

Contract Specifications for Paper Hydrographic Charts, Version 1.2, July 2009

Note: These contract specifications have been developed from CHARTspec Version 3.1. Changes to this are detailed in the Record of Changes section of this document.

31 July 2009

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Record of Changes

Version	Date	Amendment
v1.0 Customer Services	5 September 2007	<p>Title page updated.</p> <p>Document order and M4 references changed to match M4 edition 3.004.</p> <p>Significant amendment made to 4.2.1 (Surveyed area limit for Antarctic charts), 5.1.1, 5.1.2, 5.1.2.1, 5.6.2.3, 5.6.6.1, 5.7.1.1, 5.7.2.1, 6.11.3.2, 6.11.3.3, 6.12.3.1, 6.13.5, 6.13.7.1, 7.6.2, 7.8.2.5, 7.10.6.2, 7.13.2.1, 7.13.2.2, 7.13.5.1, 7.13.6.1, 7.13.6.2, 7.13.6.3, 7.13.7, 7.13.7.1, 7.13.7.2, 7.13.7.3, 7.13.9.2, 7.13.9.3, 7.13.10.3, 7.13.10.4, 7.14.4, 9.1.2, 12.2, 12.3, 13.3.2, 14.4.3, References (S4).</p> <p>Other amended clauses 5.3.1, 5.3.1.1, 5.3.2, 5.3.2.1, 5.7.2.3, 6.13.7, 7.7, 7.8.2, 7.8.3.1, 7.8.3.1.1, 7.10.2.2, 7.10.2.4, 7.13.3.1, 7.13.5, 7.13.6, 7.13.8, 7.14.7.1, 8.1.1.3, 14.5, Annex A 16 (magnetic variation curves note), References.</p> <p>Other minor amendments made.</p>
v1.1	4 June 2008	<p>Amendment made to 2, 4.1, 5.7.2.3, 6.1, 6.9.1.1, 6.9.3.1, 6.11.5 (removed), 6.13.1, 7.10.6.2 (removed), 7.11.2, 7.13.2.2, 7.13.2.3 (removed), 7.13.4 (removed), 7.13.4.1 (removed), 7.13.5.2, 7.13.12 (removed), 7.13.12.1 (removed), 7.14.6.2, 7.14.8.1, 8.1.1.2, 10.1, 14.1, Annex B, Annex C (removed) and references.</p> <p>Other minor amendments made.</p>
v1.2	31 July 2009	<p>Numerous amendments to change M4 references to match S4 edition 3.006.</p> <p>Amendments made to 2, 4, 4.2, 4.3, 4.3.1, 4.3.1.1, 5.1.1, 5.1.2, 5.4.2, 5.5.3, 5.6.4, 5.8.1, 5.8.3.1, 5.8.3.2, 6.8.1.3, 6.12.2, 7.8.3.1, 7.8.3.2, 7.8.3.2.1, 7.8.3.3, 7.8.3.4, 7.10.3.3, 7.13.3.2, 7.13.10, 7.13.11, 7.13.12, 7.14.5, 7.14.6.2, 7.15.4, 7.16.3, 7.16.3.1, 9.1.2, 13.4.1.1, 13.4.2.1, 13.4.3, References.</p> <p>5.3.1.2, 7.13.12, 7.14.6.3, 7.14.9 added.</p> <p>7.13.9.2, 14.6 removed.</p> <p>14.7 moved to 7.8.3.1.</p>

Introduction

Land Information New Zealand is the authority for the production of hydrographic charts for the safety of navigation at sea.

The information in this specification is to be used to produce uniform New Zealand hydrographic charts. This specification is to be used as a supplement to the International Hydrographic Organisation S4 and its associated publications. The goal is to specify all minimum requirements for hydrographic charts that are specific to New Zealand or are not clearly defined in S4.

Note: These contract specifications have been developed from CHARTspec Version 3.1. Changes to this are detailed in the Record of Changes section of this document.

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SPECIFICATIONS FOR PAPER HYDROGRAPHIC CHARTS

1 Scope

This specification is the authoritative reference for the depiction and representation of features on a New Zealand hydrographic chart and refers to the preparation of a paper chart end product.

This specification is to be used as a supplement to S4 and has four purposes:

1. To define those clauses that are left open to national discretion.
2. To define supplementary national symbols.
3. To expand those clauses that require further definition.
4. To provide additional information specific to New Zealand charts.

Where there is no information given in this specification, S4 is to be followed, including following the preferred option and recommendations where given. Where information is given in this specification, it is to be used in preference to (in respect of 1 and 2 above) or in addition to (in respect of 3 and 4 above) the information given in S4. Best cartographic practice is always to be applied. The information in this specification is in the same order as S4 and is given with S4 clause numbers. Additional information is given in appropriate places in the text and in the Annex.

This specification is to be used in conjunction with the following related standards and publications.

2 Related Standards and Publications

IHO S4 Chart Specifications of the IHO, Edition 3.006.

IHO INT 1 Symbols, Abbreviations and Terms used on Charts.

IHO INT 2 Borders, Graduation, Grids and Linear Scales, Edition 4.

IHO INT 3 Use of Symbols and Abbreviations, Edition 4.

LINZ Corporate Style Guide.

LINZ WGS84 to NZGD49 7 Parameter Shift Document.

New Zealand Notices to Mariners.

NZ 202 New Zealand Chart Catalogue.

NZ 204 New Zealand Nautical Almanac.

BA 5011 Symbols and Abbreviations used on Admiralty Charts, Edition 4.

Refer also to the Reference section at the end of this document for additional references and full bibliographic citation.

3 Abbreviated Terms

ASP	Authoritative Streets and Places database
BA	British Admiralty
CMYK	Cyan, Magenta, Yellow, Black (plotter output colours)
DE	Double Elephant (paper size)
½ DE	Half Double Elephant (paper size)
dpi	Dots per inch
EEZ	Exclusive Economic Zone
GEBCO	General Bathymetric Charts of the Ocean
gsm	Grams/metre ²
HDR	Hydrographic Data Repository
HP	Hewlett-Packard
IALA	International Association of Lighthouse Authorities
IHB	International Hydrographic Bureau
IHO	International Hydrographic Organisation
IMO	International Maritime Organisation
INT	International
LINZ	Land Information New Zealand
LHS	LINZ Hydrographic Services
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
MSL	Mean Sea Level
NTHA	National Topographic / Hydrographic Authority
NTM	Notice to Mariners

NZNA	New Zealand Nautical Almanac
NZ	New Zealand
OSS	Ocean Sounding Sheets
Pt	Point (size of text)
RMS	Raster Maintenance System
UV	Ultra Violet
UTM	Universal Transverse Mercator
VAT	Validation and Testing
QC	Quality Control

4 S4 Part B, Section 100 General

4.1 *Terms and Conventions*

(S4 B-120)

Chart Body	The largest body of chart detail, as opposed to any inserts.
Individual Chart Specification	Information provided by LHS giving requirements for the production of a particular chart.
Inner Neatline	The inner border line surrounding the chart detail.
Thumb Label	The text, graphic and chart title that appears on the reverse of the chart.

4.2 *Line Weights and Dashed Lines*

(S4 B-127)

The following line weights and dashed line sizes are to be used on NZ charts.

4.2.1 *Line Weights*

Feature	Line weight in mm
Airfield	0.10
Anchorage areas	0.15
Beacons and buoys in line	0.10
Boulders	0.10
Border - outer border	1.00
Border - dicing	0.20
Border - all other line work	0.15
Border scales	0.15
Border insets and plans - outer border	0.80
Breakwater	0.25
Bridges	0.15
Built up area thin line	0.15
Built up area thick line	0.25
Causeway	0.15
Chart limits (larger scale)	0.20
Coastline major (1:1,000,000 and larger)	0.25
Coastline minor (smaller than 1:1,000,000)	0.18
Coastline (wharves, inner harbours, lakes)	0.18
Coastline inadequately surveyed	0.25
Compass rose pecked line	0.15
Cliffs	0.10
Customs limit	0.15
Deep water route	0.20
Dumping ground (T symbol)	0.20
Dredged areas	0.15
Dry dock	0.15
EEZ limit	0.25
Explosive dumping ground (T symbol)	0.20
Fairway	0.20
Fish traps areas	0.15
Ferry route	0.20
Fishery zones	0.18
Floating dock (small scale charts)	0.15
Floating dock (large scale charts)	0.15 & 0.25
Foul area	0.15
Glacier	0.10
Groyne	0.25
Harbour limits	0.20
Hydrographic contours including drying line	0.15

Jetty (single line)	0.25
Landing area	0.18
Leading lines (lights & beacons) pecked portion	0.10
Leading lines (lights & beacons) solid portion	0.15
Light sectors, arcs and lines	0.10
Lights in line	0.10
Limiting lines (black, general)	0.15
Low water rock and coral	0.10
Magenta lines (general)	0.20
Magnetic variation curves (isogonals)	0.20
Marine farm area	0.15
Measured distances	0.10
Meridians and parallels	0.15
Pier (single line)	0.25
Quarry	0.10
Quay	0.20
Railways	0.20
Ramp (single line)	0.25
Recommended track	0.15
Reclamation area	0.15
Rivers	0.15
Roads	0.15 (0.5mm apart)
Ruin (building or landmark)	0.15
Runway	0.10
Shell fish bed area	0.20
Shingle	0.10
Silo	0.10
Slipway	0.25
Source diagram line work	0.15
Spoil ground	0.20
Steps	0.10
Submarine exercise area	0.20
Surveyed area limit	0.25
Tanks	0.10
Territorial sea limit	0.18
Tidal box line work	0.15
Topographic contours	0.10
Track/path	0.20
Training wall	0.25
Tramways	0.20
Unsurveyed Areas	0.20
Wharf - large scale	0.25
Works in Progress (under construction)	0.15
Wreck (always dry and covers and uncovers)	0.25

4.2.2 *Dashed Lines*

Detail is given as dash then space.

Feature	Dash in mm, Space in mm
Anchorage area	2, 1
Approximate hydrographic contours	4, 2
Approximate topographic contours	4, 0.5
Beacons and buoys in line	0.75, 0.25
Clearing line	0.75, 0.25
Coastline inadequately surveyed	1.5, 0.2
Compass rose line	0.5, 0.5
Customs limit	2, 1
Deep water route	1.5, 0.5
Dredged areas	1.5, 0.5
Fairway	10, 2
Ferry route	1.5, 0.5
Fish trap area	1.75, 0.75
Fishery zones	5, 1
Foul area	2, 0.75
Glacier	0.5, 0.5
Groyne intertidal	1.5, 0.5
Harbour/pilot limit	2, 1
Landing area	1.25, 0.5
Leading lines (lights & beacons)	0.75, 0.25
Light sector arcs and lines	0.75, 0.25
Lights in line	0.75, 0.25
Limit of routing measure	2, 1
Marine farm/shellfish beds	2, 1
Maritime limit in general	2, 0.5
Marshy shoreline	1.5, 0.5
Measured distance	0.75, 0.5
Radar reference line	1.5, 0.5
Recommended track not based on fixed marks	2, 0.25
River - Intermittent	1.25, 0.5
Road (unsurfaced)/vehicle track	1.5, 0.5
Ruin (building and landmark)	0.75, 0.25
Slipway intertidal	0.75, 0.25
Small craft moorings	1.5, 0.5
Spoil Ground	2, 0.75
Surveyed area limit	10, 2
Track (walking)	1.5, 0.5
Transit	0.75, 0.25
Tunnel	0.75, 0.5
Under construction/reclamation	1.5, 0.5
Unsurveyed area	2.0, 1.5
Wreck (always dry and covers and uncovers)	1.5, 0.5

4.3 Use of colour

(S4 B-140)

Charts are printed in four colours:

1. Black
2. Magenta
3. Blue
4. Buff

An additional brown colour may be required.

For charts printed lithographically, the chart reverse is printed in grey. For charts output from a plotter the chart reverse is printed in black.

4.3.1 Buff

(S4 B-143)

Land is printed in buff. For charts printed lithographically, buff is a solid colour. For charts output from a plotter, buff is defined separately.

4.3.1.1 Depiction of Intertidal Areas

For charts printed lithographically, the colour of intertidal areas is derived by combining:

Solid blue

Solid land buff colour

For charts output from a plotter the intertidal colour is defined separately.

4.3.2 Blue

(S4 B-144)

Shallow water on small scale charts is printed in dark blue. Shallow water on large scale charts is printed in dark and light blue.

For charts printed lithographically, dark blue is a solid colour and light blue a tint:

Dark blue 100%

Light blue 50%

For charts output from a plotter, dark blue and light blue are defined separately.

5 S4 Part B, Section 200 Chart Framework (Format, Positions, Compass Roses, source Diagrams)

5.1 *Indication on Charts of Relationship of Horizontal Datum to World-wide and other Datums*

(S4 B-202)

5.1.1 *Geodetic Datum Note*

(S4 B-202.1)

All charts are in terms of WGS 84 datum.

Geodetic datum is to be stated in the title block of all charts of 1:1,500,000 and larger i.e. 'Positions are on World Geodetic System 1984 (WGS84)'.

5.1.2 *Satellite Derived Positions Note*

(S4 B-202.2)

All charts of 1:500,000 and larger will display a cautionary note printed in black warning the mariner about transferring positions between charts not in terms of WGS84 datum. See Annex A.

5.1.2.1 WGS 84 Note

All charts of 1:1,500,000 and larger will display the following note in 24pt and 12pt medium upright magenta, positioned in the top right corner, left of the 'See Related Publications' note.

WGS 84 DATUM
(see Note)

5.1.2.2 Conversion of data from NZD49 to WGS 84

When a NE is produced that requires data to be converted from NZGD49 to WGS84 datum, the shift is to be positioned through the use of WGS 84 control points and not by a general (4 corner) shift. The number of control points to be used will be supplied to the contractor in the chart specification. These are to be evenly spaced to cover the entire charted area.

Refer to LINZ WGS84 to NZGD49 7 Parameter Shift document for an example of the shift. See References.

5.2 *Projections*

(S4 B-203)

Mercator (mid latitude specified), Transverse Mercator or Universal Transverse Mercator is to be used as specified in the chart specification.

5.2.1 *Charts of Scale 1:50,000 and larger*

(S4 B-203.1)

Charts on Transverse Mercator projection: the central meridian is the centre-most meridian, accurate to 0.1'.

5.3 *Chart Construction*

(S4 B-210)

5.3.1 *Graduation*

(S4 B-212)

The INT 2 pattern of graduation will not be specified in the chart specification unless at variance to the following table and INT 2.

NZ variants from INT 2 are:

Style	Limiting Scale	
	Largest	Smallest
E	-	= 1:50,000
F	Smaller than 1:50,000	= 1:100,000
G	Smaller than 1:100,000	= 1:200,000
H	Smaller than 1:200,000	= 1:500,000
J	Smaller than 1:500,000	Larger than 1:1,500,000

The minor subdivision on Transverse Mercator borders is to be in decimals of a minute. It is to fall to the east of each meridian and to the south of each parallel. The subdivision varies for charts of scale:

> or equal to 1:25,000 10ths of 0.1'

<1:25,000 to 1:50,000 5ths of 0.1'

All charts of 1:50,000 will have minor subdivision.

A minimum of one degree label is to be shown in each border of a chart, inset or plan (an exception may exist on the skewed sides of non-rectangular charts, insets or plans). The E and/or W label is to be shown only in the south border.

