INTAKE TOWER  
 AREA**

Attributes  
 WID WIDTH

PG Rules  
 G-0007  
 G-0012  
 R-2232

Inclusion Conditions:

WID(WIDTH) >= 40 m

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**POINT**

Attributes  
 WID WIDTH

PG Rules  
 G-0005  
 L-3505  
 R-2232

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Miscellaneous Inland Water (2I)

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**2I050 WATER INTAKE TOWER (Cont.)  
POINT**

Inclusion Conditions:

WID(WIDTH) < 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2J020 GLACIAL MORaine  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0006
WID WIDTH	G-0010
	G-0012
	G-0013
	R-2316

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 102,400 m square  
and WID(WIDTH) >= 320 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2J030 GLACIER  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
	G-0012
	G-0013
	R-2316
	R-3730
	R-3732
	R-3733
	R-9037

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**2J040 ICE CLIFF  
LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
	G-0013
	R-2128
	R-2399

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 200 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT



## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Hydrography (2)  
 SUBCATEGORY: Snow /Ice (2J)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2J060 ICE PEAK, MOUNTAIN  
 POINT

<u>Attributes</u>	<u>PG Rules</u>
HGT HEIGHT ABOVE SURFACE LEVEL	G-0008
LMC LANDMARK CATEGORY	
MCP MATERIAL COMPOSITION PRIMARY	

Inclusion Conditions:

HGT(HEIGHT ABOVE SURFACE LEVEL) >= 40 m  
 and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2J065 ICE SHELF  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
WID WIDTH	G-0012
	G-0013
	L-3506
	R-2256
	R-3730
	R-3732
	R-3733
	R-9037

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2J100 SNOW FIELD /ICE FIELD  
 AREA

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010	R-2316
SIC SNOW /ICE CATEGORY	G-0012	R-3730
WID WIDTH	G-0013	R-3732
	L-0050	R-3733
	L-3505	R-9037
	L-3506	

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

2J110 TUNDRA  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LEN LENGTH /DIAMETER	G-0012
WID WIDTH	G-0013
	L-0050
	R-2316
	R-3730
	R-3732
	R-3733

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Hydrography (2)  
**SUBCATEGORY:** Snow /Ice (2J)

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**2J110 TUNDRA (Cont.)**  
**AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**3A010 CONTOUR (LAND)**

LINE	Attributes	PG Rules	PG Rules	PG Rules
	HQC HYP SOGRAPHY PORTRAYAL CATEGORY	L-3966	O-0030	R-2376
	MCP MATERIAL COMPOSITION PRIMARY	L-3967	O-0031	R-2377
	ZVL Z VALUE	L-3985	R-2043	R-2378
		L-3986	R-2045	R-2379
		L-3987	R-2094	R-2382
		L-3989	R-2115	R-2389
		L-3998	R-2261	R-2394
		O-0025	R-2269	R-2396

Inclusion Conditions:

HQC (HYP SOGRAPHY PORTRAYAL CATEGORY) 1 (INDEX) or 2 (INTERMEDIATE)  
 or 3 (SUPPLEMENTARY (1/2)) or 4 (FORM LINES) or 5 (DEPRESSION INDEX)  
 or 6 (DEPRESSION INTERMEDIATE) or 8 (MOUND INDEX) or 9 (MOUND INTERMEDIATE)  
 or 14 (SUPPLEMENTARY (1/4)) or 16 (DEPRESSION SUPPLEMENTARY (1/2))  
 or 17 (DEPRESSION SUPPLEMENTARY (1/4))

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**3A030 SPOT ELEVATION**

POINT	Attributes	PG Rules
	ACC ACCURACY CATEGORY	L-0072
	ELA ELEVATION ACCURACY	L-0073
	MCP MATERIAL COMPOSITION PRIMARY	L-0074
	ZVL Z VALUE	L-3802
		L-3984
		R-0053
		R-2063
		R-2225
		R-2383
		R-2385

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4A005 ASPHALT LAKE**

AREA	Attributes	PG Rules
	ARA AREA COVERAGE ATTRIBUTE	G-0010
	WID WIDTH	G-0012
		G-0013
		L-3505
		L-3506
		R-3730
		R-3732

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## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**      COMBAT CHARTS  
**CATEGORY:**      Physiography (4)  
**SUBCATEGORY:**      Exposed Surface Material (4A)

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**4A005 ASPHALT LAKE (Cont.)**  
**AREA**

R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4A010 GROUND SURFACE**  
**AREA**

Attributes  
ARA    AREA COVERAGE ATTRIBUTE  
MCP    MATERIAL COMPOSITION PRIMARY

PG Rules  
G-0010  
G-0012  
G-0013  
L-0050  
R-2316  
R-2392  
R-3730  
R-3732  
R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE)  $\geq$  360,000 m square  
and MCP(MATERIAL COMPOSITION PRIMARY) 6(BOULDERS) or 30(GAS/OIL BLISTER) or 40(KARST)  
or    43(LAVA) or 44(LOESS) or 117(ROCKY)  
OR    ARA(AREA COVERAGE ATTRIBUTE)  $\geq$  100,805 m square  
and    MCP(MATERIAL COMPOSITION PRIMARY) 35(GRAVEL) or 69(SAND) or 118(SAND AND GRAVEL)  
or    119(SAND AND MUD) or 120(SAND AND BOULDERS)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4A020 SALT PAN**  
**AREA**

Attributes  
ARA    AREA COVERAGE ATTRIBUTE  
WID    WIDTH

PG Rules  
G-0010  
G-0012  
G-0013  
L-0050  
L-3505  
L-3506  
R-2316  
R-3730  
R-3732  
R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Physiography (4)  
**SUBCATEGORY:** Landforms (4B)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B010 BLUFF /CLIFF, ESCARPMENT  
 LINE**

<u>Attributes</u>	<u>PG Rules</u>
GLI GREATER THAN/LESS THAN CONTOUR INTERVAL	G-0012
LEN LENGTH /DIAMETER	G-0013
PFH PREDOMINANT FEATURE HEIGHT	R-2387
	R-2388

Inclusion Conditions:

PFH(PREDOMINANT FEATURE HEIGHT) >= 3 m  
 and LEN(LENGTH/DIAMETER) >= 250 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B030 CAVE DWELLING  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	G-0008
NAM NAME CATEGORY	L-3505
	L-3801
	L-4709
	L-4813
	R-2391

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B060 CREVICE /CREVASSE  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0002
MCP MATERIAL COMPOSITION PRIMARY	G-0010
WID WIDTH	G-0012
	G-0013
	L-3505
	R-3676

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 450 m  
 and WID(WIDTH) >= 50 m

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
MCP MATERIAL COMPOSITION PRIMARY	G-0013
WID WIDTH	L-3630

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Physiography (4)  
**SUBCATEGORY:** Landforms (4B)

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**4B060 CREVICE /CREVASSE (Cont.)**  
**LINE**

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 420 m  
 and WID(WIDTH) >= 25 m and < 50 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B071 CUT LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
GLI GREATER THAN/LESS THAN CONTOUR INTERVAL	G-0012
LEN LENGTH /DIAMETER	G-0013
PFD PREDOMINANT FEATURE DEPTH	R-2115
	R-2231
	R-2269
	R-2499

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 125 m  
 and PFD(PREDOMINANT FEATURE DEPTH) >= 3 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B090 EMBANKMENT**  
**AREA**

<u>Attributes</u>	<u>PG Rules</u>
EFI EMBANKMENT /FILL IDENTIFIER	G-0006
GLI GREATER THAN/LESS THAN CONTOUR INTERVAL	G-0012
LEN LENGTH /DIAMETER	L-3505
PFH PREDOMINANT FEATURE HEIGHT	L-3506
TUC TRANSPORTATION USE CATEGORY	R-2115
VRC VERTICAL REFERENCE CATEGORY	R-2269
WID WIDTH	R-2802
	R-3672
	R-3708

Inclusion Conditions:

EFI(EMBANKMENT/FILL IDENTIFIER) 2(LEVEE/DIKE)  
 and WID(WIDTH) >= 50 m  
 and LEN(LENGTH.DIAMETER) >= 125 m  
 and PFH(PREDOMINANT FEATURE HEIGHT) >= 3 m  
 and GLI(GREATER THAN/LESS THAN CONTOUR INTERVAL) 1(EQUAL TO OR GREATER THAN CONTOUR INTERVAL) or  
 2(LESS THAN CONTOUR INTERVAL)  
 OR EFI(EMBANKMENT/FILL IDENTIFIER) 3(CAUSEWAY)  
 and VRC(VERTICAL REFERENCE CATEGORY) 1(ABOVE SURFACE/DOES NOT COVER (AT HIGH WATER)) or 8(COVERS AND  
 UNCOVERS)  
 and WID(WIDTH) >= 50 m  
 and GLI(GREATER THAN/LESS THAN CONTOUR INTERVAL) 3(NOT APPLICABLE)

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
EFI EMBANKMENT /FILL IDENTIFIER	G-0012
GLI GREATER THAN/LESS THAN CONTOUR INTERVAL	L-3630
LEN LENGTH /DIAMETER	R-2115
PFH PREDOMINANT FEATURE HEIGHT	R-2231
TUC TRANSPORTATION USE CATEGORY	R-2269

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Physiography (4)  
**SUBCATEGORY:** Landforms (4B)

**4B090 EMBANKMENT (Cont.)****LINE**

<u>Attributes</u>	<u>PG Rules</u>
VRC VERTICAL REFERENCE CATEGORY	R-2802
WID WIDTH	R-3672
	R-3708

Inclusion Conditions:

EFI(EMBANKMENT/FILL IDENTIFIER) 1(FILL)  
and PFH(PREDOMINANT FEATURE HEIGHT) >= 3 m  
and LEN(LENGTH/DIAMETER) >= 125 m  
and GLI(GREATER THAN/LESS THAN CONTOUR INTERVAL) 1(EQUAL TO OR GREATER THAN CONTOUR INTERVAL) or  
2(LESS THAN CONTOUR INTERVAL)  
OR EFI(EMBANKMENT/FILL IDENTIFIER) 2(LEVEE/DIKE)  
and PFH(PREDOMINANT FEATURE HEIGHT) >= 3 m  
and LEN(LENGTH/DIAMETER) >= 125 m  
and WID(WIDTH) < 50 m  
and GLI(GREATER THAN/LESS THAN CONTOUR INTERVAL) 1(EQUAL TO OR GREATER THAN CONTOUR INTERVAL) or  
2(LESS THAN CONTOUR INTERVAL)  
OR EFI(EMBANKMENT/FILL IDENTIFIER) 3(CAUSEWAY)  
and VRC(VERTICAL REFERENCE CATEGORY) 1(ABOVE SURFACE/DOES NOT COVER (AT HIGH WATER)) or 8(COVERS AND  
UNCOVERS)  
and WID(WIDTH) < 50 m  
and GLI(GREATER THAN/LESS THAN CONTOUR INTERVAL) 3(NOT APPLICABLE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B100 ESKER****LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
LMC LANDMARK CATEGORY	G-0013
	L-3505

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 75 m  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B110 FAULT****LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	G-0012
NAM NAME CATEGORY	G-0013
	L-0051
	L-4002
	L-4008
	L-4260

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 125 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Physiography (4)  
 SUBCATEGORY: Landforms (4B)  
 \*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

4B115 GEOTHERMAL FEATURE  
 POINT

<u>Attributes</u>	<u>PG Rules</u>
DOF DIRECTION OF FLOW	L-3505
GFT GEOTHERMAL FEATURE TYPE	R-3900
LMC LANDMARK CATEGORY	T-0303

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

4B135 ISLAND  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
NAM NAME CATEGORY	G-0012
WID WIDTH	G-0013
	L-0050
	L-3505
	L-3506
	L-4709
	L-4746
	R-1902
	R-1903

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

4B150 MOUNTAIN PASS  
 POINT

<u>Attributes</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	G-0008
NAM NAME CATEGORY	L-3505
ZVL Z VALUE	L-4008
	L-4813

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

4B160 ROCK FORMATION  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
HGT HEIGHT ABOVE SURFACE LEVEL	G-0006
LMC LANDMARK CATEGORY	G-0010
RKF ROCK FORMATION TYPE	G-0012
	G-0013

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Physiography (4)  
**SUBCATEGORY:** Landforms (4B)

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**4B160 ROCK FORMATION (Cont.)**  
**AREA**

Inclusion Conditions:

RKF (ROCK FORMATION TYPE) 1 (COLUMNAR)  
 and HGT (HEIGHT ABOVE SURFACE LEVEL)  $\geq$  40 m  
 OR RKF (ROCK FORMATION TYPE) 1 (COLUMNAR)  
 and LMC (LANDMARK CATEGORY) 1 (LANDMARK)

---

**POINT**

Attributes

HGT HEIGHT ABOVE SURFACE LEVEL  
 LMC LANDMARK CATEGORY  
 RKF ROCK FORMATION TYPE

PG Rules

-None

Inclusion Conditions:

RKF (ROCK FORMATION TYPE) 3 (PINNACLE)  
 and HGT (HEIGHT ABOVE SURFACE LEVEL)  $\geq$  40 m  
 OR RKF (ROCK FORMATION TYPE) 3 (PINNACLE)  
 and LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B170 SAND DUNES /SAND HILLS**  
**AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 SDO SAND DUNE ORIENTATION  
 SSC STRUCTURE SHAPE CATEGORY

PG Rules

G-0010  
 G-0012  
 G-0013  
 L-3969  
 R-2255  
 R-2316  
 R-2395  
 R-3732  
 R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  90,000 m square

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**4B180 VOLCANO**  
**AREA**

Attributes

ACC ACCURACY CATEGORY  
 DAT DATE CATEGORY  
 EXS EXISTENCE CATEGORY  
 HGT HEIGHT ABOVE SURFACE LEVEL  
 LOC LOCATION /ORIGIN CATEGORY  
 NAM NAME CATEGORY  
 VGT VOLCANO GEOLOGIC TYPE

PG Rules

L-0050  
 L-3505  
 L-3506  
 L-4700  
 L-4707  
 L-4708  
 L-4709  
 L-4722  
 O-3411

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## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**      COMBAT CHARTS  
**CATEGORY:**      Physiography (4)  
**SUBCATEGORY:**      Landforms (4B)

**4B180 VOLCANO (Cont.)**  
**AREA**

Inclusion Conditions:

LOC (LOCATION/ORIGIN CATEGORY) 6 (BELOW WATER SURFACE)  
 OR LOC (LOCATION/ORIGIN CATEGORY) 3 (ON GROUND SURFACE)  
 and VGT (VOLCANIC GEOLOGIC TYPE) 1 (VOLCANO)  
 and HGT (HEIGHT ABOVE SURFACE LEVEL)  $\geq$  the contour interval

**POINT**

Attributes

HGT    HEIGHT ABOVE SURFACE LEVEL  
 LOC    LOCATION /ORIGIN CATEGORY  
 VGT    VOLCANO GEOLOGIC TYPE

PG Rules  
 L-3505

Inclusion Conditions:

LOC (LOCATION/ORIGIN CATEGORY) 3 (ON GROUND SURFACE)  
 and VGT (VOLCANIC GEOLOGIC TYPE) 2 (CINDER CONE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5A010 CROPLAND (CULTIVATED)**  
**AREA**

Attributes

ARA    AREA COVERAGE ATTRIBUTE  
 FTC    FARMING TYPE CATEGORY  
 VEG    VEGETATION CHARACTERISTICS

PG Rules

G-0010  
 G-0012  
 G-0013  
 L-0050  
 L-3505  
 L-3506

PG Rules

L-3801  
 R-2316  
 R-3730  
 R-3732  
 R-3733  
 S-0110

Inclusion Conditions:

FTC (FARMING TYPE CATEGORY) 4 (TERRACED)  
 and ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  360,000 m square  
 OR    FTC (FARMING TYPE CATEGORY) 3 (OTHER)  
 and    ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5A020 HEDGEROW**  
**LINE**

Attributes

LEN    LENGTH /DIAMETER  
 LMC    LANDMARK CATEGORY  
 PFH    PREDOMINANT FEATURE HEIGHT  
 WID    WIDTH

PG Rules  
 G-0012

Inclusion Conditions:

LEN (LENGTH/DIAMETER)  $\geq$  500 m  
 and WID (WIDTH)  $\geq$  62 m  
 and PFH (PREDOMINANT FEATURE HEIGHT)  $\geq$  3 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Vegetation (5)  
**SUBCATEGORY:** Cropland (5A)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5A030 NURSERY  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LMC LANDMARK CATEGORY	G-0012
WID WIDTH	G-0013
	L-3505
	L-3506
	L-3801
	R-2316
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID (WIDTH)  $\geq$  62 m  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5A040 ORCEARD /PLANTATION  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010	L-3701
LMC LANDMARK CATEGORY	G-0012	L-4010
PRO PRODUCT CATEGORY	G-0013	R-2316
WID WIDTH	L-3505	R-3730
	L-3506	R-3732
	L-3700	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID (WIDTH)  $\geq$  62 m  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5A050 VINEYARD /HOPS  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	G-0010
LMC LANDMARK CATEGORY	G-0012
WID WIDTH	G-0013
	R-2316
	R-3730
	R-3732
	R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID (WIDTH)  $\geq$  62 m  
 OR LMC (LANDMARK CATEGORY) 1 (LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Vegetation (5)  
**SUBCATEGORY:** Rangeland (5B)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**5B010 GRASSLAND  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
WID	WIDTH	G-0012
		G-0013
		R-2316
		R-3730
		R-3732
		R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**5B020 SCRUB /BRUSH  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
PHT	PREDOMINANT HEIGHT	G-0012
		G-0013
		R-2316
		R-3730
		R-3732
		R-3733

Inclusion Conditions:

ARA (AREAS COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and PHT (PREDOMINANT HEIGHT)  $<$  3 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**5C010 BAMBOO CANE  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
WID	WIDTH	G-0012
		G-0013
		R-2316
		R-3730
		R-3732
		R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*

**5C015 FIREBREAK  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	L-3506
WID	WIDTH	

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Vegetation (5)  
 SUBCATEGORY: Woodland (5C)

5C015 FIREBREAK (Cont.)  
 AREA

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID (WIDTH) >= 25 m

LINE

<u>Attributes</u>		<u>PG Rules</u>
LEN	LENGTH /DIAMETER	G-0012
WID	WIDTH	L-4260
		R-3694

Inclusion Conditions:

LEN (LENGTH/DIAMETER) >= 1,250 m  
 and WID (WIDTH) < 25 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

5C020 OASIS  
 AREA

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010
NAM	NAME CATEGORY	G-0012
WID	WIDTH	L-0050
		L-3505
		L-3506
		R-3730
		R-3732
		R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

POINT

<u>Attributes</u>	<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE
	G-0005
	L-3505

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE) < 15,625 m square

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

5C030 TREES  
 AREA

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0010	R-2438
COD	CERTAINTY OF DELINEATION	G-0012	R-2440
DMT	DENSITY MEASURE (% TREE /CANOPY COVER)	G-0013	R-3677
EXS	EXISTENCE CATEGORY	L-0050	R-3730
LMC	LANDMARK CATEGORY	L-3505	R-3732
NAM	NAME CATEGORY	L-3506	R-3733
PHT	PREDOMINANT HEIGHT	L-3801	R-3802
TRE	TREE CATEGORY	L-4008	R-3940

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Vegetation (5)  
 SUBCATEGORY: Woodland (5C)

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## 5C030 TREES (Cont.)

## AREA

Attributes

VEG VEGETATION CHARACTERISTICS  
 WID WIDTH

PG Rules

R-2316

PG RulesInclusion Conditions:

DMT(DENSITY MEASURE (% TREE/CANOPY COVER) >= 25% and < 51%  
 and PHT(PREDOMINANT HEIGHT) >= 3 m  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR DMT(DENSITY MEASURE (% TREE/CANOPY COVER) >= 51%  
 and PHT(PREDOMINANT HEIGHT) >= 3 m  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR VEG(VEGETATION CHARACTERISTICS) 16(NIPA PALM) or 19(MANGROVE)  
 and ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 OR LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and EXS(EXISTENCE CATEGORY) 42(NOT ISOLATED)

---

## POINT

Attributes

EXS EXISTENCE CATEGORY  
 LMC LANDMARK CATEGORY

PG Rules

-None

Inclusion Conditions:

LMC(LANDMARK CATEGORY) 1(LANDMARK)  
 and EXS(EXISTENCE CATEGORY) 31(ISOLATED)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## 5D010 BOG

## AREA

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 VEG VEGETATION CHARACTERISTICS  
 WID WIDTH

PG Rules

G-0010  
 G-0012  
 G-0013  
 L-0050  
 L-3505  
 L-3506  
 R-2316  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
 and WID >= 40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## 5D020 HUMMOCK

## AREA

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 WID WIDTH

PG Rules

G-0010  
 G-0012  
 R-2316  
 R-3730  
 R-3732  
 R-3733

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Vegetation (5)  
**SUBCATEGORY:** Wetlands (5D)

**5D020 HUMMOCK (Cont.)**  
**AREA**

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5D030 SWAMP**  
**AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 WID WIDTH

PG Rules

G-0010  
 G-0012  
 G-0013  
 R-2316  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**5D040 MARSH**  
**AREA**

Attributes

ARA AREA COVERAGE ATTRIBUTE  
 WID WIDTH

PG Rules

G-0010  
 G-0012  
 G-0013  
 R-2316  
 R-3730  
 R-3732  
 R-3733

Inclusion Conditions:

ARA (AREA COVERAGE ATTRIBUTE)  $\geq$  15,625 m square  
 and WID  $\geq$  40 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A000 ADMINISTRATIVE BOUNDARY**  
**LINE**

Attributes

ACC ACCURACY CATEGORY  
 BST BOUNDARY STATUS TYPE  
 NM3 NAME 3  
 NM4 NAME 4  
 USE USE STATUS

PG Rules

C-0001  
 D-1655  
 G-0011  
 L-3630  
 L-4037  
 L-4707  
 L-4746

PG Rules

L-4879  
 R-2277  
 R-2358  
 R-2359  
 R-2360  
 R-2361  
 R-2362

PG Rules

R-2363  
 R-2365  
 R-2366  
 R-2469  
 R-2496  
 R-2497  
 R-2498

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Demarcation (6)  
**SUBCATEGORY:** Boundaries /Limits /Zones (Topographic) (6A)

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**6A000 ADMINISTRATIVE BOUNDARY (Cont.)**  
**LINE**

Inclusion Conditions:

USE(USE STATUS) 23(INTERNATIONAL) or 26(PRIMARY/1ST ORDER) or 30(2ND ORDER) or 31(3RD ORDER) by special instruction only  
 or 32(INSULAR) or 89(RESERVE AREA) or 90(TRIBAL RESERVATION) or 91(PROHIBITED AREA)  
 or 92(ANIMAL SANCTUARY) or 93(FORREST PRESERVE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A020 ARMISTICE LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	C-0001	R-2361
NM3 NAME 3	D-1655	R-2362
NM4 NAME 4	G-0011	R-2363
	L-3630	R-2365
	L-4037	R-2469
	R-2359	R-2496
	R-2360	R-2498

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A030 CEASE-FIRE LINE**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	C-0001	R-2361
	D-1655	R-2362
	G-0011	R-2363
	L-3630	R-2365
	L-4037	R-2469
	R-2359	R-2496
	R-2360	R-2498

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A050 INTERNATIONAL MARITIME BOUNDARY**  
**LINE**

<u>Attributes</u>	<u>PG Rules</u>
NM3 NAME 3	L-3803
NM4 NAME 4	R-2756
TXT TEXT ATTRIBUTE	

---

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Demarcation (6)  
**SUBCATEGORY:** Boundaries /Limits /Zones (Topographic) (6A)

---

**6A050 INTERNATIONAL MARITIME BOUNDARY (Cont.)**  
**LINE**

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A060 DEFACTO BOUND. /OTHER LINE OF SEPARATION**  
**LINE**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ACC	ACCURACY CATEGORY	C-0001	R-2359
NM3	NAME 3	D-1655	R-2360
NM4	NAME 4	G-0011	R-2361
TXT	TEXT ATTRIBUTE	L-3630	R-2362
USE	USE STATUS	L-4037	R-2363
		L-4707	R-2365
		R-2276	R-2469
		R-2277	R-2496
		R-2358	R-2498

Inclusion Conditions:

USE(USE STATUS) 23(INTERNATIONAL) or 26(PRIMARY/1ST ORDER)  
 or 30(2ND ORDER)  
 or 31(3RD ORDER) by special instruction only

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A070 DEMILITARIZED ZONE**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>	<u>PG Rules</u>
ACC	ACCURACY CATEGORY	D-1655	R-2361
		G-0011	R-2362
		L-0050	R-2363
		L-3630	R-2365
		L-4037	R-2366
		R-2358	R-2496
		R-2359	R-2498
		R-2360	

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6A110 INTERNATIONAL DATE LINE**  
**LINE**

<u>Attributes</u>		<u>PG Rules</u>
NO ATTRIBUTE REQUIRED		C-0001
		G-0011
		L-4817
		R-2496

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Demarcation (6)  
**SUBCATEGORY:** Boundaries /Limits /Zones (Topographic) (6A)

---

**6A110 INTERNATIONAL DATE LINE (Cont.)  
 LINE**

Inclusion Conditions:

All required

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**6A170 ZONE OF OCCUPATION  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
ACC ACCURACY CATEGORY	D-1655	R-2361
NM3 NAME 3	G-0011	R-2362
	L-0050	R-2363
	L-3630	R-2365
	L-4037	R-2366
	R-2358	R-2496
	R-2359	R-2498
	R-2360	

Inclusion Conditions:

All required

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**6C035 DIRECTION OF BUOYAGE INDICATOR  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>
DOF DIRECTION OF FLOW	L-3804
	R-2757

Inclusion Conditions:

All required

~~\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT~~

**6C040 DREDGED CHANNEL /DREDGED AREA  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
ATN AIDS TO NAVIGATION	L-4702
DAN DESCRIPTION OF AIDS TO NAVIGATION	L-4747
DAT DATE CATEGORY	L-4748
HDP HYDROGRAPHIC DEPTH	R-2205
MAS MAINTENANCE STATUS	R-2222
VDC VERTICAL DATUM CATEGORY	R-2278
VDR VERTICAL DATUM RECORD	R-2800
WID WIDTH	R-2840
	R-2986
	V-1067

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## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Demarcation (6)  
**SUBCATEGORY:** Boundaries /Limits /Zones (Hydrographic) (6C)

**6C040 DREDGED CHANNEL /DREDGED AREA (Cont.)  
 AREA**

Inclusion Conditions:

WID(WIDTH) >= 50 m

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
ATN AIDS TO NAVIGATION	L-4702
DAN DESCRIPTION OF AIDS TO NAVIGATION	L-4743
DAT DATE CATEGORY	L-4748
HDP HYDROGRAPHIC DEPTH	R-2209
LEN LENGTH /DIAMETER	R-2222
MAS MAINTENANCE STATUS	R-2278
VDC VERTICAL DATUM CATEGORY	R-2840
VDR VERTICAL DATUM RECORD	V-1067
WID WIDTH	

Inclusion Conditions:

WID(WIDTH) < 50 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6C090 MARITIME LIMIT  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	L-4715
COD CERTAINTY OF DELINEATION	L-4722
HOC HYDROGRAPHIC ORIGIN CATEGORY	L-4750
LEN LENGTH /DIAMETER	L-4751
MLT MARITIME LIMIT TYPE	L-4753
OPS OPERATIONAL STATUS	R-2290
PRO PRODUCT CATEGORY	R-2800
TXT TEXT ATTRIBUTE	R-2985
WID WIDTH	R-3703

Inclusion Conditions:

MLT(MARITIME LIMIT TYPE) 1(OTHER) or 2(FAIRWAY) or 3(TURNING AREA) or 4(SPOIL AREA) or 5(UNSURVEYED AREA) or 11(SUBMARINE EXERCISE AREA) or 12(MINE LAYING PRACTICE AREA) or 13(FIRING DANGER AREA) or 14(PRECAUTIONARY AREA) or 15(DUMPING GROUND FOR HAZARDOUS MATERIAL) or 16(DREDGING AREA) or 20(DEGAUSSING RANGE) or 21(FISH TRAP AREA) or 22(MARINE FARM) or 23(CARGO TRANSHIPMENT AREA) or 24(LOG POND)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6C110 MINE DANGER AREA  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	L-4715
COD CERTAINTY OF DELINEATION	L-4722
EXS EXISTENCE CATEGORY	L-4753
LEN LENGTH /DIAMETER	L-4756
MAS MAINTENANCE STATUS	O-3413
WID WIDTH	R-2800
	R-2809

## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: Demarcation (6)  
 SUBCATEGORY: Boundaries /Limits /Zones (Hydrographic) (6C)

6C110 MINE DANGER AREA (Cont.)  
 AREA

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 200 m  
 and COD(CERTAINTY OF DELINEATION) 1(LIMITS AND INFO KNOWN)  
 and EXS(EXISTENCE CATEGORY) 1(DEFINITE)  
 OR COD(CERTAINTY OF DELINEATION) 2(LIMITS AND INFO UNKNOWN)  
 OR EXS(EXISTENCE CATEGORY) 3(REPORTED)

POINT

<u>Attributes</u>	<u>PG Rules</u>
COD CERTAINTY OF DELINEATION	L-4722
EXS EXISTENCE CATEGORY	O-3413
LEN LENGTH /DIAMETER	R-2809
MAS MAINTENANCE STATUS	

Inclusion Conditions:

MAS(MAINTENANCE STATUS) 1(MAINTAINED)  
 and LEN(LENGTH/DIAMETER) < 200 m  
 and COD(CERTAINTY OF DELINEATION) 1(LIMITS AND INFO KNOWN)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

6C120 PROHIBITED AREA  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	L-4715
LEN LENGTH /DIAMETER	L-4722
WID WIDTH	L-4753
	R-2800

Inclusion Conditions:

LEN(LENGTH/DIAMETER) >= 200 m

POINT

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	L-4722

Inclusion Conditions:

LEN(LENGTH/DIAMETER) < 200 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

6C150 RESTRICTED AREA  
 AREA

<u>Attributes</u>	<u>PG Rules</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	L-4715	R-2218
DTC DANGER /OBSTRUCTION CATEGORY	L-4722	R-2800
LEN LENGTH /DIAMETER	L-4753	R-2847
PRO PRODUCT CATEGORY	L-4758	R-2937
RAA RESTRICTED AREA ATTRIBUTE	L-4826	R-3678
USE USE STATUS	L-4862	R-9034
WID WIDTH		

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Demarcation (6)  
**SUBCATEGORY:** Boundaries /Limits /Zones (Hydrographic) (6C)

---

**6C150 RESTRICTED AREA (Cont.)  
 AREA**

Inclusion Conditions:

DTC(DANGER/OBSTRUCTION CATEGORY) 16(OTHER) or 17(ANCHORAGE PROHIBITED) or 18(IMO AREA TO BE AVOIDED) or 19(SAFETY ZONE)  
 and LEN(LENGTH/DIAMETER) >= 250 m  
 OR DTC(DANGER/OBSTRUCTION CATEGORY) 12(CABLE AREA) or 13(PIPELINE AREA) or 15(CABLES AND PIPELINES) or 20(OUTFALL AREA) or 21(INTAKE AREA) or 22(SEWER AREA)  
 and WID(WIDTH) >= 250 m

---

**LINE**

<u>Attributes</u>		<u>PG Rules</u>
DTC	DANGER /OBSTRUCTION CATEGORY	L-4743
LEN	LENGTH /DIAMETER	L-4758
PRO	PRODUCT CATEGORY	L-4862
USE	USE STATUS	R-2219
WID	WIDTH	R-2220
		R-2937
		R-9034

Inclusion Conditions:

DTC(DANGER/OBSTRUCTION CATEGORY) 12(CABLE AREA) or 13(PIPELINE AREA) or 15(CABLES AND PIPELINES) or 20(OUTFALL AREA) or 21(INTAKE AREA) or 22(SEWER AREA)  
 and WID(WIDTH) < 250 m

---

**POINT**

<u>Attributes</u>		<u>PG Rules</u>
DTC	DANGER /OBSTRUCTION CATEGORY	L-4722
LEN	LENGTH /DIAMETER	R-3678
RAA	RESTRICTED AREA ATTRIBUTE	
WID	WIDTH	

Inclusion Conditions:

DTC(DANGER/OBSTRUCTION CATEGORY) 16(OTHER) or 17(ANCHORAGE PROHIBITED) or 18(IMO AREA TO BE AVOIDED) or 19(SAFETY ZONE)  
 and LEN(LENGTH/DIAMETER) < 250 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6C165 ROUTE  
 AREA**

<u>Attributes</u>		<u>PG Rules</u>
RTT	ROUTE TYPE ATTRIBUTE	L-4747
WID	WIDTH	L-4770
		R-2758

Inclusion Conditions:

RTT(ROUTE TYPE ATTRIBUTE) 8(MINESWEPT CHANNEL)

---

## MIL-C-89202A

**TABLE I**      Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:**      COMBAT CHARTS  
**CATEGORY:**      Demarcation (6)  
**SUBCATEGORY:**      Boundaries /Limits /Zones (Hydrographic) (6C)

---

**6C165 ROUTE (Cont.)**

<u>LINE</u>	<u>Attributes</u>	<u>PG Rules</u>
	ATN    AIDS TO NAVIGATION	D-7012
	BRR    BEARING AND RECIPROCAL CATEGORY	L-4702
	BRS    BEARING FROM SEAWARD	L-4709
	DAN    DESCRIPTION OF AIDS TO NAVIGATION	L-4769
	DOF    DIRECTION OF FLOW	L-4813
	DRP    DESCRIPTION OF REFERENCE POINT	L-4880
	EXS    EXISTENCE CATEGORY	R-2209
	HDI    HYDROGRAPHIC DEPTH /HEIGHT INFORMATION	R-2222
	HDP    HYDROGRAPHIC DEPTH	R-2820
	NAM    NAME CATEGORY	R-2854
	RTT    ROUTE TYPE ATTRIBUTE	
	VDC    VERTICAL DATUM CATEGORY	
	VDR    VERTICAL DATUM RECORD	

Inclusion Conditions:

RTT(ROUTE TYPE ATTRIBUTE) 2 (RECOMMENDED TRACK FOR OTHER THAN DEEP DRAFT) or 5 (RECOMMENDED ROUTE)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6C170 SAFETY FAIRWAY  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
WID    WIDTH	L-4747
	L-4772
	R-2986

Inclusion Conditions:

WID(WIDTH) >= 50 m

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
WID    WIDTH	L-4743

Inclusion Conditions:

WID(WIDTH) < 50 m

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6C177 SWEEP AREA  
AREA**

<u>Attributes</u>	<u>PG Rules</u>
DAT    DATE CATEGORY	L-4702
HDP    HYDROGRAPHIC DEPTH	L-4771
VDC    VERTICAL DATUM CATEGORY	R-2222
VDR    VERTICAL DATUM RECORD	R-2822
WID    WIDTH	R-2984
	V-1067

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** Demarcation (6)  
**SUBCATEGORY:** Boundaries /Limits /Zones (Hydrographic) (6C)

---

**6C177 SWEPT AREA (Cont.)  
 AREA**

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**6C210 WORK IN PROGRESS AREA  
 AREA**

<u>Attributes</u>	<u>PG Rules</u>
AOO ANGLE OF ORIENTATION	L-4706
ATN AIDS TO NAVIGATION	L-4722
COD CERTAINTY OF DELINEATION	L-4753
DAN DESCRIPTION OF AIDS TO NAVIGATION	L-4774
DAT DATE CATEGORY	R-2857
LEN LENGTH /DIAMETER	
WID WIDTH	
WPC WORK IN PROGRESS CATEGORY	

Inclusion Conditions:

WID(WIDTH) >= 50 m  
 and WPC(WORK IN PROGRESS CATEGORY) 2(CONSTRUCTION OF STRUCTURES)  
 OR WPC(WORK IN PROGRESS CATEGORY) 1(LAND RECLAMATION)  
 OR COD(CERTAINTY OF DELINEATION) 2(LIMITS AND INFO UNKNOWN)

---

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
COD CERTAINTY OF DELINEATION	L-4706
DAT DATE CATEGORY	L-4774
LEN LENGTH /DIAMETER	R-2857
WID WIDTH	
WPC WORK IN PROGRESS CATEGORY	

Inclusion Conditions:

COD(CERTAINTY OF DELINEATION) 1(LIMITS AND INFO KNOWN)  
 and WID(WIDTH) < 50 m  
 and WPC(WORK IN PROGRESS CATEGORY) 2(CONSTRUCTION OF STRUCTURES)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9B030 BOUNDARY MARKER  
 POINT**

<u>Attributes</u>	<u>PG Rules</u>
NAM NAME CATEGORY	L-3505

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** General (9)  
**SUBCATEGORY:** Control Points (9B)  
\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9B035 CONTROL POINT POINT**

<u>Attributes</u>	<u>PG Rules</u>
CPA CONTROL POINT ATTRIBUTE	L-0070
NAM NAME CATEGORY	L-0071
ZVL Z VALUE	L-4008
	R-2374

Inclusion Conditions:

CPA(CONTROL POINT ATTRIBUTE) 1(BENCH MARK) or 2(HORIZONTAL) or 3(HORIZONTAL WITH BENCH MARK) or 5(VERTICAL)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9C040 MAGNETIC DISTURBANCE AREA AREA**

<u>Attributes</u>	<u>PG Rules</u>
COD CERTAINTY OF DELINEATION	L-4705
VAV VARIATION ANOMALY VALUE	L-4722
	L-4737

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9D012 MISCELLANEOUS CULTURAL FEATURE AREA**

<u>Attributes</u>	<u>PG Rules</u>
ARA AREA COVERAGE ATTRIBUTE	L-3505
LMC LANDMARK CATEGORY	L-3506
NAM NAME CATEGORY	
TXT TEXT ATTRIBUTE	

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

**LINE**

<u>Attributes</u>	<u>PG Rules</u>
LEN LENGTH /DIAMETER	L-4260
LMC LANDMARK CATEGORY	
NAM NAME CATEGORY	
TXT TEXT ATTRIBUTE	
WID WIDTH	

Inclusion Conditions:

WID(WIDTH) < 25 m  
and LEN(LENGTH/DIAMETER) >= 25 m  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

## MIL-C-89202A

**TABLE I** Feature/Attribute category, inclusion conditions, and product generation rules.

**PRODUCT:** COMBAT CHARTS  
**CATEGORY:** General (9)  
**SUBCATEGORY:** Miscellaneous (9D)

**9D012 MISCELLANEOUS CULTURAL FEATURE (Cont.)**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	L-3505
LMC	LANDMARK CATEGORY	
NAM	NAME CATEGORY	
TXT	TEXT ATTRIBUTE	

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) < 15,625 m square  
and LMC(LANDMARK CATEGORY) 1(LANDMARK)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9D015 POINT OF CHANGE**  
**POINT**

<u>Attributes</u>		<u>PG Rules</u>
PCI	POINT OF CHANGE IDENTIFIER	C-0016
		L-3958
		R-2173
		R-2175
		R-2176
		R-2209
		R-2357
		R-2430
		R-2498

Inclusion Conditions:

PCI(POINT OF CHANGE INDICATOR) 1(TRANSPORTATION/ROAD OR RAILROAD) or 2(HYDROGRAPHY/DRAINAGE) or 3(BOUNDARIES) or 7(DREDGED CHANNEL) or 8(RECOMMENDED TRACK FOR OTHER THAN DEEP DRAFT VESSELS)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9D020 VOID COLLECTION AREA**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>
ARA	AREA COVERAGE ATTRIBUTE	G-0011
VCA	VOID COLLECTION ATTRIBUTE	L-0050
VCT	VOID COLLECTION TYPE	L-3505
		L-3506
		L-3968

Inclusion Conditions:

ARA(AREA COVERAGE ATTRIBUTE) >= 15,625 m square  
and VCA(VOID COLLECTION ATTRIBUTE) 2(AREA TOO ROUGH TO COLLECT) or 3(NO AVAILABLE IMAGERY)  
or 6(NO AVAILABLE MAP SOURCE) or 7(NO SUITABLE IMAGERY)

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

**9D040 NAMED LOCATION**  
**AREA**

<u>Attributes</u>		<u>PG Rules</u>
CSI	CATEGORY/SUBCATEGORY INDEX	L-0050
NAM	NAME CATEGORY	L-0060
PPL	POPULATED PLACE CATEGORY	L-3505
		L-3506
		L-3630
		L-4827
		L-4896



## MIL-C-89202A

TABLE I Feature/Attribute category, inclusion conditions, and product generation rules.

PRODUCT: COMBAT CHARTS  
 CATEGORY: General (9)  
 SUBCATEGORY: Miscellaneous (9D)

9D040 NAMED LOCATION (Cont.)  
 AREA

Inclusion Conditions:

All required

## LINE

<u>Attributes</u>	<u>PG Rules</u>
CSI CATEGORY/SUBCATEGORY INDEX	L-0051
NAM NAME CATEGORY	L-0060
PPL POPULATED PLACE CATEGORY	L-3630
	L-4827
	L-4896

Inclusion Conditions:

All required

## POINT

<u>Attributes</u>	<u>PG Rules</u>
CSI CATEGORY/SUBCATEGORY INDEX	L-0060
NAM NAME CATEGORY	L-3505
PPL POPULATED PLACE CATEGORY	L-4827
	L-4896

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

9D045 TEXT DESCRIPTION  
 AREA

<u>Attributes</u>	<u>PG Rules</u>
CSI CATEGORY/SUBCATEGORY INDEX	L-0050
LAB LABEL OF THE FEATURE	L-3505

Inclusion Conditions:

All required

## LINE

<u>Attributes</u>	<u>PG Rules</u>
CSI CATEGORY/SUBCATEGORY INDEX	L-0051
LAB LABEL OF THE FEATURE	L-4260
	L-4261

Inclusion Conditions:

All required

## POINT

<u>Attributes</u>	<u>PG Rules</u>
CSI CATEGORY/SUBCATEGORY INDEX	L-3505
LAB LABEL OF THE FEATURE	L-4899

MIL-C-89202A

TABLE I

Feature/Attribute category, inclusion conditions, and  
product generation rules.

PRODUCT: COMBAT CHARTS  
CATEGORY: General (9)  
SUBCATEGORY: Miscellaneous (9D)

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9D045 TEXT DESCRIPTION (Cont.)  
POINT

Inclusion Conditions:

All required

\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT\*COMBAT

## MIL-H-89202A

## APPENDIX A

## COMBAT CHART PRODUCT RULES

## 10. SCOPE

10.1 Scope. This Appendix provides information about the product rules necessary for the production of Combat Charts. The information contained herein is intended for compliance.

## 20. APPLICABLE DOCUMENTS

20.1 Government documents.

20.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the current Department of Defense Index of Specifications and Standards (DODISS) and the supplement thereto, cited in the solicitation (see 6.2).

## MILITARY STANDARDS

MIL-STD-2402 (DMA)	-	MC&G Symbology for Graphic Products
MIL-STD-2403 (DMA)	-	MC&G Product Generation Rules
MIL-STD-2408 (DMA)	-	Glossary of Mapping, Charting & Geodesy Feature and Attribute Definitions

20.2 Order of precedence. In the event of a conflict between the text of this appendix and either Table I of this specification, or MIL-STD-2403 cited above, the Table I and MIL-STD-2403 take precedence.

## 30. PRODUCT RULES

30.1 Classification of rules. Rules are classified into the following types:

- a. Displacement
- b. Labeling
- c. Override
- d. Representation
- e. Suppression
- f. Thinning

30.2 Appendix organization. This appendix lists in alphanumeric order the rule numbers and rule text for each feature type (area, line and point) of each FACS feature listed in Table I of this specification.

MIL-C-89202A  
APPENDIX A  
COMBAT CHARTS PRODUCT RULES

**FEATURE: MINE...1A010 (AREA)****MINE...1A010 (AREA)**

- G-0007** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the feature will be agglomerated to form an area multiple feature outline.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4007** If MIN=000, omit MIN window.
- L-4008** If NAM = unknown, omit NAM window.
- L-4010** If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- R-2244** If EXS 006 (Abandoned), use only if LMC 001 (Landmark).
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**MINE...1A010 (POINT)**

- D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- G-0005** A cluster of 3 or more coalescing similar point features having matching coded attribution will be aggregated to form an area multiple feature outline.
- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4007** If MIN=000, omit MIN window.
- L-4010** If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**QUARRY...1A030 (AREA)**

- G-0007** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the feature will be agglomerated to form an area multiple feature outline.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

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**FEATURE: QUARRY...1A030 (AREA)**

- L-0061 When PRO=000 (Unknown), omit the PRO label.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4010 If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- R-2494 Limiting lines of feature are omitted if it coalesces with a road (1P030).

