RIS COMEX

Clearance and draught information in free flowing rivers and tidal estuaries

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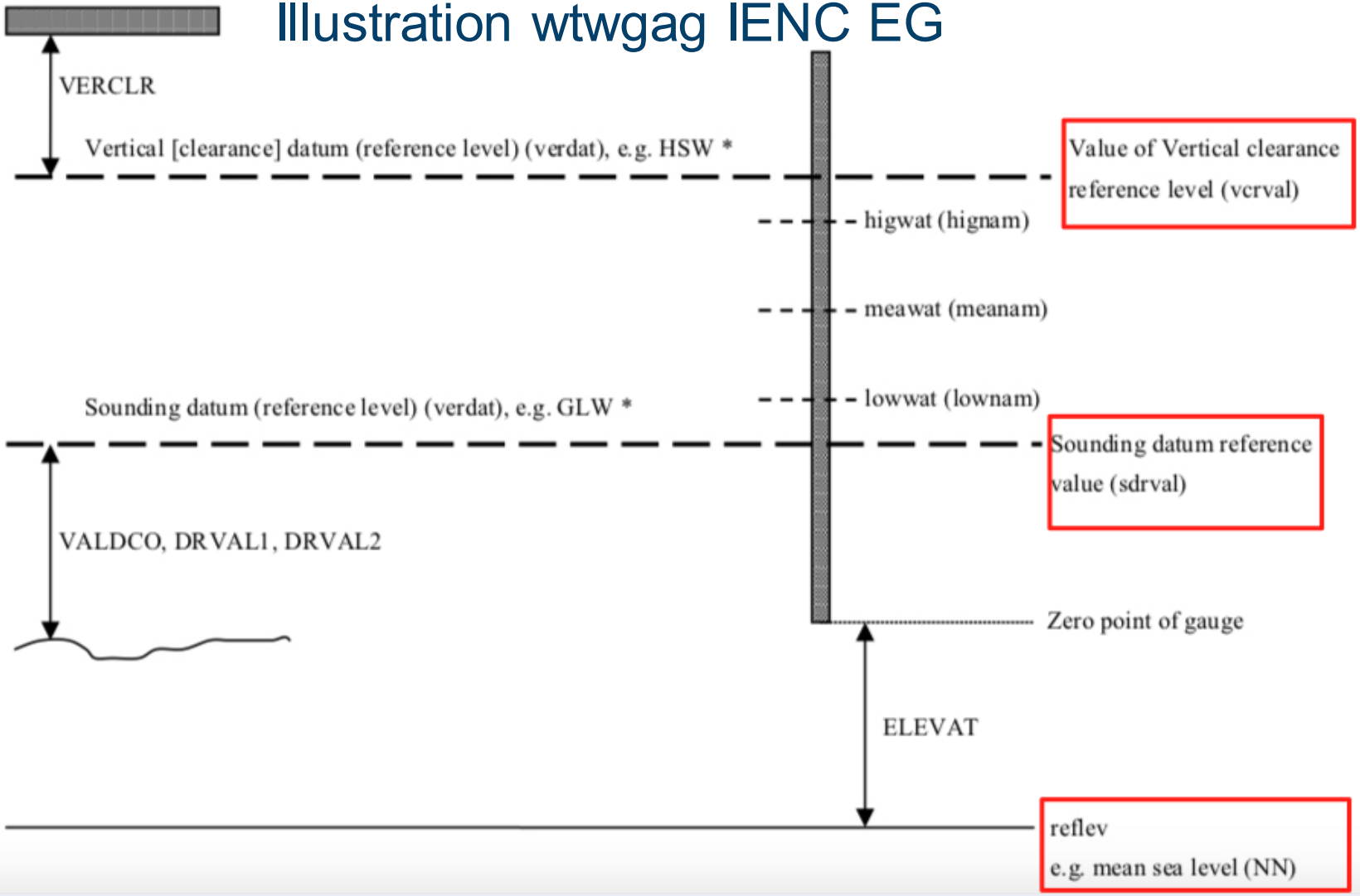
Connecting Europe Facility

During the IEEG in June 2018 it has been discovered (ie Laessi demo) that the vcrval attribute (value of Vertical clearance reference level) and the sdrval attribute for sounding date reference value is missing in the Feature Catalog and EG for many features.