When required, graduation is to be labelled in decimal minutes. The graduation labels are to be in upright medium text and the sizes are:

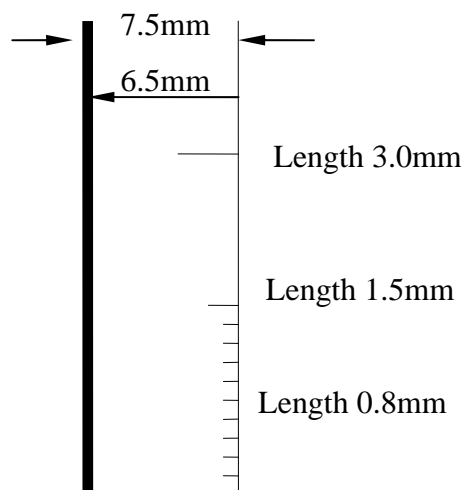
Degree labels	10pt
E/W label	10pt
Minute labels	8pt
Decimal minute labels	8pt

5.3.1.1 Pattern of Graduation

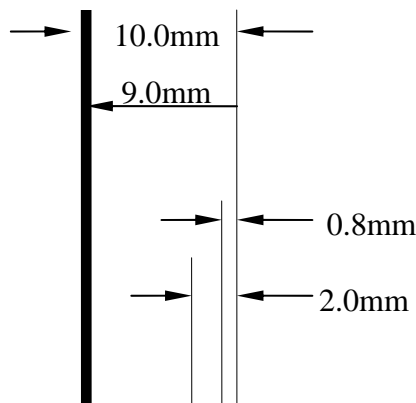
(S4 B-212.1)

The following NZ variants for widths are to be applied to INT 2 ‘Borders Graduation, Grids and Linear Scales’:

Transverse Mercator Border:



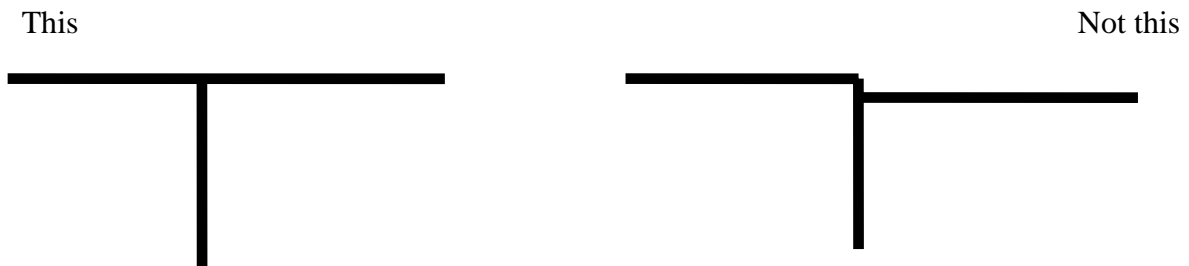
Mercator Border:



Sheets of Plans:

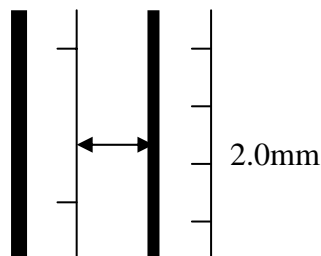
Sheets of plans shall have the same border widths as the chart border, with the exception that all inner solid lines shall be 0.8mm rather than 1mm.

The outer border must be a straight line and not stepped around plans, unless specified by LHS. For example:

**Insert Plans:**

Inset plans shall have the same dimensions as the chart border with the exception that all inner solid lines shall be 0.8mm rather than 1mm.

There shall be a 2mm gap between the inner neatline of the chart border and the outside of the solid line of the inset plan. For example:

**5.3.1.2 Inner Line Corner Marks**

Add 3mm long corner marks to all colour plates, to lie under the black inner neatline corners of the main chart or extents of the chart.

5.3.2 Graticule

(S4 B-213)

5.3.2.1 Meridians and Parallels

(S4 B-213.1)

When a meridian or parallel falls closer than 15mm to the inner neatline it is to be omitted.

5.3.3 Corner Co-ordinates

(S4 B-214)

Co-ordinates are to be expressed in degrees and minutes to two decimal places of a minute e.g. 41°13'.50S on scales smaller than 1:10,000 and to three decimal places of a minute on scales of 1:10,000 and larger. All plans are to state corner co-ordinates.

Corner co-ordinates are to be shown in 6pt medium upright type.

5.4 Linear Scales, Dimensions

(S4 B-220)

5.4.1 Linear (Graphical) Scales

(S4 B-221)

5.4.1.1 Border scales

(S4 B-221.1)

Border scales are to be placed on:

DE charts	Repeated on each half of the folded portions on alternate sides.
½ DE charts	Placed on one side (the most seaward side).

Border scales are not to be used on sheets of plans.

The graduation of border scales is to be as for linear scales on INT 2.

5.4.2 Dimensions

(S4 B-222)

Chart paper size is to be:

DE charts	1100 x 720mm
½ DE charts	720 x 550mm

Neatline dimensions will be approximately:

DE charts	630 x 980mm
½ DE charts	460 x 630mm

On national charts show dimensions outside the border. On international charts show dimensions between the neat line and outer border.

Inner neatline dimensions are to be in mm to one decimal place and the E/W dimension is quoted first.

For Transverse Mercator Projections the lengths of both borders are quoted with the north border being given above that of the south.

5.5 *Title, Notes*

(S4 B-240)

5.5.1 *Title Block*

(S4 B-241)

National chart series titles will be set out as shown below, which also shows a cautionary and explanatory note. All text is to be medium upright (with the exception of bold upright for 'Depths, Heights, Navigational marks:, Positions, Projection: and Sources:' as shown) with point sizes as specified below.

Words should not be hyphenated (split through justification) and 'Lowest Astronomical Tide' and 'Mean High Water Springs' must not be abbreviated. 'Sources' should state the source of the topography and refer to the source data diagram for the hydrography.

The LINZ logo is to be the same size and proportions as shown below.



NEW ZEALAND	10pt
NORTH ISLAND - WEST COAST	14pt
WELLINGTON	36pt (with joining words e.g. 'and' or 'to' in 24pt)
HARBOUR	
DEPTHS IN METRES	12pt
SCALE 1:25 000	12pt
Depths in metres (under thirty-one in metres and decimetres) reduced to Chart Datum which is approximately Lowest Astronomical Tide.	
Heights in metres. Underlined figures are drying heights above Chart Datum; all other heights are above Mean High Water Springs.	
Navigational marks: IALA Maritime Buoyage System Region A (Red to Port).	8pt
Positions are on World Geodetic System 1984 (WGS84).	Justified to 75mm
Projection: Transverse Mercator.	
Sources: For information on the quality of the hydrography see the Source Data Diagram. Topography derived mainly from Land Information New Zealand data.	
SATELLITE DERIVED POSITIONS Positions obtained from satellite navigation systems referred to the WGS 84 Datum can be plotted directly onto this chart. Caution must be exercised in the transfer of geographical positions to other charts not in terms of WGS 84 Datum.	6pt
	Justified to 50mm

5.5.1.1 Inset Titles

Titles on inset plans will comprise the name and scale in 18pt and 12pt medium upright type. The word 'scale' is to be omitted and only the representative fraction figures are to be given.

Where the inset is on a different projection to the chart body, add a note in 8pt medium upright type stating the projection. Do not add a note stating the datum, as this is the same as on the chart body. For example:

DEA'S COVE

1:7 000

Projection: Transverse Mercator.

5.5.1.2 Seal

(S4 B-241.1)

The LINZ logo in black and white is to be used as the official seal. The logo used for the title block is 27mm high portrait format as shown below.



5.5.1.3 Scale

(S4 B-241.4)

The scale note is to be worded as in the following example:

SCALE 1:1 500 000 (41°)

The mid latitude is to be omitted for charts on Transverse Mercator and UTM projections.

5.5.2 *Cautionary and Explanatory Notes*

(S4 B-242)

Notes are to be referred to in the body of the chart at the location affected, in either 6pt or 8pt, depending on the size/importance of the feature/danger referenced. For example:

Harbour Entrance
(see Note)

All notes must have a descriptive title, rather than 'Caution'. Notes referring to more than one location may have a plural title. For example:

Harbour Entrances
(see Note)

All new, or changes to existing notes must be approved by LHS.

The voluntary code note is to be inserted on all coastal charts and various other charts as directed in the chart specification. A navigational aids note is to be inserted if any lights, buoys or beacons have been omitted from the chart.

See Annex A for examples of wording of notes.

5.5.2.1 Text Colour

(S4 B-242.3)

When a group of cautionary notes are placed in a block, the text '(see Note)' on the chart body is to be in the same colour as the note, even if it is different to the colour of the feature. An example is the radio reporting symbol and text '(see Note)' on NZ 4314.

5.5.3 Reference to Other Publications

(S4 B-243)

Related publications are to be referred to in a boxed note placed outside the upper right hand corner of the chart. Place the note so that the right-hand side of the box is flush with the right-hand side of the outer chart border and the bottom is 1mm above outer border.

There are two versions of the note as shown below:

National charts of NZ:

<p>SEE RELATED PUBLICATIONS: NOTICES TO MARINERS (annual, recent, imminent and temporary changes), ADMIRALTY SAILING DIRECTIONS (local conditions; directions, regulations and port information), NZ NAUTICAL ALMANAC (tide tables, light list, weather transmissions, radio beacons), ADMIRALTY LIST OF RADIO SIGNALS (navigational warnings, pilot and port operations services, traffic management), MARINERS HANDBOOK (general information), ADMIRALTY CHART 5011 (symbols and abbreviations). ENSURE THAT CHARTS AND PUBLICATIONS ARE KEPT CORRECTED.</p>
--

National charts beyond NZ (i.e. that fall outside NZ's EEZ limit):

<p>SEE RELATED PUBLICATIONS: NOTICES TO MARINERS (recent, imminent and temporary changes), ADMIRALTY SAILING DIRECTIONS (local conditions; directions, regulations and port information), ADMIRALTY LIST OF LIGHTS, LIST OF RADIO SIGNALS (navigational warnings and weather transmissions, pilot and port operations services, traffic management, radio beacons), ADMIRALTY TIDE TABLES, TIDAL STREAM ATLASES, MARINERS HANDBOOK (general information), ADMIRALTY CHART 5011 (symbols and abbreviations). ENSURE THAT CHARTS AND PUBLICATIONS ARE KEPT CORRECTED.</p>

The text is to be 6pt medium upright with the exception of 'SEE RELATED PUBLICATIONS:' and 'ENSURE THAT CHARTS AND PUBLICATIONS ARE KEPT CORRECTED' which are in 6pt bold upright. The text is to be left and right justified and to be similar in appearance to the examples above.

The notes are 150mm wide (measured from the edges of the box). An alternative version of the note may be used where space is limited (for example NZ 2225, a chart with the title outside the border). The alternative version carries the same wording and is 50 to 60mm wide.

5.6 Numbering, Marginal Information

(S4 B-250)

All information falling outside the charts outer border is to be positioned as on NZ 6821 Bluff Harbour, produced January 2000. This shows the relative positions of the detail; the proportions will vary depending on chart size and shape.

There are two exceptions to this layout:

Portrait ½ DE charts - remove the DEPTHS IN METRES from the south border.

Charts with the title outside the border - as specified in the chart specification.

All text that sits against the outer border is to be placed 1mm from the outer border.

5.6.1 *Chart Numbering*

(S4 B-251)

The chart number as specified in the chart specification shall be placed in the lower right hand corner of the chart and, inverted, in the upper left hand corner. Place so that the right/left hand side of the type is flush with the right/left hand side of the outer chart border. The chart number is to be in 18pt bold upright. For example:

National chart	NZ 5321
Tongan chart	T 827 NZ 827

5.6.2 *Date of Publication and Updates*

(S4 B-252)

5.6.2.1 **Publication Note**

(S4 B-252.1)

The font will be 10pt medium upright.

The content of the various publication notes is defined below. When printing is not part of the chart production contract the unknown dates are to be added as 'XXXX XXXX'. The description of date as shown in the notes is defined as follows:

aa is the month that the chart was first published by the RNZN. e.g. January

bb is the year that the chart was first published by the RNZN. e.g. 1989

mm is the month that the chart was first published by LINZ. e.g. June

nn is the year that the chart was first published by LINZ. e.g. 1998

xx is the month that the chart is being published by LINZ. e.g. April

yy is the year that the chart is being published by LINZ. e.g. 1999

The publication notes are to read as follows:

New Charts

Published, xx yy, under the authority of Land Information New Zealand.

New Editions of charts originally published by RNZN

Published, *aa bb*, by the Hydrographer RNZN. New Edition published, *xx yy*, under the authority of Land Information New Zealand.

New Editions of charts originally published by LINZ

Published, *mm nn*, under the authority of Land Information New Zealand.

5.6.2.2 Edition Date

(S4 B-252.2)

All new editions of a chart produced after its initial publication are to be listed on the chart. LHS will supply this information in the chart specification if not available on the chart itself.

The new edition note will be placed in 6pt medium upright type, to the right of the publication note, in between the 'Depths in Metres' and the chart dimensions, at the bottom of the chart. It will be in the format 'New Edition *month year*'. For example:

New Edition April 1993, January 2002

5.6.2.3 Plate Dates

Printing plate dates, which previously showed the dates of the black and magenta plates, will not be shown.

5.6.2.4 Notices to Mariners

(S4 B-252.3)

Add the legend 'Small corrections' in 6pt medium upright type.

5.6.3 *Copyright Legend*

(S4 B-253)

The crown copyright note is to be centred below the publication note or notes. It will read 'Crown Copyright Reserved' in 6pt medium upright type.

5.6.4 *Cartographers Names*

Do not add cartographer's names. Delete any existing cartographers names present on the chart.

5.6.5 *References to Other Charts*

(S4 B-254)

5.6.5.1 Border References

(S4 B-254.1)

Add reference in 10pt medium upright magenta. For example:

Adjoining Chart NZ614

5.6.5.2 Limits of Larger Scale Charts or Plans

(S4 B-254.2)

Limits of inset plans and larger scale charts will carry the legend 'SEE PLAN' or the chart number as appropriate in 12 point medium upright magenta. It is to be inserted in one or more corners of the limits.

As a general rule, only the next largest scale charts are to be shown. Charts of larger scale again, that fall outside of the limits of the next largest scale charts, are to be shown in entirety.

Larger scale charts considered vital for safe navigation must be referenced on 1:200,000 and 1:300,000 coastal charts.

5.6.6 *Other Marginal Information*

(S4 B-255)

5.6.6.1 Units

(S4 B-255.2)

All charts will be in terms of metres and must state this clearly in notes positioned beneath the lower right and above the upper left corners of the outer border. The outer edge of the notes is to be 90mm from the east or west outer border wherever possible. Where there are a large number of new editions listed this distance may be greater.

Exceptions exist for:

Half DE portrait charts which have only one note, positioned above the upper left corner.

1:3,500,000 and 1:10,000,000 INT charts which have an additional 2 notes positioned outside the left and right outer borders, in the middle of the border.

These notes shall be in 24 and 18 point medium upright magenta.

DEPTHS IN METRES

5.7 *Compass Roses*

(S4 260)

5.7.1 *Compass Roses: Patterns, True and Magnetic*

(S4 B-261)

5.7.1.1 True Rose

(S4 B-261.1)

An outer true rose will be shown on all charts.

Compass roses on charts of scale 1:750,000 and larger are to look like the example in S4 B-260 'Specimens of Compass Roses'. This includes adding dashed lines joining 0°-180° and 090°-270° where they do not coincide with meridians or parallels. The dashed lines are to be broken for the inner magnetic rose.

Compass roses on charts of scale smaller than 1:750,000 have the following differences/additions from the example in S4 B-260 'Specimens of Compass Roses':

Do not add the inner magnetic rose.

Do not add the dashed lines.

Insert a north star:



Show the compass rose position with a dot, circle and cross extending 2mm beyond the circle:



Add lines extending 6.5mm east, south and west beyond the compass rose:



When the compass rose falls on a meridian or parallel, break the black linework for the above additional detail.

5.7.1.2 Magnetic rose

(S4 B-261.2)

An inner magnetic rose will be used on all charts of scale 1:750,000 and larger. Charts of scale smaller than 1:750,000 will use only the true rose.

5.7.2 *Compasses Roses: Size and Position*

(S4 B-262)

5.7.2.1 Diameter

(S4 262.1)

Charts showing only the true rose are to show a 135mm diameter rose (measured from the outer edges of the true rose linework including the text).

Charts showing true and magnetic roses are to show roses selected from the following four sizes of true rose: 120mm, 125mm, 130mm and 135mm diameter (measured from the outer edges of the true rose linework including the text). The 135mm size compass is preferred.

Smaller roses, down to a minimum of 75mm diameter, can be shown where space is restricted. The style of the rose does not change with the reduced size.

5.7.2.2 Type size

The size of the degree text on the 140mm diameter true rose is 7pt. The size of the degree text on the 120mm, 125mm, 130mm and 135mm diameter true and magnetic roses is:

Outer true rose	7pt
Inner magnetic rose	6pt

Smaller roses are to be a 'photographic' reduction of the 120mm rose and the text will be reduced accordingly.

5.7.2.3 Position

(S4 B-262.2)

Ideally the rose centre should be at least 150 mm from the inner neatlines. The service provider is to determine the position and size of the compass roses, depending on the surrounding detail. If the centre of the compass rose does not fall on a meridian or parallel, it should fall on a whole tick if possible.

Meridians and parallels, which cut the compass roses, are to be carried through and broken only for compass detail. Other black and magenta line work should be broken for the compass rose.