**QUARRY...1A030 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- G-0005 A cluster of 3 or more coalescing similar point features having matching coded attribution will be aggregated to form an area multiple feature outline.
- L-0061 When PRO=000 (Unknown), omit the PRO label.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4010 If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- L-4010 If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- R-2248 If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**RIG /SUPERSTRUCTURE...1A040 (POINT)**

- L-0061 When PRO=000 (Unknown), omit the PRO label.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3972 If Rigs coalesce and area is  $< 2.5 \text{ mm} \times 2.5 \text{ mm}$ , show one Rig symbol and label "RIGS." If area  $\geq 2.5 \text{ mm} \times 2.5 \text{ mm}$ , show dashed outline and label "NUMEROUS RIGS."
- L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-3674 If a rig /superstructure (1A040) overprints platform (2D110), delete the rig /superstructure.
- T-0304 If Rig /Superstructure (1A040)'s coalesce and area is  $< 2.5 \text{ mm} \times 2.5 \text{ mm}$ , show one Rig /Superstructure symbol in its true geographic location. If area is  $> 2.5 \text{ mm} \times 2.5 \text{ mm}$ , show a dashed outline.

**WELL...1A050 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

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**FEATURE: WELL...1A050 (POINT)**

- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4009** If SCC=000, omit SCC window.
- L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- O-3155** When the project area or sheet falls within an area defined as having sparse drainage; the inclusion condition defaults to all required.
- R-2244** If EXS 006 (Abandoned), use only if LMC 001 (Landmark).
- R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.
- T-0300** If well symbols (1A050) coalesce, and there are less than four individual wells, show one symbol and label "Wells". If there are four or more, and the area is  $\geq 2.5$  mm x 2.5 mm, show a representative pattern and label "Numerous wells" (see 9D045 Text Description). The predominant PRO shall be applied to the labeling.

**DISPOSAL SITE /WASTE PILE...1B000 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**WRECKING YARD /SCRAP YARD...1E010 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

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**FEATURE: WRECKING YARD /SCRAP YARD...1B010 (AREA)**

- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**PROCESSING PLANT /TREATMENT PLANT...1C000 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-0061 When PRO=000 (Unknown), omit the PRO label.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008 If NAM = unknown, omit NAM window.
- L-4010 If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- L-4027 In an area of much detail, labeling of descriptive type may be shortened - omit PRO to leave generic (i.e., AUTOMOBILE FACTORY to FACTORY).
- L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2494 Limiting lines of feature are omitted if it coalesces with a road (1P030).

**PROCESSING PLANT /TREATMENT PLANT...1C000 (POINT)**

- C-0022 The feature (when HGT <= 46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).
- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- L-0061 When PRO=000 (Unknown), omit the PRO label.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008 If NAM = unknown, omit NAM window.

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**FEATURE: PROCESSING PLANT /TREATMENT PLANT...1C000 (POINT)**

- L-4010** If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**CATALYTIC CRACKER...1C020 (POINT)**

- C-0005** The feature (when HGT < 46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), interchange (1P020), cart track (1P010), trail (1P050), or railroad track (1N010).
- D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**SETTLING BASIN /SLUDGE POND...1C030 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.



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**FEATURE: SETTLING BASIN /SLUDGE POND...1C030 (AREA)**

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**POWER PLANT FACILITY...1D010 (AREA)**

**G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-0050** Type sizes per area sizes at map/chart scale: Area features only.

06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
16 point -  $>$  24,960 mm sq. area

Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**L-4008** If NAM = unknown, omit NAM window.

**L-4011** If PPC=000, omit PPC window.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**SOLAR PANEL...1D020 (POINT)**

**C-0022** The feature (when HGT  $\leq$  46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).

**D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

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**FEATURE: SOLAR PANEL...1D020 (POINT)**

**R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**SUBSTATION /TRANSFORMER YARD...1D030 (AREA)**

**G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.

**G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**SUBSTATION /TRANSFORMER YARD...1D030 (POINT)**

**C-0022** The feature (when HGT  $\leq 46$  m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).

**D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**CHIMNEY /SMOKESTACK...1F010 (POINT)**

**D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

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**-FEATURE: CHIMNEY /SMOKESTACK...1F010 (POINT)**

- L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248 If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**CONVEYOR...1F020 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2331 The Conveyor symbol shall only be shown outside of a Built-up Area tint, and begin and end at another symbolized feature.

**COOLING TOWER...1F030 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248 If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**CRANE...1F040 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248 If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**FLARE PIPE...1F070 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

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**FEATURE: FLARE PIPE...1F070 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.
- R-2251** Omit HGT window if LOC 002 (offshore).

**FIRING RANGE...1H045 (AREA)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**FORT...1H050 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |                   |                               |              |
|-------------------|-------------------------------|--------------|
| 06 point - $\leq$ | 770 mm sq. area and $\leq$    | 14 mm width  |
| 07 point - $\leq$ | 2,296 mm sq. area and $\leq$  | 28 mm width  |
| 09 point - $\leq$ | 5,192 mm sq. area and $\leq$  | 44 mm width  |
| 10 point - $\leq$ | 9,796 mm sq. area and $\leq$  | 62 mm width  |
| 12 point - $\leq$ | 16,632 mm sq. area and $\leq$ | 84 mm width  |
| 14 point - $\leq$ | 24,960 mm sq. area and $\leq$ | 104 mm width |
| 16 point - $>$    | 24,960 mm sq. area            |              |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

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**FEATURE: FORT...1H050 (AREA)**

- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008 If NAM = unknown, omit NAM window.
- L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**FORT...1H050 (POINT)**

- C-0022 The feature (when HGT  $\leq$  46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).
- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- G-0008 Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008 If NAM = unknown, omit NAM window.
- L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**MOBILE HOME PARK...1I020 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-0050 Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2494 Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.

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**FEATURE: MOBILE HOME PARK...1I020 (AREA)**

- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter. If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide. If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**FEED LOT /STOCKYARD /HOLDING PEN...1J030 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                          |              |
|--------------|--------------------------|--------------|
| 06 point - ≤ | 770 mm sq. area and ≤    | 14 mm width  |
| 07 point - ≤ | 2,296 mm sq. area and ≤  | 28 mm width  |
| 09 point - ≤ | 5,192 mm sq. area and ≤  | 44 mm width  |
| 10 point - ≤ | 9,796 mm sq. area and ≤  | 62 mm width  |
| 12 point - ≤ | 16,632 mm sq. area and ≤ | 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ | 104 mm width |
| 16 point - > | 24,960 mm sq. area       |              |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature

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**-FEATURE: FEED LOT /STOCKYARD /HOLDING PEN...1J030 (AREA)**

- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**FEED LOT /STOCKYARD /HOLDING PEN...1J030 (POINT)**

- L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**WINDMILL /WINDMOTOR...1J050 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248 If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**AMUSEMENT PARK ATTRACTION...1K020 (POINT)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

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**FEATURE: AMUSEMENT PARK ATTRACTION...1K020 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**AMUSEMENT PARK...1K030 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.



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**FEATURE: ATHLETIC FIELD...1K040 (AREA)**

**ATHLETIC FIELD...1K040 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**CAMPGROUND /CAMPSITE...1K060 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2242** If area feature symbol is  $\leq$  2.5 mm at map scale (125 meters on ground at 1:50,000 scale) from another (area) feature with unlike attributes, the larger of the feature outline may be extended to touch the other's outline. They would have one dividing line between them and where the outlines would coalesce, one of the features would omit that portion.
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

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**FEATURE: CAMPGROUND /CAMPSITE...1K060 (AREA)**

- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**DRIVE-IN THEATER...1K070 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**FAIRGROUNDS...1K090 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.

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**...FEATURE: FAIRGROUNDS...1K090 (AREA)**

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label,  
 the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**GOLF COURSE...1K100 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label,  
 the closest available type size shall be used.

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**FEATURE: GOLF COURSE...1K100 (AREA)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter. If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide. If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**OUTDOOR THEATER / AMPHITHEATER...1K115 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.

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**FEATURE: OUTDOOR THEATER / AMPHITHEATER...1K115 (AREA)**

- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**PARK...1K120 (AREA)**

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
16 point -  $>$  24,960 mm sq. area  
Where area measurements are inconsistent, the larger type size shall be used.  
Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:  
1. Positional hierarchy:  
a. northeast (preferred position).  
b. southeast (1st alternate).  
c. northwest (2nd alternate)  
d. southwest (3rd alternate)  
e. top-centered (4th alternate)  
f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)  
2. Minimum space between type placement and feature symbol is 0.5 mm.  
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.

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**FEATURE: PARK...1K120 (AREA)**

- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**RACE TRACK...1K130 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**L-4008** If NAM = unknown, omit NAM window.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**SKI JUMP...1K150 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

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**FEATURE: SKI JUMP...1K150 (LINE)**

O-0020 If HGT > = 46 meters, then depict as an obstruction symbol.

**SKI JUMP...1K150 (POINT)**

D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"

R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**STADIUM...1K160 (AREA)**

G-0012 Area and line features will be generalized to detail compatible with scale.

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

L-4008 If NAM = unknown, omit NAM window.

L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

R-2240 Omit feature < 46 m HGT in Built-up Area (1L020), unless LMC 001.

R-2494 Limiting lines of feature are omitted if it coalesces with a road (1P030).

R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature

R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.

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**FEATURE: STADIUM...1K160 (AREA)**

- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**STADIUM...1K160 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**SWIMMING POOL...1K170 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- O-1101** Symbolize feature (at map scale) 2.5 mm length, and 1.3 mm width when the feature is less than this size at its ground equivalent.
- R-9037** Do not show land tint inside symbol.

**ZOO...1K180 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
16 point -  $>$  24,960 mm sq. area  
Where area measurements are inconsistent, the larger type size shall be used.  
Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".



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**FEATURE: ZOO...1K180 (AREA)**

- R-2494 Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**BUILDING...1L015 (AREA)**

- D-1652 If features coalesce at map scale, when shown in their true positions, they shall be displaced 0.2 mm from one another.
- D-1654 When symbolized feature is < 0.2 mm from a line feature, displace to 0.2 mm (map scale).
- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3959 Passenger terminals (BFC 27) shall not be labeled, unless they are identified with a proper name (NAM attribute).
- L-3960 Passenger terminal (BFC 27) in Built-up Areas shall not be named if the name is the same as the populated place name.
- L-4008 If NAM = unknown, omit NAM window.
- L-4018 If BFC=000 (Unknown), omit BFC window. If BFC=039 (Other), identify the building's function using 9D045 Text Description.
- L-4028 The generic part of a name (NAM) is not shown when the building (1L015) has a posicut identification (i.e., ST. PATRICKS CATHEDRAL is shortened to ST. PATRICKS).
- O-0020 If HGT >= 46 meters, then depict as an obstruction symbol.
- O-3008 If coalescing features being thinned are a mix of heights (HGT), with some < 46 m and some >= 46 m, then only the obstruction symbol shall be shown.
- O-6200 Omit within Built-Up Area (1L020) unless: LMC=1 or HGT >= 46m.
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2265 Building symbols with a distinguishing characteristic attached shall show the staff of the symbol at right angles to the Road. If the symbol coalesces with another symbol, the staff shall be repositioned to an unobstructed side of the Building.

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**FEATURE: BUILDING...1L015 (AREA)**

- R-2293 Abandoned lighthouses (1L015, BFC=050, EXS=006) shall be shown as point features.
- R-2337 Spacing between Building symbols shall be not less than 0.2 mm.
- R-2340 The Building symbol shall be shown in its true position if a space of  $\geq 0.2$  mm (map scale) exists between the Building and Road symbols on map.
- R-2341 A space of not less than 0.2 mm shall be shown between Building symbols and Tracks and Trails.
- R-2495 Symbolize apron/hardstands (1Q060), and buildings (1L015) inside areal aircraft facilities (1U030, APT001 (Airport), or 003 (Seaplane Base)).

**BUILDING...1L015 (LINE)**

- D-1652 If features coalesce at map scale, when shown in their true positions, they shall be displaced 0.2 mm from one another.
- D-1654 When symbolized feature is  $< 0.2$  mm from a line feature, displace to 0.2 mm (map scale).
- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3959 Passenger terminals (BFC 27) shall not be labeled, unless they are identified with a proper name (NAM attribute).
- L-3960 Passenger terminal (BFC 27) in Built-up Areas shall not be named if the name is the same as the populated place name.
- L-4008 If NAM = unknown, omit NAM window.
- L-4018 If BFC=000 (Unknown), omit BFC window. If BFC=039 (Other), identify the building's function using 9D045 Text Description.
- L-4028 The generic part of a name (NAM) is not shown when the building (1L015) has a posicut identification (i.e., ST. PATRICKS CATHEDRAL is shortened to ST. PATRICKS).
- O-0020 If HGT  $\geq 46$  meters, then depict as an obstruction symbol.
- O-3008 If coalescing features being thinned are a mix of heights (HGT), with some  $< 46$  m and some  $\geq 46$  m, then only the obstruction symbol shall be shown.
- O-6200 Omit within Built-Up Area (1L020) unless: LMC=1 or HGT  $\geq 46$ m.
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2265 Building symbols with a distinguishing characteristic attached shall show the staff of the symbol at right angles to the Road. If the symbol coalesces with another symbol, the staff shall be repositioned to an unobstructed side of the Building.
- R-2293 Abandoned lighthouses (1L015, BFC=050, EXS=006) shall be shown as point features.
- R-2337 Spacing between Building symbols shall be not less than 0.2 mm.
- R-2340 The Building symbol shall be shown in its true position if a space of  $\geq 0.2$  mm (map scale) exists between the Building and Road symbols on map.
- R-2341 A space of not less than 0.2 mm shall be shown between Building symbols and Tracks and Trails.

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**FEATURE: BUILDING...1L015 (LINE)**

R-2495 Symbolize apron/hardstands (1Q060), and buildings (1L015) inside areal aircraft facilities (1U030, AFT001 (Airport), or 003 (Seaplane Base)).

**BUILDING...1L015 (POINT)**

- C-0022 The feature (when HGT  $\leq$  46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).
- D-1652 If features coalesce at map scale, when shown in their true positions, they shall be displaced 0.2 mm from one another.
- D-1654 When symbolized feature is  $<$  0.2 mm from a line feature, displace to 0.2 mm (map scale).
- G-0008 Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3959 Passenger terminals (BFC 27) shall not be labeled, unless they are identified with a proper name (NAM attribute).
- L-3960 Passenger terminal (BFC 27) in Built-up Areas shall not be named if the name is the same as the populated place name.
- L-4008 If NAM = unknown, omit NAM window.
- L-4018 If BFC=000 (Unknown), omit BFC window. If BFC=039 (Other), identify the building's function using 9D045 Text Description.
- L-4028 The generic part of a name (NAM) is not shown when the building (1L015) has a posicut identification (i.e., ST. PATRICKS CATHEDRAL is shortened to ST. PATRICKS).
- L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- O-3008 If coalescing features being thinned are a mix of heights (HGT), with some  $<$  46 m and some  $\geq$  46 m, then only the obstruction symbol shall be shown.
- O-6200 Omit within Built-Up Area (1L020) unless: LMC=1 or HGT  $\geq$  46m.
- R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2265 Building symbols with a distinguishing characteristic attached shall show the staff of the symbol at right angles to the Road. If the symbol coalesces with another symbol, the staff shall be repositioned to an unobstructed side of the Building.
- R-2337 Spacing between Building symbols shall be not less than 0.2 mm.
- R-2340 The Building symbol shall be shown in its true position if a space of  $\geq$  0.2 mm (map scale) exists between the Building and Road symbols on map.
- R-2341 A space of not less than 0.2 mm shall be shown between Building symbols and Tracks and Trails.
- R-2495 Symbolize apron/hardstands (1Q060), and buildings (1L015) inside areal aircraft facilities (1U030, AFT001 (Airport), or 003 (Seaplane Base)).
- R-3740 If a light (2C050) is shown coincident with an operational lighthouse (1L015, BFC 050, EXS 028), show the light, and delete the lighthouse symbol.

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**FEATURE: BUILDING...1L015 (POINT)**

**R-9041** Buildings (1L015 P), single or occurring in rows or clusters, shall be shown in their true orientation except when falling  $\leq 0.2$  mm of the following linear features: Road (1P030), Railroad Track (1N010), Cart Track (1P010), Trail (1P050), Aqueduct (2H010), Canal (2H020), and Ditch (2H030). In these cases, Buildings (1L015 P), single (or occurring in rows or clusters with  $\leq 0.2$  mm separation between buildings) shall be collectively oriented parallel to those linear features at a distance of 0.2 mm.

**BUILT-UP AREA...1L020 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0020** NAM label shall be positioned 0.5 mm from respective side of feature symbol so that wording may be read from left to right except for perpendicular wording which shall be read from bottom to top (east side) of feature.
- L-1650** When EXS is not equal to 007 (Destroyed), drop EXS window.
- R-2178** When a Wall symbol (1L260) coalesces with Built-up Area (1L020) outline, or Shantytown (1L208) outline, omit Built-up Area or Shantytown outline, and show Wall with Built-up Area tint only.
- R-2179** Where a Wall is around a populated place that is not symbolized as Built-up Area or Shantytown, the Wall symbol shall be omitted but "(Walled)" will be labeled in parentheses below the place name when place name is known.
- R-2305** The Built-up Area tint (1L020) shall be cleared from all through Routes (TUC 007) and streets (TUC 006).
- R-2333** The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is  $< 0.5$  mm.
- R-2334** Areal features (parks, railroad yards, factory complexes, port facilities, fabrication complexes, hospital complexes, cemeteries, and other similar complexes) within the Built-up Area tint shall be void of the built-up area tint if  $\geq 2.5$  mm x 2.5 mm.
- R-2345** If a Built-up Area (1L020) has been destroyed, the area limits shall be shown with a dashed outline and labeled "DESTROYED".
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter. If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide. If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

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**FEATURE: CAIRN...1L025 (POINT)****CAIRN...1L025 (POINT)**

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**CEMETERY...1L030 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2333** The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is  $<$  0.5 mm.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**CEMETERY...1L030 (POINT)**

- D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- G-0004** A cluster of 3 or more coalescing similar point feature having matching coded attribution will be aggregated when an area delineation is supported by the product.

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**FEATURE: DRAGON (TIGER) TEETH...1L060 (LINE)****DRAGON (TIGER) TEETH...1L060 (LINE)**

G-0012 Area and line features will be generalized to detail compatible with scale.

**FENCE...1L070 (LINE)**

G-0012 Area and line features will be generalized to detail compatible with scale.

R-2352 Fences shall not be shown if parallel to and < 25 m from any linear feature.

R-2353 Walls or Fences which enclose the following areal features shall not be shown: Mobile Home Park, Amusement Park, Athletic Field, Campground, Drive-In Theater, Fairgrounds, Golf Course, Stadium, Zoo, and Cemetery.

**GEOPHYSICAL PROSPECTING GRID...1L085 (LINE)**

G-0012 Area and line features will be generalized to detail compatible with scale.

L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.

**HUT...1L100 (POINT)**

C-0022 The feature (when HGT <= 45 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

R-2343 Rows of huts with common walls shall be shown with each individual hut symbol abutting together, showing one common line between each.

**MONUMENT...1L130 (POINT)**

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**-FEATURE: MONUMENT...1L130 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2248** If  $\geq 3$  equal symbols would coalesce at map scale, portray with a representative pattern.

**NATIVE SETTLEMENT...1L135 (AREA)**

- R-2333** The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is  $< 0.5$  mm.

**NUCLEAR ACCELERATOR...1L140 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**PIPELINE /PIPE...1L160 (LINE)**

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**FEATURE: PIPELINE /PIPE...1L160 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3633** Remove "EXS" window when EXS = 28, operational.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4010** If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- L-4012** If ACC=001 (Accurate), omit ACC window.
- L-4013** Where 1L160 (Pipeline) is coincident with a linear feature and LOC=001, label feature "Underground Pipeline" (once every 25.5 mm at map scale). Avoid overprinting of other features.
- L-4014** When labeling ACC 002 (Approximate), label once for every 25.5 mm at map scale. Avoid overprinting of other features when possible.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- L-4743** If feature type is linear, the label hierarchy is:  
 (1) Label shall be placed 1 mm above feature, centered.  
 (2) Top of label shall be placed 1 mm below feature, centered.  
 (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.  
 (4) Do not label across shoreline (2A010 or 2H075).
- L-4862** Pipelines (1L160), pipeline areas (6C150, DTC=013), and cable and pipeline areas (6C150, DTC=015) shall show a label for the following PRO values, using the label shown below:  
 If PRO=006, label "Chem"  
 If PRO=012, label "Gas"  
 If PRO=013, label "Gasoline"  
 If PRO=018, label "Oil"  
 If PRO=027, label "Water"
- No PRO label is shown for PRO=000 Unknown, PRO=019 Other, or PRO=035 Sewage.
- O-3427** DEP is used when LOC=010 (Below Sea Bottom). If DEP is unknown, show as LOC=011 (On Sea Bottom).
- R-2180** Pipelines shall not be shown within Built-up tinted (1L020) areal features.



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**FEATURE: PIPELINE /PIPE...1L160 (LINE)**

R-2208 The attribute HSB is applicable when LOC=012 (Suspended or elevated above sea bottom). If a pipeline is LOC=012, and the height above the bottom is unknown, a caution label (see Cautions section of product specification) shall be shown near the feature, and the following caution shall be shown in the caution box:

CAUTION

Pipelines are elevated above the sea bottom, and the clearance over them is less than the charted depth.

If the feature is LOC=012, and the height above the bottom is known, the caution in the caution box shall be:

CAUTION

Pipelines are elevated up to (HSB) meters above the sea bottom, and the clearance over them is less than the charted depth.

The height above sea bottom (HSB) is indicated in the text of the note.

R-2231 Omit from Built-up Area (1L020).

R-2249 Show pipelines (1L160) that are below ground surface (LOC 001) to show connections to pipelines that are on ground surface (LOC003) or elevated (LOC 004), or when scars in the earth from underground feature is a landmark (LMC 001).

R-2349 Pipelines shall not be shown when coincident with Roads and Railroads, except in desert regions or arctic regions where LMC = 1.

R-2818 If Pipelines (1L160) or cables (1T005) in the water (LOC=010, 011, or 012) meet the following criteria, they are represented as pipeline areas (6C150, DTC=013) or cable areas (6C150, DTC=012) respectively, rather than shown as separate pipelines or cables. If Pipelines and cables together meet the following criteria, they are represented as "cables and pipelines area" (6C150, DTC=015).

Criteria:

- a. more than two linear features, AND
- b. space between any two linear features is less than 8 mm at chart scale, AND
- c. space between the outermost linear features in the group is greater than 3 mm at chart scale

If more than two cables or pipelines are  $\leq$  3 mm apart at chart scale, show only the outermost linear features.

If cable symbols overprint other cable symbols, show one cable.

If pipeline symbols overprint other pipeline symbols, show one pipeline.

If cable symbols and pipeline symbols overprint, show a cable and pipeline area (6C150, DTC=15).

The outermost limits of the cable, pipeline, or cables and pipeline area (6C150, DTC=012, 013, or 015) area feature are displaced for 2 mm past the outermost cables and pipelines, so that the area within which anchoring, trawling, and dredging are prohibited or inadvisable includes a safety margin beyond the outermost cables and/or pipelines.

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**FEATURE: PIPELINE /PIPE...1L160 (LINE)**

- R-2937** Charts shall have the following caution notes shown in the margin if pipelines (1L160), pipeline areas (6C150, DTC=013), or cable and pipeline areas (6C150, DTC=015) are shown on the chart, and products are chemicals (PRO=006), gas (PRO=012), gasoline (PRO=013), or oil (PRO=018): .

**CAUTION**

Mariners risk prosecution if they anchor or trawl near a pipeline and so damage it. (PRO) leaking from a damaged pipeline could cause fire or loss of a vessel's buoyancy.

The product name (PRO) is indicated in the text of the note. PRO006 is shown in plural, i.e., "Chemicals." See Notes and Cautions section of product specifications for color, type size, type style, and other information regarding caution notes.

- R-3920** Pipelines coincident with traveled ways are not shown, except in desert areas.

**PLAZA /CITY SQUARE...1L170 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.

- G-0012** Area and line features will be generalized to detail compatible with scale.

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.

06 point - ≤ 770 mm sq. area and ≤ 14 mm width  
 07 point - ≤ 2,296 mm sq. area and ≤ 28 mm width  
 09 point - ≤ 5,192 mm sq. area and ≤ 44 mm width  
 10 point - ≤ 9,796 mm sq. area and ≤ 62 mm width  
 12 point - ≤ 16,632 mm sq. area and ≤ 84 mm width  
 14 point - ≤ 24,960 mm sq. area and ≤ 104 mm width  
 16 point - > 24,960 mm sq. area

Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

- L-4008** If NAM = unknown, omit NAM window.

- R-3903** If the width (WID) of the symbolized Road (1P030) is greater than the width (WID) of the Plaza (1L170), then suppress the Plaza (1L170).

**PUMPING STATION...1L180 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.

- L-0061** When PRO=000 (Unknown), omit the PRO label.

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

- R-2333** The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is < 0.5 mm.

**PUMPING STATION...1L180 (POINT)**

- D-1654** When symbolized feature is < 0.2 mm from a line feature, displace to 0.2 mm (map scale).

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

- L-0061** When PRO=000 (Unknown), omit the PRO label.

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**FEATURE: PUMPING STATION...1L180 (POINT)**

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**RUINS...1L200 (AREA)**

**G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-0050** Type sizes per area sizes at map/chart scale: Area features only.

06 point - ≤	770 mm sq. area and ≤	14 mm width
07 point - ≤	2,296 mm sq. area and ≤	28 mm width
09 point - ≤	5,192 mm sq. area and ≤	44 mm width
10 point - ≤	9,796 mm sq. area and ≤	62 mm width
12 point - ≤	16,632 mm sq. area and ≤	84 mm width
14 point - ≤	24,960 mm sq. area and ≤	104 mm width
16 point - >	24,960 mm sq. area	

Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**L-4008** If NAM = unknown, omit NAM window.

**L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

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**FEATURE: RUINS...1L200 (AREA)**

**L-4705** Labeling areas, in order of preference:

- (1) Centered in area on one line in the area, type is horizontal, reading left to right.
- (2) Centered in area on one line in the area, oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (3) Centered in area on two approximately equal lines, without splitting a word, type is horizontal, reading left to right.
- (4) Centered on two approximately equal lines without splitting a word, type is oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (5) Use Rule L-4722 for type placement if the area is too small to place the type inside the area.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4729** If symbols overprint each other, labels are condensed as follows:

- (1) If the labels are identical, only one is retained.
- (2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001.

HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008).

HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001).

HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).

**R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.

**R-2333** The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is < 0.5 mm.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.

**R-3672** Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).

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**FEATURE: RUINS...1L200 (AREA)**

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**RUINS...1L200 (POINT)**

**C-0022** The feature (when HGT  $\leq$  46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).

**D-1654** When symbolized feature is  $<$  0.2 mm from a line feature, displace to 0.2 mm (map scale).

**D-1909** If point symbol overprints shoreline (2A010 or 2H075), the HDP type, posicut, or graphic in the center of symbol shall be displaced seaward until they no longer overprint the shoreline. If the danger curve (dotted perimeter line) overprints the shoreline, that portion of the dotted perimeter line falling on land shall be deleted.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south headline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4729** If symbols overprint each other, labels are condensed as follows:

- (1) If the labels are identical, only one is retained.
- (2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.

**L-4891** Variable type size for HDP values enclosed by danger curves (dotted circles):

If HDP  $<$  10, (a single digit principal digit), apply 7 point type to the principal digit, and 5 point type to the subscript, if there is one. If HDP  $\geq$  10 (a double digit principal digit), apply 6 point type to the principal digit, and 5 point type to the subscript, if there is one.

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**FEATURE: RUINS...1L200 (POINT)**

- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.
- R-3672** Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.
- R-3709** The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.

**SHANTY TOWN...1L208 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                                       |
|--------------|---------------------------------------|
| 06 point - ≤ | 770 mm sq. area and ≤ 14 mm width     |
| 07 point - ≤ | 2,296 mm sq. area and ≤ 28 mm width   |
| 09 point - ≤ | 5,192 mm sq. area and ≤ 44 mm width   |
| 10 point - ≤ | 9,796 mm sq. area and ≤ 62 mm width   |
| 12 point - ≤ | 16,632 mm sq. area and ≤ 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ 104 mm width |
| 16 point - > | 24,960 mm sq. area                    |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- R-2178** When a Wall symbol (1L260) coalesces with Built-up Area (1L020) outline, or Shantytown (1L208) outline, omit Built-up Area or Shantytown outline, and show Wall with Built-up Area tint only.
- R-2179** Where a Wall is around a populated place that is not symbolized as Built-up Area or Shantytown, the Wall symbol shall be omitted but "(Walled)" will be labeled in parentheses below the place name when place name is known.

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**FEATURE: SHANTY TOWN...1L208 (AREA)**

- R-2333 The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is < 0.5 mm.
- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**SNOW SHED /ROCK SHED...1L210 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2254 If a Snow Shed/Rock Shed (1L210) falls on more than one sheet, it will be labeled on both.
- X-8108 If a feature is not associated with (touching) a road (1P030) or railroad track (1N010), omit the feature.

**SNOW SHED /ROCK SHED...1L210 (POINT)**

- C-0023 The feature symbology shall be positioned such that the longest axis of the symbol is aligned coincident with the centerline of the associated road (1P030), railroad track (1N010), or RR siding/RR spur (1N050) feature.
- G-0008 Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2254 If a Snow Shed/Rock Shed (1L210) falls on more than one sheet, it will be labeled on both.
- X-8108 If a feature is not associated with (touching) a road (1P030) or railroad track (1N010), omit the feature.

**TENT DWELLINGS...1L228 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.

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**FEATURE: TENT DWELLINGS...1L228 (AREA)**

**L-0050** Type sizes per area sizes at map/chart scale: Area features only.

- 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width
- 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width
- 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width
- 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width
- 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width
- 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width
- 16 point -  $>$  24,960 mm sq. area

Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**L-4008** If NAM = unknown, omit NAM window.

**R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature

**R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.

**R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter. If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide. If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**TENT DWELLINGS...1L228 (POINT)**



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**FEATURE: TENT DWELLINGS...1L228 (POINT)**

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-4008 If NAM = unknown, omit NAM window.

**TOWER (NON- COMMUNICATION)...1L240 (POINT)**

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"

O-3008 If coalescing features being thinned are a mix of heights (HGT), with some < 46 m and some >= 46 m, then only the obstruction symbol shall be shown.

R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

R-2240 Omit feature < 46 m HGT in Built-up Area (1L020), unless LMC 001.

**UNDERGROUND DWELLING...1L250 (POINT)**

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: WALL...1L260 (LINE)****WALL...1L260 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-0051** Type sizes for single line features at map/chart scale.

06 point -  $\leq$  80 mm length

07 point -  $\leq$  160 mm length

09 point -  $>$  160 mm length

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**R-2250** Omit feature when it is coincident with another unlike line feature.

**R-2353** Walls or Fences which enclose the following areal features shall not be shown: Mobile Home Park, Amusement Park, Athletic Field, Campground, Drive-In Theater, Fairgrounds, Golf Course, Stadium, Zoo, and Cemetery.

**DEPOT (STORAGE)...1M010 (AREA)**

**G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-0050** Type sizes per area sizes at map/chart scale: Area features only.

06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width

07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width

09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width

10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width

12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width

14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width

16 point -  $>$  24,960 mm sq. area

Where area measurements are inconsistent, the larger type size shall be used.

Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**L-4016** When LOC = 3 (On ground surface), omit LOC window.

**R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**GRAIN BIN...1M020 (AREA)**

**C-0022** The feature (when HGT  $\leq$  46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).

**G-0007** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the feature will be agglomerated to form an area multiple feature outline.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**GRAIN BIN...1M020 (POINT)**

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**..FEATURE: GRAIN BIN...1M020 (POINT)**

- C-0022** The feature (when HGT  $\leq$  46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).
- D-1654** When symbolized feature is  $<$  0.2 mm from a line feature, displace to 0.2 mm (map scale).
- G-0005** A cluster of 3 or more coalescing similar point features having matching coded attribution will be aggregated to form an area multiple feature outline.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**GRAIN ELEVATOR...1M030 (AREA)**

- G-0007** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the feature will be agglomerated to form an area multiple feature outline.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- O-0020** If HGT  $>$  = 46 meters, then depict as an obstruction symbol.

**GRAIN ELEVATOR...1M030 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: GRAIN ELEVATOR...1M030 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**SILO...1M050 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**STORAGE BUNKER /STORAGE MOUND...1M060 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                          |              |
|--------------|--------------------------|--------------|
| 06 point - ≤ | 770 mm sq. area and ≤    | 14 mm width  |
| 07 point - ≤ | 2,296 mm sq. area and ≤  | 28 mm width  |
| 09 point - ≤ | 5,192 mm sq. area and ≤  | 44 mm width  |
| 10 point - ≤ | 9,796 mm sq. area and ≤  | 62 mm width  |
| 12 point - ≤ | 16,632 mm sq. area and ≤ | 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ | 104 mm width |
| 16 point - > | 24,960 mm sq. area       |              |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-0061** When PRO=000 (Unknown), omit the PRO label.

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**FEATURE: STORAGE BUNKER /STORAGE MOUND...1M060 (AREA)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**STORAGE BUNKER /STORAGE MOUND...1M060 (POINT)**

- G-0004** A cluster of 3 or more coalescing similar point feature having matching coded attribution will be aggregated when an area delineation is supported by the product.
- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

**TANK...1M070 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0061** When PRO=000 (Unknown), omit the PRO label.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4034** When LOC=003 (On Ground Surface), no LOC label is required.
- O-0020** If HGT > = 46 meters, then depict as an obstruction symbol.
- T-0301** If tank symbols coalesce and there are less than 4, show one symbol and label "Tanks". If there are 4 or more, and area is >= 2.5 mm x 2.5 mm, show areal symbol as dashed outline and label "Numerous tanks". The predominant PRO shall be applied to the labeling.

**TANK...1M070 (POINT)**

- L-0061** When PRO=000 (Unknown), omit the PRO label.

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**FEATURE: TANK...1M070 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4034** When LOC=003 (On Ground Surface), no LOC label is required.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- T-0301** If tank symbols coalesce and there are less than 4, show one symbol and label "Tanks". If there are 4 or more, and area is  $\geq 2.5 \text{ mm} \times 2.5 \text{ mm}$ , show areal symbol as dashed outline and label "Numerous tanks". The predominant PRO shall be applied to the labeling.

**WATER TOWER...1M080 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.
- R-2240** Omit feature < 46 m HGT in Built-up Area (1L020), unless LMC 001.

**RAILROAD TRACK...1N010 (LINE)**

- C-0017** Contours (3A010) will be adjusted to planimetric features.

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**--FEATURE: RAILROAD TRACK...1N010 (LINE)**

- D-1650 If two Railroads are on separate roadbeds, and the symbols coalesce, the spacing between rail lines shall be 3.0 mm. When the distance between two parallel railroads is too small to plot to scale without the symbols coalescing, the distance between the center lines is exaggerated to 3.0 mm.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3956 Broad gauge Railroads shall be labeled parallel to the Railroad alignment.
- L-3957 The gauge label of narrow gauge Railroads with lines of varying widths shall be positioned parallel to the alignment of each gauge.
- L-3961 Electrified Railroads shall be labeled "ELECTRIFIED" positioned parallel to the Railroad alignment.
- L-3962 The label "ELECTRIFIED" shall be dropped when the Railroad name indicates the rail is electrified (example: "OHIO ELECTRIC").
- L-3963 Names shall be shown and positioned parallel to the Railroad alignment.
- L-4008 If NAM = unknown, omit NAM window.
- L-4016 When LOC = 3 (On ground surface), omit LOC window.
- L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261 Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- L-4284 If RGC is 001, label "Broad".  
If RGC is 003, delete RGC label.
- R-2229 Railroad (1N010) crosstie ticks may overlap cut line (4B071) and embankment (4B090) symbols.
- R-2324 If Railroads and Piers /Wharves symbologies coalesce, only the Pier /Wharf and crossties of the Railroad shall be shown.
- R-2327 Only operational (EXS 028) Railroad Tracks (1N010) shall be shown in Roads (1P030)
- R-2328 Railroad symbol ticks shall begin and end not less than 6.5 mm from the Bridge ticks.
- R-2329 Car lines (RRC 2), operating or non-operating, shall not be shown within Built-up Areas (1L020).
- R-2601 When a Railroad (1N010) Main line/Branch line (RRC 1 or 3) enters a Railroad Yard (1N080), the Main line/Branch line shall remain at its portrayed lineweight whether or not the track terminates at, in or passes through the yard feature.
- R-3672 Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3706 The attribute VRC is applicable when RRC=013 (Marine Railway).

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**FEATURE: RAILROAD TRACK...1N010 (LINE)**

- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.
- R-3801** A car line (1N010, RRC 002) shall be dropped where it coincides with a road (1P030).
- S-0103** When a Road (1P030) or a Railroad (1N010) coincide or coalesce at map scale when on the same Bridge (1Q040), the Railroad (1N010) shall be suppressed to a distance of 0.25 mm back from the wing ticks at each end of the bridge.
- S-7030** If a Railroad Track (1N010) is coincident with features P1Q131 (Tunnel), or L1Q131 (Tunnel), then suppress that section of the Railroad Track.

**RR SIDING /RR SPUR...1N050 (LINE)**

- C-0017** Contours (3A010) will be adjusted to planimetric features.
- D-1651** If the Railroad and Siding or Spur coalesce, the Siding/Spur center line shall be displaced to 3.0 mm from the Railroad center line.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4284** If RGC is 001, label "Broad".  
If RGC is 003, delete RGC label.
- R-2239** IF RSA is 002 (Siding) or 003 (Passing), the RGC, EXS and RPS shall be equal to associated railroad (1N010).
- R-2326** Spurs and Sidings shall not be shown in Built-up Areas when their symbology coalesces with other features.
- X-8110** If a feature is not associated with (touching, stacked\_on, etc.) a railroad track (1N010), omit the feature.

**RR TURNTABLE...1N075 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

**RR YARD...1N080 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3562** If area is not large enough to place type within, move to outside and apply point hierarchy Rule L-3505.
- L-3633** Remove "EXS" window when EXS = 28, operational.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- O-0002** When Railroad Yard (1N080), or any part, is an area feature and does not converge on itself (open at one end), no hardline lineweight symbol shall be shown closing or connecting the feature symbol at the open end.



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**FEATURE: RR YARD...1N080 (AREA)**

- R-2238 Interior track alignment shall run parallel to the longest axis of the feature and conform to the true shape of the feature.
- X-8110 If a feature is not associated with (touching, stacked\_on, etc.) a railroad track (1N010), omit the feature.

**TRAMWAY /INCLINE RAILWAY...1N090 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.

**CART TRACK...1P010 (LINE)**

- D-1652 If features coalesce at map scale, when shown in their true positions, they shall be displaced 0.2 mm from one another.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- O-0004 For Road (1P030, TUC 4), Cart Track (1P010, TUC 18), and Trail (1P050) within Built-Up Area (1L020); Symbolize the portion of the feature within the Built-Up Area (1L020) as white 1P03L007.
- O-3156 When the project area or sheet falls within an area defined as having sparse culture; the inclusion condition defaults to all required.
- R-2341 A space of not less than 0.2 mm shall be shown between Building symbols and Tracks and Trails.
- T-0022 Thin Cart tracks (1P010) and Trails (1P050) in moderate to dense areas to a LEN <= 1500 m and a spacing of >= 6000 m, and for sparse to moderate areas to a LEN <= 1500 m and a spacing of >= 1250 m, unless needed to complete the road network. Two exceptions to the above rule for these features if they do not connect with an other "road like" feature:
1. If LEN is less than 1500 m and has a cultural feature at its terminus, retain this short segment to this feature.
  2. Delete all of this feature if area is moderate to dense and there is no cultural feature at its terminus.

**INTERCHANGE...1P020 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- R-2233 Feature under construction (EXS 005), to be operational (EXS 028) by the time the map in progress is to be complete, shall be symbolized as operational.

**ROAD...1P030 (LINE)**

- C-0009 The feature which coalesces (< 0.2 mm) with a railroad track (1N010) or RR siding/RR spur (1N050) shall be displaced to a minimum of 0.2 mm apart.
- C-0017 Contours (3A010) will be adjusted to planimetric features.
- D-1510 When a road (1P030) of any classification enters a "hairpin turn" condition, such as in a steep mountainous region, displace the coalescing road symbol apart 0.15mm (symbol - edge to edge).
- D-1652 If features coalesce at map scale, when shown in their true positions, they shall be displaced 0.2 mm from one another.
- D-7027 If a road (Line 1P030) is coincident with features:  
then suppress that section of the road.

Point 1Q131 Tunnel  
Line 1Q131 Tunnel

Coalesces - to grow together, blend, mingle  
Coincident- occupy the same space

- G-0012 Area and line features will be generalized to detail compatible with scale.

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**FEATURE: ROAD...1P030 (LINE)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3951** Road alignments that lack adequate information for proper alignment shall be labelled "APPROXIMATE ALIGNMENT" or "APPROX. ALIGN.".
- L-3952** Approximate alignments less than 13 mm in length at map scale shall not be labeled.
- L-3953** First preference for Road name position shall be along the upper side of the Road symbol.
- L-3955** When an elevated highway is  $\geq 12.5$  mm long at map scale, it shall be labeled "ELEVATED" parallel to the Road.
- L-4008** If NAM = unknown, omit NAM window.
- L-4016** When LOC = 3 (On ground surface), omit LOC window.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- O-0004** For Road (1P030, TUC 4), Cart Track (1P010, TUC 18), and Trail (1P050) within Built-Up Area (1L020); Symbolize the portion of the feature within the Built-Up Area (1L020) as white 1P03L007.
- R-0060** Retain any road (1P030) of any classification that is  $< 12.5$  mm at map scale when part of the main road. Example: A two lane road that changes to a 3 or 4 lane road, and back again. When this condition exists, portray at the lower road classification.
- R-2233** Feature under construction (EXS 005), to be operational (EXS 028) by the time the map in progress is to be complete, shall be symbolized as operational.
- R-2300** If a Road (1P030) can be classified in more than one category (WTC, RST, LTN or EXS) where the total length (LEN) is  $\leq 13.0$  mm at map scale, then classify this road at the lowest road classification identified in this condition.
- R-2301** A Road (1P030) that can predominantly be classified in one category ( $\geq 75\%$  surface type, WTC & RST) within a distance of  $\leq 13.0$  mm at map scale shall be classified at that predominant road classification for this entire distance.
- R-2305** The Built-up Area tint (1L020) shall be cleared from all through Routes (TUC 007) and streets (TUC 006).
- S-0102** Suppress Road (TUC4) when Road (TUC 4), Railroad (TUC 3), or Railroad and road (TUC 1) are coincident with a Dam (2I020). Label as "Road on dam" for TUC 4, "Railroad on dam" for TUC 3, and "Railroad and road on dam" for TUC 1.
- S-1010** Suppress any road (1P030) of any classification, cart track (1P010), or trail (1P050) that intersects one side, and that is  $< 7.5$  mm at finishing scale, and does not terminate at a cultural feature. Exception: Any road (1P030), cart track, or trail must be retained when needed to complete the network.

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**FEATURE: ROAD...1P030 (LINE)**

- T-0020** Do not symbolize road (1P030) when outside of Built-Up Area (1L020) or Shanty town (1L208), and LEN < 300m, and spacing is < 300m, unless needed to complete the road network.
- T-0021** Do not symbolize road (1P030, TUC 4) when within Built-Up Area (1L020) or Shanty town (1L208), and LEN < 300 m, and spacing is < 300 m, unless needed to complete the road network.

