



## Boating – Buoys and Beacons

### Lateral Marks

The conventional direction of buoyage, which is indicated on charts or in other appropriate nautical documents, i.e. either:

- The general direction taken by the mariner when approaching a harbour, river, estuary or other waterway from seaward, or
- The direction determined by Maritime New Zealand

Typically when entering harbour, the port side of your boat will pass the red markers and the starboard side will pass the green markers.

| PORT HAND MARKS   |  |
|---|--|
| <p><b>Colour:</b><br/>Red</p> <p><b>Shape (buoys):</b><br/>Cylindrical (can), pillar or spar</p> <p><b>Top Mark (if any):</b><br/>Single red cylinder (can)</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>Red</p> <p><b>Rhythm:</b><br/>Any, other than composite group flashing</p> |  |

| STARBOARD HAND MARKS  |  |
|---|--|
| <p><b>Colour:</b><br/>Green</p> <p><b>Shape (buoys):</b><br/>Conical, pillar or spar</p> <p><b>Top Mark (if any):</b><br/>Single green cone, point upward</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>Green</p> <p><b>Rhythm:</b><br/>Any, other than composite group flashing</p> |  |



## Lateral Marks, cont.

If a channel splits into two, thus providing two different potential routes, then one route is often marked as a preferred route.

| PREFERRED CHANNEL TO PORT  |  |
|--|--|
| <p><b>Colour:</b><br/>Green with one broad red horizontal band</p> <p><b>Shape (buoys):</b><br/>Conical, pillar or spar</p> <p><b>Top Mark (if any):</b><br/>Single green cone, point upward</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>Green</p> <p><b>Rhythm:</b><br/>Composite group flashing (2 + 1)</p> |  |

| PREFERRED CHANNEL TO STARBOARD   |  |
|--|--|
| <p><b>Colour:</b><br/>Red with one broad green horizontal band</p> <p><b>Shape (buoys):</b><br/>Cylindrical (can), pillar or spar</p> <p><b>Top Mark (if any):</b><br/>Single red cylinder (can)</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>Red</p> <p><b>Rhythm:</b><br/>Composite group flashing (2 + 1)</p> |  |

## Numbering or lettering

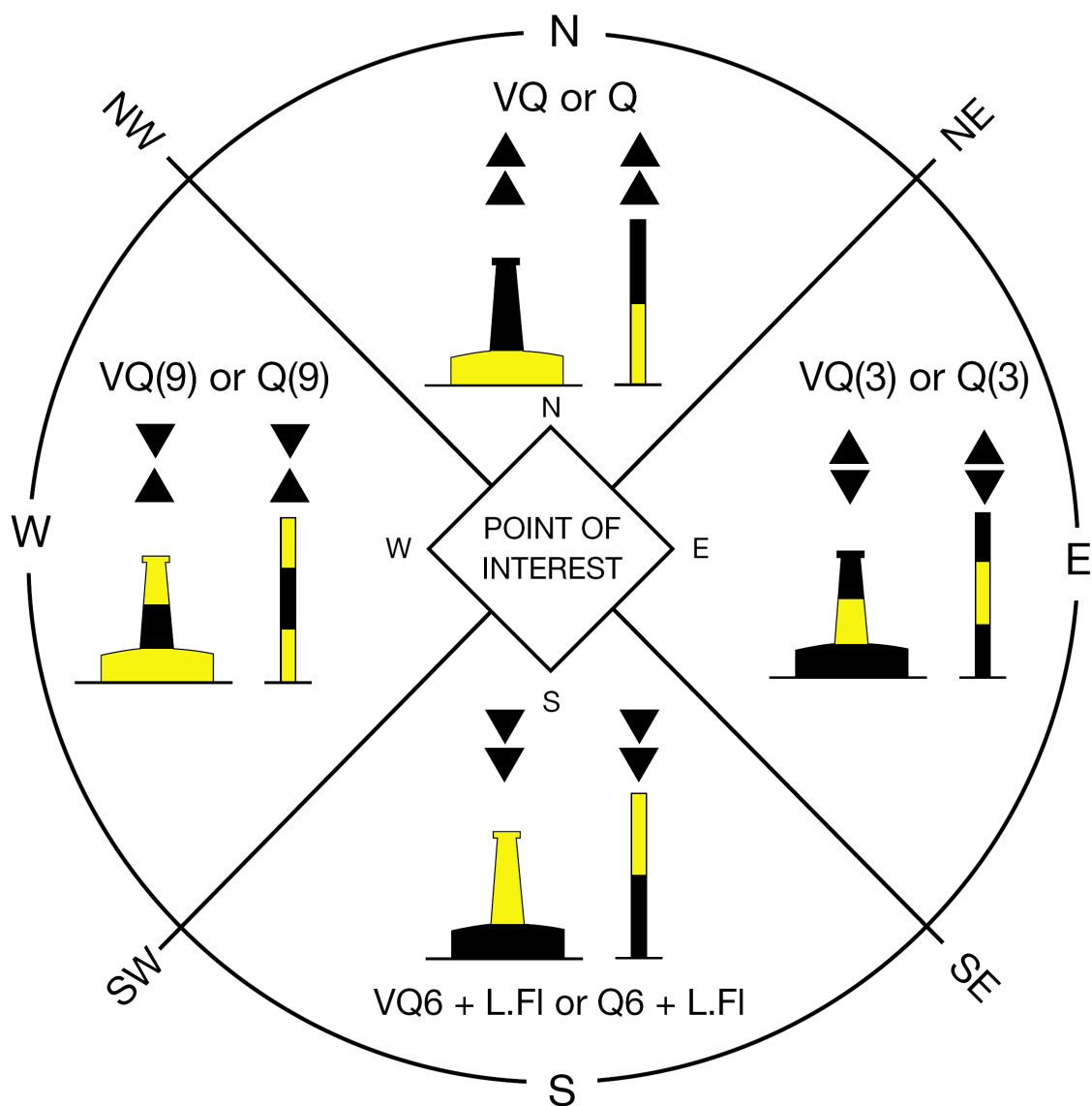
If Marks at the sides of a channel are numbered or lettered, the numbering or lettering follows the "conventional direction of buoyage".