5.8 *Magnetic Data*

(S4 B-270)

5.8.1 *Magnetic Data: Source Material*

(S4 B-271)

The magnetic variation and rate of change is to be calculated by the service provider .

Magnetic variation is to be calculated to one year before the end of the epoch eg 1999, 2004. The magnetic variation is to be rounded to 5 minutes. The rate of change is to be rounded to 1 minute.

When calculating magnetic variation from the BA charts the magnetic variation and rate of change are to be determined to an accuracy of 1 minute. The rounding is to be done at the end of the calculation.

5.8.2 *Magnetic Data: Symbols*

(S4 B-272)

5.8.2.1 Charts of Scale Smaller than 1:750,000

(S4 B-272.1)

When the annual rate of change is less than 30 seconds the expression ‘nearly stationary’ is to be shown. Between 30 seconds and 1 minute, ‘slightly increasing’ (or ‘decreasing’) is shown and when the annual change exceeds 1 minute, the actual figure is given.

5.8.2.2 Charts of Scale Larger Than of Equal to 1:750,000

(S4 B-272.2)

In some circumstances it is necessary to show the magnetic variation within the title block of a plan. This is generally on a sheet of plans when space in a plan is restricted. In this circumstance the magnetic variation is shown ‘Magnetic Variation: *degrees minutes* E/W (*date*). Annual increase/decrease *minutes* E/W.’ in 8pt bold and medium upright black text. For example:

Magnetic Variation: 13°50' E (1994). Annual increase 1' E.

When the magnetic variation is shown in the title block and a compass is shown, include the true rose only.

5.8.2.3 Magnetic Legends

(S4 B-272.3)

The legend inside the magnetic roses is to be 8pt medium upright magenta.

5.8.3 *Abnormal Magnetic Variation*

(S4 B-274)

5.8.3.1 Local Magnetic Anomaly with Established Magnitude and Extent

(S4 B-274.1)

The following legends may be used:

Abnormal Magnetic Variation (see Note) - to indicate a varying anomalous value.

Local Magnetic Anomaly (see Note) - to indicate a local effect of constant magnitude.

A note is to be inserted in or near the title block when precise limits of areas are not available or scale does not allow the use of the symbol. For example:

MAGNETIC ANOMALY

A local magnetic anomaly increases (decreases) the normal magnetic variation by 2° to 5° in the area indicated on this chart.
See also NZ Nautical Almanac.

5.8.3.2 Local Magnetic Anomaly not Investigated

(S4 B-274.2)

When the information is not sufficiently precise the following caution is to be inserted:

MAGNETIC ANOMALY

A local magnetic anomaly is reported to exist in the area indicated on this chart. See also N.Z. Nautical Almanac.

In the compass nearest the area affected '(see Note)' is to be inserted under the value of the magnetic variation.

5.9 *Conversion Table*

(S4 B-280)

Do not include a conversion table.

5.10 *Source Diagrams*

(S4 B-290)

5.10.1.1 Scales of Charts which should have Source Diagrams

(S4 B-292)

All charts are to have a source diagram. The type of source diagram to be used is dependent on the chart scale:

1:10,000,000	Index of 1:3,500,000 charts.
>1:10,000,000 to <1:1,000,000	Diagram of sounding line density.
1:1,000,000 and larger	Source data diagram.

5.10.2 *Graphical Representation of Limits of Surveys*

(S4 B-293)

5.10.2.1 Dimensions

(S4 B-293.1)

Source diagram dimensions (excluding the text) are based on a proportion of the charts inner neatline dimensions:

1/12th for DE charts and charts made up of two or more plans with one combined source data diagram.

1/9th for ½ DE charts and charts made up of two or more plans with separate source data diagrams in each plan.

The exact dimensions will vary depending on the dimensions of the chart.

5.10.2.2 Source Diagram Line Work

(S4 B-293.2)

Foreshore rock and coral reefs are to be shown when appropriate, depending on chart scale and extent of foreshore rock or coral reefs.

5.10.2.3 Graduation

(S4 B-293.4)

Show graduation on an index of 1:3,500,000 charts. No graduation is to be shown on a diagram of sounding line density or a source data diagram.

5.10.2.4 Inset Plans

(S4 B-293.5)

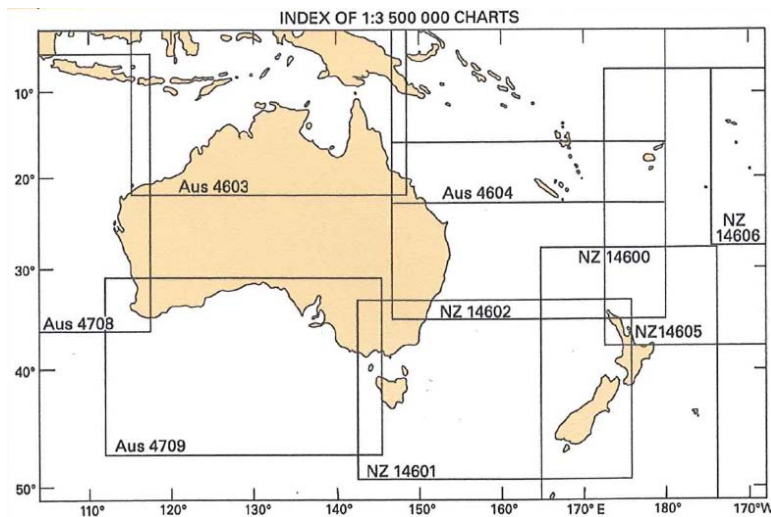
No graduation is to be shown.

5.10.2.5 Position

Place source diagram on land where possible and clear of essential detail.

5.10.3 *Index of 1:3,500,000 charts*

The diagram title is to be in 8pt medium upright type and the chart numbers and graticule labels in 6pt medium upright type. For example:



5.10.4 *Diagram of Sounding Line Density*

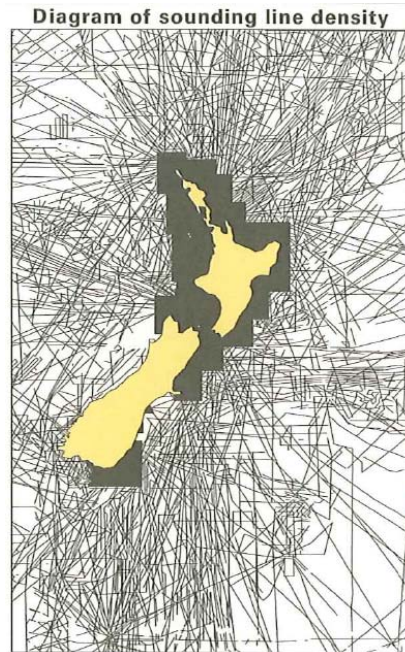
Show the individual sounding tracks. Use dots to depict scattered sparse soundings. Areas covered by regular surveys are to be shown on charts:

1:3,500,000 and smaller solid black

Larger than 1:3,500,000 crosshatch shading

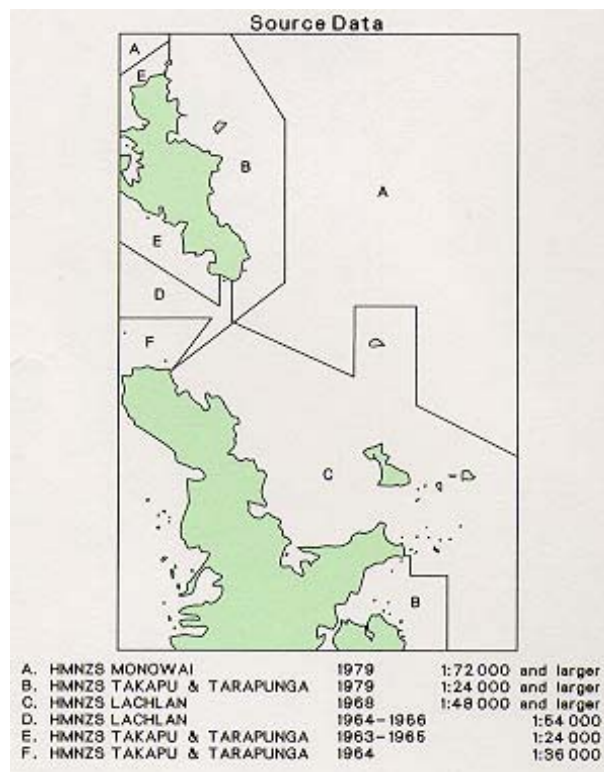
The diagram title is to be in 8pt medium upright type.

For example:



5.10.5 Source Data Diagram

The diagram must be complete and include all complex source information, and not the limits of larger scale charts. The diagram title is to be in 8pt medium upright type. Place text under the diagram in 6pt medium upright type. For example:



5.10.5.1 Details of Sources: Origin and Type

(S4 B-295)

Where the source of the data is a survey contracted by LINZ the source is to be 'Land Information New Zealand' rather than the contractor's name. Ship's names are to be shown in capital letters.

Unsurveyed areas, large enough to show on the source data diagram, are to be given a letter and listed as 'Unsurveyed'. Unsurveyed areas are to be the last on the sources list.

5.10.5.1.1 Country of Origin

(S4 B-295.1)

Do not show country of origin.

5.10.5.1.2 Type of Survey

(S4 B-295.2)

Do not state the type of survey when it is a regular, controlled survey. The term 'Sketch survey' may be used when applicable. The term 'Random soundings from various sources' may be used instead of ship's name, scale and date when applicable.

5.10.5.2 Source Lists

(S4 B-296)

5.10.5.2.1 Sources of Similar Type, Date and Scale

(S4 B-296.1)

Both date and scale may be shown grouped as a range when required for clarity. Both dates in the range are to be shown in full. A range of scales must always state the smallest scale followed by 'and larger'. In exceptional circumstances two scales may be shown for one source. For example:

A	HMNZS MONOWAI	1987-1989	1:25 000 and larger
B	HMNZS LACHLAN	1964-1965	1:15 000 and 1:30 000
C	Random soundings from various sources		

5.10.5.3 The Sources Order

(S4 B-296.2)

The entire sources list, regardless of category or importance, shall be listed chronologically with the most recent first. Do not include topographic detail.

6 S4 Part B, Section 300 Topography

6.1 *Source of Topographic Information*

Information may be derived from surveys, supply from LINZ topographic database, port plans and aerial photography. The prime source for topographic data is the LINZ topographic database. However, when coastline or other information has been fixed in the field during a hydrographic survey, this information is to be used in preference to topographic maps.

Data discrepancies should be referred to LHS for research.

6.2 *Uniform Depiction*

A uniform depiction over any chart series is required. This does not negate the requirement to include more recent/accurate information on a New Chart or New Edition.

6.3 *Duplicated Areas*

6.3.1 *Areas Covered by Larger Scale Charts or Plans*

When producing a chart in areas that are covered by a larger scale chart or plan, apply the following rules:

Take a selection of detail from the larger scale chart of plan, with the exception of updating for more recent/accurate information.

Select all detail that is important for navigation, taking into account the charts scale and purpose.

Generalise detail to ensure clarity, without losing important detail.

6.3.2 *Areas Covered by Overlapping Charts at the Same Scale*

Overlapping areas are to be identical. The only exception is when a New Chart or New Edition is produced which carries more recent/accurate information than an overlapping chart.

6.4 Information from Existing Charts

When producing either a New Chart or a New Edition that supersedes an existing chart, information from the existing chart is to be reproduced and altered only where necessary. Some reasons for alteration are:

New information is available.

Correction of an error on the existing chart.

Alteration to accommodate new information e.g. reselection of contour tags around new features.

Alteration to accommodate movement of existing data e.g. reselection of spot heights around a moved title block.

6.5 Land Tint

(S4 B-301)

6.5.1 Land Tint shown Continuously

(S4 B-301.1)

Clear the land tint colour for the title, tide tables, and linear scales.

6.6 Plane of Reference for Heights

(S4 B-302)

Alter spot heights taken from LINZ topographic database from MSL to MHWS as follows:

Heights of less than 5 metres: Do not alter.

Heights of 5 metres or greater: Subtract 1 metre.

6.7 Survey Control Points

(S4 B-304)

In areas of minimal detail (navigational aids or reference points) major coastal triangulation points may be incorporated.

6.8 Coastline, General

(S4 B-310)

The coastline shall be the line of Mean High Water Springs (MHWS) where information is available to support this. Clearly differentiate the coastline and islets from other coastal information such as foreshore rock, cliffs, contours, roads etc.

Where the coastline (MHWS) has been surveyed in the field and is shown on a hydrographic survey sheet, this is to be used in preference to the LINZ topographic database.

6.8.1 *Coast, Natural Features*

(S4 B-312)

6.8.1.1 Steep Coast

(S4 B-312.1)

Cliffs and steep coast are to be shown as defined in LINZ Symbol Specification 1. Contours are to be stopped for any cliff symbol.

6.8.1.2 Flat Coast

(S4 B-312.2)

Sandy shore: the dotted line is to run parallel to the coast.

Stony or shingly shore is to be shown as defined in LINZ Symbol Specification 20.

Marshy shore is to be shown as defined in LINZ Symbol Specification 6. A pecked coastline is to be used where required as described in S4. Areas of marsh may be covered with intertidal tint where this best depicts the feature. Marshy areas falling on land are not to be surrounded with a pecked line.

6.8.1.3 Mangrove Shore

(S4 B-312.4)

Follow the description in S4 for the representation of mangroves.

Mangrove areas are to be covered by intertidal tint.

Retain the coastline behind mangroves.

6.9 *Ports and Harbours in General*

(S4 B-320)

Follow the description in S4 for preferred representation.

6.9.1 *Quays, Piers, Wharves, Jetties and Moles*

(S4 B-321)

6.9.1.1 Quay or Wharf

(S4 B-321.1)

Do not thicken the coastline of the berth.

6.9.2 Berths

(S4 B-323)

6.9.2.1 Numbered (or Lettered) Berths

(S4 B-323.1)

The number or letter is to be 6pt medium upright. The circle surrounding the number or letter is to be 35mm in diameter and the line weight is to be 0.2mm.

6.9.2.2 Names of Quays, Piers etc

(S4 B-323.2)

The names of wharves, quays, piers etc are to be in upright medium type. The size of the type will vary depending on the size/significance of the feature but is not to be less than 6pt.

6.9.3 Landing and Launching Places

(S4 B-324)

6.9.3.1 Slipways and Patent Slips

(S4 B-324.1)

The solid and pecked lines showing the ramp are to be used if scale permits. The legend 'ramp' in 6pt medium upright text may be added alongside a launching ramp to differentiate it from a slipway.

6.10 Landmarks, Conspicuous Objects: General

(S4 B-340)

6.10.1 Legends

(S4 B-340.3)

Use 6pt medium upright text for legends of prominent features. Use 6pt medium upright capital text for legends of conspicuous features. Insert the height of all conspicuous and prominent features if available.

6.11 Natural Features in General

(S4 B-350)

6.11.1 *Relief: Contours, Form Lines, Shading*

(S4 B-351)

Show relief as follows unless otherwise stated in the chart specification:

Charts 1:200,000 and larger.	By contours and spot heights.
Charts <1:200,000 to 1:3,500,000.	By spot heights only.
Charts of 1:10,000,000.	No relief shown.

6.11.1.1 **Contour Lines**

(S4 B-351.4)

Do not show index contours.

The full range of contours as shown on the chart must surround spot heights. Only show isolated contours if they have a shape measuring more than 4mm in any direction, unless they are required to support a spot height or represent a significant isolated hill. As part of generalisation small contours may be included in larger ones.

6.11.1.2 **Height Labels**

(S4 B-351.6)

Position labels evenly over the chart. Height labels are to be laddered when together. Position the labels in the horizontal or close to and not upside-down.

The font is 6pt medium upright.

6.11.2 *Relief: Spot Heights*

(S4 B-352)

Show as defined in LINZ Symbol Specification 9.

6.11.3 *Rivers, Lakes, Glaciers*

(S4 B-353)

6.11.3.1 **Line Symbol for Rivers**

(S4 B-353.1)

The line symbol for rivers and streams shall be of one weight, not tapering. The font for river names is 6pt medium italic unless the size/importance of the river dictates otherwise.

6.11.3.2 Rapids and Waterfalls

(S4 B-353.5)

Waterfalls on non-navigable rivers are to be charted only if prominent or conspicuous. They are to be charted with a name only and no symbol. The name is to be used to show the position of the waterfall on the river.