**TRAIL...1P050 (LINE)**

- C-0009** The feature which coalesces (< 0.2 mm) with a railroad track (1N010) or RR siding/RR spur (1N050) shall be displaced to a minimum of 0.2 mm apart.
- D-1652** If features coalesce at map scale, when shown in their true positions, they shall be displaced 0.2 mm from one another.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-4033** When WTC=000 (Unknown) or 002 (Fair/Dry Weather), omit WTC window.
- O-0004** For Road (1P030, TUC 4), Cart Track (1P010, TUC 18), and Trail (1P050) within Built-Up Area (1L020); Symbolize the portion of the feature within the Built-Up Area (1L020) as white 1P03L007.
- T-0022** Thin Cart tracks (1P010) and Trails (1P050) in moderate to dense areas to a LEN <= 1500 m and a spacing of >= 6000 m, and for sparse to moderate areas to a LEN <= 1500 m and a spacing of >= 1250 m, unless needed to complete the road network. Two exceptions to the above rule for these features if they do not connect with an other "road like" feature:
1. If LEN is less than 1500 m and has a cultural feature at its terminus, retain this short segment to this feature.
  2. Delete all of this feature if area is moderate to dense and there is no cultural feature at its terminus.

**AERIAL CABLEWAY LINE /SKI LIPT LINE...1Q010 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.

**BRIDGE /OVERPASS /VIADUCT...1Q040 (LINE)**

- C-0008** The sides of a linear bridge (1Q040) which is stacked under a road (1P030) shall have the sides of the bridge abutted up against the sides of the road.
- G-0012** Area and line features will be generalized to detail compatible with scale.

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**FEATURE: BRIDGE /OVERPASS /VIADUCT...1Q040 (LINE)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-4008** If NAM = unknown, omit NAM window.
- O-0023** If a bridge feature satisfies vertical obstruction criteria, then symbolize the bridge, and overprint with obstruction symbol (Posicut #3) and label.
- R-2236** Show at least a 0.50 mm symbol overlap on shore for each terminis (end).
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-9035** Show land tint inside the symbol.
- S-0104** When a bridge is over land and elevated (LOC=004), suppress the bridge symbol and lable as "Elevated"

**BRIDGE /OVERPASS /VIADUCT...1Q040 (POINT)**

- C-0006** A point bridge (1Q040) that is stacked under a road (1P030) shall have the sides of the bridge abutted up against the sides of the road, and the bridgeoriented so that the bridge is aligned with the road.
- C-0007** The supporting feature shall be aligned with a Cart Track (1P010), Trail (1P050), RR Track (1N010), and RR Siding/RR Spur (1N050).
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-4008** If NAM = unknown, omit NAM window.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- S-0104** When a bridge is over land and elevated (LOC=004), suppress the bridge symbol and lable as "Elevated"

**BRIDGE SUPERSTRUCTURE...1Q050 (POINT)**

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**FEATURE: BRIDGE SUPERSTRUCTURE...1Q050 (POINT)**

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"

**CONTROL TOWER...1Q060 (POINT)**

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"

O-3008 If coalescing features being thinned are a mix of heights (HGT), with some < 46 m and some >= 46 m, then only the obstruction symbol shall be shown.

R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

R-2495 Symbolize apron/hardstands (1Q060), and buildings (1L015) inside areal aircraft facilities (1U030, AFT001 (Airport), or 003 (Seaplane Base)).

**CULVERT...1Q065 (POINT)**

C-0007 The supporting feature shall be aligned with a Cart Track (1P010), Trail (1P050), RR Track (1N010), and RR Siding/RR Spur (1N050).

R-0080 Orientation of the culvert symbol is with the headline parallel with the overpassing feature, and centered on the drain if possible.

R-2231 Omit from Built-up Area (1L020).

**FERRY CROSSING...1Q070 (LINE)**

G-0012 Area and line features will be generalized to detail compatible with scale.

L-4008 If NAM = unknown, omit NAM window.

L-4032 Ferries may be abbreviated to "Fy" when the label coalesces with other detail.

L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.

L-4261 Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.

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**FEATURE: FERRY CROSSING...1Q070 (LINE)**

- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2232** Omit if not shown in conjunction with a drainage feature.
- R-2320** Pedestrian Ferry Crossings (1Q070, TUC 017) are shown only when there is no Road (1P030), Bridge (1Q040), Causeway (4B090, EFI 003), Vehicular Ferry Crossing (1Q070, TUC 004), Railroad Ferry Crossing (1Q070, TUC 003), or Both Road and Railroad Ferry Crossing (1Q070, TUC 001) crossing the water body within 635 meters of the pedestrian ferry.

**FERRY CROSSING...1Q070 (POINT)**

- L-4008** If NAM = unknown, omit NAM window.
- L-4031** Position label to the right of the to be identified.
- L-4032** Ferries may be abbreviated to "Fy" when the label coalesces with other detail.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2232** Omit if not shown in conjunction with a drainage feature.

**MOORING MAST...1Q110 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**REST AREA /VEHICLE STOPPING AREA...1Q115 (AREA)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

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**FEATURE: REST AREA /VEHICLE STOPPING AREA...1Q115 (AREA)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2231** Omit from Built-up Area (1L020).
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**ROUTE MARKER...1Q116 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-3996** Route Marker labels shall be shown centered on the Road symbol and positioned parallel to the south neatline. The Route Marker label shall not be shown in coincidence with grid lines or Open Water areas.
- R-2260** When a combination of two or more Route Markers are shown for a Road, the Route Marker symbols shall be positioned  $\leq 12$  mm apart, and shall not coalesce with each other.
- R-2264** All map symbology shall be dropped within the Route Marker symbol.
- R-2302** Route Markers shall be placed on Through Routes enclosed by tinted Built-up Areas (1L020).
- R-2307** Route Markers shall be centered on the Roads, positioned parallel with the south neatline, except where the symbol would overprint another feature/symbol. In this case, it will be positioned adjacent to the Road, where space permits.
- R-2312** Route Markers shall be shown for each Route number, for Roads which are identified by more than one Route number.

**TUNNEL...1Q131 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-4008** If NAM = unknown, omit NAM window.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2318** Within Built-up Areas, include only tunnels relating to through routes.
- R-2325** If the alignment of a Railroad (1N010) is approximate (ACC 002) and the Railroad enters/exits a Tunnel (1Q131), the dashed line representing the Tunnel symbol shall not be shown. Only the wing ticks and "headwall" at both ends of the Tunnel shall be shown.
- X-8108** If a feature is not associated with (touching) a road (1P030) or railroad track (1N010), omit the feature.

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**FEATURE: TUNNEL...1Q131 (POINT)**

**TUNNEL...1Q131 (POINT)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-4008** If NAM = unknown, omit NAM window.

**R-2318** Within Built-up Areas, include only tunnels relating to through routes.

**R-2325** If the alignment of a Railroad (1N010) is approximate (ACC 002) and the Railroad enters/exits a Tunnel (1Q131), the dashed line representing the Tunnel symbol shall not be shown. Only the wing ticks and "headwall" at both ends of the Tunnel shall be shown.

**VEHICLE STORAGE /VEHICLE PARKING...1Q140 (AREA)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).

**R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.

**R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.



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**FEATURE: VEHICLE STORAGE /VEHICLE PARKING...1Q140 (AREA)**

- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**CABLE...1T005 (LINE)**

- R-2211** Cables (1T005) shall be printed so the centerline (line from end to end) of the Posicut #56 follows the position of the linear feature cable. The linear symbol is created by adjacent and joined posicuts repeated for the length of the line. Abandoned cables (1T005, EXS=006) shall have one out of every four posicuts along the line deleted.
- R-2212** The electric flash (Posicut #142) of power cables (1T005, USE=053) shall be printed at 50 mm interval along the line symbol. The line symbol shall be broken for 1 mm on each side of the electric flash.
- R-2818** If Pipelines (1L160) or cables (1T005) in the water (LOC=010, 011, or 012) meet the following criteria, they are represented as pipeline areas (6C150, DTC=013) or cable areas (6C150, DTC=012) respectively, rather than shown as separate pipelines or cables. If Pipelines and cables together meet the following criteria, they are represented as "cables and pipelines area" (6C150, DTC=015).

Criteria:

- a. more than two linear features, AND
- b. space between any two linear features is less than 8 mm at chart scale, AND
- c. space between the outermost linear features in the group is greater than 3 mm at chart scale

If more than two cables or pipelines are  $\leq$  3 mm apart at chart scale, show only the outermost linear features.

If cable symbols overprint other cable symbols, show one cable.

If pipeline symbols overprint other pipeline symbols, show one pipeline.

If cable symbols and pipeline symbols overprint, show a cable and pipeline area (6C150, DTC=15).

The outermost limits of the cable, pipeline, or cables and pipeline area (6C150, DTC=012, 013, or 015) area feature are displaced for 2 mm past the outermost cables and pipelines, so that the area within which anchoring, trawling, and dredging are prohibited or inadvisable includes a safety margin beyond the outermost cables and/or pipelines.

**DISH...1T010 (POINT)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"
- R-0046** When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**POWER TRANSMISSION LINE...1T030 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.

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**FEATURE: POWER TRANSMISSION LINE...1T030 (LINE)**

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4012** If ACC=001 (Accurate), omit ACC window.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- R-0006** Feature shall not be shown within Built-up Area (1L020).
- R-0030** If feature parallels a Road (1P030), or Railroad (1N010) at a distance of  $\leq$  5.0 mm at map scale, then do not portray. Show only the segments that run across country.
- R-2275** When powerlines (1T030) run through an area of trees (5C030), the area tree symbol is masked for 1.0 mm on each side of the powerline symbol, to represent the cleared way through which the powerlines run.
- R-2492** Place Pylon symbols at 12.5 mm intervals along line feature, and also at points of line feature directional change.

**POWER TRANSMISSION PYLON...1T040 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

- L-5040** If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"

**COMMUNICATIONS FACILITY...1T050 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3801** Type for features on land shall be positioned on land if possible.. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.

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**- FEATURE: COMMUNICATIONS FACILITY...1T050 (AREA)**

L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**TELEPHONE LINE /TELEGRAPH LINE...1T060 (LINE)**

G-0012 Area and line features will be generalized to detail compatible with scale.

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.

L-4261 Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.

R-0006 Feature shall not be shown within Built-up Area (1L020).

R-0030 If feature parallels a Road (1P030), or Railroad (1N010) at a distance of  $\leq$  5.0 mm at map scale, then do not portray. Show only the segments that run across country.

**TOWER (COMMUNICATION)...1T080 (POINT)**

G-0008 Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

L-5040 If COE (Certainty of Existence)=001 (Definite), do not show COE label on symbol. If COE=002, label "Doubtful" If COE=003, label "Reported"

R-0046 When obstructions coalesce at map scale, use Posicut #217 at obstruction point and label with highest obstruction information.

**AIRCRAFT LANDING PAD...1U025 (POINT)**

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**AIRCRAFT FACILITY...1U030 (AREA)**

G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.

G-0012 Area and line features will be generalized to detail compatible with scale.

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**FEATURE: AIRCRAFT FACILITY...1U030 (AREA)**

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label,  
 the closest available type size shall be used.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2333** The limiting outline of the Built-up Area tint shall be dropped when it overprints linear features (Streams, Roads, and Railroads, etc.), or if the space between the symbols is  $<$  0.5 mm.
- R-2494** Limiting lines of feature are omitted if it coalesces with a road (1P030).
- R-2495** Symbolize apron/hardstands (1Q060), and buildings (1L015) inside areal aircraft facilities (1U030, AFT001 (Airport), or 003 (Seaplane Base)).

**AIRCRAFT FACILITY...1U030 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.
- L-5011** If NAM of Aircraft Facility (1U030) is identical to that of a named Built-up Area (1L020) feature or Navalid (1R030) facility within 25 mm radius of feature, then omit Aircraft Facility name.
- O-0024** If Aircraft Facility (IU030) is COD 2 (Limits and info unknown), and runway (IU160) is COD 1 (Limits and info known), suppress Aircraft Facility (IU030) point symbol and retain Runway (IU160).

**AIRCRAFT FACILITY BEACON...1U040 (POINT)**

- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
 #1 4 mm measured to the West end  
 #2 4 mm measured to the North side (top)  
 #3 4 mm measured to the East end  
 #4 4 mm measured to the South side (bottom)

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**FEATURE: AIRCRAFT FACILITY BEACON...1U040 (POINT)**

- R-2849 Light flares (Posicut No. 94) shall be oriented in order as follows:
- (1) So that it does not overprint on the feature or a legend associated with that feature (except for the 7.1 mm diameter circle representing a radio aid to navigation, which the flare may overprint).
  - (2) So it does not overprint other chart data (i.e., soundings, pipelines, submarine cables, etc.)
  - (3) So that the wide end of the flare is pointed toward the legend of the light, or to seaward along the line, in the case of clearing lines (2C020), and clearing lines (2C040).

**APRON /HARDSTAND...1U060 (AREA)**

- C-0017 Contours (3A010) will be adjusted to planimetric features.
- G-0006 When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0012 Area and line features will be generalized to detail compatible with scale.

**OVERRUN /STOPWAY...1U130 (AREA)**

- G-0012 Area and line features will be generalized to detail compatible with scale.

**RUNWAY...1U160 (AREA)**

- C-0017 Contours (3A010) will be adjusted to planimetric features.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3801 Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4017 When RST=006, label "Hard surface"  
When RST=005 or 007, label "Soft surface"  
When RST=000, label "Surface unknown"

- L-4892 Delete EXS label if EXS is not 005 (Under Construction), or 006 (Abandoned).

**SEAPLANE LANDING OR TAKE-OFF AREA...1U190 (AREA)**

- L-4747 Type placement order of preference:
- (1) Centered in area, parallel to longer of two axes, reading left to right, or bottom to top if longer axis of the feature is vertical.
  - (2) Shifted sideways to avoid overprints.
  - (3) Placed outside area parallel and 1 mm away from top boundary, reading left to right, or parallel to and 1 mm away from left boundary, reading bottom to top, if the major axis is vertical, centered with respect to the major axis.
  - (4) Shifted sideways to avoid overprints.
  - (5) Shifted up to avoid overprints, to a maximum distance of 6 mm.

**TAXIWAY...1U200 (AREA)**

- C-0017 Contours (3A010) will be adjusted to planimetric features.
- G-0012 Area and line features will be generalized to detail compatible with scale.

**COASTAL SHORELINE...2A010 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-4132 No type shall cross Shoreline. Type will either be shown entirely within the Open Water or entirely on land.

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**FEATURE: COASTAL SHORELINE...2A010 (LINE)**

- R-1200** Mean High Water (VDC=007) is the preferred vertical datum for shoreline portrayal. When Mean High Water is not available, the shoreline will be delineated by whatever means possible. There may never be a segment of missing shoreline (by definition, the line where a land mass is in contact with a body of open water).
- R-2023** Shorelines (2A010 Coastal and 2H075 Inland) which are coincident with features 2B190 Pier/Wharf, 2B230 Seawall, 1P030 Road, 1N010 Railroad Tracks, 1N050 Siding/Spur, and 1L260 Wall are not shown.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2372** Shoreline (2A010 or 2H075) shall not be shown where it becomes coincident with a manmade harbor or coastal structure.
- R-2437** The coastal or inland shoreline will be shown when a swamp is adjacent to open water. The shoreline will separate the open water from the swamp symbol.
- R-2440** The water side limit of Mangrove (5C030, VEG019) or Nipa (5C030, VEG016) is always shown by a dashed line. The landside limits (Mean High Water line = Coastal Shoreline (2A010) or Inland Shoreline (2H075)) is shown when known.
- R-3735** When Shoreline (2A010 or 2H075) around an island (4B135) is smaller than the symbol for a point feature on the island, delete the shoreline and show the point feature symbol in the water.
- R-3910** If the embankment having EFI = 3 (Causeway) is adjacent to a shoreline < .25 mm from or a road or a railroad, suppress the shoreline.

**FORESHORE...2A020 (AREA)**

- L-4705** Labeling areas, in order of preference:
- (1) Centered in area on one line in the area, type is horizontal, reading left to right.
  - (2) Centered in area on one line in the area, oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
  - (3) Centered in area on two approximately equal lines, without splitting a word, type is horizontal, reading left to right.
  - (4) Centered on two approximately equal lines without splitting a word, type is oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
  - (5) Use Rule L-4722 for type placement if the area is too small to place the type inside the area.
- L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.
- (A) Minimum distance from symbol - 1 mm.
  - (B) Maximum distance from symbol before choosing the next highest priority:
    - #1 4 mm measured to the West end
    - #2 4 mm measured to the North side (top)
    - #3 4 mm measured to the East end
    - #4 4 mm measured to the South side (bottom)
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2825** Delete dot portion of the symbol that is within 0.5 mm, at chart scale, of the shoreline (2A010 or 2H075).
- R-2826** Features with the same code, separated by less than 2 mm at chart scale, shall be combined into one areal feature.

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**FEATURE: FORESHORE...2A020 (AREA)**

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**FORESHORE...2A020 (POINT)**

**L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**R-2825** Delete dot portion of the symbol that is within 0.5 mm, at chart scale, of the shoreline (2A010 or 2H075).

**R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**R-3709** The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.

**OPEN WATER (EXCEPT INLAND)...2A040 (AREA)**

**R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

**R-2869** Show water tint (Blue SPC-48253, 31% screen, at 45°) from the shoreline (2A010 or 2H075), to the 10 meter depth curve (2E010, CRV=010) and all offshore areas shallower than 10 meters (inside a 10 meter depth curve). Blue tint is deleted from inland hydrographic features (2H), in those areas that are deeper than 10 meters (outside the 10 meter depth curve).

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**ANCHORAGE...2B010 (AREA)**

**L-4705** Labeling areas, in order of preference:

- (1) Centered in area on one line in the area, type is horizontal, reading left to right.
- (2) Centered in area on one line in the area, oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (3) Centered in area on two approximately equal lines, without splitting a word, type is horizontal, reading left to right.
- (4) Centered on two approximately equal lines without splitting a word, type is oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (5) Use Rule L-4722 for type placement if the area is too small to place the type inside the area.

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**FEATURE: ANCHORAGE...2B010 (AREA)**

**L-4715** Type sizes for Maritime Limits and areas:

- 8 point - < 8 sq. cm.
- 10 point -  $\geq 8$  and < 12 sq. cm.
- 12 point -  $\geq 12$  and < 24 sq. cm.
- 14 point -  $\geq 24$  and < 100 sq. cm.
- 8 point -  $\geq 100$  sq. cm.

Type placement for areas  $\geq 100$  sq. cm. to < 500 sq. cm.

Two labels are shown on approximately opposite sides of the area, preferably top and bottom.

Type placement for areas  $\geq 500$  sq. cm.

Labels are placed at approximately 250 mm. interval around the perimeter of the feature.

Do not place labels around sharp corners (interior angle  $< 135^\circ$ ), or along chart neatlines. Place type 1 mm away and parallel to area limit line, reading left to right, or bottom to top if limit line is vertical. Type is placed on the INSIDE of the area.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4753** Type placement for areas < 100 sq. cm. Type shall be centered in area reading from left to right.

If longer of two axes is North-South  $\pm 20$  degrees or East-West  $\pm 20$  degrees, type is parallel to south neatline.

(a) If  $LEN < WID$  times two, type shall be placed on two approximately equal lines without splitting words.

(b) If  $LEN \geq WID$  times two, and major axis is East-West  $\pm 20$  degrees, type shall be placed on one line.

(c) If  $LEN \geq WID$  times two, and major axis is North-South  $\pm 20$  degrees, type shall be placed with each word on a separate line.

If longer of two axes is more than 20 degrees from either North-South or East-West, and  $LEN < WID$  times two, type shall be parallel to south neatline and on two approximately equal lines without splitting words

If longer of two axes is more than 20 degrees from either North-South or East-West, and  $LEN \geq WID$  times two, type shall be placed parallel to the major axis on one line. e to be placed inside area, place type outside area, using Rule L-4722.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**L-4869** The name (NAM) of an anchoring berth (2B010, ANC=001) shall be centered in the circle of Posicut # 78.

**L-4882** If ANC=013 (General), no ANC label is shown; Otherwise, label ANC using the following labels:

- If ANC=002, label "Explosives"
- If ANC=008, label "Reserved"
- If ANC=009, label "Seaplane"
- If ANC=012, label "DW"
- If ANC=014, label "Tanker"

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2811** If NAM type will not fit inside anchoring berth circle (ANC=001), a rectangle or leader line may be used instead. Leader line is 0.1mm lineweight, Black solid, SPC-58600.



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**... FEATURE: ANCHORAGE...2B010 (POINT)**

**ANCHORAGE...2B010 (POINT)**

- L-4869 The name (NAM) of an anchoring berth (2B010, ANC=001) shall be centered in the circle of Posicut # 78.
- R-2811 If NAM type will not fit inside anchoring berth circle (ANC=001), a rectangle or leader line may be used instead. Leader line is 0.1mm lineweight, Black solid, SPC-58600.

**BERTH...2B020 (POINT)**

- L-4727 Type placement hierarchy:
- (1) On land - if associated with feature (2B190):
    - (a) At center of area within 1 mm of (2B190) and water interface.
    - (b) Anywhere along area within 1 mm of (2B190) and water interface.
  - (2) Overprinting Shoreline
  - (3) In water

**BREAKWATER...2B040 (AREA)**

- L-4725 If VRC=004 (Below Surface) or 008 (Covers and Uncovers), add a label "Breakwater" Type shall be 6 point Swiss 742 Upper/lower case italic. If feature LEN <= 13 mm at chart scale, abbreviate Breakwater as "Bkw" Type placement for Breakwater or Bkw shall be in water, parallel to the feature, readable from left to right or from bottom to top.
- R-2741 A breakwater (2B040) is generally not intended for berthing, even on the sheltered side. A "mole" is a term used to describe a breakwater alongside which vessels may lie on the sheltered side only. In this case, it should be shown as a wharf (2B190) for the side that is used for berthing, and as a breakwater on the unsheltered side. In some cases, a mole may lie entirely within an artificial harbor, permitting vessels to lie along both sides. In this case, it should be shown as an offshore loading facility (2B170).
- R-2742 If there is the possibility of misinterpretation by the mariner between a wharf (2B190) or offshore loading facility (2B170), against which vessels may lie, or a breakwater (2B040), where it would be dangerous to come alongside, danger dots shall be shown in the water, parallel to and 1 mm away from the edge of the breakwater. Feature 2D000 (Miscellaneous Underwater Feature), SOH=001 (Dangerous), SFC=002 (Other) shall be used to symbolize this danger area next to the breakwater. All labeling and the danger curve coincident with the edge of the breakwater are deleted from the 2D000 symbol.
- R-2802 Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.
- R-2803 When the area symbol boundary overprints the shoreline, and if VRC is applicable, and the VRC attribute value is 001 (Above High Water), the coincident feature boundary and coincident shoreline are deleted, and land tint extends to fill the feature.
- R-3672 Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708 A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**BREAKWATER...2B040 (LINE)**

- L-4725 If VRC=004 (Below Surface) or 008 (Covers and Uncovers), add a label "Breakwater" Type shall be 6 point Swiss 742 Upper/lower case italic. If feature LEN <= 13 mm at chart scale, abbreviate Breakwater as "Bkw" Type placement for Breakwater or Bkw shall be in water, parallel to the feature, readable from left to right or from bottom to top.

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**FEATURE: BREAKWATER...2B040 (LINE)**

- L-4743** If feature type is linear, the label hierarchy is:
- (1) Label shall be placed 1 mm above feature, centered.
  - (2) Top of label shall be placed 1 mm below feature, centered.
  - (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.
  - (4) Do not label across shoreline (2A010 or 2H075).
- R-2741** A breakwater (2B040) is generally not intended for berthing, even on the sheltered side. A "mole" is a term used to describe a breakwater alongside which vessels may lie on the sheltered side only. In this case, it should be shown as a wharf (2B190) for the side that is used for berthing, and as a breakwater on the unsheltered side. In some cases, a mole may lie entirely within an artificial harbor, permitting vessels to lie along both sides. In this case, it should be shown as an offshore loading facility (2B170).
- R-2742** If there is the possibility of misinterpretation by the mariner between a wharf (2B190) or offshore loading facility (2B170), against which vessels may lie, or a breakwater (2B040), where it would be dangerous to come alongside, danger dots shall be shown in the water, parallel to and 1 mm away from the edge of the breakwater. Feature 2D000 (Miscellaneous Underwater Feature), SOH=001 (Dangerous), SFC=002 (Other) shall be used to symbolize this danger area next to the breakwater. All labeling and the danger curve coincident with the edge of the breakwater are deleted from the 2D000 symbol.

**DOLPHIN...2B080 (POINT)**

- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.
- (A) Minimum distance from symbol - 1 mm.
  - (B) Maximum distance from symbol before choosing the next highest priority:
    - #1 4 mm measured to the West end
    - #2 4 mm measured to the North side (top)
    - #3 4 mm measured to the East end
    - #4 4 mm measured to the South side (bottom)
- L-4737** Feature name /label shall be positioned parallel to lines of latitude and readable left to right.
- L-4800** If two or more like features are in a group, label once in plural form, e.g., Dols, Fish Traps, etc. If single features are separated by 5 mm or more, they shall be labeled individually.
- L-4894** If USE=010, label "Dol" If USE=087, label "Deviation Dol"
- R-2748** Orient two sides of posicut parallel to centerline of vessel to be moored (generally parallel to a line of dolphins). If dolphin is intended for mooring from any direction, orient two sides vertical.

**DRYDOCK...2B090 (AREA)**

- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.
- (A) Minimum distance from symbol - 1 mm.
  - (B) Maximum distance from symbol before choosing the next highest priority:
    - #1 4 mm measured to the West end
    - #2 4 mm measured to the North side (top)
    - #3 4 mm measured to the East end
    - #4 4 mm measured to the South side (bottom)
- L-4883** If the attribute value that labels a symbol is "unknown" or "other", label the symbol with the FACS Feature name.
- R-2804** When an area symbol or cased line symbol overprints the shoreline, shoreline is deleted.
- R-2904** If LOC=005 (Floating) and width < 2 mm, show only perimeter outline.

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**FEATURE: DRYDOCK...2B090 (AREA)**

R-3675 If a drydock (2B090) is floating (LOC=005), show land tint inside the symbol.  
 If the drydock is non-floating (LOC=007), delete land tint from inside the symbol.

**FISHERY /FISH STAKES...2B100 (LINE)**

**FISH TRAP /FISH WEIR...2B110 (AREA)**

L-4722 Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

L-4800 If two or more like features are in a group, label once in plural form, e.g., Dols, Fish Traps, etc. If single features are separated by 5 mm or more, they shall be labeled individually.

**GRIDIRON...2B115 (AREA)**

**JETTY...2B140 (AREA)**

R-2802 Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.

R-2803 When the area symbol boundary overprints the shoreline, and if VRC is applicable, and the VRC attribute value is 001 (Above High Water), the coincident feature boundary and coincident shoreline are deleted, and land tint extends to fill the feature.

R-3708 A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**JETTY...2B140 (LINE)**

**LANDING PLACE...2B150 (AREA)**

L-4802 Label shall be placed on land, 1 mm from shoreline and actual location of boat landing (2B150), orient label perpendicular to shoreline.

**LANDING PLACE...2B150 (POINT)**

L-4802 Label shall be placed on land, 1 mm from shoreline and actual location of boat landing (2B150), orient label perpendicular to shoreline.

R-3668 Steps (2B150, HOC=004) shall be positioned adjacent to the shoreline on the water side, with longer edge coincident to shoreline. If the shoreline is too curved to place the steps adjacent to the shoreline, delete the symbol and show the legend "Steps". Type is black 58600, 6 point upper and lower case.

**MARITIME STATION...2B155 (POINT)**

C-0030 The flare (posicut 94) and/or fog arcs (posicut 59) of a feature symbol shall point toward open water.

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**FEATURE: MARITIME STATION...2B155 (POINT)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4837** If SST=000 (Unknown), delete window, but show Posicut #59 (three concentric arcs - fog signal posicut).

**L-4838** If SST=016 (None) delete window and do not show Posicut #59 (three concentric arcs - fog signal posicut)..

**L-4839** If SST is not 000 (Unknown) or 016 (None), label SST with appropriate legend and do not show posicut #59 (three concentric arcs - fog signal posicut).

If SST is: Use legend:

- 001 Bell
- 002 Whis
- 003 Horn
- 004 Gong
- 005 Dia
- 006 Siren
- 007 Reed
- 008 Explos

**OFFSHORE LOADING FACILITY...2B170 (AREA)**

**L-4705** Labeling areas, in order of preference:

- (1) Centered in area on one line in the area, type is horizontal, reading left to right.
- (2) Centered in area on one line in the area, oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (3) Centered in area on two approximately equal lines, without splitting a word, type is horizontal, reading left to right.
- (4) Centered on two approximately equal lines without splitting a word, type is oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (5) Use Rule L-4722 for type placement if the area is too small to place the type inside the area.

**L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**R-9035** Show land tint inside the symbol.

**OFFSHORE LOADING FACILITY...2B170 (LINE)**

**L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.

**L-4860** Place type above symbol with a minimum distance of 1 mm, to a maximum of 4 mm from the symbol, to avoid overprinting other chart data. If overprinting occurs, place type below symbol, with a minimum distance of 1 mm, to a maximum distance of 4 mm from the symbol, to avoid overprinting other data.

**R-9035** Show land tint inside the symbol.

**OFFSHORE LOADING FACILITY...2B170 (POINT)**

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**FEATURE: OFFSHORE LOADING FACILITY...2B170 (POINT)**

- L-4709 If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4722 Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
 #1 4 mm measured to the West end  
 #2 4 mm measured to the North side (top)  
 #3 4 mm measured to the East end  
 #4 4 mm measured to the South side (bottom)
- R-2849 Light flares (Posicut No. 94) shall be oriented in order as follows:  
 (1) So that it does not overprint on the feature or a legend associated with that feature (except for the 7.1 mm diameter circle representing a radio aid to navigation, which the flare may overprint).  
 (2) So it does not overprint other chart data (i.e., soundings, pipelines, submarine cables, etc.)  
 (3) So that the wide end of the flare is pointed toward the legend of the light, or to seaward along the line, in the case of clearing lines (2C020), and clearing lines (2C040).

**PIER, WHARF...2B190 (AREA)**

- R-2804 When an area symbol or cased line symbol overprints the shoreline, shoreline is deleted.
- R-9035 Show land tint inside the symbol.

**PIER, WHARF...2B190 (LINE)**

**RAMP...2B220 (AREA)**

- L-4803 Label shall be on land, parallel to length of feature, 2 mm separation, readable left to right or bottom to top if feature is vertical.
- R-2802 Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.
- R-2803 When the area symbol boundary overprints the shoreline, and if VRC is applicable, and the VRC attribute value is 001 (Above High Water), the coincident feature boundary and coincident shoreline are deleted, and land tint extends to fill the feature.
- R-3708 A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**RAMP...2B220 (LINE)**

- L-4803 Label shall be on land, parallel to length of feature, 2 mm separation, readable left to right or bottom to top if feature is vertical.

**RIPRAP...2B225 (AREA)**

- R-2743 If a VRC=001 (Above Water) and a VRC=008 (Covers and Uncovers) riprap (2B225) exist side by side, a single area pattern AP-131 is shown over both areas, and the coincident perimeter lines are not shown. Land tint is shown over the VRC=001 portion of the symbol, and water tint is shown over the VRC=008 portion.
- R-2750 If VRC = 001 (Above High Water), or 008 (Covers and Uncovers), show feature only if scale is 15,000 or larger.

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**FEATURE: RIPRAP...2B225 (AREA)**

- R-3700** If above water or uncovering riprap (2B225, VRC=001 or 008) is surrounding, or alongside part of a breakwater (2B040), jetty (2B140), sea wall (2B230), or other similar features which extend out from the shoreline (and including the shoreline), it shall be symbolized as an area, but shall maintain a minimum width of 0.5 mm, measured from the edge of the other feature to the seaward edge of the riprap. If necessary, the width of the symbolized riprap will be expanded to a minimum of 0.5 mm. When this expansion is made, the priority for displacement will vary, depending on what type of feature the riprap is against.
1. If the riprap is along the shoreline, seawall, or other linear feature with land on one side, show seaward edge of the riprap in actual position, and displace the other feature's symbol inland.
  2. If the riprap is alongside an area breakwater, jetty, etc., show the seaward edge of the riprap in actual position, and displace the edge of the feature inward to create a minimum width of riprap of 0.5 mm. If this displacement would result in a minimum width of the other feature (breakwater, jetty, etc.) of less than 0.5 mm, preserve the 0.5 mm minimum width of the other feature, and displace the seaward edge of the riprap symbol outward to maintain the riprap's 0.5 mm minimum width.
  3. If riprap is alongside a line breakwater, jetty, etc., displace the seaward edge of the riprap outward to maintain a minimum width of 0.5 mm. If the predominant characteristic of the feature, such as jetty or breakwater, is composed of riprap, symbolize as the other feature, and do not show a riprap symbol.

The perimeter of the riprap symbol coincident with the other feature is not symbolized.

- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**SEAWALL...2B230 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.

**SLIPWAY...2B240 (LINE)**

- L-4803** Label shall be on land, parallel to length of feature, 2 mm separation, readable left to right or bottom to top if feature is vertical.
- R-2802** Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.
- R-2803** When the area symbol boundary overprints the shoreline, and if VRC is applicable, and the VRC attribute value is 001 (Above High Water), the coincident feature boundary and coincident shoreline are deleted, and land tint extends to fill the feature.
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**BUOY...2C010 (POINT)**

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**FEATURE: BUOY...2C010 (POINT)**

- D-1914** If an IALA cardinal buoy must be displaced off of a 2D point hydrographic danger, it shall be displaced the minimum distance required to resolve the overprint of the central danger symbol (excluding danger circle and type), in the safe direction of the IALA cardinal buoy. The following are IALA cardinal buoys:
- If SSC=080 or 083, and CCF=019, and TMC=008, buoy is IALA North Cardinal, displace north.  
If SSC=080 or 083, and CCF=020, and TMC=009, buoy is IALA East Cardinal, displace east.  
If SSC=080 or 083, and CCF=013, and TMC=010, buoy is IALA South Cardinal, displace south.  
If SSC=080 or 083, and CCF=014, and TMC=011, buoy is IALA West Cardinal, displace west.
- D-7013** When aids to navigation (2C) overprint hydrographic dangers (2D), or depth curves (2E010), the following displacement criteria applies:
- a. If the aid to navigation is a fixed aid (2C030 Electronic Beacon, 2C050 Light, or 2C060 Visual Beacon), and the 2D symbol is a point symbol, delete the 2D point symbol. Show both if the 2D symbol is an area symbol.
  - b. If the aid to navigation is a buoy (2C010), the 2D symbol's danger curve, i.e., the dotted perimeter line, if present, is broken for the buoy symbol (excluding type).
  - c. If a point danger symbol contains a central graphic element, such as a + or posicut 104, 110, 114, etc., the buoy symbol is displaced off the danger symbol's central graphic element. The displacement shall be as little as possible to resolve the overprint. (For IALA cardinal buoys, see rule D-1914.)
  - d. The above criteria refers to the graphic portion of symbols only. All type and labels are movable around the graphic elements to avoid overprints. If the 2D symbol's central HDP type must be moved, it shall be placed outside the danger circle, and enclosed in parentheses.
  - e. Depth Curves (2E010) are broken for aids to navigation and dangers, and the type associated with these symbols.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4711** Strings of windows may be placed on two lines to avoid overprints.
- L-4737** Feature name /label shall be positioned parallel to lines of latitude and readable left to right.
- L-4759** Yellow, abbreviated "Y", shall be substituted for Orange "Or" or Amber "Am" when describing light color in the Character of Light attribute (COL).
- L-4761** If the only light color is white, omit color from COL. e.g., "F1 6s 12 m 8M" is a white light.
- L-4766** The name (NAM) of a buoy (2C010) shall be shown in quotes (i.e., "Heron").
- L-4767** The period (PER) label of a buoy (2C010) may be omitted if that buoy is shown on a chart at a larger scale.
- L-4768** If SST=000 for feature, display the sound signal posicut (No. 59) without the SST label. If SST=001 to 008, show the SST label and do not show the sound signal posicut.
- L-4789** In areas of congested type, if it is necessary to abridge a light legend due to clutter, the period (PER) may be omitted.
- L-4790** A posicut shall be displayed in the TMC window for each value of TMC. If TMC = 99 (None) the TMC window shall be deleted. The lower end of the topmark posicut shall touch the feature and shall be aligned with the primary axis of the feature.
- L-4831** If CCF=000 (Unknown), delete window.
- L-4833** If TMC=000 (Unknown) or 099 (None), delete window.

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**FEATURE: BUOY...2C010 (POINT)**

**L-4834** If TMC = 001 to 027, place the appropriate topmark symbol in the TMC window, with the lower end of the posicut touching the feature. Use the appropriate posicut for each value of TMC as follows:

001 Can (Open), use Posicut #169  
 002 Cone, Point Up (Open), use Posicut #170  
 003 Can (Filled), use Posicut #171  
 004 Cone, Point Up (Filled), use Posicut #172  
 005 "X", use Posicut #173  
 006 Ball (Open), use Posicut #174  
 007 Double Ball (Filled), use Posicut #175  
 008 Double Cone, Points Upward (Filled), use Posicut #176  
 009 Double Cone, Points Apart (Filled), use Posicut #177  
 010 Double Cone, Points Downward (Filled), use Posicut #178  
 011 Double Cone, Points Together (Filled), use Posicut #179  
 012 Diamond (Open), use Posicut #180  
 013 Diamond (Filled), use Posicut #181  
 014 Cone, Point Up, Over Ball (Open), use Posicut #182  
 015 Cone, Point Up, Over Ball (Filled), use Posicut #183  
 016 Ball Over Cone, Point Up (Open), use Posicut #184  
 017 Ball Over Cone, Point Up (Filled), use Posicut #185  
 018 Cross, use Posicut #186  
 019 Ball (Filled), use Posicut #187  
 020 Broom, use Posicut #188  
 021 "T", use Posicut #189  
 022 Can Over Ball (Open), use Posicut #190  
 023 Cross Over Ball (Open), use Posicut #191  
 024 Diamond Over Ball (Filled), use Posicut #192  
 025 Double Ball (Open), use Posicut #193  
 026 Cone, Point Downward (Open), use Posicut #194  
 027 Double Cone, Points Apart (Open), use Posicut #195

**L-4835** If RA1=000 (Unknown) or 050 (None), do not show RA1 label, and do not show Posicut #86 (7.1 mm diameter purple circle).

**L-4836** If RA2=000 (Unknown) or 050 (None), do not show RA2 label.

**L-4837** If SST=000 (Unknown), delete window, but show Posicut #59 (three concentric arcs - fog signal posicut).

**L-4838** If SST=016 (None) delete window and do not show Posicut #59 (three concentric arcs - fog signal posicut).

**L-4839** If SST is not 000 (Unknown) or 016 (None), label SST with appropriate legend and do not show posicut #59 (three concentric arcs - fog signal posicut).

If SST is: Use legend:

001 Bell  
 002 Whis  
 003 Horn  
 004 Gong  
 005 Dia  
 006 Siren  
 007 Reed  
 008 Explos

**L-4840** If RA1=005 (Directional Radiobeacon), 014 (Rotating Radiobeacon), 017 (Circular Radiobeacon), 048 (Aeronautical Radiobeacon, Non-directional), or 049 (Radiobeacon, Type Unknown); and BF1 is not 000 (Unknown), and BF1 < 285 or BF1 > 325; delete RA1 window and do not show Posicut #86 (7.1 mm diameter purple circle).

**L-4841** If RA2=005 (Directional Radiobeacon), 014 (Rotating Radiobeacon), 017 (Circular Radiobeacon), 048 (Aeronautical Radiobeacon, Non-directional), or 049 (Radiobeacon, Type Unknown), and BF2 is not 000 (Unknown), and BF2 < 285 or BF2 > 385, delete RA2 window.

**L-4842** If PER=000 (Unknown) or 999 (None), delete window and close up any windows previously separated by the PER window (if any).



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**FEATURE: BUOY...2C010 (POINT)**

- L-4843 If RA1 does not equal an attribute listed for a particular symbol, omit Posicut #86 (7.1 mm diameter purple circle) and the RA1 label.
- L-4844 If RA2 does not equal an attribute listed for a particular symbol, omit the RA2 label.
- L-4845 If PER < 3 seconds, round it to the nearest half second and display in whole number and fraction format (e.g., 2.3 seconds = 2 1/2s, 2.6 seconds = 2 1/2s, 2.8 seconds = 3s). If PER >= 3 seconds round to whole seconds.
- L-4846 If CHA=023 (Unlighted), delete COL, PER, EOL, and LVR windows, and delete Posicut #94 (Light flare posicut).
- L-4849 Abbreviations for colors for the CCF label, and other specified color legends:

If CCF is:

- 001 Red, abbreviate "R"
- 002 Red & White, abbreviate "RW"
- 003 Red & Green, abbreviate "RG"
- 004 Red & Black, abbreviate "RB"
- 005 Red-Green-Red, abbreviate "RGR"
- 006 Green, abbreviate "G"
- 007 Green & White, abbreviate "GW"
- 008 Green & Red, abbreviate "GR"
- 009 Green & Black, abbreviate "GB"
- 010 Green-Red-Green, abbreviate "GRG"
- 011 Green-Yellow-Black, abbreviate "GYB"
- 012 Yellow, abbreviate "Y"
- 013 Yellow & Black, abbreviate "YB"
- 014 Yellow-Black-Yellow, abbreviate "YBY"
- 015 Yellow & Red, abbreviate "YR"
- 016 Yellow & Green, abbreviate "YG"
- 017 Yellow-Red-White, abbreviate "YRW"
- 018 Black, abbreviate "B"
- 019 Black & Yellow, abbreviate "BY"
- 020 Black-Yellow-Black, abbreviate "BYB"
- 021 Black-Red-Black, abbreviate "BRB"
- 022 Black & White, abbreviate "BW"
- 023 Black & Red, abbreviate "BR"
- 024 Black & Green, abbreviate "BG"
- 025 White, abbreviate "W"
- 026 White & Red, abbreviate "WR"
- 027 White & Orange, abbreviate "W Or"
- 028 White & Green, abbreviate "WG"
- 029 White & Black, abbreviate "WB"
- 030 White & Yellow, abbreviate "WY"
- 031 White-Red-Green, abbreviate "WRG"
- 032 White-Green-White, abbreviate "WGW"
- 033 Orange, abbreviate "Or"
- 034 Blue, abbreviate "Bu"
- 035 Gray, abbreviate "Gy"
- 036 Violet, abbreviate "Vi"
- 037 Brown, abbreviate "Br"

- L-4850 Abbreviations and labels for RA1 and RA2:

If RA1 or RA2 is:

- 004 Radio Direction Finding Station, abbreviate "RG"
- 005 Directional Radiobeacon, abbreviate "RD"
- 010 Racon, label "Racon"
- 014 Rotating Radiobeacon, abbreviate "RW"
- 017 Circular Radiobeacon, abbreviate "RC"
- 045 QTG Station, abbreviate "R"
- 046 Coast Radar Station, abbreviate "Ra"
- 047 Ramark, label "Ramark"
- 048 Aeronautical Radiobeacon, Non-directional, abbreviate "Aero RC"
- 049 Radiobeacon, Type Unknown, abbreviate "R Bn"
- 051 Consol, label "Consol"

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**FEATURE: BUOY...2C010 (POINT)**

- L-4853** If there is only one radio aid at a feature, it shall take its value from the RA1 attribute and RA2 shall have the value 050 (None).
- L-4856** If PER is not 000 (Unknown) or 998 (None), the numerical value for PER shall be immediately followed by a lower case letter "s" printed in the same type as PER (i.e., 12s). When PER is not shown, do not show the "s".
- L-4857** When EOL has a known value, and it is not zero (0), the numerical value for EOL shall be immediately followed by a lower case letter "m" printed in the same type as EOL (i.e., 25 m). When EOL is not shown, do not show the "m".
- L-4858** When LVR or has a known value and it is not zero (0), the numerical value for LVR shall be immediately followed by a capital letter "M" printed in the same type as LVR (i.e., 10 M). When no light range is shown, do not show the "M".
- L-4868** The CCF label for symbols 2C010P001, 2C010P013, 2C050P002, and 2C060P001 shall be centered immediately below the small circle marking the position of the feature.
- L-4875** If there is more than one visibility range at a light, the attribute MLR is used in place of LVR attribute.
- L-4876** The MLR label (i.e., 21-15 or 12/15) shall be shown in place of the LVR label on the symbology if there is more than one visibility at a light.
- L-4899** Miscellaneous labels occasionally may be found in association with marine navigational aids (2C). If a text label is shown on hydrographic source material, it should be considered significant for navigation. Examples are:
- A fog detection light, label "Fog Det Lt"
  - A floodlit structure near navigable water, label "(Illuminated)"
  - A daytime light, if character (COL) of light in the day is different from the character shown at night. Show daytime character, followed by "Day" in parentheses, for example:  
(F 37m 11M Day)
  - Unwatched light, with no standby or emergency arrangements, label "(U)"
  - A temporary light or buoy, label "(temp)". If seasonal, include months, for example: "(Apr-Oct)"
  - A fog light, if light is only shown in fog, or the light during fog is different from the character (COL) shown at other times, show character in fog, followed by "(in fog)", in parentheses. For example: F1 5s (in fog)
  - A privately maintained light or buoy, label "(priv)"
  - RACONS occasionally will show a morse code identification, or an operating frequency, for example, "Racon (Z)", "Racon (Z) (10 cm)", "Racon (Z) (3 & 10 cm)". A RACON responding on a fixed frequency outside the marine band is labeled with an "F" in front of the label "RACON"
- R-2295** If a radio aids circle (Posicut #86) is shown on a symbol, it shall be centered on the origin of the symbol. Since they are a different color, TMC topmark posicuts may overprint the radio aid circle. The radar reflector (Posicut #93), if shown, shall be positioned outside the radio aids circle, preferably near the top of the symbol. The fog signal (Posicut #59), if shown, shall preferably be positioned concentric with the radio aids circle, with its middle arc even with the radio aids circle, which may be broken for 0.2 mm on both sides of the fog signal posicut. The fog signal posicut may be shown in any direction from the navigational aid, to avoid overprints, or moved completely outside the radio aids circle, if necessary.
- R-2717** If SSC=080 (Pillar Buoy-Open), 083 (Spar Buoy), 084 (Can Buoy-Open), or 097 (Diamond Shaped Buoy), and CCF=001 (Red) or 005 (Red-Green-Red), and TMC=000 (Unknown), 099 (None) or 001 (Can-Open), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2718** If SSC=081 (Pillar Buoy-Filled), 083 (Spar Buoy), 087 (Cone Buoy-Filled), or 097 (Diamond Shaped Buoy), and CCF=006 (Green) or 010 (Green-Red-Green), and TMC=000 (Unknown), 099 (None), or 004 (Cone-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).