The convention is Port = even 2, 4, 6 etc. Starboard = odd 1, 3, 5 etc.



## Cardinal Marks

Indicate that the deepest water in that area is on the named side of the mark; or indicate the safe side on which to pass a danger; or draw attention to a feature in a channel such as a bend, a junction, where a channel divides or the end of a shoal.



The characters used for Cardinal Marks are as follows:

- North: Continuous "very quick" or "quick" flashing.
- East: Three "very quick" or "quick" flashes followed by darkness.
- South: Six "very quick" or "quick" flashes followed immediately by a long flash, then darkness.
- West: Nine "very quick" or "quick" flashes followed by darkness.



## Isolated danger

An Isolated Danger Mark is erected or moored on or above an isolated danger that has navigable water all around it.

| ISOLATED DANGER MARKS  |  |
|--|--|
| <p><b>Colour:</b><br/>Black with one or more broad horizontal red bands</p> <p><b>Shape (buoys):</b><br/>Optional, but not conflicting with Lateral Marks; pillar or spar preferred</p> <p><b>Top Mark* (if any):</b><br/>2 black spheres, one above the other</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>White</p> <p><b>Rhythm:</b><br/>Group flashing (2)</p> |  |

## Safe Water

Safe Water Marks indicate that there is navigable water all round the Mark and include centre line marks and mid-channel Marks.

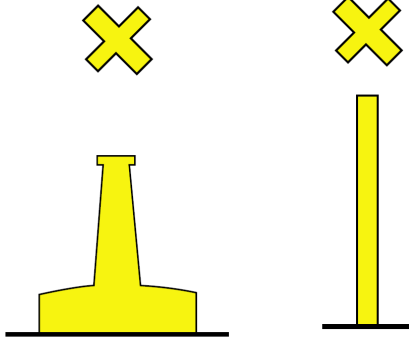
| SAFE WATER MARKS  |  |
|---|--|
| <p><b>Colour:</b><br/>Red and white vertical stripes</p> <p><b>Shape (buoys):</b><br/>Spherical, pillar or spar with spherical Top Mark</p> <p><b>Top Mark (if any):</b><br/>Single red sphere</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>White</p> <p><b>Rhythm:</b><br/>Isophase, occulting, one long flash every 10s or Morse "● —".</p> |  |





## Special Marks

Special Marks indicate a special area or feature marked on a chart or referred to in appropriate nautical documents.

| SPECIAL MARKS  |   |
|--|---|
| <p><b>Colour:</b><br/>Yellow</p> <p><b>Shape (buoys):</b><br/>Optional, but not conflicting with navigational marks</p> <p><b>Top Mark (if any):</b><br/>Single yellow 'X' shape</p> <p><b>Light (when fitted)</b><br/><b>Colour:</b><br/>Yellow</p> <p><b>Rhythm:</b><br/>Any, other than those used for Cardinal, Isolated Danger and Safe Water Marks</p> |  |