The name of the waterfall is to be in capitals if conspicuous. Prominent or conspicuous waterfalls that do not have names are to have 'Waterfall' or 'WATERFALL' beside them as appropriate.

6.11.3.3 Glaciers

(S4 B-353.8)

Glaciers are to be delimited by a black dashed line left open at the top. The interior of the glacier is to be filled in, as in the black option in S4.

Contour lines are to be stopped where they meet the dashed line delimiting the glacier. The font for glacier names is 6pt medium italic unless the size/importance of the glacier dictates otherwise.

Other areas of permanent snow or ice may be annotated 'Snow capped range' in 6, 8, 10 or 12pt medium upright text. The font size used depends on the size of the feature.

6.11.4 *Vegetation*

(S4 B-354)

To indicate the conspicuous nature of a tree see S4 B-340.

6.11.4.1 Prominent Trees

(S4 B-354.2)

Show conifers as defined in LINZ Symbol Specification 8.

6.12 *Artificial Features in General*

(S4 B-360)

6.12.1 *Railways*

(S4 B-362)

6.12.1.1 Railway line

(S4 B-362.1)

Depict railway lines with a continuous bold line. Show tramways when near the coast using the railway symbol.

6.12.2 *Roads and Tracks*

(S4 B-365)

The representation of built-up areas is to be sparser than on current LINZ charts. On the largest scale continuous coastal series of charts and larger scales, all roads and tracks running down to the coastline shall be charted where scale permits. Attention should be given to local roads serving piers, boat hards and landings. Inland major roads within a few kilometres of the coast are to be charted. Inland minor roads and tracks are to be omitted.

6.12.2.1 **Roads**

(S4 B-365.2)

Where roads are not shown true to scale they are to be represented by two parallel lines, 0.5mm apart. This is to be measured from the inside edge of the parallel lines and not from their centre. Do not distinguish major roads.

6.12.2.2 **Tracks**

(S4 B-365.3)

Show unsurfaced or loose-surfaced roads with a dashed road symbol and walking tracks with a dashed single line.

6.12.3 *Airfields*

(S4 B-366)

6.12.3.1 **Airfields on Large Scale Charts**

(S4 B-366.1)

The NZ term 'Airstrip' refers to a small runway without any associated buildings or facilities. It is frequently a paddock used by top dressing planes. When considered to be of maritime importance, airstrips are to be shown by the airfield boundary and the legend 'Airfield' in 6pt medium upright text. The term 'Airstrip' is not to be used.

Helicopter landing sites, when considered to be of maritime importance, are to be shown by the airfield boundary and the legend 'Helicopter Landing Site' in 6pt medium upright text.

6.13 *Buildings and Built-up Areas*

(S4 B-370)

Representation of built up areas will vary with scale.

6.13.1 *Built-up Areas*

(S4 B-370.3)

Use the semi-pictorial method to represent blocks of buildings or large individual buildings.

The representation of built-up areas is to be sparser than on current LINZ charts, whilst showing the extents of the built-up areas. For example, on NZ 5325 the road network is far too dense.

6.13.2 *Extent of Built up Areas*

(S4 B-370.4)

Show using the semi-pictorial method to represent the street pattern and blocks of buildings.

6.13.3 *Scattered buildings*

(S4 B-370.5)

Scattered buildings of size smaller than 0.8mm square at chart scale are to be drawn as a solid black square of size 0.8mm x 0.8mm (i.e. not 0.6 x 0.9mm as stated in S4).

6.13.4 *Inland Villages*

(S4 B-370.6)

Inland townships and small coastal townships are to be represented by a symbol for the most prominent building where this is known, or one central building. The town name is to be shown.

6.13.5 *Street and Road Names*

(S4 B-371)

The authority for street names is the Electoral Index to Places and Streets. This is to be used for street names on largest scale charts only. The following information is not to be taken from the Electoral Index to Places and Streets:

The location and existence of roads.

The location and names of other topographic data.

Street names are inserted in 6pt medium upright capital type.

6.13.6 *Places of Worship and Associated Features*

(S4 B-373)

6.13.6.1 Churches

(S4 B-373.1)

Do not show with a pictorial sketch.

6.13.7 *Chimneys, Towers, Windmills, Wind Turbines, Flagstaffs*

(S4 B-374)

6.13.7.1 Wind Turbines

(S4 B-374.6)

The wind turbine symbol in S4 E26.1 and E26.2 is to be used.

6.13.8 *Bridges and Overhead Obstructions: Clearances*

(S4 B-380)

6.13.8.1 Vertical Clearance Figures

(S4 B-380.2)

Show as defined in LINZ Symbol Specification 10. The type to be used for vertical clearance figures is 6pt medium upright.

6.13.8.2 Horizontal Clearance Figures

(S4 B-380.3)

The type to be used for horizontal clearance figures is 6pt medium upright.

6.14 *Views and sketches, Viewpoints*

(S4 B-390)

Do not add views and sketches.

7 S4 Part B, Section 400 Hydrography and Navigational Aids

7.1 *Uniform Depiction*

A uniform depiction over any chart series is required. This does not negate the requirement to include more recent/accurate information on a New Chart or New Edition.

7.2 *Duplicated Areas*

7.2.1 *Areas Covered by Larger Scale Charts or Plans*

When producing a chart in areas that are covered by a larger scale chart or plan, apply the following rules:

Select detail from the larger scale chart or plan, with the exception of updating for more recent/accurate information. On occasion the selection may be taken from the source survey data to enable a reasonable sounding spacing.

Select all detail that is important for navigation, taking into account the charts scale and purpose.

Generalise detail to ensure clarity, without losing important detail.

7.2.2 *Areas Covered by Overlapping Charts at the Same Scale*

Overlapping areas are to be identical where ever possible. An exception is when a New Chart or New Edition is produced which carries more recent/accurate information than an overlapping chart.

7.3 *Information from Existing Charts*

When producing either a New Chart or a New Edition that supersedes an existing chart, information from the existing chart is to be reproduced and altered only where necessary. Some reasons for alteration are:

The new chart is at a different scale to the current chart.

New information is available.

Correction of an error on the existing chart.

Alteration to accommodate new information e.g. reselection of soundings around a new name.

Alteration to accommodate movement of existing data e.g. reselection of soundings around a repositioned compass rose.

7.4 *Levels of Detail Charted*

(S4 B-401)

7.4.1 *Minimal Depiction*

(S4 B-401.3)

Do not show hydrographic information for sea areas cut off from the main body of water by the incidence of coastline and/or chart limits. Only the coastline (including islands) should be depicted in these areas and the sea area left white. This refers to sea areas and not lakes.

7.5 *Tidal Levels*

(S4 B-406)

Tidal level information is supplied in the chart data pack.

Charts of a scale 1:500,000 and smaller do not contain tidal information unless they contain plans of a larger scale or if there is no larger scale chart of the area.

7.5.1 *Semi-diurnal tides*

(S4 B-406.2)

Tidal levels are to be quoted above chart datum in metres to one decimal place. Heights for MHWS, MHWN, MLWN and MLWS are to be shown when available.

Do not include a statement of the type of tide.

The place names shown in the Tidal Levels panel are to be the same as the name shown on the chart. Show datum details in the tidal information panels on all largest scale charts where LINZ is the tidal authority. For example:

Tidal Levels referred to Datum of Soundings							Datum and Remarks
Place	Lat S	Long E	Heights in metres above Datum				
			MHWS	MHWN	MLWN	MLWS	
Whangateau Hr.	36°19'	174°47'	2.7	2.3	0.6	0.2	3.20m below benchmark cut into the top surface of the rock forming the sea wall, 9m from the root of the Whangateau jetty.
Bon Accord Hr. (Mansion House Bay)	36 26	174 49	2.6	2.3	0.8	0.5	3.49m below the RNZN benchmark plate set on the top of the concrete face at the root of the Ranger's jetty on the western side.

The type used is:

'Tidal Levels referred to Datum of Soundings' 8pt bold upright.

Information in the datum and remarks column 6pt medium upright.

Everything else in the table 8pt medium upright.

7.6 Tidal Streams

(S4 B-407)

Show tidal stream data on all charts 1:750,000 and larger where information is available. Tidal stream information is supplied in the chart data pack.

7.6.1 Stations

(S4 B-407.2)

Show as defined in LINZ Symbol Specification 17.

Tidal streams are to be letter referenced from A to V, omitting I and O. The letter within each diamond is to be 6pt medium upright in magenta.

The magenta diamonds are to be placed as close as possible to their position without obscuring or moving more important information.

7.6.2 Tidal Stream Tables

(S4 B-407.3)

The size of the table is to be as shown in S4, the 6 point size table. The text and layout of the table is as shown below. Show the position of the station accurate to one decimal place of a minute.

Tidal Streams referred to HW at AUCKLAND																		
Hours		Geographical Position		A 36°50'.1S 174 52 .4E		B 36°51'.1S 174 53 .4E		C 36°52'.6S 174 54 .0E		D 36°55'.0S 174 51.5E								
Before High Water	6	Directions of streams (degrees)	Rates at spring tides (knots)	Rates at neap tides (knots)	-6	089	0.2	0.1	121	0.3	0.2	018	0.3	0.2	071	0.1	0.0	-6
	5				-5	127	0.3	0.2	123	0.5	0.3	215	0.3	0.1	125	0.3	0.2	-5
	4				-4	135	0.3	0.2	130	0.7	0.5	207	1.1	0.6	114	0.3	0.2	-4
	3				-3	136	0.4	0.3	139	0.7	0.5	203	1.2	0.6	126	0.9	0.5	-3
	2				-2	148	0.3	0.2	150	0.5	0.4	202	1.4	0.8	129	1.1	0.6	-2
	1				-1	147	0.2	0.1	147	0.3	0.2	200	1.5	0.8	135	1.3	0.7	-1
High Water	0				0	200	0.1	0.1	235	0.1	0.1	199	1.0	0.5	130	0.9	0.5	0
After High Water	1				+1	334	0.2	0.1	325	0.4	0.3	250	0.1	0.1	333	0.3	0.2	+1
	2				+2	330	0.2	0.2	322	0.7	0.5	023	1.0	0.6	305	1.5	0.8	+2
	3				+3	303	0.5	0.3	315	0.9	0.6	023	1.7	0.9	308	1.4	0.8	+3
	4				+4	308	0.6	0.4	307	0.6	0.4	021	1.9	1.0	308	1.2	0.6	+4
	5				+5	342	0.2	0.2	318	0.3	0.2	019	1.3	0.7	311	0.6	0.3	+5
	6				+6	064	0.1	0.1	125	0.1	0.0	018	0.5	0.3	072	0.1	0.1	+6

The type used is:

‘Tidal Streams referred to HW at _____’ 8pt bold upright.

Everything else in the table 6pt medium upright or italic as shown above.

7.6.3 Tidal Stream Arrows

(S4 B-407.4)

The maximum speed in knots, if known, should be added in 6pt medium italic text, accurate to the nearest 0.5 knots.

7.7 *Currents (Non-tidal)*

(S4 B-408)

On charts of scale 1:1,000,000 and smaller portray currents by arrows and names. The following note is to be inserted in or near the title block:

CURRENTS
For further information on ocean going currents in the
area of this chart, see British Admiralty Sailing Directions
and Routeing Charts.

7.8 *Representation of Depth: General*

(S4 B-410)

7.8.1 *Removal of Disproved Shoals*

Once charted, a shoal or obstruction constituting a possible danger to navigation is not to be removed from charts unless the Report of Survey specifically deems the shoal disproved. Confirm removal with LHS.

7.8.2 *Depth Contours and Shallow Water Tint*

(S4 B-411)

In areas where the complete sequence of contours is not shown: soundings, depth labels and the blue tint are to be used to enable recognition of any contour.

7.8.2.1 *Line Symbol*

(S4 B-411.1)

The line weight of hydrographic contours (and approximate hydrographic contours) is 0.15mm on all charts.

7.8.2.2 *Approximate Contours*

(S4 B-411.2)

On small scale charts depth contours of accuracy ± 2 miles and better will be shown with a solid line. Less accurate contours are to be shown with the approximate contour symbol.

7.8.2.3 Labelling

(S4 B-411.3)

Contours are to be labelled with numerals. Position the depth labels evenly over the chart in a way that ensures quick recognition of any large contour. Depth labels are to be laddered when together. Position the labels in the horizontal or close to and not upside-down. Do not label the drying line.

Depth contour labels are 6pt medium upright.

7.8.2.4 Danger Line

(S4 B-411.4)

A danger line may be used in place of contours for areas of foul, shoal or dangerous ground that are isolated from the coast or islands. Danger line is to be shown as defined in LINZ Symbol Specification 18.

7.8.2.5 Shallow Water Tints

(S4 B-411.6)

Limiting contours for shallow water tints are:

Small scale and international charts of scale.

1:1,250,000 and 1:1,500,000 Dark blue 0-30m and light blue 30-100m

1:3,500,000 Dark blue 0-30m and light blue 30-200m

1:10,000,000 Dark blue 0-200m

Medium and large scale charts.

Dark blue 0-10m and light blue 10-30m

Very large scale charts

Dark blue 0-5m and light blue 5-10m

Blue tint is not to be broken for compass roses.

7.8.3 *Soundings*

(S4 B-412)

Soundings are to be shown according to the following rules:

Charts compiled from metric data will show depths in metres and decimetres up to 21 metres, then rounded to 0.5 metres up to 31 metres, thereafter in whole metres.

Depths converted from fathoms and feet or fathoms and fractions data will be shown in metres and decimetres up to 20 metres and thereafter in whole metres.

Depths over wrecks, isolated rocks or dangerous shoals, which have been swept or otherwise accurately measured, will be shown in metres and decimetres up to 31 metres.

Depths are to be rounded as stated in S4 412. This instruction refers to new data or alterations to data on a chart. There is no requirement to update existing charted soundings for the new rounding method. LHS is aware that some charts will carry soundings from a combination of the old and the new rounding methods.

7.8.3.1 Fathoms Charts

For the amendment of charts in fathoms the following rules are to be applied as required. They apply to the addition of soundings from surveys recorded in fathoms and feet or fathoms and fractions. NB this is not a requirement to alter all soundings on fathoms charts:

Depths recorded in fathoms and feet are to be rounded to whole fathoms as follows:

0 to 4 feet - down to whole fathom below

5 feet - up to whole fathom above

e.g. 2 fathoms 3 feet rounds down to 2 fathoms and 2 fathoms 5 feet rounds up to 3 fathoms.

Depths recorded in fathoms and fractions are to be rounded to whole fathoms as follows:

$\frac{1}{4}$ and $\frac{1}{2}$ fathom - down to whole fathom below

$\frac{3}{4}$ fathom - up to whole fathom above

e.g. 2 $\frac{1}{2}$ fathoms rounds down to 2 fathoms and 2 $\frac{3}{4}$ fathoms rounds up to 3 fathoms.

Depths recorded in fathoms and feet are to be converted to fathoms and fractions as follows:

1 and 2 feet - converts to $\frac{1}{4}$ fathom

3 feet - converts to $\frac{1}{2}$ fathom

4 and 5 feet - converts to $\frac{3}{4}$ fathom

e.g. 2 fathoms 2 feet converts to 2 $\frac{1}{4}$ fathoms, 2 fathoms 3 feet converts to 2 $\frac{1}{2}$ fathoms and 2 fathoms 5 feet converts to 2 $\frac{3}{4}$ fathoms.

7.8.3.2 Conversion of Soundings in Fathoms and Feet to Metres and Decimetres

To convert soundings in fathoms and feet to metres and decimetres the conversion factors are:

$$1 \text{ fathom} = 6 \text{ feet}$$

$$1 \text{ foot} = 0.3048 \text{ metres}$$

$$1 \text{ fathom} = 1.8288 \text{ metres}$$

When determining the 20 metre contour line from a fathoms survey where depths of eleven fathoms are shown the following instructions should be used:

Where the fathoms survey shows one or two adjacent 'elevens' in a sounding line they should be read as 20m soundings.

Where the fathom survey shows three to eight adjacent 'elevens' in a sounding line, the first two should be read as 20m soundings and all following 'elevens' read as 21m soundings.

Where the fathom survey shows nine or more adjacent 'elevens' in a sounding line, the first three should be read as 20m soundings and all following 'elevens' read as 21m soundings.

7.8.3.2.1 Datum Adjustment on a Fathoms Survey

Apply the datum adjustment to all soundings.

7.8.3.3 Style of Sounding Numerals

(S4 B-412.1)

Show the metre figure in 6pt medium italic type and the decimetre figure in 5pt medium italic type. The top of the decimetre figure should be level with the centre of the metre figure.