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**FEATURE: BUOY...2C010 (POINT)**

- R-2719 If SSC=080 (Pillar Buoy-Open), 083 (Spar Buoy), 084 (Can Buoy-Open), or 097 (Diamond Shaped Buoy), and CCF=006 (Green) or 010 (Green-Red-Green), and TMC=000 (Unknown), 099 (None), or 003 (Can-Filled) and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2720 If SSC=081 (Pillar Buoy-Filled), 083 (Spar Buoy), 087 (Cone Buoy-Filled), or 097 (Diamond Shaped Buoy), and CCF=001 (Red) or 005 (Red-Green-Red), and TMC=000 (Unknown), 099 (None), or 002 (Cone-Open) and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2721 If SSC=080 (Pillar Buoy-Open) or 083 (Spar Buoy), and CCF=019 (Black and Yellow), and TMC=008 (Double Cones, Point Upward-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2722 If SSC=080 (Pillar Buoy-Open) or 083 (Spar Buoy), and CCF=020 (Black-Yellow-Black), and TMC=009 (Double Cones, Points Apart-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2723 If SSC=080 (Pillar Buoy-Open) or 083 (Spar Buoy), and CCF=013 (Yellow and Black) and TMC=010 (Double Cones, Points Downward-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2724 If SSC=080 (Pillar Buoy-Open) or 083 (Spar Buoy), and CCF=014 (Yellow-Black-Yellow), and TMC=011 (Double Cones, Points Together-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2725 If SSC=080 (Pillar Buoy-Open) or 083 (Spar Buoy), and CCF=021 (Black-Red-Black), and TMC=007 (Double Ball-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2726 If SSC=080 (Pillar Buoy-Open), 083 (Spar Buoy), or 088 (Spherical Buoy-Vertical Stripes), and CCF=002 (Red & White), and TMC=007 (Double Ball-Filled), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2727 If SSC=080 (Pillar Buoy-Open) or 083 (Spar Buoy), and CCF=012 (Yellow), and TMC=005 (\*X\*), and REF=001 (Radar Reflector Present), do not show Posicut #93 (Radar Reflector).
- R-2832 EOL of feature shall be shown to the nearest whole meter rounded to the next higher value at .5 meter, e.g., 10.4 = 10, whereas 10.5 = 11.
- R-2849 Light flares (Posicut No. 94) shall be oriented in order as follows:  
 (1) So that it does not overprint on the feature or a legend associated with that feature (except for the 7.1 mm diameter circle representing a radio aid to navigation, which the flare may overprint).  
 (2) So it does not overprint other chart data (i.e., soundings, pipelines, submarine cables, etc.)  
 (3) So that the wide end of the flare is pointed toward the legend of the light, or to seaward along the line, in the case of clearing lines (2C020), and clearing lines (2C040).
- R-2884 The point of the light flare (Posicut No. 94) shall be 1 mm from the dot or small circle representing the position of the feature.
- R-2885 Seasonal buoys shall be shown without mention of their seasonal nature.
- R-2886 The slope of a buoy (2C010), which is normally 25° from vertical, may be varied from 5° to 45° from vertical to avoid overprints.
- R-2887 Reserve fog signals shall not be shown on product.
- R-2992 If REF=002 (Radar Reflector Absent), do not shown Posicut #93 (Radar Reflector posicut).
- R-2994 If SSC=000 (Unknown), 079 (Other), or 097 (Diamond Shaped), and CCF=000, 001, 003-005, 012-017, or 025-037, use Posicut #150 (Pillar Buoy [Open]).
- R-2995 If SSC=000 (Unknown), 079 (Other), or 097 (Diamond Shaped), and CCF=006-011, or 018-024, use Posicut #151 (Pillar Buoy [Filled]).

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**FEATURE: BUOY...2C010 (POINT)**

**R-2996** If SSC=000 (Unknown), 079 (Other), or 097 (Diamond Shaped), and CCF=002, use Posicut #152 (Pillar Buoy [Vertical Stripes]).

**R-2997** If SSC is: Use Posicut:

- 080 Pillar Buoy (Open), use Posicut #150
- 081 Pillar Buoy (Filled), use Posicut #151
- 082 Pillar Buoy (Vertical Stripes), use Posicut #152
- 083 Spar Buoy, use Posicut #153
- 084 Can Buoy (Open), use Posicut #154
- 085 Can Buoy (Filled), use Posicut #155
- 086 Cone Buoy (Open), use Posicut #156
- 087 Cone Buoy (Filled), use Posicut #157
- 088 Spherical Buoy (Vertical Stripes), use Posicut #158
- 089 Spherical Buoy, use Posicut #159
- 090 Superbuoy (ODAS), use Posicut #160
- 091 Superbuoy (LANBY), use Posicut #162
- 092 Superbuoy (Tanker), use Posicut #161
- 093 Lightship, use Posicut #162
- 094 Lightfloat (Open), use Posicut #163
- 095 Barrel/Tonne Buoy, use Posicut #164
- 096 Mooring Buoy, use Posicut #165
- 097 Diamond Shaped Buoy, use Posicut # 167
- 102 Lightfloat (Filled), use Posicut #219

**R-3684** If a mooring buoy (2C010, SSC=096) is unlighted (CHA=023), omit light flare (Posicut #94) from the symbol.

**S-1403** If a channel is marked by a feature but because of the product scale individual features overprint or are closer than 3 mm, replace the features with the legend "Buoyed channel" (for 2C010) or "Channel marked by beacons" (for 2C060). Legend will be aligned with the channel.

**T-0845** If superbuoys (2C010, SSC=090 (Superbuoy-ODAS), 091 (Superbuoy-LANBY), 092 (Superbuoy-Tanker), 093 (Lightship), 094 (Lightfloat-Open), or 102 (Lightfloat-Filled)) overprint other buoys (2C010 with other SSC values), thin by first deleting buoys other than those with SSC values of 090 through 094, or 102).

**T-0846** First thin buoys (2C010) with the same color (CCF), then those with the same shape (SSC).

**CLEARING LINE...2C020 (LINE)**

**D-7012** Break line symbol in water area for overprinting point symbol with the same color. Leave space 0.5 mm on each side of the point symbol. Do not displace either the line symbol or the point symbol. Point symbols may overprint line symbols of a different color.

**L-4743** If feature type is linear, the label hierarchy is:

- (1) Label shall be placed 1 mm above feature, centered.
- (2) Top of label shall be placed 1 mm below feature, centered.
- (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.
- (4) Do not label across shoreline (2A010 or 2H075).

**L-4830** When a clearing line (2C020) is used to define the limits of a measured distance line (6C100), delete all text associated with the clearing line.

**L-4881** Marks should be briefly described using the COL or DRP attributes, if there is any doubt concerning their identity on the chart:

- a. If space is minimal, the entire legend may be deleted.
- b. Show BRG only, if the identity of the marks is clear.
- c. Features may be named if desirable to identify the marks, for example, a COL of "2 Lts" or a DRP of "2 Bns" or "TR & Bn"
- d. Exceptionally, the character of a light is given to avoid confusion with other nearby lights, for example a COL of "2 Fl R"

**L-7010** The first letter in the symbol label, and any abbreviation of lights or beacons (Lt, Lts, Bn, Bn), are capitalized. Other letters are lower case

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**FEATURE: CLEARING LINE...2C020 (LINE)**

- O-3420** If a clearing line (2C020) or leading line (2C040) is shown, show the feature(s) associated with it (usually light 2C050, or visual beacon 2C060). If the feature(s) are not required by the product, show as Miscellaneous Cultural Feature (9D012).
- R-2999** The length of a clearing line (2C020) shall be determined by the geographic positions of its ends.

**ELECTRONIC BEACON...2C030 (POINT)**

- D-7013** When aids to navigation (2C) overprint hydrographic dangers (2D), or depth curves (2E010), the following displacement criteria applies:
- a. If the aid to navigation is a fixed aid (2C030 Electronic Beacon, 2C050 Light, or 2C060 Visual Beacon), and the 2D symbol is a point symbol, delete the 2D point symbol. Show both if the 2D symbol is an area symbol.
  - b. If the aid to navigation is a buoy (2C010), the 2D symbol's danger curve, i.e., the dotted perimeter line, if present, is broken for the buoy symbol (excluding type).
  - c. If a point danger symbol contains a central graphic element, such as a + or posicut 104, 110, 114, etc., the buoy symbol is displaced off the danger symbol's central graphic element. The displacement shall be as little as possible to resolve the overprint. (For IALA cardinal buoys, see rule D-1914.)
  - d. The above criteria refers to the graphic portion of symbols only. All type and labels are movable around the graphic elements to avoid overprints. If the 2D symbol's central HDP type must be moved, it shall be placed outside the danger circle, and enclosed in parentheses.
  - e. Depth Curves (2E010) are broken for aids to navigation and dangers, and the type associated with these symbols.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4737** Feature name /label shall be positioned parallel to lines of latitude and readable left to right.
- L-4783** Label placement hierarchy:
- (1) On land, one line,
  - (2) On land, two lines, word spellings not split.
  - (3) In water, one line.
- L-4835** If RA1=000 (Unknown) or 050 (None), do not show RA1 label, and do not show Posicut #86 (7.1 mm diameter purple circle).
- L-4836** If RA2=000 (Unknown) or 050 (None), do not show RA2 label.
- L-4844** If RA2 does not equal an attribute listed for a particular symbol, omit the RA2 label.
- L-4850** Abbreviations and labels for RA1 and RA2:
- If RA1 or RA2 is:
- |     |                                                                 |
|-----|-----------------------------------------------------------------|
| 004 | Radio Direction Finding Station, abbreviate "RG"                |
| 005 | Directional Radiobeacon, abbreviate "RD"                        |
| 010 | Racon, label "Racon"                                            |
| 014 | Rotating Radiobeacon, abbreviate "RW"                           |
| 017 | Circular Radiobeacon, abbreviate "RC"                           |
| 045 | QTG Station, abbreviate "R"                                     |
| 046 | Coast Radar Station, abbreviate "Ra"                            |
| 047 | Ramark, label "Ramark"                                          |
| 048 | Aeronautical Radiobeacon, Non-directional, abbreviate "Aero RC" |
| 049 | Radiobeacon, Type Unknown, abbreviate "R Bn"                    |
| 051 | Consol, label "Consol"                                          |
- L-4853** If there is only one radio aid at a feature, it shall take its value from the RA1 attribute and RA2 shall have the value 050 (None).

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**FEATURE: ELECTRONIC BEACON...2C030 (POINT)**

- L-4899** Miscellaneous labels occasionally may be found in association with marine navigational aids (2C). If a text label is shown on hydrographic source material, it should be considered significant for navigation. Examples are:
- A fog detection light, label "Fog Det Lt"
  - A floodlit structure near navigable water, label "(Illuminated)"
  - A daytime light, if character (COL) of light in the day is different from the character shown at night. Show daytime character, followed by "Day" in parentheses, for example:  
(F 37m 11M Day)
  - Unwatched light, with no standby or emergency arrangements, label "(U)"
  - A temporary light or buoy, label "(temp)". If seasonal, include months, for example: "(Apr-Oct)"
  - A fog light, if light is only shown in fog, or the light during fog is different from the character (COL) shown at other times, show character in fog, followed by "(in fog)", in parentheses. For example: Fl 5s (in fog)
  - A privately maintained light or buoy, label "(priv)"
  - RACONS occasionally will show a morse code identification, or an operating frequency, for example, "Racon (Z)", "Racon (Z) (10 cm)", "Racon (Z) (3 & 10 cm)". A RACON responding on a fixed frequency outside the marine band is labeled with an "F" in front of the label "RACON"
- O-3400** If an electronic beacon (2C030) is within 2 mm, at chart scale, of a light (2C050, HLT=000, 001, or 032), the electronic beacon shall not be shown and the light shall be changed to include the electronic beacon as a part of the light. The RA1 and RA2 attributes of the electronic beacon (2C030) will be added to the RA1 and RA2 attributes of the light (2C050). The electronic beacon and the light are not combined if the light is a moire effect light (HLT=003) or a strip light (HLT=004). In this case, show both the light and the electronic beacon as separate symbols.
- T-0854** If RA1=005 (Directional Radiobeacon), 014(Rotating Radiobeacon), 017(Circular Radiobeacon), 048(Aeronautical Radiobeacon-Non-directional), 049(Radiobeacon, type unknown), or 51(Consol), and the broadcast frequency (BF1) is known (not equal to 000), but BF1 < 285 kHz or BF1 > 325 kHz, do not show the feature.
- T-0855** If RA2=005 (Directional Radiobeacon), 014(Rotating Radiobeacon), 017(Circular Radiobeacon), 048(Aeronautical Radiobeacon, Non-directional), 049(Radiobeacon, type unknown), or 51(Consol), and the broadcast frequency (BF2) is known (not equal to 000), but BF2 < 285 kHz or BF2 > 325 kHz, do not show the RA2 portion of the feature.

**LEADING LINE...2C040 (LINE)**

- D-7012** Break line symbol in water area for overprinting point symbol with the same color. Leave space 0.5 mm on each side of the point symbol. Do not displace either the line symbol or the point symbol. Point symbols may overprint line symbols of a different color.
- L-4743** If feature type is linear, the label hierarchy is:
- (1) Label shall be placed 1 mm above feature, centered.
  - (2) Top of label shall be placed 1 mm below feature, centered.
  - (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.
  - (4) Do not label across shoreline (2A010 or 2H075).
- L-4855** When a leading line (2C040) is also part of a recommended track (6C165, RTT=003), the type for the leading line shall be omitted, if it duplicates the labels on the track.
- L-4881** Marks should be briefly described using the COL or DRP attributes, if there is any doubt concerning their identity on the chart:
- a. If space is minimal, the entire legend may be deleted.
  - b. Show BRG only, if the identity of the marks is clear.
  - c. Features may be named if desirable to identify the marks, for example, a COL of "2 Lts" or a DRP of "2 Bns" or "TR & Bn"
  - d. Exceptionally, the character of a light is given to avoid confusion with other nearby lights, for example a COL of "2 Fl R"
- L-7010** The first letter in the symbol label, and any abbreviation of lights or beacons (Lt, Lts, Bn, Bn), are capitalized. Other letters are lower case

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**FEATURE: LEADING LINE...2C040 (LINE)**

- O-3420** If a clearing line (2C020) or leading line (2C040) is shown, show the feature(s) associated with it (usually light 2C050, or visual beacon 2C060). If the feature(s) are not required by the product, show as Miscellaneous Cultural Feature (9D012).
- R-2728** The dashed portion of the leading line (2C040) shall be the end of the leading line nearest to the LAF.
- R-2998** The length of the solid and dashed portions of the leading line (2C040) shall be determined by three geographic positions (the two end points of the line and the point where the dashed and solid portions meet).
- R-3681** Delete leading line for moire effect light (2C040, LAF=008) when associated moire effect light (2C050, HLT=003) is not shown.

**LIGHT...2C050 (POINT)**

- D-7013** When aids to navigation (2C) overprint hydrographic dangers (2D), or depth curves (2E010), the following displacement criteria applies:
- a. If the aid to navigation is a fixed aid (2C030 Electronic Beacon, 2C050 Light, or 2C060 Visual Beacon), and the 2D symbol is a point symbol, delete the 2D point symbol. Show both if the 2D symbol is an area symbol.
  - b. If the aid to navigation is a buoy (2C010), the 2D symbol's danger curve, i.e., the dotted perimeter line, if present, is broken for the buoy symbol (excluding type).
  - c. If a point danger symbol contains a central graphic element, such as a + or posicut 104, 110, 114, etc., the buoy symbol is displaced off the danger symbol's central graphic element. The displacement shall be as little as possible to resolve the overprint. (For IALA cardinal buoys, see rule D-1914.)
  - d. The above criteria refers to the graphic portion of symbols only. All type and labels are movable around the graphic elements to avoid overprints. If the 2D symbol's central HDP type must be moved, it shall be placed outside the danger circle, and enclosed in parentheses.
  - e. Depth Curves (2E010) are broken for aids to navigation and dangers, and the type associated with these symbols.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4711** Strings of windows may be placed on two lines to avoid overprints.
- L-4737** Feature name /label shall be positioned parallel to lines of latitude and readable left to right.
- L-4759** Yellow, abbreviated "Y", shall be substituted for Orange "Or" or Amber "Am" when describing light color in the Character of Light attribute (COL).
- L-4760** When more than one light (2C050) is at the same point, the information about those lights shall be listed, one above the other, in the order that they appear in the DMA Light List. Only one Light flare and light dot shall be shown to represent those lights.

When there is no room to stack the light legends (for example, if a legend overprints other information, features, or text), the legends may be listed horizontally (or horizontally and stacked if more than two) separated by a comma(s). They shall be listed in order of range, as they appear in the DMA Light List.

- L-4761** If the only light color is white, omit color from COL. e.g., "F1 6s 12 m 8M" is a white light.
- L-4762** A light with two ranges (MLR) shall be displayed separated by a slash, e.g., 14/12M. A light with more than two ranges shall have the greatest and least ranges separated by a hyphen, e.g., 22-18M.
- L-4783** Label placement hierarchy:
- (1) On land, one line,
  - (2) On land, two lines, word spellings not split.
  - (3) In water, one line.

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**FEATURE: LIGHT...2C050 (POINT)**

- L-4788** Name (NAM) of feature shall not be translated (into English) or changed, but shall appear in print as they appear on the original source (i.e., Banc Sud).
- L-4790** A posicut shall be displayed in the TMC window for each value of TMC. If TMC = 99 (None) the TMC window shall be deleted. The lower end of the topmark posicut shall touch the feature and shall be aligned with the primary axis of the feature.
- L-4792** The word "Light" shall not be included in the name (NAM) of the light.
- L-4793** If the name (NAM) of the feature is the same name as the land which it is on (i.e., Cape Dana, Calva Island, Bull Hill), and the land is labeled with its name within 10 mm of the feature, no (NAM) shall be shown on the feature.
- L-4831** If CCF=000 (Unknown), delete window.
- L-4833** If TMC=000 (Unknown) or 099 (None), delete window.
- L-4834** If TMC = 001 to 027, place the appropriate topmark symbol in the TMC window, with the lower end of the posicut touching the feature. Use the appropriate posicut for each value of TMC as follows:
- 001 Can (Open), use Posicut #169
  - 002 Cone, Point Up (Open), use Posicut #170
  - 003 Can (Filled), use Posicut #171
  - 004 Cone, Point Up (Filled), use Posicut #172
  - 005 "X", use Posicut #173
  - 006 Ball (Open), use Posicut #174
  - 007 Double Ball (Filled), use Posicut #175
  - 008 Double Cone, Points Upward (Filled), use Posicut #176
  - 009 Double Cone, Points Apart (Filled), use Posicut #177
  - 010 Double Cone, Points Downward (Filled), use Posicut #178
  - 011 Double Cone, Points Together (Filled), use Posicut #179
  - 012 Diamond (Open), use Posicut #180
  - 013 Diamond (Filled), use Posicut #181
  - 014 Cone, Point Up, Over Ball (Open), use Posicut #182
  - 015 Cone, Point Up, Over Ball (Filled), use Posicut #183
  - 016 Ball Over Cone, Point Up (Open), use Posicut #184
  - 017 Ball Over Cone, Point Up (Filled), use Posicut #185
  - 018 Cross, use Posicut #186
  - 019 Ball (Filled), use Posicut #187
  - 020 Broom, use Posicut #188
  - 021 "T", use Posicut #189
  - 022 Can Over Ball (Open), use Posicut #190
  - 023 Cross Over Ball (Open), use Posicut #191
  - 024 Diamond Over Ball (Filled), use Posicut #192
  - 025 Double Ball (Open), use Posicut #193
  - 026 Cone, Point Downward (Open), use Posicut #194
  - 027 Double Cone, Points Apart (Open), use Posicut #195
- L-4835** If RA1=000 (Unknown) or 050 (None), do not show RA1 label, and do not show Posicut #86 (7.1 mm diameter purple circle).
- L-4836** If RA2=000 (Unknown) or 050 (None), do not show RA2 label.
- L-4837** If SST=000 (Unknown), delete window, but show Posicut #59 (three concentric arcs - fog signal posicut).
- L-4838** If SST=016 (None) delete window and do not show Posicut #59 (three concentric arcs - fog signal posicut).



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**FEATURE: LIGHT...2C050 (POINT)**

L-4839 If SST is not 000 (Unknown) or 016 (None), label SST with appropriate legend and do not show posicut #59 (three concentric arcs - fog signal posicut).

If SST is: Use legend:

001 Bell  
002 Whis  
003 Horn  
004 Gong  
005 Dia  
006 Siren  
007 Reed  
008 Explos

L-4840 If RA1=005 (Directional Radiobeacon), 014 (Rotating Radiobeacon), 017 (Circular Radiobeacon), 048 (Aeronautical Radiobeacon, Non-directional), or 049 (Radiobeacon, Type Unknown), and BF1 is not 000 (Unknown), and BF1 < 285 or BF1 > 325; delete RA1 window and do not show Posicut #86 (7.1 mm diameter purple circle).

L-4841 If RA2=005 (Directional Radiobeacon), 014 (Rotating Radiobeacon), 017 (Circular Radiobeacon), 048 (Aeronautical Radiobeacon, Non-directional), or 049 (Radiobeacon, Type Unknown), and BF2 is not 000 (Unknown), and BF2 < 285 or BF2 > 385, delete RA2 window.

L-4842 If PER=000 (Unknown) or 999 (None), delete window and close up any windows previously separated by the PER window (if any).

L-4843 If RA1 does not equal an attribute listed for a particular symbol, omit Posicut #86 (7.1 mm diameter purple circle) and the RA1 label.

L-4844 If RA2 does not equal an attribute listed for a particular symbol, omit the RA2 label.

L-4847 If there are only two sectors (only S51 and S52) and one of those sectors is an obscured sector, label only the obscured sector, and delete the sector arc of the other sector.

L-4848 The light sector label (L51-L75) shall be centered equadistant between the sector's two radii. When sectors are very wide, and there is a risk of a single sector label being lost in the other charted detail, the sector label may be repeated at intervals along the arc of the sector.

Light sector labels (L51-L75) generally show only the color of the light, using the internationally standardized abbreviations for colors (see L-4849). They may, in certain cases, show additional information as described below:

a. Where sectors are differentiated by the use of various rythems, the character of the light for a sector shall be shown on the sector arc, together with the color.

b. If thought desirable, espcecially where one sector is intensified (i.e., has a longer range), the ranges of all of the sectors are shown in the sector labels, following the color, e.g., "R 5M", and deleted from from the legend shown at the light (LVR or MLR labels). If it is not possible to show the range in each sector label, the range is shown at the light, and the label "Intens" is shown in the label of the intensified sector, following the color, e.g., "R Intens"

c. In exceptional cases where there could be confusion, fill details, including name, may be shown on a sector. This also applies where it is necessary to show the sector of a light, although the light itself lies beyond the limits of the chart.

d. An obscured sector is the arc over which the visibility of a light is curtailed by an obstruction, such as intervening topography. An obscured sector is labeled "Obscd"

e. A decrease in the apparent intensity of a light may occur in cases of partial obstructions. When considered significant, a faint sector shall be show, labeled "Faint"

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**FEATURE: LIGHT...2C050 (POINT)**

**L-4849** Abbreviations for colors for the CCF label, and other specified color legends:

If CCF is:

001 Red, abbreviate "R"  
002 Red & White, abbreviate "RW"  
003 Red & Green, abbreviate "RG "  
004 Red & Black, abbreviate "RB"  
005 Red-Green-Red, abbreviate "RGR"  
006 Green, abbreviate "G"  
007 Green & White, abbreviate "GW"  
008 Green & Red, abbreviate "GR"  
009 Green & Black, abbreviate "GB"  
010 Green-Red-Green, abbreviate "GRG"  
011 Green-Yellow-Black, abbreviate "GYB"  
012 Yellow, abbreviate "Y"  
013 Yellow & Black, abbreviate "YB"  
014 Yellow-Black-Yellow, abbreviate "YBY"  
015 Yellow & Red, abbreviate "YR"  
016 Yellow & Green, abbreviate "YG"  
017 Yellow-Red-White, abbreviate "YRW"  
018 Black, abbreviate "B"  
019 Black & Yellow, abbreviate "BY"  
020 Black-Yellow-Black, abbreviate "BYB"  
021 Black-Red-Black, abbreviate "BRB"  
022 Black & White, abbreviate "BW"  
023 Black & Red, abbreviate "BR"  
024 Black & Green, abbreviate "BG"  
025 White, abbreviate "W"  
026 White & Red, abbreviate "WR"  
027 White & Orange, abbreviate "W Or"  
028 White & Green, abbreviate "WG"  
029 White & Black, abbreviate "WB"  
030 White & Yellow, abbreviate "WY"  
031 White-Red-Green, abbreviate "WRG"  
032 White-Green-White, abbreviate "WGW"  
033 Orange, abbreviate "Or"  
034 Blue, abbreviate "Bu "  
035 Gray, abbreviate "Gy"  
036 Violet, abbreviate "Vi"  
037 Brown, abbreviate "Br"

**L-4850** Abbreviations and labels for RA1 and RA2:

If RA1 or RA2 is:

004 Radio Direction Finding Station, abbreviate "RG"  
005 Directional Radiobeacon, abbreviate "RD"  
010 Racon, label "Racon"  
014 Rotating Radiobeacon, abbreviate "RW"  
017 Circular Radiobeacon, abbreviate "RC"  
045 QTG Station, abbreviate "R"  
046 Coast Radar Station, abbreviate "Ra"  
047 Ramark, label "Ramark"  
048 Aeronautical Radiobeacon, Non-directional, abbreviate "Aero RC"  
049 Radiobeacon, Type Unknown, abbreviate "R Bn"  
051 Consol, label "Consol"

**L-4851** On a sectored light (2C050, HLT=001), if the sector width is too narrow for the sector label (L51-L75) to be fit between the sector radii, rotate the label 90 degrees to position it perpendicular to the sector arc.

**L-4852** Light sector arcs shall preferably be placed 5 mm from the outer end of the sector radii. If a sectored light is so close to the chart border that one or more of the sector radii are cut short by the chart border, the sector arc for that sector shall preferably be 5mm from the end of the shorter of the two sector radii. Sector arcs may be moved closer to the light, or closer to the end of the sector, to avoid overprints due to chart clutter. The length of the sector limits shall not extend past the range of the light.

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**FEATURE: LIGHT...2C050 (POINT)**

- L-4853** If there is only one radio aid at a feature, it shall take its value from the RA1 attribute and RA2 shall have the value 050 (None).
- L-4856** If PER is not 000 (Unknown) or 998 (None), the numerical value for PER shall be immediately followed by a lower case letter "s" printed in the same type as PER (i.e., 12s). When PER is not shown, do not show the "s".
- L-4857** When EOL has a known value, and it is not zero (0), the numerical value for EOL shall be immediately followed by a lower case letter "m" printed in the same type as EOL (i.e., 25 m). When EOL is not shown, do not show the "m".
- L-4858** When LVR or has a known value and it is not zero (0), the numerical value for LVR shall be immediately followed by a capital letter "M" printed in the same type as LVR (i.e., 10 M). When no light range is shown, do not show the "M".
- L-4865** Occasional lights are lights that are lit only when specifically needed, i.e., shown intermittently (EXS=034). If a light is EXS=034 (Intermittent Operation), show legend "(Occas)". If EXS=033 (Continuous Operation), no EXS label is required.
- L-4867** If two or more lights are stacked vertically, the legend "(vert)" shall be printed in 7 point Swiss 742 condensed type, to the right of the LVR; or PER if the LVR is not shown; or COL if PER and LVR are not shown.
- L-4868** The CCF label for symbols 2C010P001, 2C010P013, 2C050P002, and 2C060P001 shall be centered immediately below the small circle marking the position of the feature.
- L-4875** If there is more than one visibility range at a light, the attribute MLR is used in place of LVR attribute.
- L-4876** The MLR label (i.e., 21-15 or 12/15) shall be shown in place of the LVR label on the symbology if there is more than one visibility at a light.
- L-4888** A light legend may be shortened to reduce chart clutter and eliminate overprints, but only if there is no other way to show the entire light legend, and the full legend is shown on charts comprising the larger scale coverage for that same area. In shortening the legend, the following priority is used:
1. Omit EOL first
  2. Omit PER second
  3. Omit LVR (or MLR) third
  4. Omit all detail except for light dot and flare.
- L-4899** Miscellaneous labels occasionally may be found in association with marine navigational aids (2C). If a text label is shown on hydrographic source material, it should be considered significant for navigation. Examples are:
- A fog detection light, label "Fog Det Lt"
  - A floodlit structure near navigable water, label "(illuminated)"
  - A daytime light, if character (COL) of light in the day is different from the character shown at night. Show daytime character, followed by "Day" in parentheses, for example:  
(F 37m 11M Day)
  - Unwatched light, with no standby or emergency arrangements, label "(U)"
  - A temporary light or buoy, label "(temp)". If seasonal, include months, for example: "(Apr-Oct)"
  - A fog light, if light is only shown in fog, or the light during fog is different from the character (COL) shown at other times, show character in fog, followed by "(in fog)", in parentheses. For example: Fl 5s (in fog)
  - A privately maintained light or buoy, label "(priv)"
  - RACONS occasionally will show a morse code identification, or an operating frequency, for example, "Racon (Z)", "Racon (Z) (10 cm)", "Racon (Z) (3 & 10 cm)". A RACON responding on a fixed frequency outside the marine band is labeled with an "F" in front of the label "RACON"

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**FEATURE: LIGHT...2C050 (POINT)**

- O-3400** If an electronic beacon (2C030) is within 2 mm, at chart scale, of a light (2C050, HLT=000, 001, or 002), the electronic beacon shall not be shown and the light shall be changed to include the electronic beacon as a part of the light. The RA1 and RA2 attributes of the electronic beacon (2C030) will be added to the RA1 and RA2 attributes of the light (2C050). The electronic beacon and the light are not combined if the light is a moire effect light (HLT=003) or a strip light (HLT=004). In this case, show both the light and the electronic beacon as separate symbols.
- O-3415** If a sectored light (2C050, HLT=001) has only one lighted sector, and the light is not the LAF of a clearing line (2C020) or leading line (2C040), do not show the sectors at that light.
- R-2259** If a light sector crosses land, and it obscures topographic detail, delete the radial lines and arcs of the sector that obscure the topographic detail. Radial lines and arcs that do not cross land and those that cross land but do not obscure topographic detail shall not be deleted.
- R-2295** If a radio aids circle (Posicut #86) is shown on a symbol, it shall be centered on the origin of the symbol. Since they are a different color, TMC topmark posicuts may overprint the radio aid circle. The radar reflector (Posicut #93), if shown, shall be positioned outside the radio aids circle, preferably near the top of the symbol. The fog signal (Posicut #59), if shown, shall preferably be positioned concentric with the radio aids circle, with its middle arc even with the radio aids circle, which may be broken for 0.2 mm on both sides of the fog signal posicut. The fog signal posicut may be shown in any direction from the navigational aid, to avoid overprints, or moved completely outside the radio aids circle, if necessary.
- R-2716** Light sector radii lengths shall be 150 mm long, or the length in miles of the range of the light in that sector, whichever is shortest. If the range of the specified sector is unknown, the least range of the MLR attribute value on the light is used. Sector radii length may be adjusted to avoid overprints, but in no case shall the sector radii be extended beyond the nominal range of the light sector.
- R-2729** Light sector radii and arcs shall be broken to prevent overprinting of all chart symbols printed in solid black (SPC-58600). This rule does not apply to screened black symbols.
- R-2759** If SSC=079 (Other) or 000 (Unknown), show beacon with Posicut # 85. If SSC=100 (Tower), and CCF=006 (Green), 009 (Green-Black), 018 (Black), or 024 (Black-Green), show beacon tower with Posicut # 238 (Filled beacon tower). If SSC=100 (Tower), and CCF is not one of these colors, show beacon tower with Posicut #237 (Open beacon tower). If SSC=105 (Lattice), show lattice beacon with Posicut # 239.
- R-2832** EOL of feature shall be shown to the nearest whole meter rounded to the next higher value at .5 meter, e.g., 10.4 = 10, whereas 10.5 = 11.
- R-2849** Light flares (Posicut No. 94) shall be oriented in order as follows:  
 (1) So that it does not overprint on the feature or a legend associated with that feature (except for the 7.1 mm diameter circle representing a radio aid to navigation, which the flare may overprint).  
 (2) So it does not overprint other chart data (i.e., soundings, pipelines, submarine cables, etc.)  
 (3) So that the wide end of the flare is pointed toward the legend of the light, or to seaward along the line, in the case of clearing lines (2C020), and clearing lines (2C040).
- R-2884** The point of the light flare (Posicut No. 94) shall be 1 mm from the dot or small circle representing the position of the feature.
- R-2887** Reserve fog signals shall not be shown on product.

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**FEATURE: LIGHT...2C050 (POINT)**

- R-2889** Light (2C050) characteristics on bridges (1Q040):
- a. Bridge lights that mark the centers of navigable or unnavigable spans, and are not traffic signals, should be charted showing only the character (COL), if space permits.
  - b. Where such lights change character to regulate traffic, they should be charted showing only the character (COL), and if on a chart at 1:50,000 or larger (HAC 1-2), shown in conjunction with a marine traffic signal station (2B155, STN=014).
  - c. Lights on bridges other than "a." or "b." above shall show full characteristics.
- R-2920** Periods of lights (PER on 2C050) shall be shown as follows:
- a. If PER is a whole number, (e.g., 1,2,3, etc.), show it as an integer, e.g., 4s, 12s, 120s. Note that even above one minute, the period is still shown in seconds.
  - b. If PER is not a whole number, i.e., ends in .1 to .9, show it as a 1/2 fraction if .5 seconds, and as a decimal, i.e., 1.2s, if other than .5 seconds. Tenths of seconds are not rounded.
- R-2992** If REF=002 (Radar Reflector Absent), do not shown Posicut #93 (Radar Reflector posicut).
- R-3681** Delete leading line for moire effect light (2C040, LAF=008) when associated moire effect light (2C050, HLT=003) is not shown.
- R-3682** The moire effect light symbol (2C050P010) shall be rotated so that the small circle and the corresponding corner of the equilateral triangle shall be in line with the associated leading line symbol (2C040L006). The label shall not be rotated but shall remain at the upper right of the symbol.
- R-3683** When two separate sectored lights (2C050, HLT=001) have sectors which overlap, and these overlapping sectors overprint a fairway (6C170, MLT=002), and the sector labels (L51 through L75) for those overlapping sectors are each white "W", delete the overlapping dashed line segments from those sectors.
- R-3685** When a light (2C050) overprints a signal station (2B155, STN=001, 002, 003, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 018, 019, 020 or 021), delete the Posicut # 7 from the 2B155 symbol.
- S-1402** When two light sectors (2C050, HLT=001) which originate from one point, have a coincident side, only one of the coincident sides shall be portrayed.
- T-0826** The legends on lights within harbors and restricted channels may be shortened to reduce chart clutter and eliminate overprints. In restricted channels, the priority for condensing legends is different from those lights in more open areas (as described in L-4888), because most, if not all lights are visible when navigating close inshore, and therefore, the range is less important than the other characteristics of a light. The following priority is used within harbors and restricted channels:
- Omit LVR (or MLR) first
  - Omit EOL second
  - Omit PER third
  - Omit all detail except for flare and dot
- Where the ends of numerous piers/wharves (2B190) are uniformly lighted along a river or channel, a standard note covering them all may be used.
- T-0853** When two lights (2C050) have the dot (Posicut #199) overprinting or spaced closer than 2 mm, delete the light with the least range (LVR). If the two lights form a clearing line (2C020) or leading line (2C040), show both characteristics, in a combined legend, for example: "2FR" for two fixed red lights", or "OcR & Oc" for an occulting red light and an occulting white light.

**MARKER...2C055 (POINT)**

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**FEATURE: MARKER...2C055 (POINT)**

- D-7013** When aids to navigation (2C) overprint hydrographic dangers (2D), or depth curves (2E010), the following displacement criteria applies:
- a. If the aid to navigation is a fixed aid (2C030 Electronic Beacon, 2C050 Light, or 2C060 Visual Beacon), and the 2D symbol is a point symbol, delete the 2D point symbol. Show both if the 2D symbol is an area symbol.
  - b. If the aid to navigation is a buoy (2C010), the 2D symbol's danger curve, i.e., the dotted perimeter line, if present, is broken for the buoy symbol (excluding type).
  - c. If a point danger symbol contains a central graphic element, such as a + or posicut 104, 110, 114, etc., the buoy symbol is displaced off the danger symbol's central graphic element. The displacement shall be as little as possible to resolve the overprint. (For IALA cardinal buoys, see rule D-1914.)
  - d. The above criteria refers to the graphic portion of symbols only. All type and labels are movable around the graphic elements to avoid overprints. If the 2D symbol's central HDP type must be moved, it shall be placed outside the danger circle, and enclosed in parentheses.
  - e. Depth Curves (2E010) are broken for aids to navigation and dangers, and the type associated with these symbols.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.
- (A) Minimum distance from symbol - 1 mm.
- (B) Maximum distance from symbol before choosing the next highest priority:
- #1 4 mm measured to the West end
  - #2 4 mm measured to the North side (top)
  - #3 4 mm measured to the East end
  - #4 4 mm measured to the South side (bottom)

**VISUAL BEACON...2C060 (POINT)**

- C-0030** The flare (posicut 94) and/or fog arcs (posicut 59) of a feature symbol shall point toward open water.
- D-7013** When aids to navigation (2C) overprint hydrographic dangers (2D), or depth curves (2E010), the following displacement criteria applies:
- a. If the aid to navigation is a fixed aid (2C030 Electronic Beacon, 2C050 Light, or 2C060 Visual Beacon), and the 2D symbol is a point symbol, delete the 2D point symbol. Show both if the 2D symbol is an area symbol.
  - b. If the aid to navigation is a buoy (2C010), the 2D symbol's danger curve, i.e., the dotted perimeter line, if present, is broken for the buoy symbol (excluding type).
  - c. If a point danger symbol contains a central graphic element, such as a + or posicut 104, 110, 114, etc., the buoy symbol is displaced off the danger symbol's central graphic element. The displacement shall be as little as possible to resolve the overprint. (For IALA cardinal buoys, see rule D-1914.)
  - d. The above criteria refers to the graphic portion of symbols only. All type and labels are movable around the graphic elements to avoid overprints. If the 2D symbol's central HDP type must be moved, it shall be placed outside the danger circle, and enclosed in parentheses.
  - e. Depth Curves (2E010) are broken for aids to navigation and dangers, and the type associated with these symbols.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4737** Feature name /label shall be positioned parallel to lines of latitude and readable left to right.
- L-4783** Label placement hierarchy:
- (1) On land, one line,
  - (2) On land, two lines, word spellings not split.
  - (3) In water, one line.
- L-4790** A posicut shall be displayed in the TMC window for each value of TMC. If TMC = 99 (None) the TMC window shall be deleted. The lower end of the topmark posicut shall touch the feature and shall be aligned with the primary axis of the feature.

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**FEATURE: VISUAL BEACON...2C060 (POINT)**

- L-4793 If the name (NAM) of the feature is the same name as the land which it is on (i.e., Cape Dana, Calva Island, Bull Hill), and the land is labeled with its name within 10 mm of the feature, no (NAM) shall be shown on the feature.
- L-4831 If CCF=000 (Unknown), delete window.
- L-4833 If TMC=000 (Unknown) or 099 (None), delete window.
- L-4834 If TMC = 001 to 027, place the appropriate topmark symbol in the TMC window, with the lower end of the posicut touching the feature. Use the appropriate posicut for each value of TMC as follows:
- 001 Can (Open), use Posicut #169
  - 002 Cone, Point Up (Open), use Posicut #170
  - 003 Can (Filled), use Posicut #171
  - 004 Cone, Point Up (Filled), use Posicut #172
  - 005 "X", use Posicut #173
  - 006 Ball (Open), use Posicut #174
  - 007 Double Ball (Filled), use Posicut #175
  - 008 Double Cone, Points Upward (Filled), use Posicut #176
  - 009 Double Cone, Points Apart (Filled), use Posicut #177
  - 010 Double Cone, Points Downward (Filled), use Posicut #178
  - 011 Double Cone, Points Together (Filled), use Posicut #179
  - 012 Diamond (Open), use Posicut #180
  - 013 Diamond (Filled), use Posicut #181
  - 014 Cone, Point Up, Over Ball (Open), use Posicut #182
  - 015 Cone, Point Up, Over Ball (Filled), use Posicut #183
  - 016 Ball Over Cone, Point Up (Open), use Posicut #184
  - 017 Ball Over Cone, Point Up (Filled), use Posicut #185
  - 018 Cross, use Posicut #186
  - 019 Ball (Filled), use Posicut #187
  - 020 Broom, use Posicut #188
  - 021 "T", use Posicut #189
  - 022 Can Over Ball (Open), use Posicut #190
  - 023 Cross Over Ball (Open), use Posicut #191
  - 024 Diamond Over Ball (Filled), use Posicut #192
  - 025 Double Ball (Open), use Posicut #193
  - 026 Cone, Point Downward (Open), use Posicut #194
  - 027 Double Cone, Points Apart (Open), use Posicut #195
- L-4835 If RA1=000 (Unknown) or 050 (None), do not show RA1 label, and do not show Posicut #86 (7.1 mm diameter purple circle).
- L-4836 If RA2=000 (Unknown) or 050 (None), do not show RA2 label.
- L-4837 If SST=000 (Unknown), delete window, but show Posicut #59 (three concentric arcs - fog signal posicut).
- L-4838 If SST=016 (None) delete window and do not show Posicut #59 (three concentric arcs - fog signal posicut).
- L-4839 If SST is not 000 (Unknown) or 016 (None), label SST with appropriate legend and do not show posicut #59 (three concentric arcs - fog signal posicut).
- If SST is: Use legend:
- 001 Bell
  - 002 Whis
  - 003 Horn
  - 004 Gong
  - 005 Dia
  - 006 Siren
  - 007 Reed
  - 008 Explos
- L-4840 If RA1=005 (Directional Radiobeacon), 014 (Rotating Radiobeacon), 017 (Circular Radiobeacon), 048 (Aeronautical Radiobeacon, Non-directional), or 049 (Radiobeacon, Type Unknown), and BF1 is not 000 (Unknown), and BF1 < 285 or BF1 > 325; delete RA1 window and do not show Posicut #86 (7.1 mm diameter purple circle).