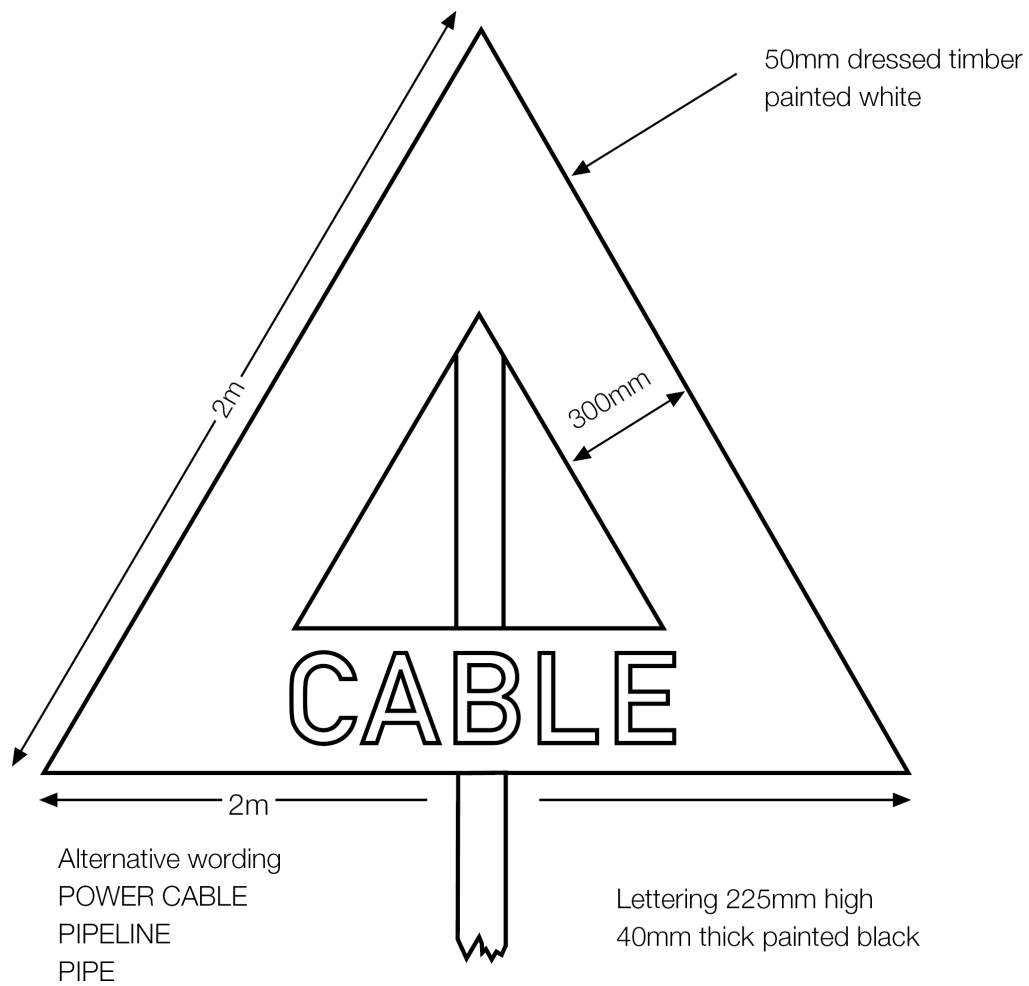
On the Waitemata Harbor, there are a number of these yellow buoys that have been anchored for the purpose of providing rounding marks for racing.



## Submarine Cables

The majority of submarine cables and pipelines are marked on the shore at the point where they enter and leave the water. The standard beacon Top Mark is shown below.