The centre of gravity of the sounding figures is to be derived as shown below:



7.8.3.4 'No Bottom' Soundings

(S4 B-412.3)

'No bottom' soundings are to be shown only where there is no better information available.

7.8.3.5 Unreliable Soundings

(S4 B-412.4)

Hairline soundings are to be used for all soundings taken from leadline surveys.

Show the metre figure in 7pt light upright type and the decimetre figure in 5pt light upright type. The top of the decimetre figure should be level with the centre of the metre figure.

7.9 Areas with Inadequate Depth Information

(S4 B-417)

7.9.1 Areas Delimited by a Bold Line

(S4 B-417.6)

Unsurveyed areas are to be delimited by a dashed black line and labelled '*Unsurveyed*'. The font size will vary with the size of the area but is not to be smaller than 6pt. The font is to be medium italic. Colour is omitted from the area.

7.10 Dangers: General, Danger Line

(S4 B-420)

7.10.1 Danger line

(S4 B-420.1)

Danger line is to be shown as defined in LINZ Symbol Specification 18.

7.10.2 Rocks, Rocky Areas and Coral Reefs

(S4 B-421)

All pinnacle rocks (drying, awash and sunken) are to be supported by either a 2 metre contour or a danger line.

7.10.2.1 Rocks Which Do Not Cover (Islets)

(S4 B-421.1)

Islet heights taken from LINZ topographic database are to be adjusted as follows:

Islets of height less than 5m:

Calculate the difference between MSL and MHWS to one decimal place from the tidal level figures supplied in the chart data pack. Correct the height taken from the topographic map by this difference. Rounding of these figures is as follows:

0.01 to 0.05 down to nearest decimetre.

0.06 to 0.09 up to nearest decimetre.

Islets of height 5 metres or greater with the height:

Subtract 1 metre from height on topographic map.

7.10.2.2 Rocks, Boulders and Rocky Areas which Cover and Uncover

(S4 B-421.2)

Show as defined in LINZ Symbol Specifications 2, 3 and 4.

7.10.2.3 Rocks which are Awash

(S4 B-421.3)

Show as defined in LINZ Symbol Specification 4.

7.10.2.4 Rocks which are always Underwater

(S4 B-421.4)

Rocks with depth of 2 metres and less are to be shown as defined in LINZ Symbol Specification 4.

Rocks of depths from 2.1 to 30 metres are to be shown by a sounding with the abbreviation 'R' in 6pt medium italic text.

7.10.3 Wrecks, Foul Ground, Obstructions

(S4 B-422)

Wrecks can be omitted if they fall into one of the following three categories:

Where numerous dangerous wrecks exist in close proximity to one another and a selection must be made.

In areas covered by larger scale charts it may not be possible to show all wrecks. In this situation a cautionary note and legend must be added.

On small scale charts which will only be used for ocean passage and planning purposes (approximately 1:1,000,000 and smaller).

Do not name wrecks.

7.10.3.1 Stranded Wrecks and Wrecks with only Masts Visible

(S4 B-422.2)

Show a stranded wreck as defined in LINZ Symbol Specification 15. Show a wreck with masts only visible above chart datum as defined in LINZ Symbol Specification 16.

7.10.3.2 Wreck of Unknown Depth

(S4 B-422.6)

Show as defined in LINZ Symbol Specification 16.

7.10.3.3 Areas of Continual Change

(S4 B-416)

Follow the descriptions in S4 for the charting representation of areas of continual change.

7.10.4 *Water Turbulence: Overfalls, Races, Tide Rips, Breakers, Eddies*

(S4 B-423)

7.10.4.1 Breakers

(S4 B-423.2)

Where breakers cover a large area, only the limits of the area are to be shown by the symbol. When the position of a contour line is known it is to be shown running through the breakers symbol.

7.10.4.2 Eddies

(S4 B-423.3)

Show as defined in LINZ Symbol Specification 14.

7.10.5 *Doubtful Dangers*

(S4 B-424)

The abbreviations shall be shown in 6pt medium italics.

7.10.6 *Nature of the Seabed: General*

(S4 B-425)

Bottom descriptions are to be placed as close as possible to their position on the source data without obscuring or moving more important information.

7.10.6.1 Style of Abbreviations

(S4 B-425.4)

Bottom descriptions are to be in 6pt light italic text.

7.10.7 *Nature of the Bottom: Intertidal Areas*

(S4 B-426)

7.10.7.1 Rocky Areas

(S4 B-426.2)

Show as defined in LINZ Symbol Specification 3.

7.10.7.2 Coral Reefs and Foreshores

(S4 B-426.3)

Show as defined in LINZ Symbol Specifications 12 and 13.

7.11 *Special Seabed Types: Sandwaves, Kelp, Springs*

(S4 B-428)

7.11.1 *Sandwaves*

(S4 B-428.1)

For extensive areas use legend 'Sandwave Area' in 6pt medium italic.

7.11.2 *Kelp*

(S4 B-428.2)

The kelp is to be 8.7mm in length (when measured horizontally with the symbol orientated as in INT 1 J13.2).

7.11.3 *Springs in the Seabed*

(S4 B-428.3)

Show as defined in LINZ Symbol Specification 7.

7.12 *Symbol Definition*

The symbols defining maritime limits, prohibited areas, submarine cables and various routes frequently consist of a line (or line symbol e.g. dashed line, T symbol or submarine cable symbol) with the defining symbol placed at intervals along the line. Some examples are the territorial seas and exclusive economic zone limits, a prohibited anchoring area and a submarine power cable.

The defining symbol is to be placed on the line (or lines) at intervals that ensure that the line is clearly defined. The interval will vary depending on:

The length of the line (or lines) i.e. to ensure that each line or area has at least one defining symbol.

The restrictions of other information on the chart i.e. it may be necessary to adjust the intervals of the defining symbol around other information.

The relative openness or busyness of the particular area on the chart i.e. in very open areas a line may be clearly defined with minimum defining symbols, while in a busy area more may be required to clearly define the line.

Some average intervals of the defining symbol on an extensive piece of line are:

Territorial Seas	60 mm
Exclusive Economic Zone	120 mm
Anchorage area and prohibited anchorage	40 mm
Submarine power cable	40 mm

7.13 Harbours: Regulations and Limits

(S4 B-430)

7.13.1 Defined Harbour Limits

(S4 B-430.1)

Use 6pt medium italic magenta for legend.

7.13.2 Harbours: Anchorages, Anchor Berths and Prohibited Anchorages; Moorings; Waiting Areas

(S4 B-431)

7.13.2.1 Designated Anchor Berths

(S4 B-431.2)

Anchor berth symbols with 3 figure or longer designations are to be charted with an oval surrounding the designation.

7.13.2.2 Anchorage Areas with Defined Limits

(S4 B-431.3)

For small craft anchorage areas use the symbols shown in S4 N12.1, with the text 'Small Craft' or 'Yacht' as appropriate, with the anchorage symbol. The terms 'Small Craft Anchorage' and 'Yacht Anchorage' are not to be used.

7.13.3 Leading and Clearing Lines; Transits

(S4 B-433)

7.13.3.1 Leading and Clearing Marks

(S4 B-433.1)

Where possible, orient light flares along the transit line for leading lights and lights in line.

7.13.3.2 Leading and clearing Lines: Legends

(S4 B-433.2)

Follow the description in S4 for the representation of leading and clearing lines legends.

Bearings shall be quoted in degrees and tenths of a degree in 6pt medium upright text.

7.13.4 *Ships Routing Systems*

(S4 B-435)

7.13.4.1 Precautionary Areas

(S4 B-435.2)

The triangular danger symbol is to be used. The text 'Precautionary Area' is not to be used except as required in a note title on the chart body and in the title block.

7.13.5 *Environmentally Sensitive Sea Area (ESSA)*

(S4 B-437)

7.13.5.1 General Considerations for the Charting of ESSA

(S4 B-437.2)

Magenta (not green) is to be used for all ESSA symbols and text.

7.13.5.2 Nature Reserves

(S4 B-437.3)

The marine reserve text 'MR' in S4 N22 is to be used. This can be placed along the line defining the area of a marine reserve or individually to define small areas. When placed along the line, the 'MR' is to be oriented to face into the marine reserve area. This may cause the 'MR' to be upside down.

The text 'Marine Reserve' is not to be used except as required in a note title on the chart body and in the title block.

The term 'Wildlife Sanctuary', usually refers to an island where a landing permit is required. Show the legend 'Wildlife Sanctuary' on the largest scale chart, and on smaller scale charts as appropriate. The legend 'landing prohibited' is not to be used.

7.13.5.3 Other Environmental Areas, defined Nationally or Internationally

(S4 B-437.7)

The marine reserve text 'MR' is to be used. This can be placed along the line defining the area of a marine reserve or individually to define small areas. The text 'Marine Reserve' is not to be used except as required in a note title on the chart body and in the title block.

7.13.6 *Restricted and other Maritime Areas*

(S4 439)

LHS will supply information on any changes to restricted areas.

7.13.6.1 Limits of Restricted Areas

(S4 B-439.2)

Magenta (not green) is to be used for all areas that are restricted for environmental reasons.

7.13.6.2 Nature of the Restriction

(S4 B-439.3)

The prohibited area symbol in S4 N2.2 is to be used. The text 'Prohibited Area' is not to be used except as required in a note title on the chart body and in the title block.

7.13.6.3 Small Restricted and other Maritime Areas

(S4 B-439.4)

The prohibited area symbol in S4 N2.2 is to be used. The text 'Prohibited Area' is not to be used except as required in a note title on the chart body and in the title block.

7.13.7 *International Boundaries and National Limits*

(S4 B-440)

The NZ EEZ and territorial sea limits are to be shown on charts of scales 1:100,000 and smaller.

Charts NZ 223F and 224F show the EEZ and Territorial Sea limits. Restricted Fishing Areas, Fishery Management Areas and Internal Waters are depicted in a brown overprint.

7.13.7.1 Straight Territorial Sea Baselines

(S4 B-440.4)

Do not show territorial sea baselines.

7.13.7.2 Territorial Sea limits

(S4 B-440.5)

Show the seaward limits of territorial seas on appropriate charts.

7.13.8 *Military Practice Areas; Minefields*

(S4 B-441)

7.13.8.1 Limits of Firing Danger Areas

(S4 B-441.3)

Do not show limits of firing danger areas.

7.13.8.2 Submarine Exercise Areas

(S4 B-441.5)

Submarine exercise areas are not to be charted and are to be removed from charts that show them. This involves removing the text and any limits from the chart body and the note.

7.13.8.3 Other Naval Exercise Areas

(S4 B-441.6)

The prohibited area symbol in S4 N31 is to be used. The text 'Prohibited Area' is not to be used except as required in a note title on the chart body and in the title block.

On the largest scale charts show the following:

Defence areas that restrict the entry of persons or vessels.

Legend e.g. 'Defence Area (see Note)' in 6pt medium italic type within the limits of the restricted area.

A cautionary note. Refer to Annex A.2 for an example of the note.

7.13.9 Offshore Production Facilities

(S4 B-445)

Areas relating to oil and gas fields are contained in the Submarine Cables and Pipeline Protection Order 1979 and subsequent amendments. See NZ 45 for an example of a Safety Zone, protected and restricted areas.

7.13.9.1 Production Platforms

(S4 B-445.2)

A disused platform will display the legend 'disused' and will omit the light flare. The site of a cleared platform will be shown by the foul symbol.

Refer Annex A2 for an example of a production platform cautionary note.

7.13.9.2 Wind Turbines

(S4 B-445.8)

The wind turbine symbol in S4 L5.1 is to be used.

7.13.9.3 Wind Farms

(S4 B-445.9)

7.13.10 *Spoil Grounds; Extraction (or Dredging) Areas*

(S4 B-446)

Follow the descriptions in S4 for the representation of spoil grounds and extraction areas.

7.13.11 *Aquaculture, Shellfish Beds, Fish Havens and Marine Farms*

(S4 B-447)

7.13.11.1 **Marine Farms**

(S4 B-447.6)

Where one or more marine farms are shown on a chart add a cautionary note warning mariners that due to scale, not all farms may be shown on the chart. Refer to Annex A for the wording of the note.

7.13.12 *Various Maritime Areas and Limits*

(S4 B-449)

Follow the descriptions in S4 for the charting representation of various maritime areas and limits.

7.14 *Aids to Navigation, Audible and Visual: General*

(S4 B-450)

7.14.1 *Buoys and Beacons on Small Scale Coast Charts*

On smaller scale charts, which cover buoyed channels, generally only the outer buoys and beacons marking the principal dangers are to be shown. The navigational aids note is to be inserted. See Annex A.

7.14.2 *Buoys and Beacons in Restricted Spaces*

If important information restricts the placement of a beacon the top of the symbol may be sloped to the left or right. The position circle is to remain in the correct position and the slope is not to exceed 45° from vertical. For an example see beacon in position 41°00'.3, 174°03'.5 on NZ 6152 published April 1998.

7.14.3 *Marking of Dangers*

Fixed marks, e.g. beacons or lights on rocks and islets, must be inserted in their true position even though the symbol may obliterate the physical feature. Whenever a mark standing in a water area is deleted from the charts, the original surveys or other sources are to be consulted to verify whether any rock or islet is to be reinstated.

7.14.4 *Standard Colour Abbreviations*

(S4 B-450.2)

Y (yellow) is to be used in the place of Am (amber) and Or (orange).

7.14.5 *Audible (Sound) Fog Signals*

(S4 B-451)

Fog signals are listed in the NZ Nautical Almanac. Associated text should be in 6pt medium upright or italic as appropriate.

7.14.6 *Visual Aids: Beacons, or Daymarks, in General*

(S4 B-455)

7.14.6.1 **Distinctive Features**

(S4 B-455.2)

Special topmarks, when charted, are to be portrayed in 0.10mm linework.

7.14.6.2 **Beacons Situated Above and Below High Water**

(S4 B-455.6)

Beacons that are spars or poles placed on submerged rocks are to be shown by symbol INT 1 Q 83.

7.14.6.3 **Names and Numbers on Beacons**

(S4 B-455.7)

Do not use speech marks when naming beacons unless they are required to clarify the name or number from other detail.

7.14.7 *Symbols for Various Types of Beacon, or Daymark*

(S4 B-456)

7.14.7.1 **Beacons which are Major Structures**

(S4 B-456.4)

Beacons with distinctive major structures, when charted by individually designed pictorial symbols, are to be shown in magenta. The basic linework is to be 0.10mm, with thicker linework as required for clarity.

7.14.8 *Light Beacons*

(S4 B-457)

7.14.8.1 On Large Scale and Smaller Scale Charts

(S4 B-457.1 and B-457.2)

The following rules are to be applied to the showing of lights and lighted beacons on large and medium scale charts:

Lighted beacons with topmarks/daymarks are to be portrayed with the small light star (in place of the position circle of a beacon) as shown in the international symbol INT 1 P4, the first and second examples.

Lighted beacons without topmarks/daymarks are to be portrayed with the large light star as shown in the international symbol INT 1 P4, the third example. The colour of the beacon should be added if known e.g. 'Bn R'.

All other lights are to be portrayed with the large light star shown in the international symbol INT 1 P1 (unless the light should be omitted altogether due to scale). Any major lights that are not primarily beacons but are also a beacon are to be portrayed with the large light star as shown in INT 1 P4, the third example. The beacon description should be added e.g. 'Bn G ∇'.

7.14.8.2 Lighthouses with Distinctive Shape

(S4 B-457.3)

Do not show pictorial sketches unless requested in the chart specification.

7.14.9 *Special-Purpose Beacons*

(S4 B-458)

Follow the descriptions in S4 for the representation special-purpose beacons.

7.15 *Visual Aids: Buoyage*

(S4 B-460)

Floating marks, e.g. buoys marking shoals, are displaced in accordance with IALA Buoyage system, Region A, so that the danger itself is shown in its true position.

7.15.1 *Names or numbers of Buoys*

(S4 B-460.6)

Do not use speech marks when naming buoys unless they are required to clarify the name or number from other detail e.g. 'A' buoy on NZ 5322.

7.15.2 *Buoyage Systems*

(S4 B-461)

The IALA Maritime Buoyage System (Region A) marks the waters of NZ and adjacent islands for safe navigation.

7.15.3 *Colour of Buoys*

(S4 B-464)

The colour is to be indicated by an abbreviation placed under the symbol in 6pt medium italic capitals.