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**FEATURE: VISUAL BEACON...2C060 (POINT)**

- L-4841** If RA2=005 (Directional Radiobeacon), 014 (Rotating Radiobeacon), 017 (Circular Radiobeacon), 048 (Aeronautical Radiobeacon, Non-directional), or 049 (Radiobeacon, Type Unknown), and BF2 is not 000 (Unknown), and BF2 < 285 or BF2 > 385, delete RA2 window.
- L-4843** If RA1 does not equal an attribute listed for a particular symbol, omit Posicut #86 (7.1 mm diameter purple circle) and the RA1 label.
- L-4844** If RA2 does not equal an attribute listed for a particular symbol, omit the RA2 label.
- L-4849** Abbreviations for colors for the CCF label, and other specified color legends:

If CCF is:

- 001 Red, abbreviate "R"
- 002 Red & White, abbreviate "RW"
- 003 Red & Green, abbreviate "RG "
- 004 Red & Black, abbreviate "RB"
- 005 Red-Green-Red, abbreviate "RGR"
- 006 Green, abbreviate "G"
- 007 Green & White, abbreviate "GW"
- 008 Green & Red, abbreviate "GR"
- 009 Green & Black, abbreviate "GB"
- 010 Green-Red-Green, abbreviate "GRG"
- 011 Green-Yellow-Black, abbreviate "GYB"
- 012 Yellow, abbreviate "Y"
- 013 Yellow & Black, abbreviate "YB"
- 014 Yellow-Black-Yellow, abbreviate "YBY"
- 015 Yellow & Red, abbreviate "YR"
- 016 Yellow & Green, abbreviate "YG"
- 017 Yellow-Red-White, abbreviate "YRW"
- 018 Black, abbreviate "B"
- 019 Black & Yellow, abbreviate "BY"
- 020 Black-Yellow-Black, abbreviate "BYB"
- 021 Black-Red-Black, abbreviate "BRB"
- 022 Black & White, abbreviate "BW"
- 023 Black & Red, abbreviate "BR"
- 024 Black & Green, abbreviate "BG"
- 025 White, abbreviate "W"
- 026 White & Red, abbreviate "WR"
- 027 White & Orange, abbreviate "W Or"
- 028 White & Green , abbreviate "WG"
- 029 White & Black, abbreviate "WB"
- 030 White & Yellow, abbreviate "WY"
- 031 White-Red-Green, abbreviate "WRG"
- 032 White-Green-White, abbreviate "WGW"
- 033 Orange, abbreviate "Or"
- 034 Blue, abbreviate "Bu "
- 035 Gray, abbreviate "Gy"
- 036 Violet, abbreviate "Vi"
- 037 Brown, abbreviate "Br"

- L-4850** Abbreviations and labels for RA1 and RA2:

If RA1 or RA2 is:

- 004 Radio Direction Finding Station, abbreviate "RG"
- 005 Directional Radiobeacon, abbreviate "RD"
- 010 Racon, label "Racon"
- 014 Rotating Radiobeacon, abbreviate "RW"
- 017 Circular Radiobeacon, abbreviate "RC"
- 045 QTG Station, abbreviate "R"
- 046 Coast Radar Station, abbreviate "Ra"
- 047 Ramark, label "Ramark"
- 048 Aeronautical Radiobeacon, Non-directional, abbreviate "Aero RC"
- 049 Radiobeacon, Type Unknown, abbreviate "R Bn"
- 051 Consol, label "Consol"



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**FEATURE: VISUAL BEACON...2C060 (POINT)**

- L-4853** If there is only one radio aid at a feature, it shall take its value from the RA1 attribute and RA2 shall have the value 050 (None).
- L-4868** The CCF label for symbols 2C010P001, 2C010P013, 2C050P002, and 2C060P001 shall be centered immediately below the small circle marking the position of the feature.
- R-2295** If a radio aids circle (Posicut #86) is shown on a symbol, it shall be centered on the origin of the symbol. Since they are a different color, TMC topmark posicuts may overprint the radio aid circle. The radar reflector (Posicut #93), if shown, shall be positioned outside the radio aids circle, preferably near the top of the symbol. The fog signal (Posicut #59), if shown, shall preferably be positioned concentric with the radio aids circle, with its middle arc even with the radio aids circle, which may be broken for 0.2 mm on both sides of the fog signal posicut. The fog signal posicut may be shown in any direction from the navigational aid, to avoid overprints, or moved completely outside the radio aids circle, if necessary.
- R-2759** If SSC=079 (Other) or 000 (Unknown), show beacon with Posicut # 85. If SSC=100 (Tower), and CCF=006 (Green), 009 (Green-Black), 018 (Black), or 024 (Black-Green), show beacon tower with Posicut # 238 (Filled beacon tower). If SSC=100 (Tower), and CCF is not one of these colors, show beacon tower with Posicut #237 (Open beacon tower). If SSC=105 (Lattice), show lattice beacon with Posicut # 239.
- R-2992** If REF=002 (Radar Reflector Absent), do not shown Posicut #93 (Radar Reflector posicut).
- S-1403** If a channel is marked by a feature but because of the product scale individual features overprint or are closer than 3 mm, replace the features with the legend "Buoyed channel" (for 2C010) or "Channel marked by beacons" (for 2C060). Legend will be aligned with the channel.

**MISCELLANEOUS UNDERWATER FEATURE...2D000 (AREA)**

- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4729** If symbols overprint each other, labels are condensed as follows:  
(1) If the labels are identical, only one is retained.  
(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:
- Hydro  
power  
plant

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**FEATURE: MISCELLANEOUS UNDERWATER FEATURE...2D000 (AREA)**

- L-4807** Type shall be placed in the following preference:  
 (a) Placed on one horizontal line centered in feature.  
 (b) Broken into multiple horizontal lines, centered in feature, with a 1 mm space between lines.  
 (c) Placed on one line outside feature. Use Rule L-4722 for placement. If present, HDP shall always be positioned inside area.  
 (d) Placed on two lines to avoid overprints. Use Rule L-4722 for placement. If present, HDP shall always be placed inside area.
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
 PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
 ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.
- R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.
- R-2916** Dangers with danger curves (dotted lines) around them which fall inside other danger areas with danger curves around them, shall have the inner dotted line deleted.
- R-3704** HDI=010 (Depth Known by Wire Drag) is not applicable when SFC=003 (Fish Haven).

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**FEATURE: MISCELLANEOUS UNDERWATER FEATURE...2D000 (AREA)**

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**MISCELLANEOUS UNDERWATER FEATURE...2D000 (POINT)**

**D-1909** If point symbol overprints shoreline (2A010 or 2H075), the HDP type, posicut, or graphic in the center of symbol shall be displaced seaward until they no longer overprint the shoreline. If the danger curve (dotted perimeter line) overprints the shoreline, that portion of the dotted perimeter line falling on land shall be deleted.

**L-4700** Use the following abbreviations for ACC and EXS values:

If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"

**L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

**L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.

**L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)

**L-4729** If symbols overprint each other, labels are condensed as follows:

(1) If the labels are identical, only one is retained.  
(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.

**L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:

Hydro  
power  
plant

**L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).

**L-4872** HDP label shall be centered in the circle.

**L-4891** Variable type size for HDP values enclosed by danger curves (dotted circles):

If HDP < 10, (a single digit principal digit), apply 7 point type to the principal digit, and 5 point type to the subscript, if there is one. If HDP >= 10 (a double digit principal digit), apply 6 point type to the principal digit, and 5 point type to the subscript, if there is one.

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**FEATURE: MISCELLANEOUS UNDERWATER FEATURE...2D000 (POINT)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008).

HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001).

HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).

**R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.

**R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.

**R-2916** Dangers with danger curves (dotted lines) around them which fall inside other danger areas with danger curves around them, shall have the inner dotted line deleted.

**R-3704** HDI=010 (Depth Known by Wire Drag) is not applicable when SFC=003 (Fish Haven).

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**R-3709** The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.

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**FEATURE: MISCELLANEOUS UNDERWATER FEATURE...2D000 (POINT)**

**S-1401** When two or more point obstruction (2D000, SFC=001) symbols, (dotted lines) overprint, and the attribute values are identical, one symbol shall be placed in the center of the group and shall be labeled with the number of obstructions in the group, e.g., 2 Obstr's, 3 Obstr's, etc. Type is 6 point Swiss 742 italic, in color Black SPC-58600.

**BREAKERS...2D010 (AREA)**

**L-4705** Labeling areas, in order of preference:

- (1) Centered in area on one line in the area, type is horizontal, reading left to right.
- (2) Centered in area on one line in the area, oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (3) Centered in area on two approximately equal lines, without splitting a word, type is horizontal, reading left to right.
- (4) Centered on two approximately equal lines without splitting a word, type is oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.
- (5) Use Rule L-4722 for type placement if the area is too small to place the type inside the area.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.

**BREAKERS...2D010 (POINT)**

**L-4700** Use the following abbreviations for ACC and EXS values:

- If ACC=002, label "PA"
- If ACC=003, label "PD"
- If EXS=002, label "ED"
- If EXS=003, label "Rep"

**L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.

**L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.

**L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:

Hydro  
power  
plant

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**FEATURE: BREAKERS...2D010 (POINT)**

- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
 PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
 ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- S-1404** If two or more point breakers (2D010) fall within 15 mm of each other, show one symbol in the center of the group.

**CRIB...2D020 (AREA)**

- L-4700** Use the following abbreviations for ACC and EXS values:  
 If ACC=002, label "PA"  
 If ACC=003, label "PD"  
 If EXS=002, label "ED"  
 If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
 #1 4 mm measured to the West end  
 #2 4 mm measured to the North side (top)  
 #3 4 mm measured to the East end  
 #4 4 mm measured to the South side (bottom)
- L-4729** If symbols overprint each other, labels are condensed as follows:  
 (1) If the labels are identical, only one is retained.  
 (2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.
- L-4807** Type shall be placed in the following preference:  
 (a) Placed on one horizontal line centered in feature.  
 (b) Broken into multiple horizontal lines, centered in feature, with a 1 mm space between lines.  
 (c) Placed on one line outside feature. Use Rule L-4722 for placement. If present, HDP shall always be positioned inside area.  
 (d) Placed on two lines to avoid overprints. Use Rule L-4722 for placement. If present, HDP shall always be placed inside area.

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**FEATURE: CRIB...2D020 (AREA)**

- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
 PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
 ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SCC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2802** Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.
- R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.
- R-3672** Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

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**FEATURE: CRIB...2D020 (POINT)****CRIB...2D020 (POINT)**

- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4729** If symbols overprint each other, labels are condensed as follows:  
(1) If the labels are identical, only one is retained.  
(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.



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**FEATURE: CRIB...2D020 (POINT)**

- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.
- R-3672** Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**DISCOLORED WATER...2D030 (AREA)**

- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:
- Hydro  
power  
plant
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).

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**FEATURE: DISCOLORED WATER...2D030 (AREA)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

Definitions

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- R-2287** Discolored water (2D030) shall not be placed on a chart unless circumstances indicate the probable existence of shoal water.
- R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**DISCOLORED WATER...2D030 (POINT)**

- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
Hydro  
power  
plant
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.

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**FEATURE: DISCOLORED WATER...2D030 (POINT)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**R-2287** Discolored water (2D030) shall not be placed on a chart unless circumstances indicate the probable existence of shoal water.

**R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**EDDIES...2D040 (AREA)**

**D-1907** Point features, or individual posicuts of an area symbol, may be displaced <= 5 mm, at chart scale, to avoid overprints.

**R-2913** Features with areas greater than 100 square cm shall be represented by a legend, e.g., Kelp, Eddies, Overfalls, rather than by the graphic symbol. Type is 6 point Swiss 742. Black SPC-58600, and label is scattered over area at approximately 50 mm intervals. Position is horizontal and shall not overprint other features.

**EDDIES...2D040 (POINT)**

**D-1907** Point features, or individual posicuts of an area symbol, may be displaced <= 5 mm, at chart scale, to avoid overprints.

**FOUL GROUND...2D050 (AREA)**

**L-4700** Use the following abbreviations for ACC and EXS values:

If ACC=002, label "PA"

If ACC=003, label "PD"

If EXS=002, label "ED"

If EXS=003, label "Rep"

**L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

**L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.

**L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.

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**FEATURE: FOUL GROUND...2D050 (AREA)**

- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
 #1 4 mm measured to the West end  
 #2 4 mm measured to the North side (top)  
 #3 4 mm measured to the East end  
 #4 4 mm measured to the South side (bottom)
- L-4729** If symbols overprint each other, labels are condensed as follows:  
 (1) If the labels are identical, only one is retained.  
 (2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
 Hydro  
 power  
 plant
- L-4807** Type shall be placed in the following preference:  
 (a) Placed on one horizontal line centered in feature.  
 (b) Broken into multiple horizontal lines, centered in feature, with a 1 mm space between lines.  
 (c) Placed on one line outside feature. Use Rule L-4722 for placement. If present, HDP shall always be positioned inside area.  
 (d) Placed on two lines to avoid overprints. Use Rule L-4722 for placement. If present, HDP shall always be placed inside area.
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.
- Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.
- Definitions  
 PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
 PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
 ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.
- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001.  
 HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004).  
 HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008).  
 HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001).  
 HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).

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**FEATURE: FOUL GROUND...2D050 (AREA)**

- R-2222 VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2800 When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.
- R-2806 If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.

**FOUL GROUND...2D050 (POINT)**

- D-1909 If point symbol overprints shoreline (2A010 or 2H075), the HDP type, posicut, or graphic in the center of symbol shall be displaced seaward until they no longer overprint the shoreline. If the danger curve (dotted perimeter line) overprints the shoreline, that portion of the dotted perimeter line falling on land shall be deleted.
- L-4700 Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702 Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707 If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708 Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722 Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4729 If symbols overprint each other, labels are condensed as follows:  
(1) If the labels are identical, only one is retained.  
(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.
- L-4730 Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
Hydro  
power  
plant
- L-4808 Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4872 HDP label shall be centered in the circle.
- L-4891 Variable type size for HDP values enclosed by danger curves (dotted circles):  
If HDP < 10, (a single digit principal digit), apply 7 point type to the principal digit, and 5 point type to the subscript, if there is one. If HDP >= 10 (a double digit principal digit), apply 6 point type to the principal digit, and 5 point type to the subscript, if there is one.

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**FEATURE: FOUL GROUND...2D050 (POINT)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008).

HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001).

HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).

**R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.

**R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.

**R-3709** The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.

**KELP...2D060 (AREA)**

**D-1907** Point features, or individual posicuts of an area symbol, may be displaced  $\leq$  5 mm, at chart scale, to avoid overprints.

**R-2913** Features with areas greater than 100 square cm shall be represented by a legend, e.g., Kelp, Eddies, Overfalls, rather than by the graphic symbol. Type is 6 point Swiss 742. Black SPC-58600, and label is scattered over area at approximately 50 mm intervals. Position is horizontal and shall not overprint other features.

**KELP...2D060 (POINT)**

**D-1907** Point features, or individual posicuts of an area symbol, may be displaced  $\leq$  5 mm, at chart scale, to avoid overprints.

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**FEATURE: OVERFALLS /TIDE RIPS...2D080 (AREA)**

**OVERFALLS /TIDE RIPS...2D080 (AREA)**

- D-1907 Point features, or individual posicuts of an area symbol, may be displaced <= 5 mm, at chart scale, to avoid overprints.
- L-4709 If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4737 Feature name /label shall be positioned parallel to lines of latitude and readable left to right.
- R-2913 Features with areas greater than 100 square cm shall be represented by a legend, e.g., Kelp, Eddies, Overfalls, rather than by the graphic symbol. Type is 6 point Swiss 742. Black SPC-58600, and label is scattered over area at approximately 50 mm intervals. Position is horizontal and shall not overprint other features.

**OVERFALLS /TIDE RIPS...2D080 (POINT)**

- D-1907 Point features, or individual posicuts of an area symbol, may be displaced <= 5 mm, at chart scale, to avoid overprints.

**PERCH /STAKE...2D090 (POINT)**

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**PILING...2D100 (AREA)**

- L-4700 Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4707 If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708 Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722 Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4730 Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
Hydro  
power  
plant
- L-4807 Type shall be placed in the following preference:  
(a) Placed on one horizontal line centered in feature.  
(b) Broken into multiple horizontal lines, centered in feature, with a 1 mm space between lines.  
(c) Placed on one line outside feature. Use Rule L-4722 for placement. If present, HDP shall always be positioned inside area.  
(d) Placed on two lines to avoid overprints. Use Rule L-4722 for placement. If present, HDP shall always be placed inside area.
- L-4808 Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).

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**FEATURE: PILING...2D100 (AREA)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2914** Features shown as points on cartographic source material shall be shown as points, except as follows: If more than five point symbols fall inside an area of 1 square centimeter at product scale, show as an area symbol, labeled, and with a smooth danger curve (dotted line) around them. If any of the point features extend above High Water (VRC=001), show area symbol as above surface (VRC=001). If no point features are above the surface at High Water, show area symbol as submerged (VRC=004).

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**PILING...2D100 (POINT)**

**L-4700** Use the following abbreviations for ACC and EXS values:

If ACC=002, label "PA"

If ACC=003, label "PD"

If EXS=002, label "ED"

If EXS=003, label "Rep"

**L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.

**L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

#1 4 mm measured to the West end

#2 4 mm measured to the North side (top)

#3 4 mm measured to the East end

#4 4 mm measured to the South side (bottom)

**L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:

Hydro  
power  
plant

**L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).



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**FEATURE: PILING...2D100 (POINT)**

- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
 PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
 ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- R-2914** Features shown as points on cartographic source material shall be shown as points, except as follows: If more than five point symbols fall inside an area of 1 square centimeter at product scale, show as an area symbol, labeled, and with a smooth danger curve (dotted line) around them. If any of the point features extend above High Water (VRC=001), show area symbol as above surface (VRC=001). If no point features are above the surface at High Water, show area symbol as submerged (VRC=004).

**PLATFORM...2D110 (POINT)**

- L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
 #1 4 mm measured to the West end  
 #2 4 mm measured to the North side (top)  
 #3 4 mm measured to the East end  
 #4 4 mm measured to the South side (bottom)

- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:
- Hydro  
power  
plant

- L-4839** If SST is not 000 (Unknown) or 016 (None), label SST with appropriate legend and do not show posicut #59 (three concentric arcs - fcg signal posicut).

If SST is: Use legend:

001 Bell  
 002 Whis  
 003 Horn  
 004 Gong  
 005 Dia  
 006 Siren  
 007 Reed  
 008 Explos

**REEP...2D120 (AREA)**

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**FEATURE: REEF...2D120 (AREA)**

- D-1910** If rock symbol (point 2D130) is shown inside a reef symbol (area 2D120) overprints the shoreline (2A010 or 2H075), displace the rock symbol seaward, so that it no longer overprints the shoreline. If necessary, displace the dotted perimeter line of the reef seaward, so it does not overprint the rock symbol.
- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
Hydro  
power  
plant
- L-4807** Type shall be placed in the following preference:  
(a) Placed on one horizontal line centered in feature.  
(b) Broken into multiple horizontal lines, centered in feature, with a 1 mm space between lines.  
(c) Placed on one line outside feature. Use Rule L-4722 for placement. If present, HDP shall always be positioned inside area.  
(d) Placed on two lines to avoid overprints. Use Rule L-4722 for placement. If present, HDP shall always be placed inside area.
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.
- L-4811** The drying height (HDH) shall be shown if it is known, for reefs that uncover (2D120, VRC=008). Type shall be placed over the highest point of the reef, if possible. If the reef is too small to place HDH inside the area, it shall be placed alongside the area in parentheses. If "Co" is required by symbol, MCP=019, type shall be positioned under HDH.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

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**FEATURE: REEF...2D120 (AREA)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**R-2210** Rocks (2D130, MCP=066) and isolated coral heads (2D130, MCP=019) within submerged reefs (2D120) shall be charted using the appropriate rock symbol. When depths over selected rocks are shown, an overall depth over the reef is not required, since the depth over the reef is shown by the depth of the shallowest rock. Where it is not possible to chart depth information for separate rocks, the shallowest depth over the reef shall be shown by HDP or HDH on reef (2D120).

**R-2215** Symbol consists of arcs and Vs along the area perimeter. If the reef edge symbol overprints the shoreline, the symbol is deleted for that section that overprints.

**R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).

**R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.

**R-2802** Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.

**R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.

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**FEATURE: REEF...2D120 (AREA)**

- R-2915** The minimum size of a reef (2D120) that covers and uncovers (VRC=008) shall be 2 mm diameter. The minimum size of a reef that is under water (VRC=004) shall be 3 mm. If the reef at chart scale is smaller than these minimum sizes, it shall be shown as a rock (2D130).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.
- R-9040** If a hole exists inside of an area feature, and the width of the hole is greater than 3 mm at chart scale, the hole is shown as an open space inside the surrounding feature. If the hole is 3 mm wide or less, the hole is deleted and absorbed into the surrounding area feature.

**ROCK...2D130 (POINT)**

- D-1909** If point symbol overprints shoreline (2A010 or 2H075), the HDP type, posicut, or graphic in the center of symbol shall be displaced seaward until they no longer overprint the shoreline. If the danger curve (dotted perimeter line) overprints the shoreline, that portion of the dotted perimeter line falling on land shall be deleted.
- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
Hydro  
power  
plant
- L-4763** The MCP label for rock (MCP=066) shall be "R", and the label for coral (MCP=019) shall be "Co" Labels are shown without quote marks, or periods.
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4872** HDP label shall be centered in the circle.

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**FEATURE: ROCK...2D130 (POINT)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- R-2210** Rocks (2D130, MCP=066) and isolated coral heads (2D130, MCP=019) within submerged reefs (2D120) shall be charted using the appropriate rock symbol. When depths over selected rocks are shown, an overall depth over the reef is not required, since the depth over the reef is shown by the depth of the shallowest rock. Where it is not possible to chart depth information for separate rocks, the shallowest depth over the reef shall be shown by HDP or HDH on reef (2D120).
- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2294** Submerged rocks (2D120, VRC=004) with known depths (HDI=009 or 010) of 30.0 meters or less are considered dangerous (SOH=001) if the depth (HDP) of the rock is shallower than the corresponding depth area, as defined by the adjacent depth curves. They are considered not dangerous (SOH=002) if the depth of the rock falls within the corresponding depth area. For example, on a chart showing 10, 20, and 30 meter depth curves, a rock with a depth of 12.0 meters would be considered dangerous (SOH=001) if it fell in between the 20 and 30 meter depth curves, but would be considered not dangerous (SOH=002) if it fell between the 10 and 20 meter depth curves.
- R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.
- R-2916** Dangers with danger curves (dotted lines) around them which fall inside other danger areas with danger curves around them, shall have the inner dotted line deleted.

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**FEATURE: ROCK...2D130 (POINT)**

- R-3707** If an uncovering rock (2D130, VRC=008) falls inside the foreshore (2A020), show the rock center symbol without the blue tint or dotted circle.
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.
- R-3709** The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.
- T-0836** When central graphic symbols of hydrographic dangers, excluding the danger curve (dotted line) overprint or coalesce, they shall be thinned, with preference given to retaining those dangers with the shallower depth (HDP), if it is known. Danger curves shall not be affected by this rule.

**SNAG /STUMP...2D140 (AREA)**

- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- L-4729** If symbols overprint each other, labels are condensed as follows:  
(1) If the labels are identical, only one is retained.  
(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.
- L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:  
Hydro  
power  
plant
- L-4807** Type shall be placed in the following preference:  
(a) Placed on one horizontal line centered in feature.  
(b) Broken into multiple horizontal lines, centered in feature, with a 1 mm space between lines.  
(c) Placed on one line outside feature. Use Rule L-4722 for placement. If present, HDP shall always be positioned inside area.  
(d) Placed on two lines to avoid overprints. Use Rule L-4722 for placement. If present, HDP shall always be placed inside area.
- L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).
- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.

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**FEATURE: SNAG /STUMP...2D140 (AREA)**

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2914** Features shown as points on cartographic source material shall be shown as points, except as follows: If more than five point symbols fall inside an area of 1 square centimeter at product scale, show as an area symbol, labeled, and with a smooth danger curve (dotted line) around them. If any of the point features extend above High Water (VRC=001), show area symbol as above surface (VRC=001). If no point features are above the surface at High Water, show area symbol as submerged (VRC=004).

**R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**SNAG /STUMP...2D140 (POINT)**

**L-4700** Use the following abbreviations for ACC and EXS values:

If ACC=002, label "PA"

If ACC=003, label "PD"

If EXS=002, label "ED"

If EXS=003, label "Rep"

**L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

**L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.

**L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

#1 4 mm measured to the West end

#2 4 mm measured to the North side (top)

#3 4 mm measured to the East end

#4 4 mm measured to the South side (bottom)

**L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:

Hydro  
power  
plant

**L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).

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**FEATURE: SNAG /STUMP...2D140 (POINT)**

- L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.
- L-4872** HDP label shall be centered in the circle.
- L-4891** Variable type size for HDP values enclosed by danger curves (dotted circles):  
If HDP < 10, (a single digit principal digit), apply 7 point type to the principal digit, and 5 point type to the subscript, if there is one. If HDP >= 10 (a double digit principal digit), apply 6 point type to the principal digit, and 5 point type to the subscript, if there is one.
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001.  
HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004).  
HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008).  
HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001).  
HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2914** Features shown as points on cartographic source material shall be shown as points, except as follows: If more than five point symbols fall inside an area of 1 square centimeter at product scale, show as an area symbol, labeled, and with a smooth danger curve (dotted line) around them. If any of the point features extend above High Water (VRC=001), show area symbol as above surface (VRC=001). If no point features are above the surface at High Water, show area symbol as submerged (VRC=004).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.



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**FEATURE: SNAG /STUMP...2D140 (POINT)**

R-3709 The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.

**WRECK...2D180 (AREA)**

L-4702 Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

L-4722 Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

#1 4 mm measured to the West end

#2 4 mm measured to the North side (top)

#3 4 mm measured to the East end

#4 4 mm measured to the South side (bottom)

L-4729 If symbols overprint each other, labels are condensed as follows:

(1) If the labels are identical, only one is retained.

(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.

L-4730 Labels may be stacked, readable top to bottom to avoid overprints, e.g.:

Hydro  
 power  
 plant

L-4808 Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).

L-4812 Label placement for area wreck (2D180) symbols. The preferred position for type is for the "Wk" to be centered in the area symbol and reading horizontally. If depth (HDP) is shown, it shall be centered in area reading horizontally, and the "Wk" shall be positioned to the right, if possible; otherwise placed inside the wreck where it will fit, or outside to the right of the wreck.

If the wreck at chart scale is too small to place type inside, the legend "Wk" shall be placed outside the wreck in the following priority:

(a) To the right or below wreck, centered along major axis.

(b) To the left or above the wreck, centered along major axis.

(c) Any other available location.

Type is horizontal, and if a depth is shown, it is in parentheses to the right of the "Wk" label.

R-2221 HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001.

HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004).

HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008).

HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001).

HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).

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**FEATURE: WRECK...2D180 (AREA)**

- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2802** Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.
- R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.
- R-2911** When two or more identical symbols overprint each other, delete the portions that overlap and show as one symbol with an outline of the combined area of the symbols.
- R-2916** Dangers with danger curves (dotted lines) around them which fall inside other danger areas with danger curves around them, shall have the inner dotted line deleted.
- R-2925** Exposed wrecks (2D180) shown as areas that are above High Water (VRC=001), shall have the shoreline (2A010, 2H075) deleted, if the shoreline passes through the wreck.
- R-3672** Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**WRECK...2D180 (POINT)**

- D-1900** If two graphic interior point symbols (HDI=012 and SOH=001) or (VRC=001 or 008, and EPA=001, 002 or 005) overprint, displace both symbols outward until they no longer overprint.
- D-1909** If point symbol overprints shoreline (2A010 or 2H075), the HDP type, posicut, or graphic in the center of symbol shall be displaced seaward until they no longer overprint the shoreline. If the danger curve (dotted perimeter line) overprints the shoreline, that portion of the dotted perimeter line falling on land shall be deleted.
- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.

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**FEATURE: WRECK...2D180 (POINT)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4729** If symbols overprint each other, labels are condensed as follows:

(1) If the labels are identical, only one is retained.

(2) If the labels are not identical, they shall be condensed in to one legend, e.g., "Fishhaven and Well". If multiple depths are shown, only the shallowest is retained.

**L-4730** Labels may be stacked, readable top to bottom to avoid overprints, e.g.:

Hydro  
power  
plant

**L-4808** Labels shall be placed in water area, and shall not overprint the shoreline (2A010 or 2H075) or be placed on land or in the foreshore (2A020).

**L-4809** When two or more identical features fall within 10 mm of each other, one legend with plural description shall be shown, with type placed as close as possible to the center of the group without overprinting features.

**L-4872** HDP label shall be centered in the circle.

**L-4891** Variable type size for HDP values enclosed by danger curves (dotted circles):

If HDP < 10, (a single digit principal digit), apply 7 point type to the principal digit, and 5 point type to the subscript, if there is one. If HDP >= 10 (a double digit principal digit), apply 6 point type to the principal digit, and 5 point type to the subscript, if there is one.

**O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.

PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.

ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

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**FEATURE: WRECK...2D180 (POINT)**

- R-2221** HGT is used to describe height when feature is above the surface of the water at High Water (VRC=001). HDI is not applicable when VRC=001. HDI values 000, 009, 010, 011, 012 are used to describe knowledge about a depth of a feature when the feature is below the water surface (VRC=004). HDI values 013 and 014 are used to describe knowledge about the drying height of a feature when it covers and uncovers, i.e., between high and low water (VRC=008). HDP is used to record the depth of a feature when HDI=009, 010 or 011. HDP is not applicable when the depth is unknown (HDI=000 or 012) or when the feature covers and uncovers (VRC=008) - see HDH, or when the feature is above High Water (VRC=001). HDH is used to record the drying height of a feature when HDI=013. HDH is not applicable when the drying height is unknown (HDI=014), or the feature is below water (VRC=004) - see HDP, or when the feature is above High Water (VRC=001).
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2806** If areas where separate dangers coalesce because of scale, the danger curves (dotted lines) are deleted except for those on the outermost perimeter of the aggregate danger hazard. A smooth dotted line is drawn around the area.
- R-2916** Dangers with danger curves (dotted lines) around them which fall inside other danger areas with danger curves around them, shall have the inner dotted line deleted.
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.
- R-3709** The diameter of the circular symbol perimeter line may be reduced in congested areas to avoid overprinting other symbols, but must be at least 2.0 mm diameter, and cannot come closer than 0.2 mm to any type or graphic symbol shown inside the circle. In non-congested areas the normal symbol diameter shall be shown.
- S-1400** When two or more stranded wreck symbols (2D180, EPA=003 or 004) overlap, one symbol shall be placed in the center of the group and shall be labeled with the number of stranded wrecks in the group, e.g., "2 Wrecks", "3 Wrecks", etc. Type is Swiss 742 italic, 6 point, in color Black SPC-58600.
- T-0801** If more than five wrecks (2D180), other than stranded (VRC=001 or 008), fall within an area less than 20 mm x 20 mm, individual wreck symbols are not shown. Instead, a generalized danger line (dotted line) shall be shown surrounding the area, and the area shall be labeled as follows: "Numerous wrecks", "Numerous Wks", "Wks" Condense label as necessary to place it inside the danger line. Type is Swiss 742, 6 point upper and lower case italic, in color Black SPC-58600.
- T-0810** Where two or more wrecks (2D180), except stranded wrecks (VRC=001 or 008), overprint each other:  
(1) If only the danger lines (dotted lines) overprint, delete the danger lines that are inside the outer perimeter danger lines.  
(2) If two HDP depths overprint, retain the shallowest depth and the danger line surrounding the wrecks.

**DEPTH CURVE...2E010 (LINE)**

- L-4733** Depth curves (2E010) shall be labeled with the numeral in the same unit of measurement as the soundings (2E010). The term "meters" shall not be part of the label.

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**FEATURE: DEPTH CURVE...2E010 (LINE)**

- L-4734** Depth Curve (2E010) labels:  
 (1) Break curve the width of the label plus 1 mm on each side. Orient label parallel to curve, centered in window, readable left to right, or bottom to top, if curve is vertical.  
 (2) Start labels at the middle of the curve, space every 12 cm. Labels may be moved any distance to avoid overprints, except on a closed curve where an overprint cannot be avoided. If the overprint is another Depth Curve, break the curve. Label every curve at least once if length of curve is 10 mm greater than window and does not close.
- L-4776** Depth curves (2E010) which surround a single sounding (2E020) shall not be labeled if the length of the depth curve is less than 20 mm.
- O-3408** When accurate depth curves (2E010, ACC=001) taken directly from source charts are shown on a product that has been enlarged by a factor greater than two, compared to the scale of the source chart, e.g., 1:50,000 source on a product larger than 1:25,000, the depth curve's accuracy shall be ACC=002. When approximate depth curves (2E010, ACC=002) taken directly from source charts are shown on a product that has been reduced by a factor greater than two compared to the source source chart, e.g., 1:50,000 source on a product smaller than 1:100,000, the depth curve accuracy shall be ACC=001. When depth curves taken from source charts are enlarged or reduced by a factor equal to or less than two, they shall retain the same accuracy as the source chart.
- O-3421** If other curves are selected for portrayal (based on published source material), use the CRV values that are equal to the values of the curves on the source material.
- R-2201** The depth curve (2E010) to which water tint is shown may be interpolated from soundings shown on nautical chart sources in order to develop the required open water blue tint. If this is done the curve shall be approximate (ACC=002). For depth curves other than this curve, Rule R-2876 shall apply.
- R-2812** In delineating depth curves (2E010), the line shall be positioned as near as possible to the deeper side of the sounding value without touching. The depth curve shall not be broken for the Sounding value.
- R-2813** Depth curves (2E010) that coalesce on steep slopes shall show only the deepest and shoalest curves. Where space is limited in "steep to channels" portrayal of the deepest curve is preferred. In other general areas where space is limited because of scale, the shoalest curve shall be shown with the deep curves broken. Where a blue tint invades a steep slope, the curve delimiting the blue tint must be shown.
- R-2814** Small depressions within shallow areas shall not be surrounded by a depth curve (2E010) if less than three soundings (2E020) fall within the curve.
- R-2827** When published nautical charts in meters are used as source material for DMA charts, the DMA charts shall retain the depth curves (2E010) shown on the published chart source. Occasionally foreign sources will portray soundings(2E020) which are the same value as the depth curve seaward of the depth curve. In this event, the depth curve is broken and a dashed approximate curve (2E010, ACC=002) is extended seaward around the sounding(s).
- R-2828** Foreign charts showing soundings and depth curves in fathoms, that are used as source material for nautical charts, shall have the sounding converted to meters, and have the depth curves converted to meters as follows:  
 -1 fathom curve shall be retained, and labeled 2  
 -3 fathom curve shall be retained, and labeled 5.  
 This policy shall be followed only when the soundings seaward of the curve are greater than the value of the curve. When the above conversion is not practical, an approximate depth curve (2E010, ACC=002) shall be delineated and dashed (approximate) lines displayed. Indefinite (approximate) depth curves shall replace fathom curves of depths other than above.

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**FEATURE: DEPTH CURVE...2E010 (LINE)**

- R-2869** Show water tint (Blue SPC-48253, 31% screen, at 45°) from the shoreline (2A010 or 2H075), to the 10 meter depth curve (2E010, CRV=010) and all offshore areas shallower than 10 meters (inside a 10 meter depth curve). Blue tint is deleted from inland hydrographic features (2H), in those areas that are deeper than 10 meters (outside the 10 meter depth curve).
- R-2874** If the shoal sounding (2E020) and selected depth curves (2E010) will adequately portray a danger, it is not necessary for the complete sequence of depth curves to be shown around an isolated pinnacle.
- R-2875** Accurate depth curves (2E010, ACC=001) shall be shown when the sounding data from which they are interpolated has a density of  $\leq 10$  mm maximum spacing, at the product chart scale before soundings have been thinned. When this sounding density is  $> 10$  mm maximum spacing, any interpolated depth curves shall be approximate (ACC=002).
- R-2876** In areas of the chart where the primary source of hydrographic data is a foreign nautical chart, and that foreign chart does not show any depth curves, depth curves (2E010) shall not be interpolated, and soundings (2E020) alone shall be used to depict the bottom topography.
- R-2882** In rapidly changing areas where surveys with different dates adjoin but do not agree, gaps in depth curves (2E010) shall be left to indicate data discrepancy to the user. Gap width shall be commensurate with chart scale and the area covered by the sources.

**SOUNDING...2E020 (POINT)**

- D-1903** Soundings shall normally be plotted in their true positions. If a selected sounding overprints other important detail, such as aids to navigation (2C) or dangers (2D), a different sounding is selected, if possible. If the selected sounding is the shallower than any other sounding around it, it must be shown. In this case, it is shown as an "out of position" sounding and a leader line is used to show the true position of the sounding. Leader line shall be 3-25 mm in length.
- D-1912** Soundings (2E020) shall be displaced seaward when they overprint the shoreline (2A010 or 2H075) until they no longer overprint.
- D-1913** If a channel (deep area between two shallow areas) is too narrow to place a sounding (2E020) in, and the sounding is the shallowest depth in the channel between the two shallow areas, place the sounding alongside the channel, in parentheses.
- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4710** Strings of windows shall be placed on one line, reading left to right, or bottom to top if the axis is vertical.
- L-4711** Strings of windows may be placed on two lines to avoid overprints.

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**FEATURE: SOUNDING...2E020 (POINT)**

- O-3403** If soundings (2E020) shown on a DMA product chart are taken from a graphic source chart/survey that has been enlarged by a factor greater than two, for example, soundings on a 1:50,000 source chart shown on a DMA chart at a scale larger than 1:25,000, then those soundings shall be shown as slant soundings (SND=001 shall be shown as SND=008, SND=002 shall be shown as SND=009, SND=006 shall be shown as SND=004, and SND=007 shall be shown as SND=010).

When this override occurs, the chart shall show the following note, wording as appropriate, in the margin of the chart. See "Notes and Cautions" section of product specification for information regarding note portrayal.

NOTE

Soundings in slant figures are from smaller scale charts.

- O-3405** Some foreign charting agencies (and the IHO standard) use vertical (upright hairline) type for questionable soundings and slant type for normal soundings. This is the opposite of what DMA and NOS show on U.S. charts. When a sounding (2E020) is shown as a slant type sounding on a source, but that source was produced by a charting agency that uses slanted type to show normal soundings, the sounding type on the DMA chart shall be vertical, i.e., SND=006 (Ordinary), SND=001 (Drying Height-Vertical), SND=002 (No Bottom-Vertical), or SND=007 (Doubtful-Vertical).
- O-3406** Sounding data that is unreliable, based on notes or cautions on the source material, or some other information known to the compiler, shall be attributed to show slanted or italic type (2E020, SND=004, 008, 009, or 010), depending on the type of sounding. A note explaining the reason for the slant soundings shall be given in the margin or land area. See "Notes and Cautions" section of product specifications.
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

Definitions

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
 PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
 ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

- O-3438** If a chart shows a mixture of soundings (2E020) from different sources that utilize different vertical (sounding/hydrographic) datums, the sounding datum quoted in the margin of the chart shall be the highest of the datums used.
- R-2200** Sounding density shall be greatest (6 mm - 15 mm average spacing) between the shoreline (2A010) and the 10 meter depth curve (2E010, CRV=10, UNI=013). In areas outside the 10 meter depth curve, sounding density shall be in accordance with Rule T-0822.
- R-2207** Soundings (2E020) that are 200 meters deep or deeper shall be corrected for sound velocity using NP-139 Tables (SVC=003). Sound velocity measurements (SVC=004) shall be used in place of NP-139 Tables if they are considered more reliable than the averaged values shown in the NP-139 Tables. Soundings that are less than 200 meters deep shall be corrected for sound velocity using sound velocity measurements (SVC=004) if data is available. If it is not possible to correct soundings for sound velocity, and assumed speeds of sound are used (SVC=000, 001 or 002), uncorrected soundings are identified in the source diagram.

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**FEATURE: SOUNDING...2E020 (POINT)**

- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2224** HDH is used when SND=001 (Drying Height), or 008 (Drying Height (Slant)). HDP is used for all other values of SND.
- R-2807** The rounding off of decimeters between 21 and 30.5 meters shall be as follows:  
Decimeters between 3 and 7 shall be shown as 5, e.g., depths from 21.3 through 21.7 shall be shown as 21.5. Decimeters 1, 2, 8, and 9, shall be rounded off to the nearest meter, e.g., 21.1 and 21.2 shall be shown as 21, and 21.8 and 21.9 shall be shown as 22.
- R-2864** Areas with soundings shallower than the depth range of maximum density that are not contiguous to the shoreline shall show a sounding density of  $\leq 10$  mm average spacing.
- R-2865** In well surveyed areas, where sounding density on the source is  $\leq 5$  mm average spacing, sounding density shall be  $> 20$  mm average spacing and depth curves (2E010) relied on to portray the bottom topography.
- R-2908** The position of a sounding (2E020) on a DMA or NOS chart is the center of mass of the principal digit, excluding the subscript. Soundings on foreign source material do not necessarily show the center of mass of the principal digit as the position of the sounding. The standard practice of the charting authority that produced the source shall be followed to determine the position of the sounding on the foreign source.
- R-9011** CONTROLLING DEPTHS OF CHANNELS: A sounding (2E020) shall be shown to indicate the controlling depth of a natural channel. The controlling depth of a channel is the least depth in the shallowest part of a natural channel, analogous to the highest point in a pass between two mountains.
- R-9012** DEEPEST PATH ALONG A NATURAL CHANNEL: A line of soundings (2E020) is shown to indicate the deepest water through a natural channel, analogous to the lowest part of a valley floor.
- R-9013** SOUNDINGS ALONG TRACKS AND ROUTES: A line of soundings (2E020) should be shown along tracks that ships must follow, such as a leading line (2C040), radar guided track (6C130), or route (6C165). If no soundings exist directly along the track, the closest ones shall be shown.
- R-9014** DEEPS: Deep soundings (2E020) should be shown. Deep are local lows; soundings that are deeper than surrounding soundings. Soundings that are approximately 20% or more deeper than the surrounding soundings are considered important. Soundings between 10% and 20% deeper than surrounding soundings may be important, depending on the characteristics of the bottom, for example, in flat areas.
- R-9015** SOUNDINGS AT CHANGES IN SLOPE: Soundings (2E020) shall be shown to indicate significant changes of slope of the bottom. Soundings that are more than 5% shallower than the surface interpolated from surrounding shoals, deeps, depth curves (2E010), and other soundings (2E020), should be shown. Soundings that are more than 10% deeper than the surface interpolated from surrounding shoals, deeps, depth curves and other soundings should also be shown.
- R-9016** SOUNDINGS NEAR DEPTH CURVES: Soundings (2E020) shown close to depth curves (2E010), i.e., closer than 25 mm, serve to support the depth curve, especially when there is no depth curve label nearby, or for short depth curves that do not have a label. Depth curves (2E010) showing long, narrow extensions of deeper water into shallow water from the depth curve's normal smoothed curve should be supported by soundings along and near the end of the extension, if there is space, without soundings overprinting depth curves.