### DIAGRAM AND DIMENSIONS

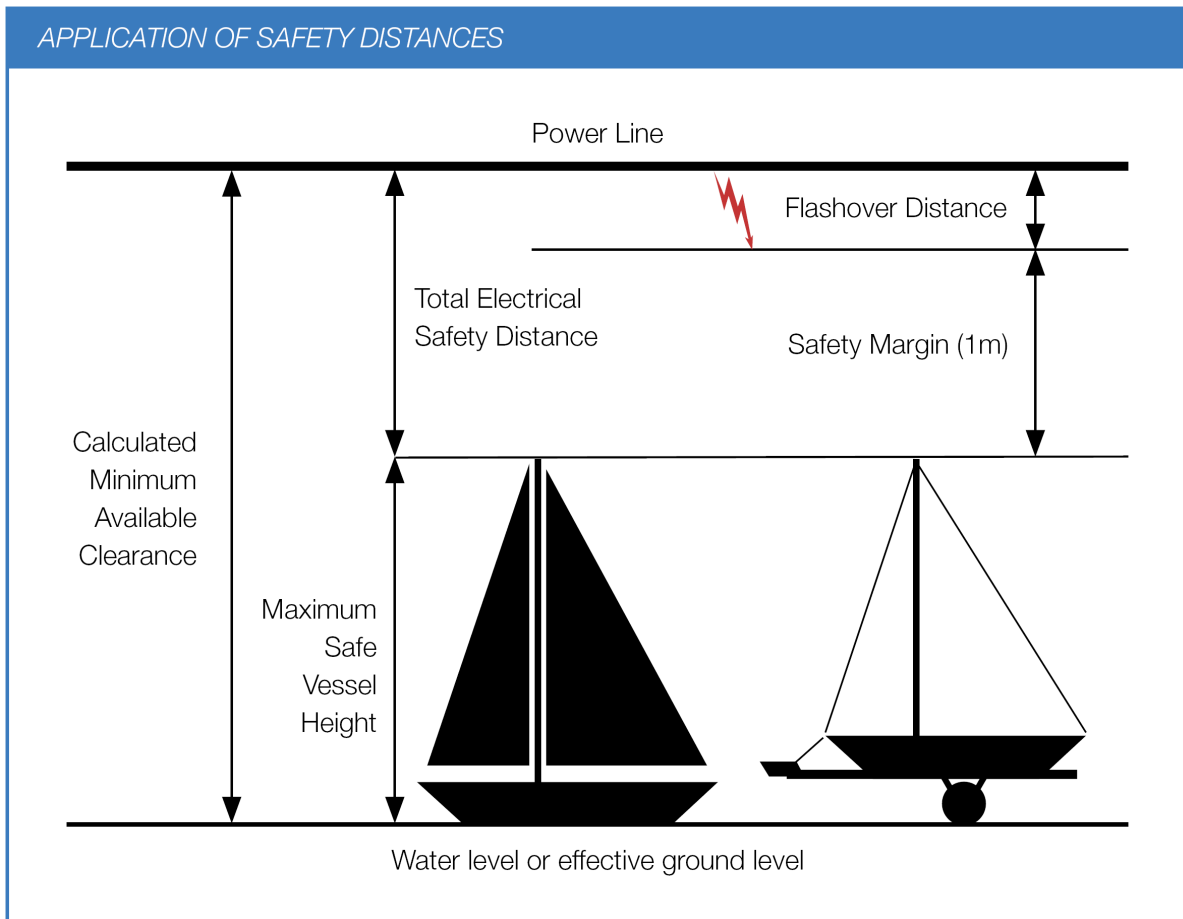


**SUBMARINE CABLE  
AND SUBMARINE MARKER BEACON**



## Safety Distances

In many water ways you will find signs warning of overhead power lines and obstructions. These usually indicate a safe maximum height that your mast can be to pass safely underneath.





## Light Characteristics

The following table summarises the meaning, abbreviations and illustrations of the light characteristics that you will find noted on charts. These may be associated with buoys or beacons.

| CLASS OF LIGHT  | ABBREVIATION | ILLUSTRATION |
|---|--------------|--------------|
| <b>Fixed</b> ( <i>steady light</i> )                                      | F            |              |
| <b>Occulting</b> ( <i>total duration of light more than dark</i> )        |              |              |
| Single-occulting  | Oc           |              |
| Group-occulting   | Oc(2)        |              |
| Composite group-occulting   | Oc(2+3)      |              |
| <b>Isophase</b> ( <i>light and dark equal</i> )                           | Iso          |              |
| <b>Flashing</b> ( <i>total duration of light less than dark</i> )         |              |              |
| Single-flashing   | Fl           |              |
| Long-flashing   | LFl          |              |
| Group-flashing  | Fl(3)        |              |
| Composite group-flashing  | Fl(2+1)      |              |
| <b>Quick</b> ( <i>50 to 79 — usually either 50 or 60 — fl/min</i> )       |              |              |
| Continuous quick  | Q            |              |
| Group quick   | Q(3)         |              |
| Interrupted quick   | IQ           |              |
| <b>Very Quick</b> ( <i>80 to 159 — usually either 100 or 120 fl/min</i> ) |              |              |
| Continuous very quick   | VQ           |              |
| Group very quick  | VQ(3)        |              |
| Interrupted very quick  | IVQ          |              |
| <b>Ultra Quick</b> ( <i>160 or more — usually 240 to 300 fl/min</i> )     |              |              |
| Continuous ultra quick  | UQ           |              |
| Interrupted ultra quick   | IUQ          |              |
| <b>Morse Code</b>   | Mo(K)        |              |
| <b>Fixed and Flashing</b>   | FFl          |              |
| <b>Alternating</b>  | Al.WR        |              |