7.15.4 *Radar Reflectors on Buoys*

(S4 B-465)

Radar reflectors are not to be charted on buoys.

7.16 *Lights: General Points*

(S4 B-470)

The light list in the latest edition of the NZ Nautical Almanac is to be consulted. Full details of lights are to be shown on the largest scale charts where possible.

7.16.1 *Light Flares*

(S4 B-470.6)

Light flares are to be 4.2mm in length, measured from the point to the top of the curve.

In the case of a leading light, lights in line and directional lights the flares shall be orientated along the line, pointing seaward, providing that by doing so the flares do not obscure other important detail.

7.16.2 *Light Descriptions*

(S4 B-471)

Descriptions of lights covered in the NZNA are to be in accordance with the light list in the NZNA, as updated for NTMs. They are to be in 6pt medium upright or italic as appropriate.

Lights with a neon shape are to show the term '(neon *x*)', *x* being the neon shape e.g. square, rectangle, triangle, diamond, at the end of the light description. Neon lights without a shape are to show the term (neon) after the lights characteristic rhythm or colour.

For example:

A fixed red neon in the shape of a square	F.R.3S4M(neon □)
A fixed red neon of no known shape	F.R(neon)3S4M
A fixed white neon of no known shape	F(neon)3S4M

7.16.3 *Abridged Light Descriptions: Omission of Details*

(S4 B-472)

When reducing the detail of light description to be charted as the chart scale decreases, follow the guidelines in S4 472.1 – 472.4

The order of omission of the characteristic '(neon *x*)', *x* being the neon shape, and '(neon)' in an abridged light description is dependant of the range of the light.

7.16.3.1 Omission of all Detail (including Light Stars)

(S4 B-472.4)

On small scale charts in areas covered by larger scale charts, lights for local use, inside harbours, inner waters, rivers and so on, are not to be shown. The navigational aids note is to be inserted when lights have been omitted. See Annex A.

7.16.4 *Sector Limits and Others not Visible all Round*

(S4 B-475)

Do not show an arc of visibility on an all-round light without varying sectors.

7.16.4.1 Symbols for Sector Limits and Arcs

(S4 B-475.1)

Interrupt the line of bearing from a light when it crosses the curve of the sector of another light for 2.5mm on either side of that curve.

8 S4 Part B, Section 500 Geographic Names, Lettering, Numerals

8.1 *Toponymy – General Rules*

(S4 B-550)

8.1.1 *Toponyms: Authorities, International and National*

(S4 B-551)

8.1.1.1 International Authorities

(S4 B-551.1)

Seabed feature names that have been approved by the international authorities are to be shown on new charts and new editions.

8.1.1.2 National Authorities

(S4 B-551.2)

The New Zealand Geographic Board is the authority for both geographic and undersea feature names out to the 12 nautical mile limit. The LINZ topographic database shows the authoritative names.

Minor features and locality names (i.e. authoritative names that are not shown in the LINZ topographic database) can be found in the New Zealand Geographic Place Names Database. This database is available on the internet at www.linz.govt.nz under Place Names. LHS should be advised if the database is found to be in error.

Where an authoritative name is shown on a chart it is to be shown as depicted in the LINZ topographic database or, if not on the map, as in the Geographic Names Database.

Adopt names from previous charts and editions and from publications such as NZ Pilot, international and foreign charts and other topographic maps as appropriate.

Non-authoritative names such as local names may come from hydrographic surveys, reports of survey and other sources. LHS must approve the use of non-authoritative names.

8.1.1.3 Official Names

Official names created or altered through NZ Geographic Board processes become the authoritative names to be used on charts.

Where official names include both the English and Maori names, the entire name is to be shown in the same size and weight. It is to be portrayed on one line where possible. If not possible it is preferably to be split at the back slash or bracket.

For example:

Cape/Koromere

Paterson Inlet/
Whaka a Te Wera

Lake Taupo (Taupomoana)

Motutakapu Island
(Gannet Island)

8.1.2 *Non-national Waters*

(S4 B-551.3)

The charts of other nations are to be accepted as the authorities for names in their home waters. In cases where the script of the country is other than the Roman alphabet, the United Nations system of romanization is used.

8.2 *Styles of Type*

(S4 B-560)

8.2.1 *Choice of Type Styles*

(S4 B-563)

All type on charts is to be Univers 55. The following defines the millimetre height of the various point sizes. The height of the text is measured from the top to the bottom of a 'square' capital letter e.g. E, N or I and taken from the outside edge of the line work. The height of the text including spaces defines the height of the text including the space at the top and bottom of the text.

Point size	Height of text	Height of blocked up text inc. spaces
36pt	9.3mm	15.5mm
24pt	5.9mm	10.0mm
18pt	4.5mm	8.0mm
14pt	3.5mm	6.0mm
12pt	2.9mm	5.0mm
10pt	2.4mm	4.2mm
8pt	2.0mm	3.5mm
6pt	1.6mm	2.6mm
5pt	1.3mm	2.2mm

An exception exists for the historic information shown in brown on charts NZ 7622, NZ 7623, NZ 7624, NZ 7653 and NZ 7654, which is to be shown in Times Roman.

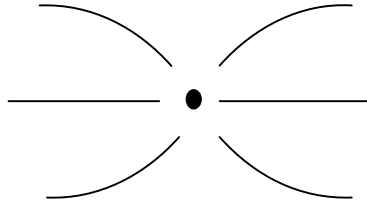
8.2.2 *Type Sizes*

Type sizes are to be as specified in this document or, when not specified, as indicated in S4. In general the type size for most features on the chart body is 6pt. Prominent features in 8pt, with major features in 10pt and 12 pt.

8.2.3 *Placement of names on charts*

Names are to be placed according to best cartographic practice. Horizontal placement is preferred. Curving and reorienting names is done to fit around other detail, avoid confusion and improve clarity.

The diagram below dictates the best cartographic practice for placing text, straight and curved, to an object.



9 S4 Part C Small Scale International Charts

9.1 *Format*

(S4 C-200)

9.1.1 *Chart Numbering*

(S4 C-207)

The chart number as specified in the chart specification shall be placed in the lower right hand corner of the chart and, inverted, in the upper left hand corner. Place so that the right/left hand side is flush with the right/left hand side of the outer chart border and the bottom is 1mm above outer border.

The national chart number will be shown in black outside the international number shown in magenta. Both numbers are to be 18pt bold upright. For example:



INT 604
NZ 14604

9.1.2 *Title Information*

(S4 B241.2(I), C-209)

International chart series titles will be set out as shown below, which also shows some cautionary and explanatory notes. All text is to be medium upright (with the exception of bold upright for 'COASTAL NAVIGATION:', 'DOUBTFUL DATA:', 'DEPTH CONTOURS:', 'CURRENTS:', 'CABLES:' as shown) with point sizes as specified below.

On INT charts of scale larger than 1:2,500,000 the word 'SCALE' is to be added before the representative fraction. The LINZ logo is to be the same size and proportions as shown below, following the specifications outlined in S4 B241.2(I)

		<p>10pt</p>
INTERNATIONAL		
CHART SERIES		10pt
SOUTH PACIFIC OCEAN		14pt
NEW ZEALAND		36pt
INCLUDING		18pt
NORFOLK AND CAMPBELL IS.		24pt
1:3 500 000 (22°30')		12pt
DEPTHS IN METRES		12pt
HEIGHTS IN METRES		12pt
Mercator Projection		8pt
Produced by Land Information New Zealand, 2007.		8pt
<p>COASTAL NAVIGATION: This chart has been produced for route planning and ocean transit outside the 200 metre depth contour. Certain lights and other navigation aids have been omitted from this chart. For inshore navigation and approaches to the coast, the larger scale charts should be consulted.</p> <p>DOUBTFUL DATA: Reported but unconfirmed depths or dangers are indicated by an encircling dotted line.</p> <p>DEPTH CONTOURS: The depth contours shown on this chart have been interpolated from all available information, which in ocean areas is insufficient for an accurate portrayal of the sea bottom. See density diagram.</p> <p>CURRENTS: For further information on ocean currents in the area of this chart, see Admiralty Sailing Directions and Routeing Charts.</p> <p>CABLES: Only transoceanic cables are shown on this chart.</p> <p style="text-align: center;">MAGNETIC VARIATION CURVES ARE FOR 2005</p> <p>The magnetic variation is shown in degrees, followed by the letter W or E, as appropriate, at certain positions on the curves. The annual change is expressed in minutes with the letter W or E and is given in brackets, immediately following the variation.</p> <p style="text-align: center;">OFFSHORE OIL / GAS FIELDS</p> <p>Numerous structures (usually carrying lights), pipelines and submerged obstructions (sometimes marked by buoys) exist in certain areas indicated on this chart. For further details see larger scale charts.</p>		
		<p>6pt</p> <p>Justified to</p> <p>75mm</p>

9.1.3 Corner Co-ordinates

(S4 C-212)

Co-ordinates are to be expressed in degrees and minutes to two decimal places of a minute e.g. 41°30'.00S

9.2 *Hydrography and Navigational Aids*

(S4 C-400)

9.2.1 *Levels of Detail Charted*

(S4 C-401)

Oceanic soundings are rarely taken from full hydrographic surveys. The most prolific source is lines of soundings obtained by vessels on passage and recorded on Ocean Sounding Charts. Echo soundings taken from other sources may need to be converted to true depths. If so, NP 139, Echo Sounding Correction Tables, should be used.

Do not include a conversion table.

9.2.2 *Depth Contours and Shallow Water Tint*

(S4 C-402)

In shallow waters contours must include all depths shallower than the contour value. In abyssal areas at very small scales show the mean position of a contour and ignore isolated features of depth close to that of the contour.

When required use approximate contours to indicate a lack of confidence in their accuracy.

9.2.3 *Soundings*

(S4 C-403)

Significant soundings are to be shown in the solid blue tint areas, as is the practice on existing charts. An isolated shoal is defined as a shoal of depth less than 750 metres.

Sounding figures shall be shown the same as for NZ national charts.

9.3 *Geographic Names*

(S4 C-500)

9.3.1 *Type Styles and Sizes*

(S4 C-502)

All type on international charts is to be Univers.

10 Recreational Information

10.1 *Small Craft Facilities*

Small craft facilities are not to be added and are to be removed from charts that show them. This involves removing the small craft symbols key and the small craft symbols from the chart body. An exception is the marina symbol (INT 1 U 1.1), which is an international symbol and is to remain.

Replace the small craft symbol for slipway with the text 'Ramp'. If there is uncertainty as to the existence of any ramp, do not add the text.

10.2 *Marina Facilities*

The marina facilities key is not to be added and is to be removed from charts that show them.

10.3 *Wildlife and Historic Information*

The wildlife and historic information is to be removed from charts that show it. This involves removing all the brown information, being the:

Wildlife symbols key.

Historic notes.

Wildlife symbols on the chart body.

Text on the chart body that refers to the historic notes.

11 Positional Accuracy on Published Charts

All following statements of accuracy refer to the translation of information from source data to the published chart.

These standards are required during chart production and apply to the final published chart. They are not related to scale or the process of re-sampling the data. Generalisation should not degrade the positional accuracy of the source data.

11.1 *Coastline*

Printed coastline (centre line) is to be positioned within $\pm 0.2\text{mm}$ of the source coastline (centre line).

11.2 *Hydrographic point data*

99% of soundings, bottom qualities, dangers, foul ground, obstructions and other hazards to navigation are to be positioned within $\pm 0.5\text{mm}$ of the source data. This refers to the reference point used to portray the feature or symbol.

11.3 *Hydrographic line data*

All cables, pipelines, areas, limits and routes are to be positioned within $\pm 0.2\text{mm}$ of the source data.

11.4 *Navigational aids*

All navigational aids and conspicuous features used for navigational purposes are to be positioned within $\pm 0.2\text{mm}$ to the source data.

11.5 *Magnetic variation isogonals*

These are to be positioned within $\pm 1\text{mm}$ of the source data depiction.

11.6 *Chart Overlaps*

99% of the data is to be within $\pm 0.2\text{mm}$ of positions on the overlapping chart data.

11.7 *Additional data*

All other charted data is to be positioned as close as practicable to the location of the source data.

12 Chart Reverse

The chart reverse information will consist of two parts:

1. The thumb label, consisting of the LINZ logo, chart number, name, 'Folio No.' and 'Consecutive No.'
2. The 'correct to N to M No.' box.

12.1 *Method of Application*

The chart reverse is to be added by either:

Lithographic printing on charts that are lithographically printed.

Applied with 'Avery Laser L7173' sticky labels on charts that are output from a plotter. The image is to be centred on each label using a laser printer set to a minimum 600dpi.

If another method is found of adding the chart reverse information to a chart output from a plotter, LHS approval must be sought before its use.

12.2 *LINZ logo, Chart Number and Name*

The LINZ logo used for the thumb label is 47mm wide and is to be the same layout and proportions as shown below. The distance between the first bracket, at 'Folio No.', and the end bracket is to be:

Thumb labels printed lithographically	93mm
Thumb labels added on a sticky label	79mm

For example:



NZ 5322

AUCKLAND HARBOUR

(Folio No.

Consecutive No.

)

The chart name may be placed in more than one line in order to improve the appearance of the thumb label or to fit on a sticky label. The chart name is to be centered.

For example:



NZ 68

**NUGGET POINT TO
RARATOKA ISLAND (CENTRE ISLAND)**

(Folio No.

Consecutive No.

)

Type sizes are:

Chart number 18pt medium upright.

Chart name 12pt medium upright.

(Folio No. Consecutive No.) 8pt medium upright.

12.3 'Correct to N to M No.' Box

The overall size of the box is 44 x 75mm. The LINZ logo is to be centred in the box. The logo is to be the same layout and proportions as shown below:



'LINZ Hydrographic Services' and the address is to be centred the box. The remaining text is to sit 2.5mm from the left edge of the boxes.

The text sizes are:

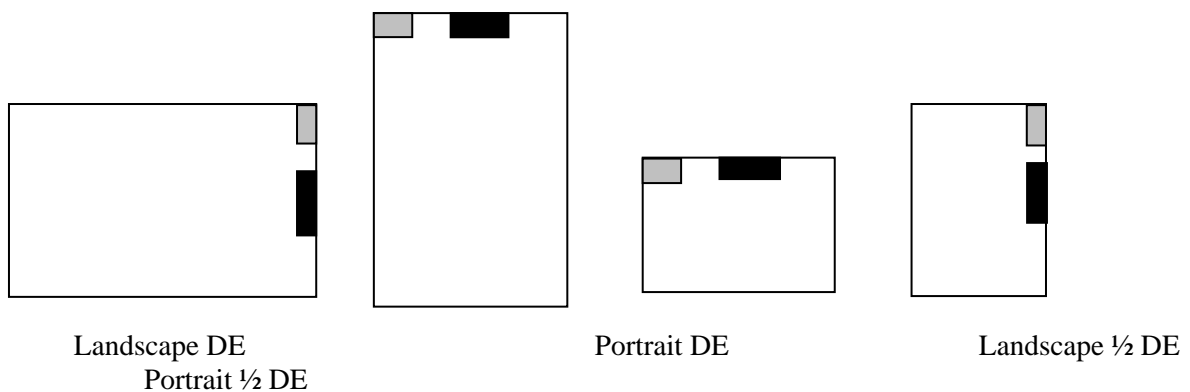
LINZ and the address	8pt medium upright condensed
CORRECT TO NTM No.	12pt medium upright, double spaced between words
NZ	12pt medium upright
SEE SUBSEQUENT NOTICES TO MARINERS	12pt medium upright condensed

12.4 Positioning

The thumb label is to be centred on the side of the chart. For charts printed lithographically, the bottom of the text is to be placed 5mm from the chart edge. For charts output from a plotter, the edge of the sticky label is to be placed 1mm from the chart edge.

For charts printed lithographically the ‘correct to N to M No.’ box is to be placed 10mm from both chart edges. For charts output from a plotter, the edge of the sticky label is to be placed 1mm from both chart edges.

The following diagram shows the positions when looking at the front of the chart. The thumb label is shown below in black and the ‘correct to N to M No.’ box in grey.



13 Chart Printing

13.1 *Printing Method*

Charts are to be printed by either:

Lithographic printing.

Output from a plotter.

13.2 *Resolution*

Charts output from a plotter are to be output at minimum 600 dpi.

13.3 *Chart Paper*

If another paper is found that meets the following criteria, LINZ approval must be sought before its use.

13.3.1 *Lithographic Printing Paper*

Charts are to be printed on a high wet strength 90-95 gsm lithographic paper. The approved papers are:

Australia High Wet Strength Paper, 94 gsm (also known as ‘rag map’ paper).