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**FEATURE: SOUNDING...2E020 (POINT)**

- R-9017 SOUNDINGS IN SLIPS AND AROUND PIERS:** Where space is available, soundings (2E020) should be shown around piers and wharves (2B190). The soundings must be far enough off the face of the pier or wharf to provide the depth of water at the keel lines of the vessels that are expected to use the structures. If only one sounding can be shown, the shallowest one should be selected.
- R-9018 SOUNDINGS IN DANGEROUS AREAS:** As scale is reduced from the source to the product chart, soundings (2E020) may be omitted between groups of rocks (2D130) or reefs (2D120), when there is no well defined passage between them, or if detail has been generalized in the area. Where there is a well defined passage through the dangerous area, soundings should be shown.
- R-9019 SOUNDINGS CLOSE TO AND THE SAME VALUE AS A DEPTH CURVE:** Soundings (2E020) that are the same value of the depth curve (2E010) on the shallow side of the curve, and soundings that are only one unit (fathom or meter) deeper than the curve and shown on the deeper side of the depth curve, should not be shown if they are closer than 3 mm to the depth curve, because they do not contribute any useful information to the mariner.
- R-9020 NO BOTTOM SOUNDINGS:** No bottom soundings (2E020, SND=002) should be shown only if no other sounding data is available within 30 mm at chart scale.
- R-9021 Fill soundings (2E020) shall be shown in flat or deep areas between shoals.** Fill soundings are shown in a somewhat regular pattern of less dense (15 to 30 mm spacing) soundings that do not have significant changes in slope.
- R-9022 Soundings 2E020 that are the least depths in proximity to known or potential navigational routes are placed very close together to increase the amount of detail presented to the chart user.** They should not generally be placed closer than about 6 mm at chart scale.
- R-9023 Soundings (2E020) in shoal areas, natural channels and hazardous areas should be sufficiently close together so these areas are highlighted by a dense pattern of soundings.** Sounding spacing should be 10 to 15 mm. Soundings around a shoal should be less than 10 mm spacing.
- R-9024 In areas where depth curves (2E010) are less than 10 mm apart, the number of soundings (2E020) should be reduced, because the function of showing the shape of the bottom has been taken over by the depth curves.** Significant deviations (5% higher or 10% lower) from the slope indicated by the depth curves must still be shown by soundings.
- R-9025 A least depth sounding (2E020) must be shown for each shoal on the chart.** When selecting soundings from larger scale source for inclusion on a smaller scale product, it may become necessary to generalize a series of shoals into one shoal. When this is required, the shallowest sounding from the group is selected to represent the least depth over the generalized shoal.
- R-9026 If two adjacent shoal soundings (2E020) have the same depth (HDP), the one shown first is the one closest to the nearest or most prominent navigational route.**
- R-9027 For any group of soundings (2E020) with equal depth values (HDP), the most seaward one is shown.** The most seaward sounding is the one closest to the deeper depth curve (2E010), or closest to the next deeper sounding.
- R-9028 If two shoal soundings (2E020) of equal depth (HDP) are found in an isolated shoal area (shallow area surrounded by a depth curve that closes on itself), the farthest seaward of equal shoal soundings must be shown.**
- R-9029 If a shoal sounding (2E020) is at the same depth as a depth curve (HDP of 2E020 = CRV of 2E010), the depth curve is shown around the sounding.** If two or more soundings have the same depth as the depth curve, the curve is shown around all of them. Additional deeper soundings at 10 or 15 mm spacing are shown outside the depth curve to indicate the slope of the sea bottom around the shoal.
- R-9030 Deep soundings (2E020) that are shown, but not surrounded by a depth curve (2E010), should be surrounded by a group of irregularly spaced soundings.** Soundings shown around deeps should be spaced at a greater distance than for a comparably sized shoal, i.e., 15 to 20 mm.

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**FEATURE: SOUNDING...2E020 (POINT)**

- R-9031** The structure of natural channels should be shown by a pattern of soundings (2E020) with enough density to delineate both the width and the depth of the navigable portion. Selected soundings must be the least depth in the immediate area they are to represent.
- R-9032** When soundings (2E020) from a recent survey reveal that a satisfactory junction between the new data and existing data cannot be made, a blank band approximately 5 mm wide at chart scale should be left around the limits of the more recent survey. A note should be shown stating that hydrography is from an older survey. Example: "Hydrography to eastward is from surveys in 1934"
- R-9033** All hydrographic detail may be removed from certain areas undergoing continual and rapid change, such as ocean inlets and openings between barrier islands if showing soundings (2E020) is considered to present an unsafe representation between chart editions. The area shall be tinted with blue tint (see Rules R-2869 to R-2871 as applicable to the specific product). A note should be shown stating that hydrography is under continual change: for example: "Area of continuous change"
- R-9036** SHOALS: All shoal soundings (2E020) must be shown. A shoal sounding is a local high; a sounding that is shallower than any other sounding around it. Shoal soundings may be placed very close together, but generally not less than 6 mm spacing. The density of soundings shown around shoals should be increased to less than 15mm spacing, so the increased density of soundings draw attention to the presence of the shoal.
- T-0822** Soundings (2E020) are thinned according to the following hierarchy. Those soundings at the top of the list are deleted last, and those soundings at the bottom of the list are deleted first. See the referenced representation rules for more information about each category of sounding.
1. Controlling depths (see R-9011)
  2. The deepest path along a navigable channel (see R-9012)
  3. Soundings along tracks and routes (see R-9013)
  4. Deeps (see R-9014)
  5. Soundings at changes of slopes (see R-9015)
  6. Soundings supporting depth curves (see R-9016)
  7. Soundings in slips and around piers (see R-9017)
  8. Soundings other than 1-7 above
  9. Soundings inside dangerous areas (see R-9018)
  10. Soundings close to and the same value as a depth curve (see R-9019)
  11. No bottom soundings (see R-9020)

**BOTTOM CHARACTERISTICS...2F010 (POINT)**

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**FEATURE: BOTTOM CHARACTERISTICS...2P010 (POINT)**

L-4701 Abbreviations for Bottom Characteristics are:

For the material (MCP, MCS, MCU)

000-Unknown no abbreviation, drop window if material is unknown or not present.

001-Ash	Ash	
006-Boulders	Bo	
011-Chalk	Ck	
012-Cinders	Cn	
013-Cirripedia	Cir	
014-Clay	Cy	
016-Cobble	Cb	
019-Coral	Co	
020-Coral Head	Co Hd	
022-Diatoms	Di	
027-Foraminifera	Fr	
028-Fucus	Fu	
033-Globigerina	G1	
034-Grass	Grs	
035-Gravel	G	
037-Ground	Gd	
043-Lava	Lv	
045-Madrepores	Md	
046-Manganese	Mn	
047-Marl	Ml	
049-Mattes	Ma	
052-Mud	M	
053-Mussels	Ms	
055-Ooze	Oz	
056-Oysters	Oy	
058-Pebbles	P	
059-Polyzoa	Po	
061-Pteropods	Pt	
062-Pumice	Pm	
063-Quartz	Qz	
064-Radiolaria	Rd	
066-Rock	R	
069-Sand	S	
070-Schist	Sch	
071-Scoria	Sc	
072-Sea Tangle	Stg	
073-Seaweed	wd	
074-Shells	Sh	
075-Shingles	Sn	
076-Silt	Si	
081-Spicules	Spi	
082-Sponge	Sp	
086-Stones	St	
090-Tufa	T	

For the characteristic of the material (MCC, CSM, UMC)

000-unknown no abbreviation, drop window when material characteristic is unknown.

009-broken	bk	
010-calcareous	ca	
015-coarse	c	
021-decayed	dec	
025-fine	f	
026-flinty	fly	
032-glacial	ga	
036-gritty	gty	
038-ground	grd	
039-hard	h	
042-large	l	
066-rocky	rky	
067-rotten	rt	
078-small	sm	
079-soft	so	
080-speckled	spk	
084-sticky	sy	

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**FEATURE: BOTTOM CHARACTERISTICS...2F010 (POINT)**

085-stiff	sf
087-streaky	str
089-tenacious	ten
091-uneven	unev
093-varied	vard
094-volcanic	v
100-medium	m

If UMC=000 and MCU=000, delete the slash between MCS and UMC.

- L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.
- L-4784** String of windows shall be placed horizontally on one line.
- R-2282** The mobile bottom (2F010, MCC=051) sand wave symbol should be used primarily in close association with the most significant soundings (2E020), usually the shallowest sounding in each area of mobile bottom/sand waves area. The use of the sandwave symbol draws attention to the most significant depths, and also indicates the degree of unreliability of the figure charted.
- R-2283** When frequently repeated surveys show some variation in least depth soundings (2E020) within areas of sandwaves (2F010, MCC=051), the shallowest one found over a period of years should be charted. This blending of details of surveys from different dates must be carried out with care; In particular, long term deepening over time must not be overlooked.
- R-2284** The extent of mobile bottom/sandwave areas (2F010, MCC=051), if known and considered navigationally significant, may be indicated by the legend "Sandwaves". The legend should be placed over areas where the depths may be critical to surface navigation, and used in conjunction with the sandwave symbol associated with the most significant soundings. Type style for the legend is 6 point U/L italic. Color is Black SPC-58600 solid.
- R-2285** Areas of sandwave/mobile bottom (2F010, MCC=051) shown on the chart are further explained by the following Caution, shown in the margin. See Notes and Cautions section of product specifications.

CAUTION

Sandwaves build up during particular states of weather and tide.  
Surveys may not have been made in those conditions, so the chart  
may not show the minimum depths possible.

- R-2883** Where the underlying material is known to differ from the surface layer, the symbol window string for the surface layer (MCC and MCP) and the symbol window string of the underlayer (UMC and MCU) shall be written in that order, on one line, separated by a slash "/". If UMC or MCU is unknown, delete those window(s) and the slash.
- R-2890** Where mixtures of materials occur, the symbol window string of the predominant material (MCC, MCP) shall be shown first, followed by the symbol window string of the secondary material (CSM, MCS), on one line, separated by a space. If no secondary material is present delete windows for CSM and MCS. If a third characteristic/material is present in the mixture, this is shown by the TXT label, using the standard abbreviations in rule L-4701; otherwise TXT is not shown.
- R-2892** In water deeper than 100 meters, only show primary material composition (MCP) of bottom characteristics (2F010). Bottom characteristics shall be shown, if known, on all shoals and in anchorage areas (2B010). Elsewhere they shall be selected to show variations in the composition of the seabed. In uniform areas, bottom characteristics shall be shown at an approximately 50 mm interval, if data is available.

**CURRENT ARROW /FLOW ARROW...2G010 (POINT)**

- C-0014** The feature shall be aligned with a river/stream (2H140), canal (2H020), orditch (2H030).

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**FEATURE: CURRENT ARROW /FLOW ARROW...2G010 (POINT)**

- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4794** Current speed CRN or CRX shall be printed 1 mm above the line reading from left to right, or from bottom to top if arrow is vertical. When CRN and CRX are shown together, they are separated by a hyphen, e.g., 2.2 - 4.0 kn
- R-2436** A Flow Arrow shall be positioned within the limits of a double-line River /Stream (2H140) without coincidence. The arrow shall be positioned parallel centered within the River/Stream symbol.
- R-2467** Flow Arrow shall be centered between Shoreline symbols on area features with arrow pointing downstream or 0.25 mm away from linear feature. Repeat use of symbol every 25.0 mm.
- R-2891** Arrow shall point in the direction of flow - DOF.
- T-0828** Current arrows (CUR=001, 002, or 003) shall not be shown closer than 40 mm apart, unless the difference in DOF is greater than 45°, or difference in CRX is greater than 2 knots. If arrows are thinned, the one with the greatest CRX shall be retained.

**CURRENT DIAGRAM...2G040 (POINT)**

- L-4806** Labels shall be placed 1 mm away from the end of the arrows which point to the center point of the label type. Type shall be horizontal.
- R-2808** The representation of current rates on current diagrams (2G040) is to make the length of the arrows proportional to the rate of current flow. The normal ratio is one nautical mile at chart scale for each knot of current flow rate. If this ratio is used, the following note is shown in the chart margin or land area (margin only on Combat Charts):

CURRENT DIAGRAM

The length of the arrow from the center of the circle represents the average current velocity for a given direction based on the ratio of one knot of current flow is equal to one nautical mile at the latitude of the current diagram.

If the current rate is fast enough, or the scale of the chart is large enough that any resulting arrow on any current diagram shown on the chart would be longer than 50 mm, a velocity scale is shown instead of the note specified above. The following note is shown:

CURRENT DIAGRAM

The length of the arrow from the center of the circle represents the average current velocity for a given direction based on the following scale.

(show scale under note)

The scale will be shown with the caution, to show the rate of the current, in 1/4 knot intervals. The length of the scale, and the lengths of each velocity arrow shown on the chart will be adjusted so that the longest velocity arrow shown on the chart is 50 mm long.

**AQUEDUCT...2H010 (AREA)**

- L-0051** Type sizes for single line features at map/chart scale.
- 06 point - ≤ 80 mm length
- 07 point - ≤ 160 mm length
- 09 point - > 160 mm length

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**FEATURE: AQUEDUCT...2H010 (AREA)**

- L-0062** Label area feature with upper case type within its limits and centered between sides with a proportional size if the width of the feature will allow its inclusion. However, should the feature be too narrow, then place the type 0.5mm above and parallel to the feature. When the feature is continuous, repeat label approximately every 30 to 40 cm for either situation, or at least two times, length permitting. In either condition (in or above feature), curve the type when necessary to the curvature of the feature. Should the feature change back and forth between an area and a line feature, the type style will change from upper case type for the area portions, to upper and lower case type for the linear portions. The repeat dimensions remain the same.
- L-3518** If feature is elevated (LOC 4), the feature shall be labeled "ELEVATED AQUEDUCT." When feature continues for a long distance (> 25 mm), the label shall be repeated at 152 mm intervals, and is not to overprint any type or symbology.
- L-3641** If an elevated segment is short (i.e., <= 25 mm at map scale), then the feature is labeled only with the word "Elevated".
- R-2432** If an Aqueduct (2H010) is coincident with a Bridge /Overpass /Viaduct (1Q040), the aqueduct symbol shall not be shown, but bridge should be labeled "Elevated aqueduct".

**AQUEDUCT...2H010 (LINE)**

- D-1654** When symbolized feature is < 0.2 mm from a line feature, displace to 0.2 mm (map scale).
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-0051** Type sizes for single line features at map/chart scale.  
06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length
- L-3970** If an on ground level feature is located over an underground feature, the underground feature shall be labeled alongside of the on ground level feature, but the symbol for the underground feature shall be suppressed.
- R-2432** If an Aqueduct (2H010) is coincident with a Bridge /Overpass /Viaduct (1Q040), the aqueduct symbol shall not be shown, but bridge should be labeled "Elevated aqueduct".
- R-2433** Karez (2H010, ATC 001, LOC 001) shall be shown as an underground conduit which carries water from its source to points of distribution. A shaft or outlet which provides entry for construction and maintenance shall be shown at exact locations except when < 1.25 mm apart.

**AQUEDUCT...2H010 (POINT)**

- D-1654** When symbolized feature is < 0.2 mm from a line feature, displace to 0.2 mm (map scale).
- R-0034** Show actual aqueduct maintenance shafts (ATC 001) at all changes in aqueduct (2H010, LOC 003) direction when the shafts are ≥ 5.0 mm apart at map scale.
- R-0035** Show actual Aqueduct maintenance shafts (ATC 001) between the changes in direction at 5.0 mm interval at map scale.

**CANAL...2H020 (AREA)**

- G-0003** Rivers, canals, and ditches will be partially collapsed when area and line delineations are supported on the product and the area feature does not meet the minimum geometric inclusion condition.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.

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**FEATURE: CANAL...2H020 (AREA)**

- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0051** Type sizes for single line features at map/chart scale.  
06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length
- L-0062** Label area feature with upper case type within its limits and centered between sides with a proportional size if the width of the feature will allow its inclusion. However, should the feature be too narrow, then place the type 0.5mm above and parallel to the feature. When the feature is continuous, repeat label approximately every 30 to 40 cm for either situation, or at least two times, length permitting. In either condition (in or above feature), curve the type when necessary to the curvature of the feature. Should the feature change back and forth between an area and a line feature, the type style will change from upper case type for the area portions, to upper and lower case type for the linear portions. The repeat dimensions remain the same.
- L-4008** If NAM = unknown, omit NAM window.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- L-4885** If the controlling depth (HDP) is unknown, delete the legend "Controlling Depth (HDP)m"
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3673** Do not show land tint in the symbol. If attribute HYC is present, do not show land tint if HYC=008 (Perennial).
- S-1500** Symbolize the casement portions (Left Bank / Right Bank) of the feature using the ACC and SLT attributes of the individual river or canal banks in conjunction with the inland shoreline (2H075) symbology. The AHC attribution of the inland shoreline (2H075) shall correspond to the HYC attribution of the associated water body as follows: HYC 008 = AHC 001, HYC 006 = AHC 002, and HYC 003 = AHC 003.

**CANAL...2H020 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0051** Type sizes for single line features at map/chart scale.  
06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length

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**FEATURE: CANAL...2H020 (LINE)**

- L-4008** If NAM = unknown, omit NAM window.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- L-4885** If the controlling depth (HDP) is unknown, delete the legend "Controlling Depth (HDP)m"
- O-0005** Incorporate shorter Canals (2H020) and Ditches (2H030)  $\leq 320m$  LEN as a connector feature and incorporate spacing of  $>200m$ . Always retain the outermost limits of these features before generalization takes place.
- R-2231** Omit from Built-up Area (1L020).

**DITCH...2H030 (AREA)**

- D-1653** If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- G-0003** Rivers, canals, and ditches will be partially collapsed when area and line delineations are supported on the product and the area feature does not meet the minimum geometric inclusion condition.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0062** Label area feature with upper case type within its limits and centered between sides with a proportional size if the width of the feature will allow its inclusion. However, should the feature be too narrow, then place the type 0.5mm above and parallel to the feature. When the feature is continuous, repeat label approximately every 30 to 40 cm for either situation, or at least two times, length permitting. In either condition (in or above feature), curve the type when necessary to the curvature of the feature. Should the feature change back and forth between an area and a line feature, the type style will change from upper case type for the area portions, to upper and lower case type for the linear portions. The repeat dimensions remain the same.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.



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**FEATURE: DITCH...2H030 (AREA)**

- L-4261 Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- R-2231 Omit from Built-up Area (1L020).
- R-2316 Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3673 Do not show land tint in the symbol. If attribute HYC is present, do not show land tint if HYC=008 (Perennial).
- S-1500 Symbolize the casement portions (Left Bank / Right Bank) of the feature using the ACC and SLT attributes of the individual river or canal banks in conjunction with the inland shoreline (2H075) symbology. The AHC attribution of the inland shoreline (2H075) shall correspond to the HYC attribution of the associated water body as follows: HYC 008 = AHC 001, HYC 006 = AHC 002, and HYC 003 = AHC 003.

**DITCH...2H030 (LINE)**

- D-1653 If one symbol coalesces with another symbol for the same type feature, displace symbols to allow a minimum separation of 0.2mm.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261 Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- O-0005 Incorporate shorter Canals (2H020) and Ditches (2H030)  $\leq 320m$  LEN as a connector feature and incorporate spacing of  $>200m$ . Always retain the outermost limits of these features before generalization takes place.
- R-2231 Omit from Built-up Area (1L020).
- R-2267 Ditches to drain Swamps and areas subject to natural inundation shall be shown as perennial Ditches.

**FILTRATION /AERATION BEDS...2H040 (AREA)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: FILTRATION /AERATION BEDS...2H040 (AREA)**

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**FISH HATCHERY...2H050 (AREA)**

**G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**R-2231** Omit from Built-up Area (1L020).

**R-9037** Do not show land tint inside symbol.

**FLUME...2H060 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.

**L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.

**R-2231** Omit from Built-up Area (1L020).

**FORD...2H070 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

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**FEATURE: FORD...2H070 (LINE)**

- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- R-2232** Omit if not shown in conjunction with a drainage feature.
- R-2321** Fords are shown where they relate to Roads (1P030), Cart Track (1P010), or Trail (1P050).
- R-3902** Retain feature only when associated with Cart Track (1P010), Road (1P030), or Trail (1P050).

**FORD...2H070 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- R-2232** Omit if not shown in conjunction with a drainage feature.
- R-2321** Fords are shown where they relate to Roads (1P030), Cart Track (1P010), or Trail (1P050).
- R-3902** Retain feature only when associated with Cart Track (1P010), Road (1P030), or Trail (1P050).

**INLAND SHORELINE...2H075 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-4132** No type shall cross Shoreline. Type will either be shown entirely within the Open Water or entirely on land.
- R-2023** Shorelines (2A010 Coastal and 2H075 Inland) which are coincident with features 2B190 Pier/Wharf, 2B230 Seawall, 1P030 Road, 1N010 Railroad Tracks, 1N050 Siding/Spur, and 1L260 Wall are not shown.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2372** Shoreline (2A010 or 2H075) shall not be shown where it becomes coincident with a manmade harbor or coastal structure.
- R-2425** A small area of land  $\geq 1.5$  mm in width occurring within an intermittent lake shall be shown as a dashed island shoreline.
- R-2426** The Shoreline of a Lake is dropped where it coincides with a Dam
- R-2739** Inland shoreline (2H075) shall only be included if its associated inland hydrographic feature is included on the product.
- R-3735** When Shoreline (2A010 or 2H075) around an island (4B135) is smaller than the symbol for a point feature on the island, delete the shoreline and show the point feature symbol in the water.
- R-3910** If the embankment having  $EFI = 3$  (Causeway) is adjacent to a shoreline  $< .25$  mm from or a road or a railroad, suppress the shoreline.

**LAKE /POND...2H080 (AREA)**

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**FEATURE: LAKE /POND...2H080 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3983** Water-surface elevation values shall be shown centered within the limits of the water feature. If the feature can not accommodate the elevation figure without coincidence with its limits, the elevation value shall be positioned entirely outside the feature's limits.
- L-4005** Water surface elevations shall be shown, when known, for Lakes and River/Streams, when they are  $\geq$  1.25 mm in width, at map scale.
- L-4008** If NAM = unknown, omit NAM window.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
     #1 4 mm measured to the West end  
     #2 4 mm measured to the North side (top)  
     #3 4 mm measured to the East end  
     #4 4 mm measured to the South side (bottom)
- L-4821** Descriptive type or name shall be positioned in the following priority:  
 (1) Horizontal within area feature, if the type will fit entirely within the area. If type consists of more than one word, it may be split into several lines if necessary.  
 (2) Use Rule L-4722 if type will not fit in area.
- R-2270** If WSC is unknown, use WSC 002 (Fresh).
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2425** A small area of land  $\geq$  1.5 mm in width occurring within an intermittent lake shall be shown as a dashed island shoreline.
- R-3673** Do not show land tint in the symbol. If attribute HYC is present, do not show land tint if HYC=008 (Perennial).

**LAND SUBJECT TO INUNDATION...2H090 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.

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**FEATURE: LAND SUBJECT TO INUNDATION...2H090 (AREA)**

- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**PENSTOCK...2H110 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- R-3930** Suppress the wing tick part of the symbol when in conflict with a Building (1L015).

**RAPIDS...2H120 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

- R-2232** Omit if not shown in conjunction with a drainage feature.
- R-2429** Rapid symbols shall be shown on double-line River/Stream (2H140) perpendicular to the River/Stream centerline. The Rapids LEN is to be considered coincident with the River/Stream centerline.
- X-8101** If a feature is not associated with (touching) a river (2H140), omit the feature.

**RAPIDS...2H120 (POINT)**

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**FEATURE: RAPIDS...2H120 (POINT)**

**C-0007** The supporting feature shall be aligned with a Cart Track (1P010), Trail (1P050), RR Track (1N010), and RR Siding/RR Spur (1N050).

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**R-2232** Omit if not shown in conjunction with a drainage feature.

**X-8101** If a feature is not associated with (touching) a river (2H140), omit the feature.

**RESERVOIR...2H130 (AREA)**

**G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**R-2230** Omit portion of outline which coalesces with a dam (2I020).

**R-9037** Do not show land tint inside symbol.

**RIVER /STREAM...2H140 (AREA)**

**G-0003** Rivers, canals, and ditches will be partially collapsed when area and line delineations are supported on the product and the area feature does not meet the minimum geometric inclusion condition.

**G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

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**FEATURE: RIVER /STREAM...2H140 (AREA)**

- L-0051** Type sizes for single line features at map/chart scale.  
06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length
- L-0062** Label area feature with upper case type within its limits and centered between sides with a proportional size if the width of the feature will allow its inclusion. However, should the feature be too narrow, then place the type 0.5mm above and parallel to the feature. When the feature is continuous, repeat label approximately every 30 to 40 cm for either situation, or at least two times, length permitting. In either condition (in or above feature), curve the type when necessary to the curvature of the feature. Should the feature change back and forth between an area and a line feature, the type style will change from upper case type for the area portions, to upper and lower case type for the linear portions. The repeat dimensions remain the same.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-4008** If NAM = unknown, omit NAM window.
- L-4824** Name shall be positioned in the center of that part of a feature appearing on a chart, i.e., centered from bank to bank, and centered from mouth to neatline. Type shall run parallel to center line, reading left to right, or bottom to top if feature is vertical. Type may be moved sideways to avoid overprints or sharp bends ( $\geq 5^\circ$ ).
- R-0031** If River /Stream (2H140) is Perennial (HYC 8) and  $\leq 3\%$  slope along this feature and no contours (3A010) are present, then add Flow Arrow symbol (2G010P004) to indicate direction of water flow.
- R-2299** Rivers (2H140) under the influence of the rise and fall of the tide (TID=002) shall have their banks delineated at the high water line. Inland of tidal influence (TID=001), average water level shall be shown for perennial rivers (HYC=008), and flood stage shall be shown for intermittent (HYC=006), or dry (HYC=003) rivers.
- R-3673** Do not show land tint in the symbol. If attribute HYC is present, do not show land tint if HYC=008 (Perennial).
- S-1500** Symbolize the casement portions (Left Bank / Right Bank) of the feature using the ACC and SLT attributes of the individual river or canal banks in conjunction with the inland shoreline (2H075) symbology. The AHC attribution of the inland shoreline (2H075) shall correspond to the HYC attribution of the associated water body as follows: HYC 008 = AHC 001, HYC 006 = AHC 002, and HYC 003 = AHC 003.

**RIVER /STREAM...2H140 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0051** Type sizes for single line features at map/chart scale.  
06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length
- L-4008** If NAM = unknown, omit NAM window.

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**FEATURE: RIVER /STREAM...2H140 (LINE)**

- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.
- R-0031** If River /Stream (2H140) is Perennial (HYC 8) and  $\leq 3\%$  slope along this feature and no contours (3A010) are present, then add Flow Arrow symbol (2G010P004) to indicate direction of water flow.
- R-2299** Rivers (2H140) under the influence of the rise and fall of the tide (TID=002) shall have their banks delineated at the high water line. Inland of tidal influence (TID=001), average water level shall be shown for perennial rivers (HYC=008), and flood stage shall be shown for intermittent (HYC=006), or dry (HYC=003) rivers.

**RIVER OR STREAM VANISHING POINT...2H145 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- R-2232** Omit if not shown in conjunction with a drainage feature.
- R-3901** The apex of feature to point uphill, to align with direction of flow (DOF).

**SALT EVAPORATOR...2H150 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature



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**FEATURE: SALT EVAPORATOR...2H150 (AREA)**

- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**SABKHA...2H160 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**SPRING...2H170 (POINT)**

- G-0008 Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

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**FEATURE: SPRING...2H170 (POINT)**

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-4009** If SCC=000, omit SCC window.

**R-2231** Omit from Built-up Area (1L020).

**R-3900** Squiggly tail of symbol to point downhill to align with the direction of flow (DOF). If DOF cannot be determined, then DOF shall be 180, which will orient the tail to bottom of the sheet.

**WATERFALL...2H180 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

**G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-4008** If NAM = unknown, omit NAM window.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**R-2232** Omit if not shown in conjunction with a drainage feature.

**X-8101** If a feature is not associated with (touching) a river (2H140), omit the feature.

**WATERFALL...2H180 (POINT)**

**C-0004** The feature shall be oriented perpendicular (90 degrees) with respect to natural area drainage features (2H140 River/Stream).

**G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

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**FEATURE: WATERFALL...2H180 (POINT)**

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-4008 If NAM = unknown, omit NAM window.

L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

R-2232 Omit if not shown in conjunction with a drainage feature.

X-8101 If a feature is not associated with (touching) a river (2H140), omit the feature.

**CISTERN...2I010 (POINT)**

C-0022 The feature (when HGT <= 46 m or when HGT is not a valid attribute on the feature) shall be oriented perpendicular (90 degrees) to a nearby road (1P030), cart track (1P010), trail (1P050), or railroad track (1N010).

G-0008 Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**DAM...2I020 (AREA)**

C-0017 Contours (3A010) will be adjusted to planimetric features.

G-0012 Area and line features will be generalized to detail compatible with scale.

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**FEATURE: DAM...2I020 (AREA)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-0004** Dams (2I020) across single line Streams without a back-up Lake/Pond (2H080) shall not be shown.
- V-1013** If MCP = 000, omit MCP window.
- X-8101** If a feature is not associated with (touching) a river (2H140), omit the feature.

**DAM...2I020 (LINE)**

- C-0017** Contours (3A010) will be adjusted to planimetric features.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-4008** If NAM = unknown, omit NAM window.
- L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-0004** Dams (2I020) across single line Streams without a back-up Lake/Pond (2H080) shall not be shown.
- R-2232** Omit if not shown in conjunction with a drainage feature.
- V-1013** If MCP = 000, omit MCP window.
- X-8101** If a feature is not associated with (touching) a river (2H140), omit the feature.

**DAM...2I020 (POINT)**

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**FEATURE: DAM...2I020 (POINT)**

- C-0003 The feature shall be oriented perpendicular (90 degrees) with respect to area drainage features (2H020 Canal, 2H030 Ditch, 2H140 River/Stream).
- C-0017 Contours (3A010) will be adjusted to planimetric features.
- C-0023 The feature symbology shall be positioned such that the longest axis of the symbol is aligned coincident with the centerline of the associated road (1P030), railroad track (1N010), or RR siding/RR spur (1N050) feature.
- L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

L-4008 If NAM = unknown, omit NAM window.

L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

R-2232 Omit if not shown in conjunction with a drainage feature.

V-1013 If MCP = 000, omit MCP window.

X-8101 If a feature is not associated with (touching) a river (2H140), omit the feature.

**LOCK...2I030 (AREA)**

G-0007 When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the feature will be agglomerated to form an area multiple feature outline.

G-0012 Area and line features will be generalized to detail compatible with scale.

L-4008 If NAM = unknown, omit NAM window.

L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

R-2232 Omit if not shown in conjunction with a drainage feature.

R-2371 The point of the Lock or Sluice Gate symbol shall be positioned pointing upstream.

R-9037 Do not show land tint inside symbol.

X-8103 If a feature is not associated with (touching, stacked\_on, etc.) a river (2H140) or canal (2H020) or dam (2I020), omit the feature.

**LOCK...2I030 (POINT)**

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**FEATURE: LOCK...2I030 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**R-2232** Omit if not shown in conjunction with a drainage feature.

**R-2371** The point of the Lock or Sluice Gate symbol shall be positioned pointing upstream.

**X-8103** If a feature is not associated with (touching, stacked\_on, etc.) a river (2H140) or canal (2H020) or dam (2I020), omit the feature.

**SLUICE GATE...2I040 (LINE)**

**G-0012** Area and line features will be generalized to detail compatible with scale.

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**R-2232** Omit if not shown in conjunction with a drainage feature.

**R-2371** The point of the Lock or Sluice Gate symbol shall be positioned pointing upstream.

**SLUICE GATE...2I040 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**R-2232** Omit if not shown in conjunction with a drainage feature.

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**FEATURE: SLUICE GATE...2I040 (POINT)**

R-2371 The point of the Lock or Sluice Gate symbol shall be positioned pointing upstream.

**WATER INTAKE TOWER...2I050 (AREA)**

G-0007 When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the feature will be agglomerated to form an area multiple feature outline.

G-0012 Area and line features will be generalized to detail compatible with scale.

R-2232 Omit if not shown in conjunction with a drainage feature.

**WATER INTAKE TOWER...2I050 (POINT)**

G-0005 A cluster of 3 or more coalescing similar point features having matching coded attribution will be aggregated to form an area multiple feature outline.

L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

R-2232 Omit if not shown in conjunction with a drainage feature.

**GLACIAL MORAINE...2J020 (AREA)**

G-0006 When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.

G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.

G-0012 Area and line features will be generalized to detail compatible with scale.

G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

R-2316 Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

**GLACIER...2J030 (AREA)**

G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.

G-0012 Area and line features will be generalized to detail compatible with scale.

G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

R-2316 Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

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**FEATURE: GLACIER...2J030 (AREA)**

- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.
- R-9037** Do not show land tint inside symbol.

**ICE CLIFF...2J040 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2128** When feature coincides with Coastal Shoreline (2A010) or River/Stream (2H140), feature shall replace Coastal Shoreline or River/Stream at coalescence.
- R-2399** If an Ice Cliff is coincident with an Ice Shelf, the dashed outline of the Ice Shelf shall be dropped.

**ICE PEAK, NUNATAK...2J060 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.

**ICE SHELF...2J065 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-2256** The open water tint shall not be shown within an ice shelf (2J065).
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature



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**FEATURE: ICE SHELF...2J065 (AREA)**

- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.
- R-9037** Do not show land tint inside symbol.

**SNOW FIELD /ICE FIELD...2J100 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point - ≤ 770 mm sq. area and ≤ 14 mm width  
 07 point - ≤ 2,296 mm sq. area and ≤ 28 mm width  
 09 point - ≤ 5,192 mm sq. area and ≤ 44 mm width  
 10 point - ≤ 9,796 mm sq. area and ≤ 62 mm width  
 12 point - ≤ 16,632 mm sq. area and ≤ 84 mm width  
 14 point - ≤ 24,960 mm sq. area and ≤ 104 mm width  
 16 point - > 24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:  
 1. Positional hierarchy:  
 a. northeast (preferred position).  
 b. southeast (1st alternate).  
 c. northwest (2nd alternate).  
 d. southwest (3rd alternate).  
 e. top-centered (4th alternate).  
 f. bottom-centered (5th alternate).  
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)  
 2. Minimum space between type placement and feature symbol is 0.5 mm.  
 3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

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**FEATURE: SNOW FIELD /ICE FIELD...2J100 (AREA)**

- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter. If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide. If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.
- R-9037** Do not show land tint inside symbol.

**TUNDRA...2J110 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                          |              |
|--------------|--------------------------|--------------|
| 06 point - ≤ | 770 mm sq. area and ≤    | 14 mm width  |
| 07 point - ≤ | 2,296 mm sq. area and ≤  | 28 mm width  |
| 09 point - ≤ | 5,192 mm sq. area and ≤  | 44 mm width  |
| 10 point - ≤ | 9,796 mm sq. area and ≤  | 62 mm width  |
| 12 point - ≤ | 16,632 mm sq. area and ≤ | 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ | 104 mm width |
| 16 point - > | 24,960 mm sq. area       |              |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.

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**FEATURE: TUNDRA...2J110 (AREA)**

- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**CONTOUR (LAND)...3A010 (LINE)**

- L-3966** Label only the index contours unless the area has < 5% rise.
- L-3967** Contour values shall be labeled on the 1/2 and 1/4 interval supplementaries, at the ends, and where necessary, every 100 to 150 mm.
- L-3985** Contours that are coincident with the datum plane shall be labeled "ZERO," and those Contours below the datum plane are labeled with numerals prefixed by the label "MINUS."
- L-3986** The Contour values shall be positioned so that they progress in smooth-flowing curves, reading uphill towards the higher elevation. Contour values shall not be positioned upside down.
- L-3987** Contour values shall be centered on the axis of the Contour line.
- L-3989** Sets of Contour values shall be repeated at distances of from  $\geq 100$  mm to  $\leq 150$  mm.
- L-3998** Contour values shall not be shown < 20 mm from a control point, bench mark or spot elevation.
- O-0025** Contours shall intersect and cross the linear feature at a right angle to that feature with a right angle contour length of 0.25 mm out from each side of the crossed feature. Features are: road (1P030 line), railroad (1N010 line), and all Sub-Category 2H area and line features except for Lake/Pond (2H080).
- O-0030** For aesthetic reasons, contours crossing the following features shall be portrayed perpendicular to the linear or areal feature symbols, and extending 0.2mm beyond the symbol on either side:
- 1N010 RR Track (line)
  - 1N050 RR Siding (Line)
  - 1P020 Interchange (line)
  - 1P030 Road (line)
  - 1U060 Apron/Hardstand (area)
  - 1U130 Overrun/Stopway (area)
  - 1U160 Runway (area)
  - 1U200 Taxiway (area)
- O-0031** For aesthetic reasons, contours crossing the following features shall be portrayed perpendicular to the areal feature's symbol:
- 2H010 Aqueduct (area)
  - 2H020 Canal (area)
  - 2H030 Ditch (area)
  - 2H140 River/Stream (area)
- R-2043** Where index contours begin to coalesce (< 0.5 mm from adjacent contours for any interval) the following hierarchy shall apply for dropping intermediate contours:
- (a) The two inner-most intermediate contours shall be dropped first.
  - (b) The two outer-most intermediate contours shall be last to be dropped.
- All index contours shall remain unless they coalesce, then apply Rule R-2045.

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**FEATURE: CONTOUR (LAND)...3A010 (LINE)**

- R-2045** Index contours (HQC 001) shall be drawn continuously throughout the sheet graphic. When they coalesce, this condition shall be represented by a single index contour for the length of the coalescing condition.
- R-2094** The ticks of the depression contour shall be shortened by one-half if distance between contours are  $\leq 0.40$  mm at map scale.
- R-2115** Where a Cut Line (4B071) or Fill (4B090, EFI 001) coincides with a Contour (3A010), the Contour shall be suppressed. The Cut Lines ticks shall point downhill towards the bottom of the cut.
- R-2261** Contour values shall be haloed 0.2 mm from the contour line.
- R-2269** When a Contour (3A010) coalesces with an Bluff/Cliff, Escarpment (4B010), Crevice, Crevasse (4B060), Esker (4B100), Fault (4B110), or Rock Formation (4B160), the coalescing portion of the Contour (3A010) shall be omitted.
- R-2376** Supplementary contours shall be shown to indicate summits or tops when feature can not be shown by normal contour intervals.
- R-2377** Supplementary contours need not be continuous. They shall be any length  $> 25$  m. When shown in sections, they must start and end at interpolated points between normal contours.
- R-2378** Supplementary contours shall be shown at one-half of the prescribed contour interval when: (a) the % of slope is  $> 2 \leq 5$ , or (b) isolated relief formations need to be shown
- R-2379** Supplementary contours shall be shown at one-quarter of the prescribed contour interval if the % of slope is  $\leq 2$ .
- R-2382** Form lines (HQC 004) shall not be shown as continuations of other contours (3A010). A space of 1.3 mm shall be between other contours and form lines.
- R-2389** Contours shall be broken for Ravines /Gorges /Canyons, etc., represented by limiting lines, or the appropriate feature symbol.
- R-2394** Sand and gravel areas shall be contoured
- R-2396** Contours shall be broken for Sand Dunes at the limits of area patterns.

**SPOT ELEVATION...3A030 (POINT)**

- L-0072** Spot elevation values (3A030, ZVL) are placed to avoid obscuring features of importance to the map user, such as small tops, ridges, and saddles. The order of precedence for placement is as follows:  
Preferred: The bottom line of the value is aligned to the to the right side of the dot, with the horizontal center of the symbol referenced (dot).  
Second: The top line of the value is aligned to the bottom left with the horizontal center of the symbol referenced (dot).  
Third: Value is centered directly over the top of the symbol referenced (dot).  
Fourth: Value is centered directly under the symbol referenced (dot).
- L-0073** When a referenced spot elevation is located at a line feature intersection, the placement of the value is as follows:  
Preferred: Bottom right quadrant  
Second: Top right quadrant  
Third: Top left quadrant  
Fourth: Bottom left quadrant
- L-0074** When an island (4B135) is too small to accomodate the symbol referenced value (spot elevation 3A030), the value us placed adjacent to the island and aligned as defined in rule L-0072.
- L-3802** Type for a spot elevation placed in the water shall be enclosed in parentheses, and print blue (SPC 48253)

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**FEATURE: SPOT ELEVATION...3A030 (POINT)**

- L-3984** If an Island (area enclosed by Shoreline (2A010 or 2H075)) cannot accommodate a spot elevation value without overprinting its shoreline, the elevation figure shall be positioned adjacent to the spot and entirely in the open water area. If the Island is identified with a proper name, the elevation value shall be centered below the name.
- R-0053** Each 30 minute x 15 minute area on the map, as defined by the latitude and longitude grid, should contain approximately 1-3 trig stations and/or bench marks when known, and supplemented with 3-5 additional normal spot elevations. In the absence of any trig stations or bench marks, show 6-8 normal spot elevations.
- R-2063** When an elevation is identified with intersections of Roads (1P030), Railroads (1N010), Streams (2H140), or any crossing combination of the above, also to include Island Shorelines without Contours, the value shall be placed adjacent to the feature. No dot is shown.
- R-2225** Whenever possible, Spot Elevations are shown for selected readily identifiable ground features, listed below:  
 -- Railroad junctions  
 -- Railroad gate crossings  
 -- high points on grades of Railroads and Roads  
 -- extensive flat areas  
 -- rims and bottoms of Depressions with diameter > 125 meters  
 -- Stream (2H140) junctions  
 Spot Elevations are also needed in support of the relief presentation:  
 -- on the sides of slopes  
 -- the highest elevation on each map sheet  
 -- the top of prominent natural features such as hilltops, isolated summits, mountain tops, Mountain Passes, saddles, and other high points.
- R-2383** The highest elevation on the map sheet shall be emphasized by using larger type size, 10 point Swiss 742, color #58600 Black-Solid.
- R-2385** Spot Elevation values, when known, shall be shown for hilltops, knolls, isolated summits, mountain tops, Mountain Passes, saddles, Road junctions, Railroad crossings, high points on grades of highways and Railroads, areas >= 150 mm x 150 mm without Contour feature and % of slope is < 5, rims and bottoms of Depressions >= 25 mm x 25 mm, water surfaces of Lakes and Ponds, and Stream junctions. Type size is 8 point Swiss 742 color #58600 Black-Solid.

**ASPHALT LAKE...4A005 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:  
 1. Positional hierarchy:  
 a. northeast (preferred position).  
 b. southeast (1st alternate).  
 c. northwest (2nd alternate)  
 d. southwest (3rd alternate)  
 e. top-centered (4th alternate)  
 f. bottom-centered (5th alternate)  
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)  
 2. Minimum space between type placement and feature symbol is 0.5 mm.  
 3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: ASPHALT LAKE...4A005 (AREA)**

- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**GROUND SURFACE...4A010 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point - ≤ 770 mm sq. area and ≤ 14 mm width  
 07 point - ≤ 2,296 mm sq. area and ≤ 28 mm width  
 09 point - ≤ 5,192 mm sq. area and ≤ 44 mm width  
 10 point - ≤ 9,796 mm sq. area and ≤ 62 mm width  
 12 point - ≤ 16,632 mm sq. area and ≤ 84 mm width  
 14 point - ≤ 24,960 mm sq. area and ≤ 104 mm width  
 16 point - > 24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2392** Karst areas ≥ 25.4 mm square at map scale shall not be symbolized with the area pattern (AP 103). Standard contouring shall depict the area and the description label KARST shall be added throughout such areas.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.

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**FEATURE: GROUND SURFACE...4A010 (AREA)**

- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**SALT PAN...4A020 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                                       |
|--------------|---------------------------------------|
| 06 point - ≤ | 770 mm sq. area and ≤ 14 mm width     |
| 07 point - ≤ | 2,296 mm sq. area and ≤ 28 mm width   |
| 09 point - ≤ | 5,192 mm sq. area and ≤ 44 mm width   |
| 10 point - ≤ | 9,796 mm sq. area and ≤ 62 mm width   |
| 12 point - ≤ | 16,632 mm sq. area and ≤ 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ 104 mm width |
| 16 point - > | 24,960 mm sq. area                    |
- Where area measurements are inconsistent, the larger type size shall be used.  
Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

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**FEATURE: SALT PAN...4A020 (AREA)**

- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**BLUFF /CLIFF, ESCARPMENT...4B010 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2387** If a Bluff/Cliff, Escarpment height is less than the contour interval, the Bluff /Cliff, Escarpment symbol shall be omitted, unless it is an obstacle to cross country movement (SGC  $\geq$  45 deg., and HGT  $>$  1.5 m, and LEN  $>$  2,500 m), or LMC = 1.
- R-2388** If a Bluff /Cliff, Escarpment is greater in height than one contour interval and the contours coalesce, the contours shall be dropped the entire length of the Bluff /Cliff, Escarpment.

**CAVE DWELLING...4B030 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.



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**FEATURE: CAVE DWELLING...4B030 (POINT)**

- L-4813 Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".
- R-2391 The V-part of the symbol (Cave, 4B030) shall mark the location of the entrance, and the shaft of the symbol shall extend in the same direction as the Cave.

**CREVICE /CREVASSE...4B060 (AREA)**

- G-0002 When any portion of the area feature does not meet the minimum geometric inclusion condition and line delineation for the feature is supported on the product, the area feature will be partially collapsed.
- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

- R-3676 Do not show land tint inside Ice Crevice (4B060, MCP=098) area symbols.

**CREVICE /CREVASSE...4B060 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3630 Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.

**CUT LINE...4B071 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2115 Where a Cut Line (4B071) or Fill (4B090, EFI 001) coincides with a Contour (3A010), the Contour shall be suppressed. The Cut Lines ticks shall point downhill towards the bottom of the cut.
- R-2231 Omit from Built-up Area (1L020).
- R-2269 When a Contour (3A010) coalesces with an Bluff/Cliff, Escarpment (4B010), Crevice, Crevasse (4B060), Esker (4B100), Fault (4B110), or Rock Formation (4B160), the coalescing portion of the Contour (3A010) shall be omitted.
- R-2499 Show longest length of line feature in ground truth position.

**EMBANKMENT...4B090 (AREA)**

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**FEATURE: EMBANKMENT...4B090 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-2115** Where a Cut Line (4B071) or Fill (4B090, EFI 001) coincides with a Contour (3A010), the Contour shall be suppressed. The Cut Lines ticks shall point downhill towards the bottom of the cut.
- R-2269** When a Contour (3A010) coalesces with an Bluff/Cliff, Escarpment (4B010), Crevice, Crevasse (4B060), Esker (4B100), Fault (4B110), or Rock Formation (4B160), the coalescing portion of the Contour (3A010) shall be omitted.
- R-2802** Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted
- R-3672** Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708** A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**EMBANKMENT...4B090 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.
- L-3630** Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- R-2115** Where a Cut Line (4B071) or Fill (4B090, EFI 001) coincides with a Contour (3A010), the Contour shall be suppressed. The Cut Lines ticks shall point downhill towards the bottom of the cut.
- R-2231** Omit from Built-up Area (1L020).
- R-2269** When a Contour (3A010) coalesces with an Bluff/Cliff, Escarpment (4B010), Crevice, Crevasse (4B060), Esker (4B100), Fault (4B110), or Rock Formation (4B160), the coalescing portion of the Contour (3A010) shall be omitted.

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**FEATURE: EMBANKMENT...4B090 (LINE)**

- R-2802 Where symbols with the same feature code but different values of VRC are adjacent to each other, the boundary of the feature that is the highest in the vertical plane shall be shown, and the boundary of the feature that is lower shall be deleted. For example, the feature above water is shown whole, while the feature that covers and uncovers has that portion of its symbol perimeter that overprints the higher feature deleted.
- R-3672 Show land tint inside the symbol. If attribute VRC is present, show land tint only if VRC=001 (Above surface/does not cover at High Water).
- R-3708 A blue 31% tint shall not overprint other blue 31% tints. If two blue tinted symbols, or one tinted symbol and water tint overprint, only one 31% tint shall be shown in the area.

**ESKER...4B100 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**FAULT...4B110 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0051 Type sizes for single line features at map/chart scale.
- 06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length
- L-4002 The names of Faults shall be shown along the fault line when known.
- L-4008 If NAM = unknown, omit NAM window.
- L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.

**GEOHERMAL FEATURE...4B115 (POINT)**

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**FEATURE: GEOTHERMAL FEATURE...4B115 (POINT)**

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**R-3900** Squiggly tail of symbol to point downhill to align with the direction of flow (DOF). If DOF cannot be determined, then DOF shall 180, which will orient the tail to bottom of the sheet.

**T-0303** In areas where fumaroles, geysers, and hot springs, are too numerous to symbolize, a representative pattern, and any landmark (LM C001) feature shall be symbolized and labeled.

**ISLAND...4B135 (AREA)**

**G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.

**G-0012** Area and line features will be generalized to detail compatible with scale.

**G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

**L-0050** Type sizes per area sizes at map/chart scale: Area features only.

06 point - ≤	770 mm sq. area and ≤	14 mm width
07 point - ≤	2,296 mm sq. area and ≤	28 mm width
09 point - ≤	5,192 mm sq. area and ≤	44 mm width
10 point - ≤	9,796 mm sq. area and ≤	62 mm width
12 point - ≤	16,632 mm sq. area and ≤	84 mm width
14 point - ≤	24,960 mm sq. area and ≤	104 mm width
16 point - >	24,960 mm sq. area	

Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

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**FEATURE: ISLAND...4B135 (AREA)**

- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4746** Possession of islands and island groups shall be shown by placing the country name in parentheses below the island name or island group name. If all of the islands in an Island group belong to one country, the country name shall be placed under the island group name only. If islands within the same island group belong to different countries, the country name shall be placed under each island name, and not under the island group name. Islands administered jointly by two countries shall show both country names, separated by a dash, e.g., (UK-US). Country names shall be abbreviated in the manner approved by the Board of Geographic Names. Type size for country names shall be 2/3 the size of the island name or island group name, but shall not be less than 5 point.
- R-1902** Any island (4B135) or group of islands (when agglomerated) seaward of coastal shoreline (2A010), that is too small to plot at map or chart scale will be portrayed as paper white 0.25 mm. diameter within 0.20 mm. linewidth.
- R-1903** If Island (4B135) is inland, surrounded by Inland Shoreline (2H075), is  $\leq$  2.5 mm square ARA at map/chart scale, then delete the Island and its associated features.

**MOUNTAIN PASS...4B150 (POINT)**

- G-0008** Like point features which coalesce in clusters of 3 or more will be thinned to form a representative pattern.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-4008** If NAM = unknown, omit NAM window.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**ROCK FORMATION...4B160 (AREA)**

- G-0006** When 2 or more similar area features having matching coded attribution are separated by less than 0.5 mm at chart scale, the features will be agglomerated.
- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

**ROCK FORMATION...4B160 (POINT)**

**SAND DUNES /SAND HILLS...4B170 (AREA)**

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**FEATURE: SAND DUNES /SAND HILLS...4B170 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3969** If the type of Sand Dunes is unknown (SSC=000), the label "DUNES" is positioned at 100.0 mm intervals to the overall extent of the area.
- R-2255** Use structure shape (SSC) which most closely approximates the configuration of the dunes.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2395** Sand Dune (4B170) patterns shall be positioned according to SDO, to the nearest 15° increment, to indicate their orientation relative to the prevailing winds.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**VOLCANO...4B180 (AREA)**

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                          |              |
|--------------|--------------------------|--------------|
| 06 point - ≤ | 770 mm sq. area and ≤    | 14 mm width  |
| 07 point - ≤ | 2,296 mm sq. area and ≤  | 28 mm width  |
| 09 point - ≤ | 5,192 mm sq. area and ≤  | 44 mm width  |
| 10 point - ≤ | 9,796 mm sq. area and ≤  | 62 mm width  |
| 12 point - ≤ | 16,632 mm sq. area and ≤ | 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ | 104 mm width |
| 16 point - > | 24,960 mm sq. area       |              |
- Where area measurements are inconsistent, the larger type size shall be used.  
Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: VOLCANO...4B180 (AREA)**

- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-4700** Use the following abbreviations for ACC and EXS values:  
If ACC=002, label "PA"  
If ACC=003, label "PD"  
If EXS=002, label "ED"  
If EXS=003, label "Rep"
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4708** Date (DAT) shall only be shown if EXS=003 (Reported). Date shall be shown in parentheses. If date is unknown, delete label and parentheses from the symbol. Always show "Rep" and date on the same line.
- L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
(A) Minimum distance from symbol - 1 mm.  
(B) Maximum distance from symbol before choosing the next highest priority:  
#1 4 mm measured to the West end  
#2 4 mm measured to the North side (top)  
#3 4 mm measured to the East end  
#4 4 mm measured to the South side (bottom)
- O-3411** Unless specifically indicated on source material as inaccurate or doubtful, etc., or modified by other override rules, feature shall be assumed to be accurate (ACC=001), and definite (EXS=001). This rule applies to accuracy and existence of unique features, and is not related to the accuracy of the source as a whole.

Following IHO practice, features whose positions are approximate (ACC=002) are labeled "PA" on source charts. Features whose positions are doubtful (ACC=003) are labeled "PD" on source charts. Features whose existence is doubtful (EXS=002) are labeled "ED" on source charts. Features that have only been reported (EXS=003) are labeled "Rep" on source charts, and usually show the date of report (DAT) in parentheses.

**Definitions**

PA - Position Approximate = The position has not been accurately determined, or does not remain fixed.  
PD - Position Doubtful = The feature has been reported in various positions, but not definitely determined to be in any.  
ED - Existence Doubtful = Indicates the possible existence of the feature, the actual existence of which has not been established.

**VOLCANO...4B180 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: CROPLAND (CULTIVATED)...5A010 (AREA)**

**CROPLAND (CULTIVATED)...5A010 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used.  
 Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:  
 1. Positional hierarchy:  
 a. northeast (preferred position).  
 b. southeast (1st alternate).  
 c. northwest (2nd alternate)  
 d. southwest (3rd alternate)  
 e. top-centered (4th alternate)  
 f. bottom-centered (5th alternate)  
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)  
 2. Minimum space between type placement and feature symbol is 0.5 mm.  
 3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.



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**FEATURE: CROPLAND (CULTIVATED)...5A010 (AREA)**

- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.
- S-0110** Apply the Inclusion condition to Cultivated Land (5A010) only when the project area or sheet is nearly devoid ( $\leq 10\%$ ) of vegetation (Subcategory 5B/5C), or by special instruction.

**HEDGEROW...5A020 (LINE)**

- G-0012** Area and line features will be generalized to detail compatible with scale.

**NURSERY...5A030 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.

- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature

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**FEATURE: NURSERY...5A030 (AREA)**

- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**ORCHARD /PLANTATION...5A040 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3700** If PRO = 56 (Common Fruit and/or Nuts), omit PRO window.
- L-3701** Where the area covered by the orchard or plantation is less than the equivalent of 12.5 mm by 12.5 mm at map scale, the feature is indicated by the appropriate symbol, but is not labeled.
- L-4010** If PRO=019 (Other), Identify the product if possible. If not possible, omit PRO window and close up remaining type.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature

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**FEATURE: ORCHARD /PLANTATION...5A040 (AREA)**

- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**VINEYARD /HOPS...5A050 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2316 Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**GRASSLAND...5B010 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.
- G-0013 Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2316 Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

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**FEATURE: GRASSLAND...5B010 (AFEA)**

- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**SCRUB /BRUSH...5B020 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**BAMBOO CANE...5C010 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).

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**FEATURE: BAMBOO CANE...5C010 (AREA)**

- R-2316 Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**FIREBREAK...5C015 (AREA)**

- L-3506 Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**FIREBREAK...5C015 (LINE)**

- G-0012 Area and line features will be generalized to detail compatible with scale.
- L-4260 Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- R-3694 Firebreaks (5C015) less than 25 m in width shall be shown as minimum width of 0.5 mm (map scale) if length  $\geq$  1,250 m. When WID of Firebreak  $\geq$  25 m and LEN  $\geq$  1,250 m the feature is plotted to scale. The symbol is labeled "Firebreak".

**OASIS...5C020 (AREA)**

- G-0010 Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012 Area and line features will be generalized to detail compatible with scale.

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**FEATURE: OASIS...5C020 (AREA)**

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- 06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
 If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
 If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.
- OASIS...5C020 (POINT)**
- G-0005** A cluster of 3 or more coalescing similar point features having matching coded attribution will be aggregated to form an area multiple feature outline.

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**FEATURE: OASIS...5C020 (POINT)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**TREES...5C030 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                          |              |
|--------------|--------------------------|--------------|
| 06 point - ≤ | 770 mm sq. area and ≤    | 14 mm width  |
| 07 point - ≤ | 2,296 mm sq. area and ≤  | 28 mm width  |
| 09 point - ≤ | 5,192 mm sq. area and ≤  | 44 mm width  |
| 10 point - ≤ | 9,796 mm sq. area and ≤  | 62 mm width  |
| 12 point - ≤ | 16,632 mm sq. area and ≤ | 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ | 104 mm width |
| 16 point - > | 24,960 mm sq. area       |              |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3801** Type for features on land shall be positioned on land if possible. If type must be placed in the water, it shall be positioned so it does not obscure or overprint hydrographic detail. Type for features in the water shall be positioned in the water. If possible, type shall not be positioned across the shoreline.
- L-4008** If NAM = unknown, omit NAM window.

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**FEATURE: TREES...5C030 (AREA)**

- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-2438** Vegetation tint shall be shown when coincident with Swamp or Marsh symbol.
- R-2440** The water side limit of Mangrove (5C030, VEG019) or Nipa (5C030, VEG016) is always shown by a dashed line. The landside limits (Mean High Water line = Coastal Shoreline (2A010) or Inland Shoreline (2H075)) is shown when known.
- R-3677** Do not show land tint inside mangrove or nipa (5C030, VEG=016, 019) area symbols.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter. If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide. If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.
- R-3802** When LMC = 1, and ARA < 15,625 m square, show minimum size =15,625 m square.
- R-3940** Create separate polygons to support extraction of DMT >= 25 < 51 (Scattered Tree Cover) and DMT >= 51 (Dense Tree Cover).  
  
Symbolize as separate polygons those areas >= 25% and < 51% DMT (scattered tree cover), and those areas >= 51% DMT (dense tree cover).

**TREES...5C030 (POINT)**

**BOG...5D010 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.  
 06 point - ≤ 770 mm sq. area and ≤ 14 mm width  
 07 point - ≤ 2,296 mm sq. area and ≤ 28 mm width  
 09 point - ≤ 5,192 mm sq. area and ≤ 44 mm width  
 10 point - ≤ 9,796 mm sq. area and ≤ 62 mm width  
 12 point - ≤ 16,632 mm sq. area and ≤ 84 mm width  
 14 point - ≤ 24,960 mm sq. area and ≤ 104 mm width  
 16 point - > 24,960 mm sq. area  
 Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.



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**FEATURE: BOG...5D010 (AREA)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**HUMMOCK...5D020 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature

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**FEATURE: HUMMOCK...5D020 (AREA)**

- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**SWAMP...5D030 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.
- R-3730** If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as an open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature.
- R-3732** If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733** If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**MARSH...5D040 (AREA)**

- G-0010** Coincident similar area features having matching coded attribution will be blended to form a single feature.
- G-0012** Area and line features will be generalized to detail compatible with scale.
- G-0013** Feature will be generalized to provide a more aesthetic contoured feature (i.e., smoothed).
- R-2316** Symbols and associated area patterns of underpassing features (except drainage shorelines) are broken for all bridges, except footbridges. This rule does not apply to land tint on Combat Charts.

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**FEATURE: MARSH...5D040 (AREA)**

- R-3730 If a clearing exists inside of an area feature, and the size of the clearing is equal to or greater than the area (ARA) inclusion condition for the surrounding area feature, the clearing is shown as a open space inside the surrounding feature. If the area of the clearing is less than the area (ARA) inclusion condition for the surrounding feature, the clearing is deleted and absorbed into the surrounding area feature
- R-3732 If two area features with the same feature code do not connect at any point, and have a space between them of less than 2.5 mm at map/chart scale, delete the open space that is less than 2.5 mm wide between the features and combine them into one area feature.
- R-3733 If a portion of an area feature has a minimum width of less than 2.5 mm at map/chart scale, delete that portion of the area feature that is not at least 2.5 mm wide, measured from perimeter to perimeter.  
If the deletion of a portion of the area based on the above criteria will reduce the ARA of the remaining portion of the area feature to below the minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.  
If the deletion of a portion of the area based on the above criteria will split two larger areas connected by a narrow strip into two separate areas, either of which would be below minimum ARA inclusion, do not delete the narrow portion of the feature that is less than 2.5 mm wide.

**ADMINISTRATIVE BOUNDARY...6A000 (LINE)**

- C-0001 A Boundary marker (9B030) will be aligned with the feature.
- D-1655 If the boundary symbol and the projection line have the same line weight, the boundary symbol shall be shown in it's entirety 0.25 mm inside the projection line.
- G-0011 Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-3630 Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4037 If a boundary follows a road and the exact location is unknown, label "APPROXIMATE BOUNDARY".
- L-4707 If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- L-4746 Possession of islands and island groups shall be shown by placing the country name in parentheses below the island name or island group name. If all of the islands in an Island group belong to one country, the country name shall be placed under the island group name only. If islands within the same island group belong to different countries, the country name shall be placed under each island name, and not under the island group name. Islands administered jointly by two countries shall show both country names, separated by a dash, e.g., (UK-US). Country names shall be abbreviated in the manner approved by the Board of Geographic Names. Type size for country names shall be 2/3 the size of the island name or island group name, but shall not be less than 5 point.
- L-4879 If BST=001 (Definite), delete the BST label.
- R-2277 International boundaries and other lines of separation, and their associated labels, are shown in margin diagrams as well as in the body of the map or chart.
- R-2358 If the limits of a lesser Administrative Boundary division is coincident with that of a higher division, the symbol for the higher boundary division shall be shown, in descending order - USE 23 (International), 26 (Primary/1st Order), 30 (2nd Order), 31 (3rd Order), 16 (City).
- R-2359 Every third unit of the boundary symbol shall be shown when a boundary is coincident within a Road. When the boundary is International, the International boundary overprint shall be shown as a continuous band.

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**FEATURE: ADMINISTRATIVE BOUNDARY...6A000 (LINE)**

- R-2360** If a boundary follows an edge of a Road, Track, Trail or Railroad, every third unit of the boundary symbol shall be shown coincident with the feature. When the boundary is International, the width of the International boundary overprint shall be reduced to one-half of its normal width.
- R-2361** If a boundary follows a Road and the exact location is unknown, the symbol shall be shown in the center of the Road with every third unit of the boundary symbol.
- R-2362** If a boundary follows a Shoreline (Coastal or Inland), every third unit of the boundary symbol shall be shown where coincident with the Shoreline.
- R-2363** If a boundary is coincident with a single-line or narrow double-line stream, (i.e., width < 3 mm at map scale) only every third unit of the boundary symbol shall be shown.
- R-2365** If a boundary crosses a body of Open Water (2HXXX) or (2A040)  $\geq$  20 mm width and alignment is known, the complete boundary symbol shall be shown. If the boundary alignment is unknown, the boundary symbol shall be shown in the Open Water area at the points of entry. If the size of the Open Water permits, show complete units of the boundary symbol.
- R-2366** International boundary symbols shall not be shown crossing bodies of Open Water (2HXXX) or (2A040) with width  $\geq$  20 mm at map scale. The symbol shall terminate at points of entry into the Open Water area.
- R-2469** If a boundary location is known and occurs within a double-line Stream the complete boundary symbol shall be shown. If the boundary location is unknown, the boundary symbol shall be centered in the Stream and labeled "APPROXIMATE"
- R-2496** Boundaries shown shall be included in legend.
- R-2497** In areas where there is no defined boundary between two countries (BST=004), center NM3 and NM4 in the approximate area on their respective sides of the label "NO DEFINED BOUNDARY". Pairs of labels may be repeated if necessary for large areas, but pairs should be positioned far enough apart so that they DO NOT imply a specific division line between the two countries.
- R-2498** Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**ARMISTICE LINE...6A020 (LINE)**

- C-0001** A Boundary marker (9B030) will be aligned with the feature.
- D-1655** If the boundary symbol and the projection line have the same line weight, the boundary symbol shall be shown in its entirety 0.25 mm inside the projection line.
- G-0011** Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-3630** Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4037** If a boundary follows a road and the exact location is unknown, label "APPROXIMATE BOUNDARY".
- R-2359** Every third unit of the boundary symbol shall be shown when a boundary is coincident within a Road. When the boundary is International, the International boundary overprint shall be shown as a continuous band.
- R-2360** If a boundary follows an edge of a Road, Track, Trail or Railroad, every third unit of the boundary symbol shall be shown coincident with the feature. When the boundary is International, the width of the International boundary overprint shall be reduced to one-half of its normal width.

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**FEATURE: ARMISTICE LINE...6A020 (LINE)**

- R-2361 If a boundary follows a Road and the exact location is unknown, the symbol shall be shown in the center of the Road with every third unit of the boundary symbol.
- R-2362 If a boundary follows a Shoreline (Coastal or Inland), every third unit of the boundary symbol shall be shown where coincident with the Shoreline.
- R-2363 If a boundary is coincident with a single-line or narrow double-line stream, (i.e., width < 3 mm at map scale) only every third unit of the boundary symbol shall be shown.
- R-2365 If a boundary crosses a body of Open Water (2HXXX) or (2A040)  $\geq$  20 mm width and alignment is known, the complete boundary symbol shall be shown. If the boundary alignment is unknown, the boundary symbol shall be shown in the Open Water area at the points of entry. If the size of the Open Water permits, show complete units of the boundary symbol.
- R-2469 If a boundary location is known and occurs within a double-line Stream the complete boundary symbol shall be shown. If the boundary location is unknown, the boundary symbol shall be centered in the Stream and labeled "APPROXIMATE"
- R-2496 Boundaries shown shall be included in legend.
- R-2498 Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**CEASE-FIRE LINE...6A030 (LINE)**

- C-0001 A Boundary marker (9B030) will be aligned with the feature.
- D-1655 If the boundary symbol and the projection line have the same line weight, the boundary symbol shall be shown in it's entirety 0.25 mm inside the projection line.
- G-0011 Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-3630 Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4037 If a boundary follows a road and the exact location is unknown, label "APPROXIMATE BOUNDARY".
- R-2359 Every third unit of the boundary symbol shall be shown when a boundary is coincident within a Road. When the boundary is International, the International boundary overprint shall be shown as a continuous band.
- R-2360 If a boundary follows an edge of a Road, Track, Trail or Railroad, every third unit of the boundary symbol shall be shown coincident with the feature. When the boundary is International, the width of the International boundary overprint shall be reduced to one-half of its normal width.
- R-2361 If a boundary follows a Road and the exact location is unknown, the symbol shall be shown in the center of the Road with every third unit of the boundary symbol.
- R-2362 If a boundary follows a Shoreline (Coastal or Inland), every third unit of the boundary symbol shall be shown where coincident with the Shoreline.
- R-2363 If a boundary is coincident with a single-line or narrow double-line stream, (i.e., width < 3 mm at map scale) only every third unit of the boundary symbol shall be shown.

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**FEATURE: CEASE-FIRE LINE...6A030 (LINE)**

- R-2365** If a boundary crosses a body of Open Water (2HXXX) or (2A040)  $\geq$  20 mm width and alignment is known, the complete boundary symbol shall be shown. If the boundary alignment is unknown, the boundary symbol shall be shown in the Open Water area at the points of entry. If the size of the Open Water permits, show complete units of the boundary symbol.
- R-2469** If a boundary location is known and occurs within a double-line Stream the complete boundary symbol shall be shown. If the boundary location is unknown, the boundary symbol shall be centered in the Stream and labeled "APPROXIMATE"
- R-2496** Boundaries shown shall be included in legend.
- R-2498** Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**INTERNATIONAL MARITIME BOUNDARY...6A050 (LINE)**

- L-3803** Position type 3 mm away from line on each side, reading left to right, or bottom to top if line is vertical. Position country names adjacent to each other, and TXT label to the right of NM3 label.
- R-2756** When the US-Russia International Maritime Boundary is shown on the map/chart, a legend "See note" shall be shown next to the boundary, and the following note shown in the margin of the map/chart, or if necessary, in any open water area:

NOTE

Maritime boundary provisionally applied  
pending formal exchange of instruments  
of ratification.

**DEFACTO BOUND. /OTHER LINE OF SEPARATION...6A060 (LINE)**

- C-0001** A Boundary marker (9B030) will be aligned with the feature.
- D-1655** If the boundary symbol and the projection line have the same line weight, the boundary symbol shall be shown in it's entirety 0.25 mm inside the projection line.
- G-0011** Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-3630** Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4037** If a boundary follows a road and the exact location is unknown, label "APPROXIMATE BOUNDARY".
- L-4707** If the attribute value is ACC 001 (Accurate) or EXS 001 (Definite), delete the window and condense remaining windows.
- R-2276** If a boundary is not recognized by the U.S. Department of State as an official international boundary, but falls under the category of "Other Line of Separation", and the type of boundary is not portrayed by another Subcategory 6A FACS feature, the TXT attribute is used to label the line in accordance with Geonames/Boundary guidance; e.g. "Administrative Line", "Provisional Administrative Line."
- R-2277** International boundaries and other lines of separation, and their associated labels, are shown in margin diagrams as well as in the body of the map or chart.
- R-2358** If the limits of a lesser Administrative Boundary division is coincident with that of a higher division, the symbol for the higher boundary division shall be shown, in descending order - USE 23 (International), 26 (Primary/1st Order), 30 (2nd Order), 31 (3rd Order), 16 (City).

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**FEATURE: DEFACTO BOUND. /OTHER LINE OF SEPARATION...6A060 (LINE)**

- R-2359 Every third unit of the boundary symbol shall be shown when a boundary is coincident within a Road. When the boundary is International, the International boundary overprint shall be shown as a continuous band.
- R-2360 If a boundary follows an edge of a Road, Track, Trail or Railroad, every third unit of the boundary symbol shall be shown coincident with the feature. When the boundary is International, the width of the International boundary overprint shall be reduced to one-half of its normal width.
- R-2361 If a boundary follows a Road and the exact location is unknown, the symbol shall be shown in the center of the Road with every third unit of the boundary symbol.
- R-2362 If a boundary follows a Shoreline (Coastal or Inland), every third unit of the boundary symbol shall be shown where coincident with the Shoreline.
- R-2363 If a boundary is coincident with a single-line or narrow double-line stream, (i.e., width < 3 mm at map scale) only every third unit of the boundary symbol shall be shown.
- R-2365 If a boundary crosses a body of Open Water (2HXXX) or (2A040)  $\geq$  20 mm width and alignment is known, the complete boundary symbol shall be shown. If the boundary alignment is unknown, the boundary symbol shall be shown in the Open Water area at the points of entry. If the size of the Open Water permits, show complete units of the boundary symbol.
- R-2469 If a boundary location is known and occurs within a double-line Stream the complete boundary symbol shall be shown. If the boundary location is unknown, the boundary symbol shall be centered in the Stream and labeled "APPROXIMATE".
- R-2496 Boundaries shown shall be included in legend.
- R-2498 Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**DEMILITARIZED ZONE...6A070 (AREA)**

- D-1655 If the boundary symbol and the projection line have the same line weight, the boundary symbol shall be shown in it's entirety 0.25 mm inside the projection line.
- G-0011 Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-0050 Type sizes per area sizes at map/chart scale: Area features only.
- |                   |                                            |
|-------------------|--------------------------------------------|
| 06 point - $\leq$ | 770 mm sq. area and $\leq$ 14 mm width     |
| 07 point - $\leq$ | 2,296 mm sq. area and $\leq$ 28 mm width   |
| 09 point - $\leq$ | 5,192 mm sq. area and $\leq$ 44 mm width   |
| 10 point - $\leq$ | 9,796 mm sq. area and $\leq$ 62 mm width   |
| 12 point - $\leq$ | 16,632 mm sq. area and $\leq$ 84 mm width  |
| 14 point - $\leq$ | 24,960 mm sq. area and $\leq$ 104 mm width |
| 16 point - $>$    | 24,960 mm sq. area                         |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3630 Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4037 If a boundary follows a road and the exact location is unknown, label "APPROXIMATE BOUNDARY".
- R-2358 If the limits of a lesser Administrative Boundary division is coincident with that of a higher division, the symbol for the higher boundary division shall be shown, in descending order - USE 23 (International), 26 (Primary/1st Order), 30 (2nd Order), 31 (3rd Order), 16 (City).

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**FEATURE: DEMILITARIZED ZONE...6A070 (AREA)**

- R-2359** Every third unit of the boundary symbol shall be shown when a boundary is coincident within a Road. When the boundary is International, the International boundary overprint shall be shown as a continuous band.
- R-2360** If a boundary follows an edge of a Road, Track, Trail or Railroad, every third unit of the boundary symbol shall be shown coincident with the feature. When the boundary is International, the width of the International boundary overprint shall be reduced to one-half of its normal width.
- R-2361** If a boundary follows a Road and the exact location is unknown, the symbol shall be shown in the center of the Road with every third unit of the boundary symbol.
- R-2362** If a boundary follows a Shoreline (Coastal or Inland), every third unit of the boundary symbol shall be shown where coincident with the Shoreline.
- R-2363** If a boundary is coincident with a single-line or narrow double-line stream, (i.e., width < 3 mm at map scale) only every third unit of the boundary symbol shall be shown.
- R-2365** If a boundary crosses a body of Open Water (2HXXX) or (2A040)  $\geq$  20 mm width and alignment is known, the complete boundary symbol shall be shown. If the boundary alignment is unknown, the boundary symbol shall be shown in the Open Water area at the points of entry. If the size of the Open Water permits, show complete units of the boundary symbol.
- R-2366** International boundary symbols shall not be shown crossing bodies of Open Water (2HXXX) or (2A040) with width  $\geq$  20 mm at map scale. The symbol shall terminate at points of entry into the Open Water area.
- R-2496** Boundaries shown shall be included in legend.
- R-2498** Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**INTERNATIONAL DATE LINE...6A110 (LINE)**

- C-0001** A Boundary marker (9B030) will be aligned with the feature.
- G-0011** Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-4817** "INTERNATIONAL DATE LINE (MONDAY)" will be labeled on the west side, reading left to right or bottom to top, with "(SUNDAY)" centered under MONDAY. Label twice on each chart, with a 1 mm space between the type and date line.
- R-2496** Boundaries shown shall be included in legend.

**ZONE OF OCCUPATION...6A170 (AREA)**

- D-1655** If the boundary symbol and the projection line have the same line weight, the boundary symbol shall be shown in it's entirety 0.25 mm inside the projection line.
- G-0011** Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |                   |                               |              |
|-------------------|-------------------------------|--------------|
| 06 point - $\leq$ | 770 mm sq. area and $\leq$    | 14 mm width  |
| 07 point - $\leq$ | 2,296 mm sq. area and $\leq$  | 28 mm width  |
| 09 point - $\leq$ | 5,192 mm sq. area and $\leq$  | 44 mm width  |
| 10 point - $\leq$ | 9,796 mm sq. area and $\leq$  | 62 mm width  |
| 12 point - $\leq$ | 16,632 mm sq. area and $\leq$ | 84 mm width  |
| 14 point - $\leq$ | 24,960 mm sq. area and $\leq$ | 104 mm width |
| 16 point - $>$    | 24,960 mm sq. area            |              |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.



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**FEATURE: ZONE OF OCCUPATION...6A170 (AREA)**

- L-3630 Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4037 If a boundary follows a road and the exact location is unknown, label "APPROXIMATE BOUNDARY".
- R-2358 If the limits of a lesser Administrative Boundary division is coincident with that of a higher division, the symbol for the higher boundary division shall be shown, in descending order - USE 23 (International), 26 (Primary/1st Order), 30 (2nd Order), 31 (3rd Order), 16 (City).
- R-2359 Every third unit of the boundary symbol shall be shown when a boundary is coincident within a Road. When the boundary is International, the International boundary overprint shall be shown as a continuous band.
- R-2360 If a boundary follows an edge of a Road, Track, Trail or Railroad, every third unit of the boundary symbol shall be shown coincident with the feature. When the boundary is International, the width of the International boundary overprint shall be reduced to one-half of its normal width.
- R-2361 If a boundary follows a Road and the exact location is unknown, the symbol shall be shown in the center of the Road with every third unit of the boundary symbol.
- R-2362 If a boundary follows a Shoreline (Coastal or Inland), every third unit of the boundary symbol shall be shown where coincident with the Shoreline.
- R-2363 If a boundary is coincident with a single-line or narrow double-line stream, (i.e., width < 3 mm at map scale) only every third unit of the boundary symbol shall be shown.
- R-2365 If a boundary crosses a body of Open Water (2HXXX) or (2A040)  $\geq$  20 mm width and alignment is known, the complete boundary symbol shall be shown. If the boundary alignment is unknown, the boundary symbol shall be shown in the Open Water area at the points of entry. If the size of the Open Water permits, show complete units of the boundary symbol.
- R-2366 International boundary symbols shall not be shown crossing bodies of Open Water (2HXXX) or (2A040) with width  $\geq$  20 mm at map scale. The symbol shall terminate at points of entry into the Open Water area.
- R-2496 Boundaries shown shall be included in legend.
- R-2498 Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**DIRECTION OF BUOYAGE INDICATOR...6C035 (POINT)**

- L-3804 The note "GENERAL DIRECTION OF BUOYAGE ON THIS CHART" is generally shown, reading horizontally, near the stem of the arrow, but it may be omitted in congested areas.
- R-2757 The standard size "Direction of Buoyage" symbol may be reduced in size to 75% or 50% for use in congested areas.

**DREDGED CHANNEL /DREDGED AREA...6C040 (AREA)**

- L-4702 Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

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**FEATURE: DREDGED CHANNEL /DREDGED AREA...6C040 (AREA)**

- L-4747** Type placement order of preference:
- (1) Centered in area, parallel to longer of two axes, reading left to right, or bottom to top if longer axis of the feature is vertical.
  - (2) Shifted sideways to avoid overprints.
  - (3) Placed outside area parallel and 1 mm away from top boundary, reading left to right, or parallel to and 1 mm away from left boundary, reading bottom to top, if the major axis is vertical, centered with respect to the major axis.
  - (4) Shifted sideways to avoid overprints.
  - (5) Shifted up to avoid overprints, to a maximum distance of 6 mm.
- L-4748** If space does not allow for the full legend to be shown, labels for Dredged Channels (6C040) are condensed in the following order:
1. Delete "Dredged to" or "Maintained depth" labels first,
  2. Delete DAT label and parentheses second,
  3. Delete DAN label third.
- Do not delete HDP label or the "m" from any 6C040 feature.
- R-2205** If adjacent areas of this feature have different depths (HDP), the common boundary shall be shown with the linewidth reduced to half (0.2 mm changed to 0.1 mm), dash lengths of 2.0 mm and dash spaces of 0.5 mm. Color remains the same.
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2278** Dredged channels/areas (6C040) shall be tinted in accordance with their depths (HDP), following the guidance for generation of water tint provided in PG rules for depth curves (2E010) and/or open water (2A040).
- R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.
- R-2840** If ATN =001 (Marked), DAN shall be shown if one of the following conditions occur:
- (1) The aids to navigation (2C features) that mark the feature do not meet the inclusion conditions for aids to navigation.
  - (2) The aids to navigation (2C features) that mark a feature are known to exist, but the details, such as position, type of aid, etc, are not sufficient to chart them as aids to navigation.
- If 2C features are shown, or information about aids to navigation is completely lacking, omit the DAN label.
- R-2986** Symbol perimeter shall be broken where ship traffic enters and exits the feature. Feature boundary is symbolized only on those edges where ship traffic does not enter or exit the feature.
- V-1067** If DAT is unknown, omit DAT window.

**DREDGED CHANNEL /DREDGED AREA...6C040 (LINE)**

- L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.
- L-4743** If feature type is linear, the label hierarchy is:
- (1) Label shall be placed 1 mm above feature, centered.
  - (2) Top of label shall be placed 1 mm below feature, centered.
  - (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.
  - (4) Do not label across shoreline (2A010 or 2H075).

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**FEATURE: DREDGED CHANNEL /DREDGED AREA...6C040 (LINE)**

- L-4748** If space does not allow for the full legend to be shown, labels for Dredged Channels (6C040) are condensed in the following order:
1. Delete "Dredged to" or "Maintained depth" labels first,
  2. Delete DAT label and parentheses second,
  3. Delete DAN label third.
- Do not delete HDP label or the "m" from any 6C040 feature.
- R-2209** If two line features of the same FACS code meet end to end, and have different depths (HDP), a short line is shown centered on the point of intersection. It bisects the angle at which the line features meet (i.e., if the lines meet at 180° angle the bisecting line is perpendicular to the meeting line features). The bisecting line is 0.1 mm lineweight, length is 3.0 mm, and it is shown in the same color as the line features.
- R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.
- R-2278** Dredged channels/areas (6C040) shall be tinted in accordance with their depths (HDP), following the guidance for generation of water tint provided in PG rules for depth curves (2E010) and/or open water (2A040).
- R-2840** If ATN =001 (Marked), DAN shall be shown if one of the following conditions occur:
- (1) The aids to navigation (2C features) that mark the feature do not meet the inclusion conditions for aids to navigation.
  - (2) The aids to navigation (2C features) that mark a feature are known to exist, but the details, such as position, type of aid, etc, are not sufficient to chart them as aids to navigation.
- If 2C features are shown, or information about aids to navigation is completely lacking, omit the DAN label.
- V-1067** If DAT is unknown, omit DAT window.

**MARITIME LIMIT...6C090 (AREA)**

- L-4715** Type sizes for Maritime Limits and areas:
- 8 point - < 8 sq. cm.
  - 10 point - >= 8 and < 12 sq. cm.
  - 12 point - >= 12 and < 24 sq. cm.
  - 14 point - >= 24 and < 100 sq. cm.
  - 8 point - >= 100 sq. cm.
- Type placement for areas >= 100 sq. cm. to < 500 sq. cm.  
Two labels are shown on approximately opposite sides of the area, preferably top and bottom.
- Type placement for areas >= 500 sq. cm.  
Labels are placed at approximately 250 mm. interval around the perimeter of the feature.
- Do not place labels around sharp corners (interior angle <135°), or along chart neatlines. Place type 1 mm away and parallel to area limit line, reading left to right, or bottom to top if limit line is vertical. Type is placed on the INSIDE of the area.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.
- (A) Minimum distance from symbol - 1 mm.
  - (B) Maximum distance from symbol before choosing the next highest priority:
    - #1 4 mm measured to the West end
    - #2 4 mm measured to the North side (top)
    - #3 4 mm measured to the East end
    - #4 4 mm measured to the South side (bottom)

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**FEATURE: MARITIME LIMIT...6C090 (AREA)**

**L-4750** Label for OPS=002 (Abandoned) shall be "Disused", in Upper/lower case italic type, and enclosed in parentheses. It shall be centered under label for that area.

**L-4751** Maritime Limit type "Unsurveyed Area" (6C090 MLT=005) shall be labeled with legends spaced every 50 mm along the boundary line, with type positioned 1 mm away from the line. Labels should be on the inside of the area reading from right to left, or bottom to top if boundary is vertical. Do not place text around sharp corners.

**L-4753** Type placement for areas < 100 sq. cm. Type shall be centered in area reading from left to right.

If longer of two axes is North-South +/- 20 degrees or East-West +/- 20 degrees, type is parallel to south neatline.

(a) If LEN < WID times two, type shall be placed on two approximately equal lines without splitting words.

(b) If LEN >= WID times two, and major axis is East-West +/- 20 degrees, type shall be placed on one line.

(c) If LEN >= WID times two, and major axis is North-South +/- 20 degrees, type shall be placed with each word on a separate line.

If longer of two axes is more than 20 degrees from either North-South or East-West, and LEN < WID times two, type shall be parallel to south neatline and on two approximately equal lines without splitting words

If longer of two axes is more than 20 degrees from either North-South or East-West, and LEN >= WID times two, type shall be placed parallel to the major axis on one line. e to be placed inside area, place type outside area, using Rule L-4722.

**R-2290** When MLT=001 (Other), HOC shall be 005 (Natural) if the limit is associated with depths or other physical obstructions. HOC shall be 004 (Man-made) when the limit has no permanent physical obstructions.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2985** Minimum width for maritime limit symbols (6C090), other than pilot boarding areas (MLT=019), shall be 4 mm at chart scale.

**R-3703** HOC and TXT attributes are used when MLT=001 (Other). TXT shall be worded in the form of a label that will appear on the symbol for MLT=001. PBV is used when MLT=019 (Pilot Boarding Area). COD and NAM are used when MLT=018 (Oil /Gas Field). OPS is used when MLT=004 (Spoil Area), or when MLT=015 (Dumping Ground for Hazardous Material). PRO is used when MLT=015 (Dumping Ground for Hazardous Material). If FRO is 019 (Other), a TXT label replaces the PRO label, and is used to label the hazardous material being dumped.

**MINE DANGER AREA...6C110 (AREA)**

**L-4715** Type sizes for Maritime Limits and areas:

- 8 point - < 8 sq. cm.
- 10 point - >= 8 and < 12 sq. cm.
- 12 point - >= 12 and < 24 sq. cm.
- 14 point - >= 24 and < 100 sq. cm.
- 8 point - >= 100 sq. cm.

Type placement for areas >= 100 sq. cm. to < 500 sq. cm.

Two labels are shown on approximately opposite sides of the area, preferably top and bottom.

Type placement for areas >= 500 sq. cm.

Labels are placed at approximately 250 mm. interval around the perimeter of the feature.

Do not place labels around sharp corners (interior angle <135°), or along chart neatlines. Place type 1 mm away and parallel to area limit line, reading left to right, or bottom to top if limit line is vertical. Type is placed on the INSIDE of the area.

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**FEATURE: MINE DANGER AREA...6C110 (AREA)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4753** Type placement for areas < 100 sq. cm. Type shall be centered in area reading from left to right.

If longer of two axes is North-South +/- 20 degrees or East-West +/- 20 degrees, type is parallel to south neatline.

(a) If LEN < WID times two, type shall be placed on two approximately equal lines without splitting words.

(b) If LEN >= WID times two, and major axis is East-West +/- 20 degrees, type shall be placed on one line.

(c) If LEN >= WID times two, and major axis is North-South +/- 20 degrees, type shall be placed with each word on a separate line.

If longer of two axes is more than 20 degrees from either North-South or East-West, and LEN < WID times two, type shall be parallel to south neatline and on two approximately equal lines without splitting words

If longer of two axes is more than 20 degrees from either North-South or East-West, and LEN >= WID times two, type shall be placed parallel to the major axis on one line. e to be placed inside area, place type outside area, using Rule L-4722.

**L-4756** Open areas between adjacent Mine Danger Areas (6C110) shall be shown as "MINESWEPT CHANNEL" (6C165, RTT=008) if cartographic or other source material confirms that the area has been swept for mines. Type placement for the MINESWEPT CHANNEL labels shall be in the following priority:

-Place in the center of the mine swept area, parallel to centerline of the mine swept area, reading from left to right, or from bottom to top if vertical:

- Shifted off of but parallel to the centerline of the mine swept area to avoid overprints with other symbols with the same color;

-If the mine swept area is too narrow to place type inside the area, place type outside area parallel to the top boundary, and 1 mm away from the boundary reading from left to right, or from bottom to top if vertical.

-Shifted along the boundary to avoid overprints with other symbols of the same color.

- Shifted away from the boundary, to a maximum distance of 6 mm at chart scale, to avoid overprints with other symbols of the same color.

If the mine swept area (6C165, RTT=008) is also a dredged channel (6C040), the type placement of type for the channel symbol shall take precedence over type for the mine swept area.

**O-3413** If danger from mines is significant, based on ancillary data, cautions on source charts, or other available information, show mine danger area (6C110) as maintained minefield (MAS=001) even if the field is no longer maintained.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

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**FEATURE: MINE DANGER AREA...6C110 (AREA)**

**R-2809** The following cautions shall be shown on charts showing Mine Danger Areas (6C110). If the minefield is a maintained minefield (MAS=001), the following caution is shown:

CAUTION

Mariners should stay out of the area indicated because of the presence of mines. See Annual NM 1 (36).

If the area is a former Mine Danger Area no longer maintained (MAS=002), the following caution is shown:

CAUTION

Mariners are warned not to anchor, trawl, ground, or conduct other bottom activities because of the residual danger of mines on the bottom. See Annual NM 1 (36).

The cautions shown above may have to be modified to provide additional or different information, based on ancillary sources such as Sailing Directions or cautions shown on source charts.

**MINE DANGER AREA...6C110 (POINT)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**O-3413** If danger from mines is significant, based on ancillary data, cautions on source charts, or other available information, show mine danger area (6C110) as maintained minefield (MAS=001) even if the field is no longer maintained.

**R-2809** The following cautions shall be shown on charts showing Mine Danger Areas (6C110). If the minefield is a maintained minefield (MAS=001), the following caution is shown:

CAUTION

Mariners should stay out of the area indicated because of the presence of mines. See Annual NM 1 (36).

If the area is a former Mine Danger Area no longer maintained (MAS=002), the following caution is shown:

CAUTION

Mariners are warned not to anchor, trawl, ground, or conduct other bottom activities because of the residual danger of mines on the bottom. See Annual NM 1 (36).

The cautions shown above may have to be modified to provide additional or different information, based on ancillary sources such as Sailing Directions or cautions shown on source charts.

**PROHIBITED AREA...6C120 (AREA)**

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**FEATURE: PROHIBITED AREA...6C120 (AREA)**

**L-4715** Type sizes for Maritime Limits and areas:

- 8 point - < 8 sq. cm.
- 10 point -  $\geq 8$  and < 12 sq. cm.
- 12 point -  $\geq 12$  and < 24 sq. cm.
- 14 point -  $\geq 24$  and < 100 sq. cm.
- 8 point -  $\geq 100$  sq. cm.