High Wet Strength Map Lith, 40 % rag, 92 gsm.

13.3.2 *Plotter Paper*

Charts are to be output on one of the following 2 papers:

HP Basic Heavyweight Coated Paper. It is essential that the ‘Basic’ paper is used. The HP codes for the various width rolls are:

24” width roll	C7923A
36”width roll	C7924A
42” width roll	C7925A
54” width roll	C7926A
60” width roll	C7927A

OCE Plotting and Drafting Paper, standard 90gsm paper. The roll size and code is:

841mm x 50m roll	9048634560
------------------	------------

13.4 *Printing Ink*

All inks, both lithographic and plotter, are to be light fast.

13.4.1 *Lithographic Ink*

All charts are to be printed in 'Pantone Matching System' inks. Process black is a standard ink, to be manufactured by Flint Inks Ltd.

13.4.1.1 *Lithographic Ink Identification Numbers*

The ink identification numbers are:

Black	Process Black
Magenta	Pantone 2602 (Or 13pts Purple/5pts Violet)
Buff	Pantone 1205.
Blue	Pantone 2985U.
Brown	Pantone 725.
Grey	Pantone 431U

13.4.2 *Plotter Ink*

Charts are to be output using HP 5000 Series UV Pigment Ink. The HP codes are:

Black	C4940A
Cyan	C4941A
Magenta	C4942A
Yellow	C4943A
Light Cyan	C4944A
Light Magenta	C4945A

13.4.2.1 Plotter Colour Codes

CMYK codes:

Colour	Cyan %	Magenta %	Yellow %	Black %
Black	0	0	0	100
Magenta	4	50	0	44
Buff	0	5	27	0
Intertidal	30	10	18	0
Dark Blue	34	4	0	0
Light Blue	17	2	0	0

RGB codes:

Colour	Red	Green	Blue
Black	0	0	0
Magenta	137	71	143
Buff	245	228	160
Intertidal	179	255	209
Dark Blue	168	245	255
Light Blue	212	250	255

13.4.3 *Colours Applied to Chart Features*

Colour	All charts, including NZ 223F and 224F
Black	Black detail. Chart reverse for charts output from a plotter.
Magenta	Magenta detail.
Buff	Land tint.
Intertidal	Intertidal for charts output from a plotter.
Blue (including Dark Blue and Light Blue)	Shallow water.
Brown	As required for overprints.
Grey	Chart reverse for lithographically printed charts.

14 Chart Reprinting

14.1 *Printing Method*

Charts are to be reprinted by either:

Lithographic printing.

Output from a plotter.

14.2 *Blue Screens*

14.2.1 *Raster Maintenance System*

All charts reprinted lithographically from the RMS are to have the blue screens output as follows (at positive):

100%	Charts with one blue screen i.e. small scale charts.
100% and 50%	Charts with two blue screens.

Charts with two blue screens are to have the 100% screen for the shallowest water and 50% for the deeper water.

14.2.2 *Plate Negatives*

Charts reprinted from plate negatives retain the existing blue screen percentages.

14.3 *Seal*

On charts reprinted from plate negatives i.e. not output from the RMS:

Do not alter the seal.

When LINZ is not the publisher, insert the official LINZ landscape format seal, 36 mm wide, above the top border, to the left of the related publications note or the WGS 84 note.

14.4 *Notes and Dates*

14.4.1 *LINZ Authority Note*

A reprint note stating LINZ authority is required on charts that do not have 'Land Information New Zealand' in the publication or new edition note. The font will be 10pt medium upright.

1. Reprints of charts originally published by RNZN with no LINZ new edition:

Retain the existing RNZN publication note and centre the following note below the existing note. The date is the month and year to which the chart is updated for Notices to Mariners.

Reprinted, *month year*, under the authority of Land Information New Zealand.

2. Reprints of charts originally published by LINZ and charts originally published by RNZN with a new edition under LINZ authority:

Retain the existing publication note or notes and any LINZ authority new edition note. No further note is to be added.

14.4.2 *Reprint Note*

All charts, regardless of publication or new edition notes, will show the reprint note. This note will be in the format 'Reprinted *month year*' in 6pt medium upright type. The date is the month and year to which the chart is updated for Notices to Mariners. For example:

Reprinted January 2001

It is to be placed to the right of the publication note, in between the 'Depths in Metres' and the chart dimensions, at the bottom of the chart, and underneath any edition note.

14.4.3 *Plate Dates*

Printing plate dates, which previously showed the dates of the black and magenta plates, will not be shown.

14.5 *Small Corrections Record*

The year of correction is shown as four figures in 6pt bold upright type, followed a hyphen. The Notice to Mariners correction numbers or numbers follow, in 6pt light upright type, separated by hyphens. For example:

Small corrections **1998**-23-63-**1999**-20-57

A second line of NTM correction numbers will be used when the numbers cannot be fitted on one line. For example:

Small corrections **1998**-23-63-**1999**-20-57-113-163-164-**1999**-20-57-74-88-104-**2000**-46-
52-163-**2001**-79-94

Annex A

Cautionary Notes - Standard Examples

The following authoritative notes are to be used on LINZ charts and portray the standard wording. A standard note may require altering if it does not give an accurate definition of the hazard or does not accurately portray the particular situation.

Notes are to be shown in 6pt medium upright type, in the colour of the item they depict (black or magenta).

15 Common Cautionary Notes

15.1 *Coastal Navigation*

COASTAL NAVIGATION

Mariners without local knowledge should exercise caution particularly in close proximity to the coast. Numerous small islets and rocks exist in the near shore areas.

15.2 *Currents*

Currents notes can be general or specific depending on the information relevant to the areas, i.e. for a known current.

CURRENTS

The current in this area is strongly influenced by the prevailing wind and may vary from a north-going current at 0.5kns during moderate winds from the south to an east-going current at 0.4kns during fresh northerly winds. In light variable winds the current sets to the east at 0.4kns.

15.3 *Dredged Area*

DREDGED AREAS

Dredged areas may not be regularly maintained. Mariners should contact the harbourmaster for information on the latest depths.

15.4 *Estuary And Harbour Entrance*

ESTUARY ENTRANCES

Depths on the bars at the Maketu Estuary, Waihi Estuary and Kaituna River Entrance are subject to frequent change and it is dangerous for mariners without recent local knowledge to attempt to cross them.

HARBOUR ENTRANCE

Depths on the bars at the entrances to Hokianga, Kaipara and Manukau Harbours are subject to frequent change and it is dangerous for mariners without recent local knowledge to attempt to cross them.

15.5 *Magnetic Anomalies*

LOCAL MAGNETIC ANOMALIES

Local Magnetic anomalies may be experienced inside the 30 metre contour in the approaches to the Mount Manganui entrance to Tauranga Harbour.

15.6 *Marine Farms*

MARINE FARMS

Marine farms presenting a hazard to navigation may be encountered in inshore waters. These farms are generally marked by buoys, beacons and lights. Mariners are warned that not all farms may be shown on this chart.

15.7 *Navigational Aids (Large scale Charts)*

NAVIGATIONAL AIDS

Certain lights, buoys and beacons in the inner waters and channels are not shown on this chart, for these the larger scale charts must be consulted.

15.8 *Navigational Aids (Small scale Charts)*

NAVIGATIONAL AIDS

Only the principal lights and radio navigation aids, indicated by symbols and names are shown on this chart.

15.9 *Satellite Derived Positions*

SATELLITE DERIVED POSITIONS

Positions obtained from satellite navigation systems referred to WGS 84 Datum can be plotted directly onto this chart. Caution must be exercised in the transfer of geographical positions to other charts not in terms of WGS 84 Datum.

15.10 *Tidal Streams*

TIDAL STREAMS

Weather conditions may considerably affect the tidal streams in the Cook Strait.

15.11 *Voluntary Code*

VOLUNTARY CODE

Vessels laden with oil or other harmful liquid substances in bulk are to keep at least 5 nautical miles off land, any charted danger, or any outlying island(s) until reaching the position where alteration is required to make port.

16 Other Cautionary Notes

AREA TO BE AVOIDED

To avoid the risk of pollution all ocean going vessels should avoid the area indicated.

AREA OF MAGNETIC DISTURBANCE

Mariners are warned that deviation of the compass may be experienced in shallow water in the near vicinity of the submarine power cables.

CABLES

Only transatlantic cables are shown on this chart.

CRAYPOT BUOYS

Craypot buoys which present a hazard to small craft will be encountered in the eastern entrance to Tory Channel and close to shore in the western approaches to Wellington Harbour.

DOUBTFUL DATA

Reported but unconfirmed depths or dangers are indicated by an encircling dotted line.

FERRIES

Passenger/Vehicular ferries regularly transit Cook Strait between Wellington Harbour and Picton via Tory Channel.

MAGNETIC VARIATION CURVES ARE FOR 2000

The Magnetic Variation is shown in degrees, followed by the letter W or E, as appropriate, at certain positions on the curves. The annual change is expressed in minutes with the letter W or E and is given in brackets, immediately following the variation.

LARGER SCALE CHARTS

Chart indexes are contained in NZ202, chart catalogue.

OFFSHORE GAS PRODUCTION STRUCTURES & GAS PIPELINE AREAS

Safety Zones. The unauthorised entry of any vessel into the 500 metre safety zones around Maui A & B platforms and the FPSO (tanker) is prohibited.

Protected Area. All vessels are prohibited from anchoring or fishing within the Protected Area (*inside the Territorial Sea Outer Limit*) of the gas pipeline to Maui A & B platforms and the FPSO (tanker).

Restricted Area. All New Zealand vessels are prohibited from, and other vessels warned against, anchoring or fishing within the Restricted Area (*beyond the Territorial Sea Outer Limit*) of the gas pipelines.

The gas pipelines from Maui A & B production platforms and FPSO (tanker) contain flammable gas under high pressure; any vessel damaging them would face an immediate fire hazard.

SUBMARINE EXERCISE AREA

Submarines exercise in this area. A good lookout should be kept for them. Attention is drawn to New Zealand Notice to Mariners No.8, which is published annually.

DEFENCE AREAS

No person or vessel shall remain in a Defence Area when restrictions imposed under Part III of the Defence Regulations 1990 are enforced by the Maritime Commander, New Zealand, or any other authorised person.

ENTRANCE - RADIO REPORTING POINT

Ten minutes before passing East Head Light at the entrance to Tory Channel, all vessels, whether inbound or outward bound, are required to transmit a message to "All Ships" giving warning of transit. The message is to be transmitted on VHF Channel 16.

Annex B

LINZ Hydrographic Chart Symbol Specifications v2

The following specifications cover only some symbols. The symbols covered are to be produced to look like those in the following diagrams and, where full dimensions are not given, are to be based on proportions of the measurements given. Those symbols not covered are to be produced to match the size and appearance of those shown in INT 1.

LINZ Symbol Specification 1

Steep Coast, Cliffs and Quarries

S4 B-312.1, B-367.1, INT 1 C3.

Steep coast, cliffs and quarries are to be represented by the symbol below or an equivalent symbol with LHS prior approval. This excludes quarries on small scale charts which are shown with the symbol of two crossed hammers (S4 B-367.2).

The position of steep coast, cliffs and quarries are to be determined from:

Hydrographic survey that fixes the position. This is to be used in preference to any other source.

LINZ topographic database.

Aerial photography.

Do not distinguish between cliff and steep coast.

The height of the symbol will be selected based on the following:

To match the physical size of the cliff.

To prevent the symbol from being displaced inshore significantly (a factor of chart scale). This is particularly true when the displacement of the symbol will give mariners a wrong impression of the coast.

To prevent the vertical lines of the symbol (those running down the cliff face) from overlapping each other when the symbol is curved around an angular piece of cliff crest.

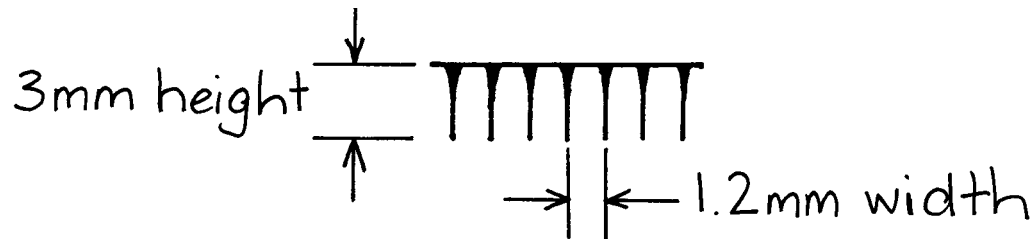
The cliff crest is to be one continuous line and broken only where the cliff itself breaks. The vertical lines of the symbol are to be at right angles to the cliff crest of the symbol. They are to stop a minimum 0.2mm from the coastline or any other feature they abut (e.g. a river).

The symbol is to be produced in the 5 heights. These heights are, at chart scale, 1mm, 2mm, 3mm, 4mm and 5mm. The line weight, width between vertical lines and thickening at the top of the vertical lines remain constant for all cliff symbol heights.

Symbol at chart scale (3mm):



Symbol specification (for 3mm height):



Line weight of the cliff crest is 0.1mm.

LINZ Symbol Specification 2

Low Water Rock – small areas

S4 B-421.2, BA 5011 K11.

Small rocky areas that are exposed at low water are to be represented by the symbols below or equivalent symbols with LHS prior approval. The symbol in INT 1 K11 is not to be used.

Low water rock areas larger than 3mm diameter at chart scale are to be produced using LINZ Symbol Specification 3. Low water rocks 1.5mm diameter and smaller at chart scale are to be represented by LINZ Symbol Specification 4 (drying rock).

The symbols may be centred on an islet where necessary. They are to be orientated at different angles to create a more random appearance.

Symbol at chart scale:



Symbol specification:



Line weight is 0.1mm.

LINZ Symbol Specification 3

Low Water Rock

S4 B-426.2, INT 1 J21.

Rocky areas that are exposed at low water are to be represented by the symbol below or an equivalent symbol with LHS prior approval.

The height of the symbol will be selected based on the following:

- To match the physical size of the low water rock.

- To prevent the symbol from being displaced offshore significantly (a factor of chart scale). This is particularly true when the displacement of the symbol will give mariners a wrong impression of the coast.

- To prevent the vertical lines of the symbol (those running at approximately right angles to the edge of the rock) from overlapping each other when the symbol is curved around an angular piece of low water rock.

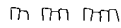
The outer edge of the symbol is to closely follow the outer line of the foreshore rock. The symbol is to stop a minimum 0.2mm from the coastline or islets. The rock symbol is to be started and completed with a vertical line running towards the coast.

The symbol is to be produced in the 2 heights. These heights, at chart scale, are 1mm and 1.5mm. The line weight and width between vertical lines remain constant for both low water rock symbol heights.

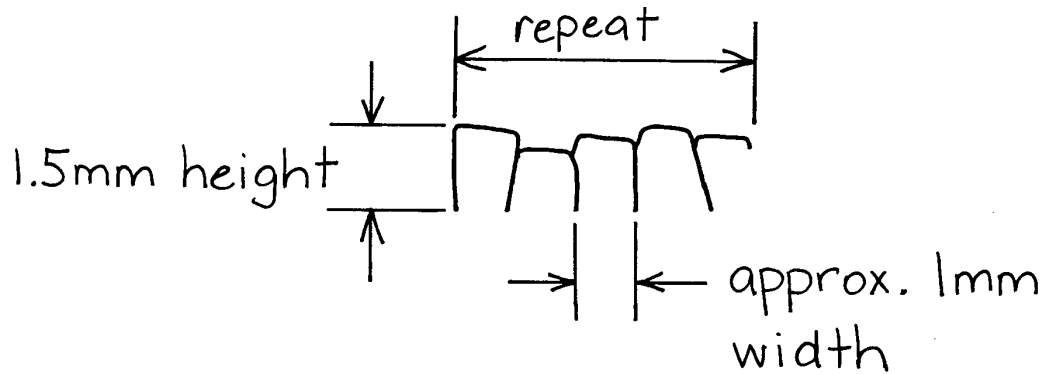
Symbol at chart scale (1.5mm):



Small areas of low water rock close to the coast are to be shown by a symbol made of one or more sections of low water rock as shown at chart scale below (1.5mm):



Symbol specification (for 1.5mm height):



Line weight is 0.1mm.

LINZ Symbol Specification 4

Rocks

S4 B-421.2 to B-421.4, INT 1 K11-14.

Rocks are to be represented by the symbols below or equivalent symbols with LHS prior approval.