Type placement for areas  $\geq 100$  sq. cm. to < 500 sq. cm.  
Two labels are shown on approximately opposite sides of the area, preferably top and bottom.

Type placement for areas  $\geq 500$  sq. cm.  
Labels are placed at approximately 250 mm. interval around the perimeter of the feature.

Do not place labels around sharp corners (interior angle  $< 135^\circ$ ), or along chart neatlines. Place type 1 mm away and parallel to area limit line, reading left to right, or bottom to top if limit line is vertical. Type is placed on the INSIDE of the area.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4753** Type placement for areas < 100 sq. cm. Type shall be centered in area reading from left to right.

If longer of two axes is North-South  $\pm 20$  degrees or East-West  $\pm 20$  degrees, type is parallel to south neatline.

(a) If  $LEN < WID$  times two, type shall be placed on two approximately equal lines without splitting words.

(b) If  $LEN \geq WID$  times two, and major axis is East-West  $\pm 20$  degrees, type shall be placed on one line.

(c) If  $LEN \geq WID$  times two, and major axis is North-South  $\pm 20$  degrees, type shall be placed with each word on a separate line.

If longer of two axes is more than 20 degrees from either North-South or East-West, and  $LEN < WID$  times two, type shall be parallel to south neatline and on two approximately equal lines without splitting words

If longer of two axes is more than 20 degrees from either North-South or East-West, and  $LEN \geq WID$  times two, type shall be placed parallel to the major axis on one line. e to be placed inside area, place type outside area, using Rule L-4722.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**PROHIBITED AREA...6C120 (POINT)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**RESTRICTED AREA...6C150 (AREA)**

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**FEATURE: RESTRICTED AREA...6C150 (AREA)**

**L-4715** Type sizes for Maritime Limits and areas:

- 8 point - < 8 sq. cm.
- 10 point -  $\geq 8$  and < 12 sq. cm.
- 12 point -  $\geq 12$  and < 24 sq. cm.
- 14 point -  $\geq 24$  and < 100 sq. cm.
- 8 point -  $\geq 100$  sq. cm.

Type placement for areas  $\geq 100$  sq. cm. to < 500 sq. cm.

Two labels are shown on approximately opposite sides of the area, preferably top and bottom.

Type placement for areas  $\geq 500$  sq. cm.

Labels are placed at approximately 250 mm. interval around the perimeter of the feature.

Do not place labels around sharp corners (interior angle  $< 135^\circ$ ), or along chart neatlines. Place type 1 mm away and parallel to area limit line, reading left to right, or bottom to top if limit line is vertical. Type is placed on the INSIDE of the area.

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4753** Type placement for areas < 100 sq. cm. Type shall be centered in area reading from left to right.

If longer of two axes is North-South  $\pm 20$  degrees or East-West  $\pm 20$  degrees, type is parallel to south neatline.

(a) If  $LEN < WID$  times two, type shall be placed on two approximately equal lines without splitting words.

(b) If  $LEN \geq WID$  times two, and major axis is East-West  $\pm 20$  degrees, type shall be placed on one line.

(c) If  $LEN \geq WID$  times two, and major axis is North-South  $\pm 20$  degrees, type shall be placed with each word on a separate line.

If longer of two axes is more than 20 degrees from either North-South or East-West, and  $LEN < WID$  times two, type shall be parallel to south neatline and on two approximately equal lines without splitting words

If longer of two axes is more than 20 degrees from either North-South or East-West, and  $LEN \geq WID$  times two, type shall be placed parallel to the major axis on one line. e to be placed inside area, place type outside area, using Rule L-4722.

**L-4758** Descriptive type for cables and pipelines (6C150, DTC=015) shall be parallel to the direction of the pipe or cable, i.e., bank to bank, rather than aligned with the body of water. Type may be shown on more than one line if necessary.

**L-4826** Labeling of pipeline areas (6C150, DTC=013):

If width < 10 mm, PRO label shall be placed in the center of the area, parallel to the major axis, reading left to right, or bottom to top if major axis is vertical. Type may be moved sideways to avoid overprints. If  $WID \geq 10$  mm, PRO label shall be placed parallel to and 1 mm away from the boundary, inside the area adjacent to pipeline portion of the symbol. Both sides of the area shall be labeled. If line is > 150 mm it shall be labeled every 100 mm.



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**FEATURE: RESTRICTED AREA...6C150 (AREA)**

**L-4862** Pipelines (1L160), pipeline areas (6C150, DTC=013), and cable and pipeline areas (6C150, DTC=015) shall show a label for the following PRO values, using the label shown below:

If PRO=006, label "Chem"  
If PRO=012, label "Gas"  
If PRO=013, label "Gasoline"  
If PRO=018, label "Oil"  
If PRO=027, label "Water"

No PRO label is shown for PRO=000 Unknown, PRO=019 Other, or PRO=035 Sewage.

**R-2218** If the boundary of an area showing alternating T shaped dashes and other graphic components joins with a similar line, for example, if a boundary closes on itself, number of dashes or graphic components shown in a series (usually three) shall be reduced so that no more than four of any one kind of symbol component are shown in a row.

**R-2800** When the boundary of an areal symbol crosses or overprints the shoreline, the boundary overprinting the shoreline or on land is deleted.

**R-2847** Power cable areas (6C150, DTC=012, USE=053) shall have an electric flash (Posicut #142) placed in the area to identify power cables. The posicut shall be positioned as follows, depending on the size of the area: Length  $\leq$  40 mm at chart scale - center one posicut in the center of the area. Length  $>$  40 mm and width  $\leq$  40 mm at chart scale - place one posicut every 30 mm at chart scale centered between the long sides of the features. Width  $>$  40 mm at chart scale - place one posicut every 30 mm along each boundary line, 5 mm to the inside of the line.

**R-2937** Charts shall have the following caution notes shown in the margin if pipelines (1L160), pipeline areas (6C150, DTC=013), or cable and pipeline areas (6C150, DTC=015) are shown on the chart, and products are chemicals (PRO=006), gas (PRO=012), gasoline (PRO=013), or oil (PRO=018): .

**CAUTION**

Mariners risk prosecution if they anchor or trawl near a pipeline and so damage it. (PRO) leaking from a damaged pipeline could cause fire or loss of a vessel's buoyancy.

The product name (PRO) is indicated in the text of the note. PRO006 is shown in plural, i.e., "Chemicals." See Notes and Cautions section of product specifications for color, type size, type style, and other information regarding caution notes.

**R-3678** RAA is used when DTC=016 (Other) to describe the nature of the restriction imposed on the area. It should be worded in the form of a label, to appear on the symbol for DTC=016.

**R-9034** PRO is used when DTC=013 (Pipeline Area), or DTC=015 (Cables and Pipelines). USE is used when DTC=012 (Cable Area), or DTC=015 (Cables and Pipelines).

**RESTRICTED AREA...6C150 (LINE)**

**L-4743** If feature type is linear, the label hierarchy is:

- (1) Label shall be placed 1 mm above feature, centered.
- (2) Top of label shall be placed 1 mm below feature, centered.
- (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.
- (4) Do not label across shoreline (2A010 or 2H075).

**L-4758** Descriptive type for cables and pipelines (6C150, DTC=015) shall be parallel to the direction of the pipe or cable, i.e., bank to bank, rather than aligned with the body of water. Type may be shown on more than one line if necessary.

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**FEATURE: RESTRICTED AREA...6C150 (LINE)**

**L-4862** Pipelines (1L160), pipeline areas (6C150, DTC=013), and cable and pipeline areas (6C150, DTC=015) shall show a label for the following PRO values, using the label shown below:

If PRO=006, label "Chem"  
If PRO=012, label "Gas"  
If PRO=013, label "Gasoline"  
If PRO=018, label "Oil"  
If PRO=027, label "Water"

No PRO label is shown for PRO=000 Unknown, PRO=019 Other, or PRO=035 Sewage.

**R-2219** Cable areas (6C150, DTC=012) symbolized as line symbols shall be printed so the centerline of the cable symbol (Posicut #56) follows the centerline of the cable area. The linear symbol is created by adjacent and joined posicuts repeated for the length of the centerline of the area.

**R-2220** The electric flash symbol (Posicut #142) shown on power cable areas (6C150, DT=C012, USE=053) symbolized as line symbols shall be printed at 50 mm intervals along the line symbol. The line symbol shall be broken for 1 mm on each side of the electric flash.

**R-2937** Charts shall have the following caution notes shown in the margin if pipelines (1L160), pipeline areas (6C150, DTC=013), or cable and pipeline areas (6C150, DTC=015) are shown on the chart, and products are chemicals (PRO=006), gas (PRO=012), gasoline (PRO=013), or oil (PRO=018):

CAUTION

Mariners risk prosecution if they anchor or trawl near a pipeline and so damage it. (PRO) leaking from a damaged pipeline could cause fire or loss of a vessel's buoyancy.

The product name (PRO) is indicated in the text of the note. PRO006 is shown in plural, i.e., "Chemicals." See Notes and Cautions section of product specifications for color, type size, type style, and other information regarding caution notes.

**R-9034** PRO is used when DTC=013 (Pipeline Area), or DTC=015 (Cables and Pipelines). USE is used when DTC=012 (Cable Area), or DTC=015 (Cables and Pipelines).

**RESTRICTED AREA...6C150 (POINT)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**R-3678** RAA is used when DTC=016 (Other) to describe the nature of the restriction imposed on the area. It should be worded in the form of a label, to appear on the symbol for DTC=016.

**ROUTE...6C165 (AREA)**

**L-4747** Type placement order of preference:

- (1) Centered in area, parallel to longer of two axes, reading left to right, or bottom to top if longer axis of the feature is vertical.
- (2) Shifted sideways to avoid overprints.
- (3) Placed outside area parallel and 1 mm away from top boundary, reading left to right, or parallel to and 1 mm away from left boundary, reading bottom to top, if the major axis is vertical, centered with respect to the major axis.
- (4) Shifted sideways to avoid overprints.
- (5) Shifted up to avoid overprints, to a maximum distance of 6 mm.

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**FEATURE: ROUTE...6C165 (AREA)**

**L-4770** Labeling areas based on width:

Type Size:	If Width Is:
08 point	< 8 mm
10 point	>= 8 mm < 18 mm
12 point	>= 18 mm < 30 mm
14 point	>= 30 mm

Type is centered in area and repeated every 10 cm.

**R-2758** If a mineswept area (6C165, RTT=008) boundary overprints a mine danger area (6C110) boundary, do not symbolize the overprinting mineswept area boundary.

**ROUTE...6C165 (LINE)**

**D-7012** Break line symbol in water area for overprinting point symbol with the same color. Leave space 0.5 mm on each side of the point symbol. Do not displace either the line symbol or the point symbol. Point symbols may overprint line symbols of a different color.

**L-4702** Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

**L-4709** If attribute NAM is unknown, delete window and condense the remaining windows.

**L-4769** BRR or BRS shall be printed above track, 1 mm away from and parallel to it. Type shall be read from left to right, or bottom to top if track is vertical. One attribute shall be shown for each straight line segment, centered on that segment, but can be moved sideways to avoid conflicting with arrows or other chart detail.

BRS is used on one-way tracks (EXS=022) to indicate the bearing steered by a ship following the track in the direction indicated.

BRR is used on two-way tracks (EXS=023) with the bearing from seaward, i.e., when proceeding from seaward toward land, or in the direction of buoyage, followed by its reciprocal bearing, except as follows:

When a two way route (EXS=023) is of such length that reciprocal bearings are shown at both extremities, i.e., a straight line segment over 25 cm long, the bearing quoted first shall be the bearing followed by a ship joining the track at that extremity.

**L-4813** Descriptive terms, e.g., "Canal" shall be shown if the name is not known. If the descriptive word appears in the name, for example, "PANAMA CANAL", the descriptive type shall not be shown, i.e., do not show "Panama Canal Canal".

**L-4880** To reduce translation difficulties, a "not equal to" sign, i.e., a slash (/) overprinting an equal sign (=), or Posicut #224, shall be used in the Description of Reference Points (DRP) attribute to indicate any two objects in line. The DRP attribute should use this symbol in place of the words "in line", e.g., "2 Bns ≠" rather than "2 Bns in line"

**R-2209** If two line features of the same FACS code meet end to end, and have different depths (HDP), a short line is shown centered on the point of intersection. It bisects the angle at which the line features meet (i.e., if the lines meet at 180° angle the bisecting line is perpendicular to the meeting line features). The bisecting line is 0.1 mm linewidth, length is 3.0 mm, and it is shown in the same color as the line features.

**R-2222** VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.

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**FEATURE: ROUTE...6C165 (LINE)**

**R-2820** Tracks of value only to local fishing boats or pleasure craft should not be included on nautical charts except in the Bahama Islands, Nova Scotia-Newfoundland, and Bermuda areas. This exception applies to all charts of 1:300,000 scale and larger.

**R-2854** Two way tracks that are not marked by fixed objects (6C165, EXS=023, ATN=002) are represented by arrows pointing in opposite directions. Each pair of arrows is separated by two dashes. No arrows are shown on two way tracks that are marked by fixed objects (6C165, EXS=-23, ATN=001), except for those showing depths (HDP).

If depth is known, HDP is placed between the arrowheads and the track line is deleted between the arrow points, to avoid overprinting HDP.

One way tracks (6C165, EXS=022) are represented by a single arrow pointing in the direction of traffic flow. If depth is known, the HDP is placed 2 mm behind the point of the arrow and the track line is deleted from the arrow to 1 mm past the type.

Deep water tracks (6C165, RTT=003) shall have a "DW" inserted before the arrow, approximately 25mm in front of the arrowhead.

Representation of arrows on tracks:

(1) Each segment of Tracks that has a different depth shall have one arrows /HDP set as described above centered approximately in the center of the segment. Type /arrows shall be moved sideways along track to avoid being placed around sharp corners (interior angle < 135°).

Additional arrows without type shall be spaced along Tracks at 100 mm interval, or once for each straight line segment over 15 mm long, whichever is less.

(2) Tracks without depths shall show arrows, or pairs of arrows, on two way tracks, once every 100 mm along the track, or once for each straight line segment over 15 mm long, whichever is less.

**SAFETY FAIRWAY...6C170 (AREA)**

**L-4747** Type placement order of preference:

- (1) Centered in area, parallel to longer of two axes, reading left to right, or bottom to top if longer axis of the feature is vertical.
- (2) Shifted sideways to avoid overprints.
- (3) Placed outside area parallel and 1 mm away from top boundary, reading left to right, or parallel to and 1 mm away from left boundary, reading bottom to top, if the major axis is vertical, centered with respect to the major axis.
- (4) Shifted sideways to avoid overprints.
- (5) Shifted up to avoid overprints, to a maximum distance of 6 mm.

**L-4772** Type size for Safety Fairway (6C170):

Type Size:	If Width Is:
08 point	< 8 mm
10 point	>= 8 mm < 10 mm
12 point	>= 10 mm < 20 mm
14 point	>= 20 mm

**R-2986** Symbol perimeter shall be broken where ship traffic enters and exits the feature. Feature boundary is symbolized only on those edges where ship traffic does not enter or exit the feature.

**SAFETY FAIRWAY...6C170 (LINE)**

**L-4743** If feature type is linear, the label hierarchy is:

- (1) Label shall be placed 1 mm above feature, centered.
- (2) Top of label shall be placed 1 mm below feature, centered.
- (3) Label may be displaced along the feature; use two labels if feature length 150 mm or greater.
- (4) Do not label along shoreline (2A010 or 2H075).

**SWEPT AREA...6C177 (AREA)**

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**FEATURE: SWEEPED AREA...6C177 (AREA)**

L-4702 Show HDP or HDH value in whole meters if decimeter value is 0; otherwise show the decimeter value as a subscript to the meter value.

L-4771 Type sizes for Swept Areas (6C177):

Type Size: If Width Is:  
 8 point <= 8 mm  
 10 point > 8 mm <= 10 mm  
 12 point > 10 mm <= 18 mm  
 14 point > 18 mm

Large areas, 30 x 60 mm wide, with irregular shape, < 60% of a minimum bounding rectangle covered by area, shall be labeled in several places so it is clear to the user what the depth of the area is.

Areas that are too small to be labeled with 8 point type without overprinting area limit lines shall be aggregated into larger adjoining areas swept to a lesser depth than the small area. The larger adjoining area chosen shall be the one with the closest shallower depth value.

If the small area is shallower than the surrounding areas, the swept depth label shall be placed outside the area with a Leading Line used to indicate which area the depth value refers to.

R-2222 VDC is used to record the sounding datum to which a hydrographic depth (HDP), drying height (HDH), or the high water datum to which a safe overhead clearance (SOC) is referenced. If the hydrographic depth (HDP), drying height (HDH), or safe overhead clearance (SOC) is unknown or not applicable, VDC is not applicable. VDR is used to record the name of the vertical datum when VDC is 023 (Other). VDR is not applicable "NA" when VDC is any value except 023.

R-2822 If two area symbols of the same type share a common boundary, the common boundary shall be shown with the lineweight reduced to 0.25 mm, dash lengths reduced to 2.5 mm, and dash spaces reduced to 0.6 mm. Color remains the same.

R-2984 If a swept area (6C177) falls on a chart, show this note in the margin or an open water area. Do not combine with other notes.

NOTE

The area tinted green has been swept in (DAT) to a depth indicated thus: 40.

If multiple swept areas with different dates appear on the same chart, the following note, showing the full range of dates, shall be used instead.

NOTE

Areas tinted in green have been swept in (DAT)-(DAT) to a depth indicated thus: 40

Place date of wire drag in the note. The "40" in the notes above is an example only, and a depth within the range of depths shown on the feature should be selected. The wire drag underline, as shown on the feature symbol, should also be placed under this number. Color is Green SPC-52813. Type for the note is 12 and 10 point Swiss 742. Type for the swept depth number is 10 point Swiss 742 italic.

V-1067 If DAT is unknown, omit DAT window.

**WORK IN PROGRESS AREA...6C210 (AREA)**

L-4706 If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.

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**FEATURE: WORK IN PROGRESS AREA...6C210 (AREA)**

**L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.

(A) Minimum distance from symbol - 1 mm.

(B) Maximum distance from symbol before choosing the next highest priority:

- #1 4 mm measured to the West end
- #2 4 mm measured to the North side (top)
- #3 4 mm measured to the East end
- #4 4 mm measured to the South side (bottom)

**L-4753** Type placement for areas < 100 sq. cm. Type shall be centered in area reading from left to right.

If longer of two axes is North-South +/- 20 degrees or East-West +/- 20 degrees, type is parallel to south neatline.

(a) If LEN < WID times two, type shall be placed on two approximately equal lines without splitting words.

(b) If LEN >= WID times two, and major axis is East-West +/- 20 degrees, type shall be placed on one line.

(c) If LEN >= WID times two, and major axis is North-South +/- 20 degrees, type shall be placed with each word on a separate line.

If longer of two axes is more than 20 degrees from either North-South or East-West, and LEN < WID times two, type shall be parallel to south neatline and on two approximately equal lines without splitting words

If longer of two axes is more than 20 degrees from either North-South or East-West, and LEN >= WID times two, type shall be placed parallel to the major axis on one line. e to be placed inside area, place type outside area, using Rule L-4722.

**L-4774** If two work in progress areas (6C210) are within 20 mm of each other and the same COD (either both COD=001 or both COD=002), show only one legend with the later DAT attribute centered between the two features.

**R-2857** If work in progress area (6C210) is extending the shoreline seaward (WPC=001, COD=001), the old shoreline is retained until the work is completed. Water tint is deleted from the area, but land tint is not extended into the area. If it is a feature under construction (WPC=002, COD=001), the coincident shoreline is deleted, and land tint is extended into the area.

**WORK IN PROGRESS AREA...6C210 (LINE)**

**L-4706** If the attribute value is not known, or the attribute value for none or not applicable, delete window and condense remaining windows.

**L-4774** If two work in progress areas (6C210) are within 20 mm of each other and the same COD (either both COD=001 or both COD=002), show only one legend with the later DAT attribute centered between the two features.

**R-2857** If work in progress area (6C210) is extending the shoreline seaward (WPC=001, COD=001), the old shoreline is retained until the work is completed. Water tint is deleted from the area, but land tint is not extended into the area. If it is a feature under construction (WPC=002, COD=001), the coincident shoreline is deleted, and land tint is extended into the area.

**BOUNDARY MARKER...9B030 (POINT)**

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:

- a. northeast (preferred position).
- b. southeast (1st alternate).
- c. northwest (2nd alternate)
- d. southwest (3rd alternate)
- e. top-centered (4th alternate)
- f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)

2. Minimum space between type placement and feature symbol is 0.5 mm.

3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

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**FEATURE: CONTROL POINT...9B035 (POINT)**

**CONTROL POINT...9B035 (POINT)**

- L-0070** The preferred position of elevation values for horizontal control points (9B025, CPA=002) are as indicated below, in decending order of preference:  
 Preferred: Bottom right side (southeast) corner of triangle symbol.  
 Second: Right side (east) of triangle adjacent to and centered on dot center point.  
 Third: Top left side (northwest) corner, adjacent to triangle symbol.  
 Fourth: Bottom left side (southwest) corner of triangle symbol.
- L-0071** When control points (9D035, CPA=006) and bench marks (9B035, CPA=001) have a name or number to identify them (such as Station 16, or STA 116), and an elevation value, the name or number and elevation are positioned in the following order of precedence.  
 Preferred: Station name on top left side (northwest) corner of triangle symbol, and elevation value on bottom right (southeast) corner, adjacent to the apex of the triangle symbol.  
 Second: Stacked, name and value, centered on right side of triangle symbol.  
 Third: Same as second, except to the left side of triangle symbol.  
 Fourth: Station name is centered to the left side on the dot of the triangle symbol, with the elevation value centered on the same line as the station name, but to the right side of the triangle symbol.
- L-4008** If NAM = unknown, omit NAM window.
- R-2374** Control Points shall not be shown < 75 mm apart. In areas of high concentration of points, (more than one every 75 mm), the points of the higher order of preference will be shown no less than 75 mm nor more than 125 mm apart. The order of preference is - 1) trig stations, 2) bench marks, 3) spot heights.

**MAGNETIC DISTURBANCE AREA...9C040 (AREA)**

- L-4705** Labeling areas, in order of preference:  
 (1) Centered in area on one line in the area, type is horizontal, reading left to right.  
 (2) Centered in area on one line in the area, oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.  
 (3) Centered in area on two approximately equal lines, without splitting a word, type is horizontal, reading left to right.  
 (4) Centered on two approximately equal lines without splitting a word, type is oriented along the long axis of the feature, reading left to right, or bottom to top if axis is vertical.  
 (5) Use Rule L-4722 for type placement if the area is too small to place the type inside the area.
- L-4722** Priority for type placement: 1-right center, 2-bottom center, 3-left center, 4-top center.  
 (A) Minimum distance from symbol - 1 mm.  
 (B) Maximum distance from symbol before choosing the next highest priority:  
 #1 4 mm measured to the West end  
 #2 4 mm measured to the North side (top)  
 #3 4 mm measured to the East end  
 #4 4 mm measured to the South side (bottom)
- L-4737** Feature name /label shall be positioned parallel to lines of latitude and readable left to right.

**MISCELLANEOUS CULTURAL FEATURE...9D012 (AREA)**

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**FEATURE: MISCELLANEOUS CULTURAL FEATURE...9D012 (AREA)**

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.

**MISCELLANEOUS CULTURAL FEATURE...9D012 (LINE)**

**L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.

**MISCELLANEOUS CULTURAL FEATURE...9D012 (POINT)**

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**POINT OF CHANGE...9D015 (POINT)**

**C-0016** The feature shall be perpendicular to a road (1P030), interchange (1P020), railroad track (1N010), administrative boundary (L6A000), armistice line (6A020), cease-fire line (6A030), defacto boundary (6A060), international date, or river/stream (2H140).

**L-3958** The Point of Change in the number of Tracks shall be symbolized and labeled <= 6.2 mm to the Point of Change on both sides.

**R-2173** Point of Change symbol (9D015) shall be added where approximate alignment begins and ends and placed on top of Road where labels would be placed, perpendicular to Road symbolization with staff end of symbol just touching the Road.

**R-2175** Add Point of Change (9D015) ticks at the beginning and end of Roads labeled LTN >= 3.



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**FEATURE: POINT OF CHANGE...9D015 (POINT)**

- R-2176 LTN labels shall be positioned adjacent to Point of Change (9D015) ticks on road stretches  $\geq 2.0$  mm at map scale.
- R-2209 If two line features of the same FACS code meet end to end, and have different depths (HDP), a short line is shown centered on the point of intersection. It bisects the angle at which the line features meet (i.e., if the lines meet at  $180^\circ$  angle the bisecting line is perpendicular to the meeting line features). The bisecting line is 0.1 mm lineweight, length is 3.0 mm, and it is shown in the same color as the line features.
- R-2357 The "Point of Change" symbol shall be shown at 90 degrees on the north or upper side of the boundary when there is a change in the status of a boundary. The symbol shall not overprint a symbolized boundary monument.
- R-2430 A limiting tick shall be shown at points indicating a change in navigability of a canal.
- R-2498 Use a point of change (9D015) for changes in status on an administrative boundary (6A000), armistice line (6A020), Cease-fire line (6A030), defacto boundary (6A060), demilitarized zone (6A070), or zone of occupation (6A170), unless change occurs at a symbolized boundary marker (9B030).

**VOID COLLECTION AREA...9D020 (AREA)**

- G-0011 Feature must retain all cartographic detail (i.e., not thinned or smoothed).
- L-0050 Type sizes per area sizes at map/chart scale: Area features only.
- |                   |                                            |
|-------------------|--------------------------------------------|
| 06 point - $\leq$ | 770 mm sq. area and $\leq$ 14 mm width     |
| 07 point - $\leq$ | 2,296 mm sq. area and $\leq$ 28 mm width   |
| 09 point - $\leq$ | 5,192 mm sq. area and $\leq$ 44 mm width   |
| 10 point - $\leq$ | 9,796 mm sq. area and $\leq$ 62 mm width   |
| 12 point - $\leq$ | 16,632 mm sq. area and $\leq$ 84 mm width  |
| 14 point - $\leq$ | 24,960 mm sq. area and $\leq$ 104 mm width |
| 16 point - $>$    | 24,960 mm sq. area                         |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.
- L-3505 Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506 Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3968 An area void of Contours or form lines due to lack of, or poor quality source data, shall be labeled "RELIEF DATA INCOMPLETE". An area void of relief which is greater than 75 mm x 75 mm at map scale shall carry the additional note "Limits of Reliable Relief Information" repeated along the perimeter of the contoured area.

**NAMED LOCATION...9D040 (AREA)**

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**FEATURE: NAMED LOCATION...9D040 (AREA)**

**L-0050** Type sizes per area sizes at map/chart scale: Area features only.

06 point -  $\leq$  770 mm sq. area and  $\leq$  14 mm width  
 07 point -  $\leq$  2,296 mm sq. area and  $\leq$  28 mm width  
 09 point -  $\leq$  5,192 mm sq. area and  $\leq$  44 mm width  
 10 point -  $\leq$  9,796 mm sq. area and  $\leq$  62 mm width  
 12 point -  $\leq$  16,632 mm sq. area and  $\leq$  84 mm width  
 14 point -  $\leq$  24,960 mm sq. area and  $\leq$  104 mm width  
 16 point -  $>$  24,960 mm sq. area

Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

**L-0060** Populated places are classified by complete up-to-date population figures, and by administrative importance. When complete up-to-date population data is not available, populated places are classified solely by administrative importance.

First order of precedence:

Population classification for culturally developed areas:

$\geq$  500,000 (PPL 001), first importance  
 14 point bold condensed, upper case  
 $\geq$  100,000 and  $<$  500,000 (PPL 002), second importance:  
 10 point bold condensed, upper case  
 $\geq$  25,000 and  $<$  100,000 (PPL 003), third importance  
 10 point bold condensed, upper and lower case  
 $\geq$  5,000 and  $<$  25,000 (PPL 004), fourth importance  
 10 point condensed, upper and lower case  
 $<$  5,000 (PPL 005), fifth importance:  
 8 point condensed, upper and lower case

Second order of precedence:

Population and relative importance classification for an area not as yet well culturally developed:

$\geq$  100,000 (PPL 001), first importance  
 14 point bold condensed, upper case  
 $\geq$  50,000 and  $<$  100,000 (PPL 002), second importance  
 10 point bold condensed, upper case  
 $\geq$  10,000 and  $<$  50,000 (PPL 003), third importance  
 10 point bold condensed, upper and lower case  
 $\geq$  2,000 and  $<$  10,000 (PPL 004), fourth importance  
 10 point condensed, upper and lower case  
 $<$  2,000 (PPL 005), fifth importance  
 8 point condensed, upper and lower case

Third order of precedence:

The categories of administrative importance may vary from region to region

National capital (PPL 001), first importance  
 14 point bold condensed, upper case  
 Province, state, or department capital (PPL 002), second importance  
 10 point bold condensed, upper case  
 County seat or chartered city (PPL 003), third importance  
 10 point bold condensed, upper and lower case  
 Town (PPL 004), fourth importance  
 10 point condensed, upper and lower case  
 Village or settlement (PPL 005), fifth importance  
 8 point condensed, upper and lower case

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APPENDIX A  
COMBAT CHARTS PRODUCT RULES

**FEATURE: NAMED LOCATION...9D040 (AREA)**

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)  
(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.
- L-3506** Names placement shall be oriented to the longest axis of the feature reading left to right and placed within the area outline and centered. If longest axis is perpendicular to the south neatline, the type shall be placed outside of the area outline, preferred position is northeast of the feature (Rule L-3505), but may be placed at any position around the feature so as not to overprint any other feature type and reading left to right.
- L-3630** Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.
- L-4827** Geographic names shall not be placed along the axis of deepest water in a confined area, such as a channel, fairway, etc.
- L-4896** The following non-FACS features shall be named if name is known:
- a. Non-tidal basin (an artificially enclosed area within which water can be maintained at a desired level to keep ships afloat while loading or discharging cargo, etc.). Water level is maintained by locks (2I030), or sluice gates (2I040), in IHO terminology, a "caisson". Symbolize name as if CSI=006, i.e. in italic type.
  - b. Tidal basin or tidal harbor (an enclosure in which the tide freely rises and falls, i.e., there is no lock or gate to regulate the water level. Symbolize name as if CSI=006, i.e., in italic type.

**NAMED LOCATION...9D040 (LINE)**

- L-0051** Type sizes for single line features at map/chart scale.
- 06 point - ≤ 80 mm length  
07 point - ≤ 160 mm length  
09 point - > 160 mm length

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**FEATURE: NAMED LOCATION...9D040 (LINE)**

**L-0060** Populated places are classified by complete up-to-date population figures, and by administrative importance. When complete up-to-date population data is not available, populated places are classified solely by administrative importance.

First order of precedence:

Population classification for culturally developed areas:

- >= 500,000 (PPL 001), first importance
  - 14 point bold condensed, upper case
- >= 100,000 and < 500,000 (PPL 002), second importance:
  - 10 point bold condensed, upper case
- >= 25,000 and < 100,000 (PPL 003), third importance
  - 10 point bold condensed, upper and lower case
- >= 5,000 and < 25,000 (PPL 004), fourth importance
  - 10 point condensed, upper and lower case
- < 5,000 (PPL 005), fifth importance:
  - 8 point condensed, upper and lower case

Second order of precedence:

Population and relative importance classification for an area not as yet well culturally developed:

- >= 100,000 (PPL 001), first importance
  - 14 point bold condensed, upper case
- >= 50,000 and < 100,000 (PPL 002), second importance
  - 10 point bold condensed, upper case
- >= 10,000 and < 50,000 (PPL 003), third importance
  - 10 point bold condensed, upper and lower case
- >= 2,000 and < 10,000 (PPL 004), fourth importance
  - 10 point condensed, upper and lower case
- < 2,000 (PPL 005), fifth importance
  - 8 point condensed, upper and lower case

Third order of precedence:

The categories of administrative importance may vary from region to region

- National capital (PPL 001), first importance
  - 14 point bold condensed, upper case
- Province, state, or department capital (PPL 002), second importance
  - 10 point bold condensed, upper case
- County seat or chartered city (PPL 003), third importance
  - 10 point bold condensed, upper and lower case
- Town (PPL 004), fourth importance
  - 10 point condensed, upper and lower case
- Village or settlement (PPL 005), fifth importance
  - 8 point condensed, upper and lower case

**L-3630** Label line feature above (preferred) and parallel to the line with a 0.5 mm space between. Above means: readable from south or east Projection neatline.

**L-4827** Geographic names shall not be placed along the axis of deepest water in a confined area, such as a channel, fairway, etc.

**L-4896** The following non-FACS features shall be named if name is known:

a. Non-tidal basin (an artificially enclosed area within which water can be maintained at a desired level to keep ships afloat while loading or discharging cargo, etc.). Water level is maintained by locks (2I030), or sluice gates (2I040), in IHO terminology, a "caisson". Symbolize name as if CSI=006, i.e. in italic type.

b. Tidal basin or tidal harbor (an enclosure in which the tide freely rises and falls, i.e., there is no lock or gate to regulate the water level. Symbolize name as if CSI=006, i.e., in italic type.

**NAMED LOCATION...9D040 (POINT)**

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**FEATURE: NAMED LOCATION...9D040 (POINT)**

**L-0060** Populated places are classified by complete up-to-date population figures, and by administrative importance. When complete up-to-date population data is not available, populated places are classified solely by administrative importance.

First order of precedence:

Population classification for culturally developed areas:

- >= 500,000 (PPL 001), first importance  
14 point bold condensed, upper case
- >= 100,000 and < 500,000 (PPL 002), second importance:  
10 point bold condensed, upper case
- >= 25,000 and < 100,000 (PPL 003), third importance  
10 point bold condensed, upper and lower case
- >= 5,000 and < 25,000 (PPL 004), fourth importance  
10 point condensed, upper and lower case
- < 5,000 (PPL 005), fifth importance:  
8 point condensed, upper and lower case

Second order of precedence:

Population and relative importance classification for an area not as yet well culturally developed:

- >= 100,000 (PPL 001), first importance  
14 point bold condensed, upper case
- >= 50,000 and < 100,000 (PPL 002), second importance  
10 point bold condensed, upper case
- >= 10,000 and < 50,000 (PPL 003), third importance  
10 point bold condensed, upper and lower case
- >= 2,000 and < 10,000 (PPL 004), fourth importance  
10 point condensed, upper and lower case
- < 2,000 (PPL 005), fifth importance  
8 point condensed, upper and lower case

Third order of precedence:

The categories of administrative importance may vary from region to region

- National capital (PPL 001), first importance  
14 point bold condensed, upper case
- Province, state, or department capital (PPL 002), second importance  
10 point bold condensed, upper case
- County seat or chartered city (PPL 003), third importance  
10 point bold condensed, upper and lower case
- Town (PPL 004), fourth importance  
10 point condensed, upper and lower case
- Village or settlement (PPL 005), fifth importance  
8 point condensed, upper and lower case

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)

(Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-4827** Geographic names shall not be placed along the axis of deepest water in a confined area, such as a channel, fairway, etc.

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**FEATURE: NAMED LOCATION...9D040 (POINT)**

- L-4896** The following non-FACS features shall be named if name is known:
- a. Non-tidal basin (an artificially enclosed area within which water can be maintained at a desired level to keep ships afloat while loading or discharging cargo, etc.). Water level is maintained by locks (2I030), or sluice gates (2I040), in IHO terminology, a "caisson". Symbolize name as if CSI=006, i.e. in italic type.
  - b. Tidal basin or tidal harbor (an enclosure in which the tide freely rises and falls, i.e., there is no lock or gate to regulate the water level. Symbolize name as if CSI=006, i.e., in italic type.

**TEXT DESCRIPTION...9D045 (AREA)**

- L-0050** Type sizes per area sizes at map/chart scale: Area features only.
- |              |                                       |
|--------------|---------------------------------------|
| 06 point - ≤ | 770 mm sq. area and ≤ 14 mm width     |
| 07 point - ≤ | 2,296 mm sq. area and ≤ 28 mm width   |
| 09 point - ≤ | 5,192 mm sq. area and ≤ 44 mm width   |
| 10 point - ≤ | 9,796 mm sq. area and ≤ 62 mm width   |
| 12 point - ≤ | 16,632 mm sq. area and ≤ 84 mm width  |
| 14 point - ≤ | 24,960 mm sq. area and ≤ 104 mm width |
| 16 point - > | 24,960 mm sq. area                    |
- Where area measurements are inconsistent, the larger type size shall be used. Where the full range of type sizes is not available for a particular label, the closest available type size shall be used.

- L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:
1. Positional hierarchy:
    - a. northeast (preferred position).
    - b. southeast (1st alternate).
    - c. northwest (2nd alternate)
    - d. southwest (3rd alternate)
    - e. top-centered (4th alternate)
    - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
  2. Minimum space between type placement and feature symbol is 0.5 mm.
  3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**TEXT DESCRIPTION...9D045 (LINE)**

- L-0051** Type sizes for single line features at map/chart scale.
- |              |               |
|--------------|---------------|
| 06 point - ≤ | 80 mm length  |
| 07 point - ≤ | 160 mm length |
| 09 point - > | 160 mm length |
- L-4260** Label shall be positioned above feature, reading left to right (or to the left of vertical feature, reading bottom to top), at a 0.5 mm distance and parallel to respective feature. Label shall preferably be positioned at the midpoint of the line segment or symbol; however, it may be displaced laterally along respective feature to avoid overprinting other symbols or labels. If space will not permit placing label parallel to feature, offset the label in accordance with Rule L-4261 below and use a leader line to identify its location along the feature.
- L-4261** Feature name, label, data information holder, and/or symbol shall be positioned, reading left to right, parallel to the tangent of the center of the southern neatline of the map sheet.

**TEXT DESCRIPTION...9D045 (POINT)**

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**FEATURE: TEXT DESCRIPTION...9D045 (POINT)**

**L-3505** Label feature as per hierarchy for topo type placement parallel to south neatline corners reading left to right:

1. Positional hierarchy:
  - a. northeast (preferred position).
  - b. southeast (1st alternate).
  - c. northwest (2nd alternate)
  - d. southwest (3rd alternate)
  - e. top-centered (4th alternate)
  - f. bottom-centered (5th alternate)
 (Hierarchy is based on type positioning so as to avoid overprinting other type or obscuring detail.)
2. Minimum space between type placement and feature symbol is 0.5 mm.
3. This method of type placement shall be used for areal features when space does not permit labeling within that feature. When SCC = 0 Drop Window.

**L-4899** Miscellaneous labels occasionally may be found in association with marine navigational aids (2C). If a text label is shown on hydrographic source material, it should be considered significant for navigation. Examples are:

- A fog detection light, label "Fog Det Lt"
- A floodlit structure near navigable water, label "{illuminated}"
- A daytime light, if character (COL) of light in the day is different from the character shown at night. Show daytime character, followed by "Day" in parentheses, for example:  
 (F 37m 11M Day)
- Unwatched light, with no standby or emergency arrangements, label "(U)"
- A temporary light or buoy, label "(temp)". If seasonal, include months, for example: "(Apr-Oct)"
- A fog light, if light is only shown in fog, or the light during fog is different from the character (COL) shown at other times, show character in fog, followed by "(in fog)", in parentheses. For example: Fl 5s (in fog)
- A privately maintained light or buoy, label "(priv)"
- RACONS occasionally will show a morse code identification, or an operating frequency, for example, "Racon (Z)", "Racon (Z) (10 cm)", "Racon (Z) (3 & 10 cm)". A RACON responding on a fixed frequency outside the marine band is labeled with an "F" in front of the label "RACON"

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## MIL-H-89202A

## APPENDIX B

## COMBAT CHART STYLE SHEET (EAST-WEST)

## 10. SCOPE

10.1 Scope. This Appendix is a graphic illustration of the design, composition, and location of the margin data of charts oriented with their long dimension in an east-west direction. This Appendix is a mandatory part of the specification. The information contained herein is intended for compliance.

## 20. APPLICABLE DOCUMENTS

20.1 Government documents.

20.1.1 Specifications, standards and handbooks. This section is not applicable to this Appendix.

20.1.2 Other government documents, drawings, and publications.

Defense Mapping Agency Technical Manual 8358.1, Datums, Ellipsoids, Grids, and Grid Reference Systems

Copies of the above technical manual are available to Department of Defense users, from the Defense Mapping Agency Combat Support Center, 6001 MacArthur Boulevard, Bethesda, MD 20816-5001. All other request should be directed to the National Technical Information Center, Cameron Station, Alexandria, VA. 22315-6145

20.2 Non-government publications. This section is not applicable to this Appendix.

## 30. COMBAT CHART STYLE SHEET

30.1 Style sheet. See next page for style sheet information.

30.2 Order of precedence. In the event of a conflict between type styles/sizes illustrated on this style sheet and the type styles/sizes specifications shown in red, the specifications in red shall take precedence.

30.3 Folding. This style sheet is folded to the size of this document. See 5.2 for folding requirements of Combat Charts.

The digital copy of MIL-C-89202A, dated 29 April 1995 does not include appendix "B" or "C". Copies of these appendixes must be ordered separately, please fax this page to 215-697-1462 and include your complete mailing address below.

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## MIL-H-89202A

## APPENDIX C

## COMBAT CHART STYLE SHEET (NORTH-SOUTH)

## 10. SCOPE

10.1 Scope. This Appendix is a graphic illustration of the design, composition, and location of the margin data of charts oriented with their long dimension in a north-south direction. This Appendix is a mandatory part of the specification. The information contained herein is intended for compliance.

## 20. APPLICABLE DOCUMENTS

20.1 Government documents.

20.1.1 Specifications, standards and handbooks. This section is not applicable to this Appendix.

20.1.2 Other government documents, drawings, and publications.

Defense Mapping Agency Technical Manual 8358.1, Datums, Ellipsoids, Grids, and Grid Reference Systems

Copies of the above technical manual are available to Department of Defense users, from the Defense Mapping Agency Combat Support Center, 6001 MacArthur Boulevard, Bethesda, MD 20816-5001. All other request should be directed to the National Technical Information Center, Cameron Station, Alexandria, VA. 22315-6145

20.2 Non-government publications. This section is not applicable to this Appendix.

## 30. COMBAT CHART STYLE SHEET

30.1 Style sheet. See next page for style sheet information.

30.2 Order of precedence. In the event of a conflict between type styles/sizes illustrated on this style sheet and the type styles/sizes specifications shown in red, the specifications in red shall take precedence.

30.3 Folding. This style sheet is folded to the size of this document. See 5.2 for folding requirements of Combat Charts.

30.4 Corrections. The following items were printed incorrectly on this style sheet: The label "COMBAT CHART NORTH-SOUTH STYLE SHEET" in the lower right corner should have been printed in red. This note is not shown on Combat Charts, and only identifies this style sheet. The heights note should be centered between the publication note and the limited distribution note. Gray tint should be added to the chart number in the upper left corner, the coordinate conversion note in the upper right corner, and to the symbol legend.

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The digital copy of MIL-C-89202A, dated 29 April 1995 does not include appendix "B" or "C". Copies of these appendixes must be ordered separately, please fax this page to 215-697-1462 and include your complete mailing address below.

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# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

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<b>I RECOMMEND A CHANGE</b>	1. DOCUMENT NUMBER MIL-C-89202A (DMA)	2. DOCUMENT DATE (YYMMDD) 950429
3. DOCUMENT TITLE Military Specification for Combat Charts		
4. NATURE OF CHANGE <i>(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed)</i>		
5. REASON FOR RECOMMENDATION		
6. SUBMITTER		
a. NAME <i>(Last, First, Middle Initial)</i>	b. ORGANIZATION	
c. ADDRESS <i>(Include Zip Code)</i>	d. TELEPHONE <i>(Include Area Code)</i> (1) Commercial (2) AUTOVON <i>(If applicable)</i>	7. DATE SUBMITTED (YYMMDD)
8. PREPARING ACTIVITY		
a. NAME Defense Mapping Agency ATTN: ATIS, MS A-10	b. TELEPHONE <i>(Include Area Code)</i> (1) Commercial (703) 285-9238	(2) AUTOVON 356-9238
c. ADDRESS <i>(Include Zip Code)</i>  8613 Lee Highway Fairfax, VA 22031-2137	<b>IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:</b>  Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA. 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340	