Drying rocks larger than 1.5mm diameter at chart scale are to be represented by LINZ Symbol Specification 2 and those larger than 3mm at chart scale are to be produced using LINZ Symbol Specification 3.

Symbol at chart scale:

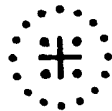
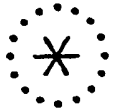
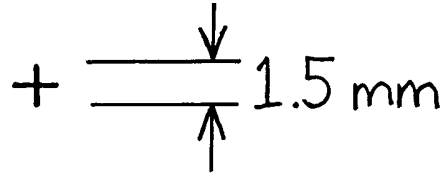


Symbol specification:

Drying rock

Rock awash

Underwater rock



LINZ Symbol Specification 5

Islets

S4 B-421.1, INT 1 K10.

Islets are to be represented by the detail given below.

The minimum size for an islet symbol is a solid circle of 0.3mm diameter.

In areas with many islets where the islet symbols run together, a selection of islets is to be made. The most seaward islets are always to be shown. Where an islet is close to the coast and the islet symbol touches the coast, the islet is to be moved seaward to clear the coast.

LINZ Symbol Specification 6

Marsh

S4 B-312.2, INT 1 C33.

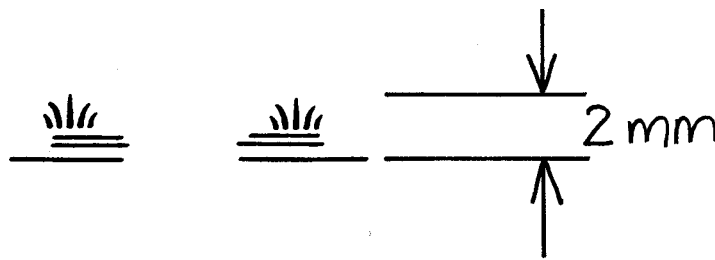
Marshy shore or areas are to be represented by the symbols below or equivalent symbols with LHS prior approval.

The two symbols are to be alternated to give a random appearance.

Symbol at chart scale:



Symbol specification:



LINZ Symbol Specification 7

Freshwater Springs

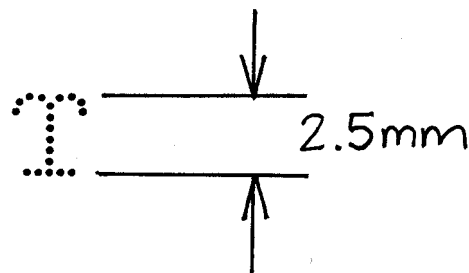
S4 B-428.3, INT 1 J15.

Springs in the seabed are to be represented by the symbol below or an equivalent symbol with LHS prior approval.

Symbol at chart scale:



Symbol specification:



LINZ Symbol Specification 8

Conifers

S4 B-354.2, INT 1 C31.3.

Prominent coniferous trees and isolated coniferous trees with known position are to be represented by the symbols below or equivalent symbols with LHS prior approval.

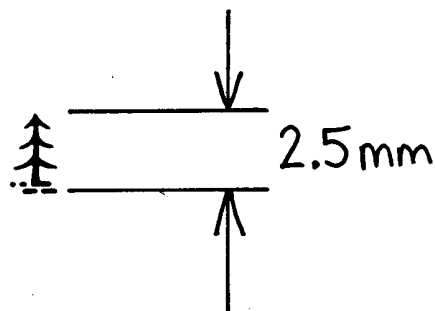
A small group of prominent trees is to be shown by three tree symbols arranged as shown in S4 B-354.2.

Symbol at chart scale:

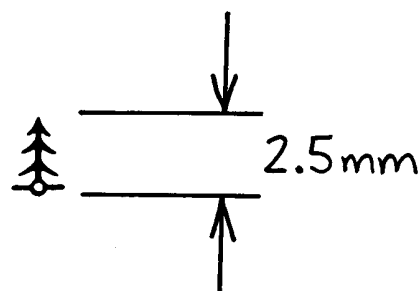


Symbol specification:

Prominent tree



Isolated tree



LINZ Symbol Specification 9

Spot Heights

S4 B-352.2, INT 1 C11.

Spot height labels are to be positioned as shown below.

The spot is to be by a solid circle of size 0.3mm diameter.

Spot heights and associated geographical names are to be placed together. Add the name of the hill or mountain when available. Do not add trig names. The first preference is for the name and height to read up to the spot height and the second, to read away from it. These are preferable even when topographic contours need to be broken to enable it.

The following example shows the first two preferences. The last preference is for any other placement. Please note that the size of the spot in the example is not correct.

First preference:

Mount Carroll
34 ●

Second preference:

Mount Carroll
● 34

When the height of an island cannot fit within its coastline place the height within brackets beside the island or its name. The island name is always to be closest to the island as follows:

○ Motuora Island (126)

(126) Motuora Island ○

The font for hill and island names is 6pt medium upright unless the size/importance of the feature dictates otherwise. The font for heights, regardless of the size of the feature name, is 6pt medium upright.

LINZ Symbol Specification 10

Vertical Clearance

S4 B-380.2 to B-382, INT 1 D20-28.

The vertical clearance of any overhead cable or line, transporter, pipe or bridge is to be shown by the symbols below or equivalent symbols with LHS prior approval.

The type is 6pt medium upright.

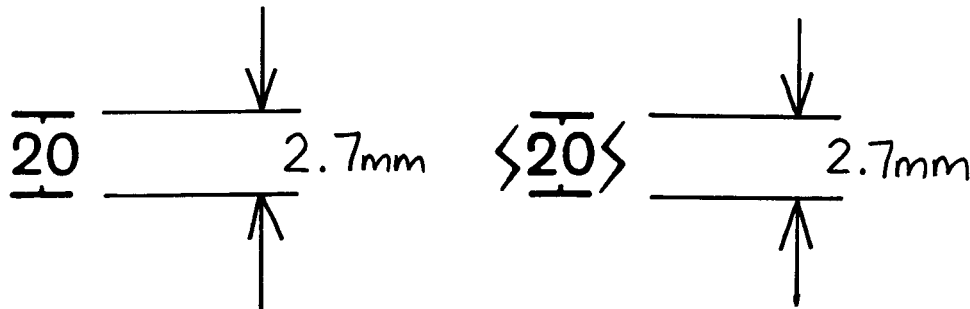
Symbol at chart scale:

$\overline{20}$ $\langle \overline{20} \rangle$

Symbol specification:

Vertical clearance
transmission line.

Vertical clearance of a power



LINZ Symbol Specification 11

Scattered Buildings

S4 B-370.5, INT 1 D5.

Small scattered buildings are to be represented by the detail given below.

Scattered buildings of size smaller than 0.8mm square at chart scale are to be drawn as a solid black square of size 0.8mm x 0.8mm (i.e. not 0.6 x 0.9mm as stated in S4 B-370.5).

LINZ Symbol Specification 12

Coral – small areas

S4 B-426.3, INT 1J22.

Small areas of coral that are exposed at low water are to be represented by the symbols below or equivalent symbols with LHS prior approval.

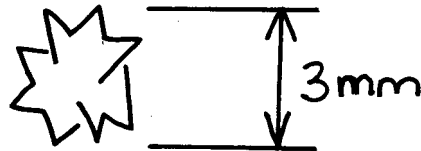
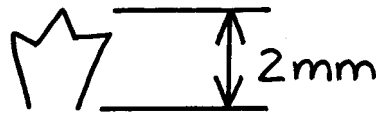
Areas of coral larger than 3mm diameter at chart scale are to be produced using LINZ Symbol Specification 13. Areas of coral 1.5mm diameter and smaller are to be represented by LINZ Symbol Specification 4 (drying rock).

The symbols may be centred on an islet where necessary.

Symbol at chart scale:



Symbol specification:



Line weight is 0.1mm.

LINZ Symbol Specification 13

Coral

S4 B-426.3, INT 1 J22.

Coral reefs and foreshores that are exposed at low water are to be represented by the symbol below or an equivalent symbol with LHS prior approval.

The height of the symbol will be selected based on the following:

To match the physical size of the coral.

To prevent the symbol from being displaced offshore significantly (a factor of chart scale). This is particularly true when the displacement of the symbol will give mariners a wrong impression of the coast.

To prevent the vertical lines of the symbol (those running at approximately right angles to the edge of the coral reef or foreshore) from overlapping each other when the symbol is curved around an angular piece of coral.

The outer edge of the symbol is to closely follow the outer line of the coral reef or foreshore. The vertical lines of the symbol are to stop a minimum 0.2mm from the coastline or islets.

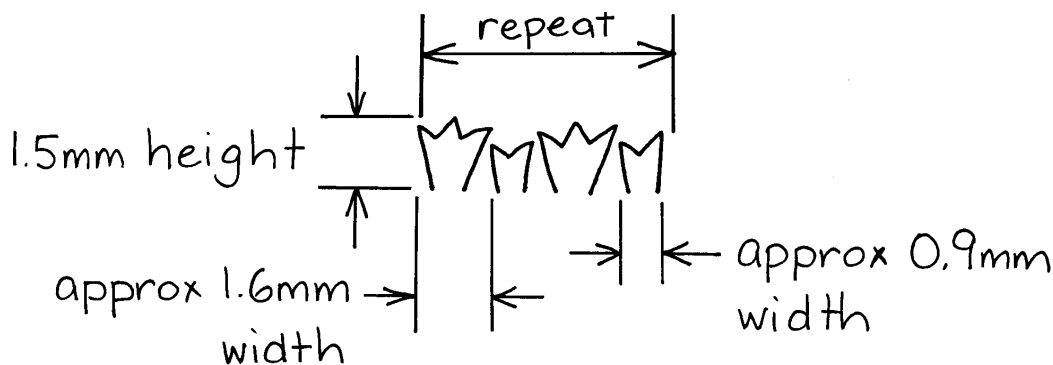
The symbol is to be produced in the 2 heights. These heights, at chart scale, are 1mm and 1.5mm. The line weight and width between vertical lines remain constant for both coral symbol heights.

Symbol at chart scale (1.5mm):



Small areas of coral close to the coast are to be shown by a symbol made of one or more sections of low water rock as shown at chart scale below (1.5mm):

Symbol specification (for 1.5mm height):



Line weight is 0.1mm.

LINZ Symbol Specification 14

Eddies

S4 B-423.3, INT 1 H45.

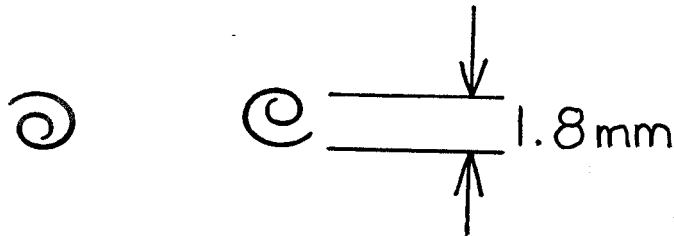
Eddies are to be represented by the symbols below or equivalent symbols with LHS prior approval.

The two symbols are to be alternated to give a random appearance.

Symbol at chart scale:



Symbol specification:



LINZ Symbol Specification 15

Stranded Wreck

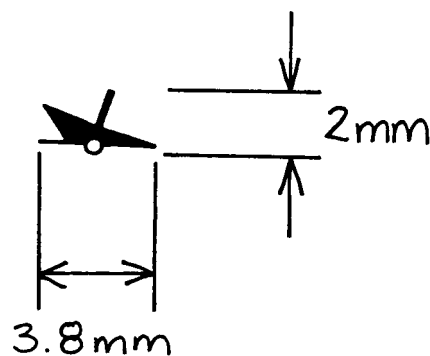
S4 B-422.2, INT 1 K24.

Stranded wrecks with any portion of the hull or superstructure emerging above chart datum are to be represented by the symbol below or an equivalent symbol with LHS prior approval.

Symbol at chart scale:



Symbol specification:



LINZ Symbol Specification 16

Wrecks

S4 B-422.2, B-422.5 and B-422.6, INT 1 K25, 28 and 29.

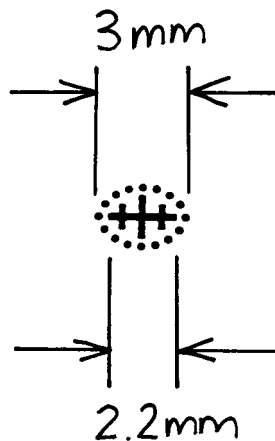
Dangerous wrecks, non dangerous wrecks and wrecks with only the masts visible above chart datum are to be represented by the symbols below or equivalent symbols with LHS prior approval.

Symbols at chart scale:

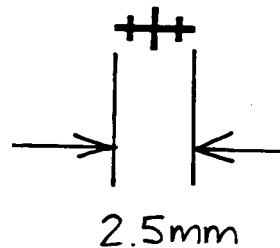


Symbol specification:

Dangerous wreck and wreck with only masts visible



Non dangerous wreck



LINZ Symbol Specification 17

Tidal Diamond

S4 B-407.2, INT 1 H46.

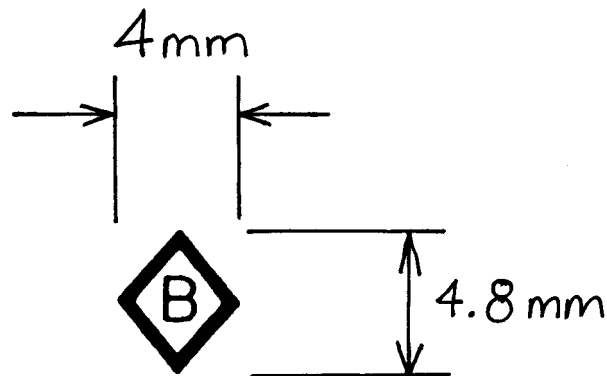
Stations at which tidal streams have been observed and for which data is to be charted are to be represented by the symbol below or an equivalent symbol with LHS prior approval.

The diamond and letter are magenta. The letter within each diamond is 6pt medium upright. The letter is not to touch the diamond.

Symbol at chart scale:



Symbol specification:



The line weight of the diamond is 0.35mm.

LINZ Symbol specification 18

Dotted Danger Line

S4 B-411.4, B-420.1, INT 1 K1.

Dotted danger lines are to be represented by the symbol below or an equivalent symbol with LHS prior approval.

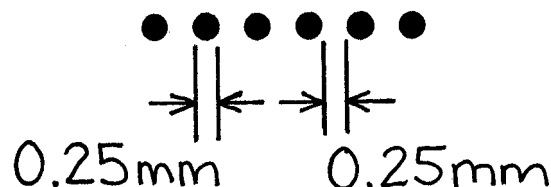
The dotted danger line symbol defined below is to be curved into the shape required, including creating dotted danger circles of various diameters. Closed shapes are to be finished neatly where the start and end of the dotted danger line meet.

Dotted danger lines encircling any dangers or soundings are not to touch the feature. This is to ensure clarity of the feature.

Symbol at chart scale:



Symbol specification:



LINZ Symbol Specification 19

Embankment

S4 B-313.1, B-313.2, B-313.3, INT 1 F1, 2.2, 3.

An embankment, dyke, levee, seawall and embankment along a causeway are to be represented by the detail given below, or an equivalent symbol with LHS prior approval.

The steep coast, cliff and quarry symbol (refer Annex B, clause 1, LINZ Symbol Specification 1) is to be used to create the embankment symbol as follows:

Use the 1mm height.

Remove the cliff crest line.

LINZ Symbol Specification 20

Stony or Shingly Shore

S4 B-312.2, INT 1 C7.

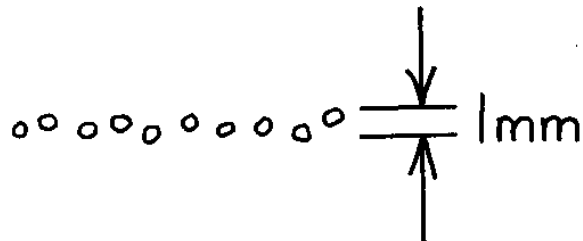
A stony or shingly shore is to be represented by the symbol below or an equivalent symbol with LHS prior approval.

The symbol is made up of a row of irregular circles. Only one row is to be used. The edge of the symbol is to closely follow the coastline with a minimum gap of 0.2mm from the coastline.

Symbol at chart scale:

°°°°°°°°°°

Symbol specification:



Line weight of the boulders is 0.1mm.

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The service provider is to download S4, INT 1, INT2 and INT 3 from the IHO website. LHS will provide INT 1 if the service provider is unable to access it.

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