vcrval and sdrval attributes are important to be able to make a comparison with actual watergauge information (reflev NAP in this case)

Below some examples :

Illustration wtwgag IENC EG



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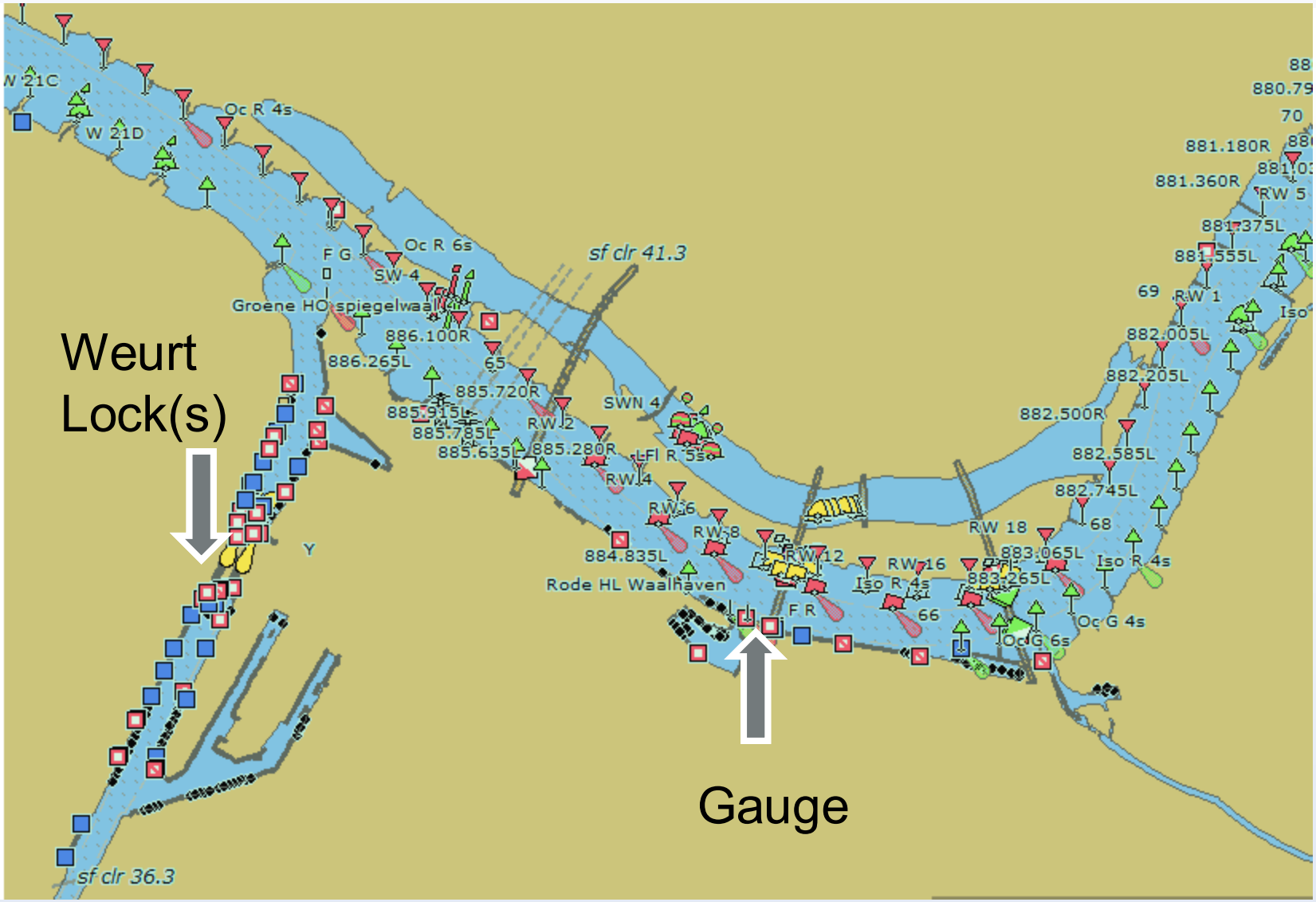
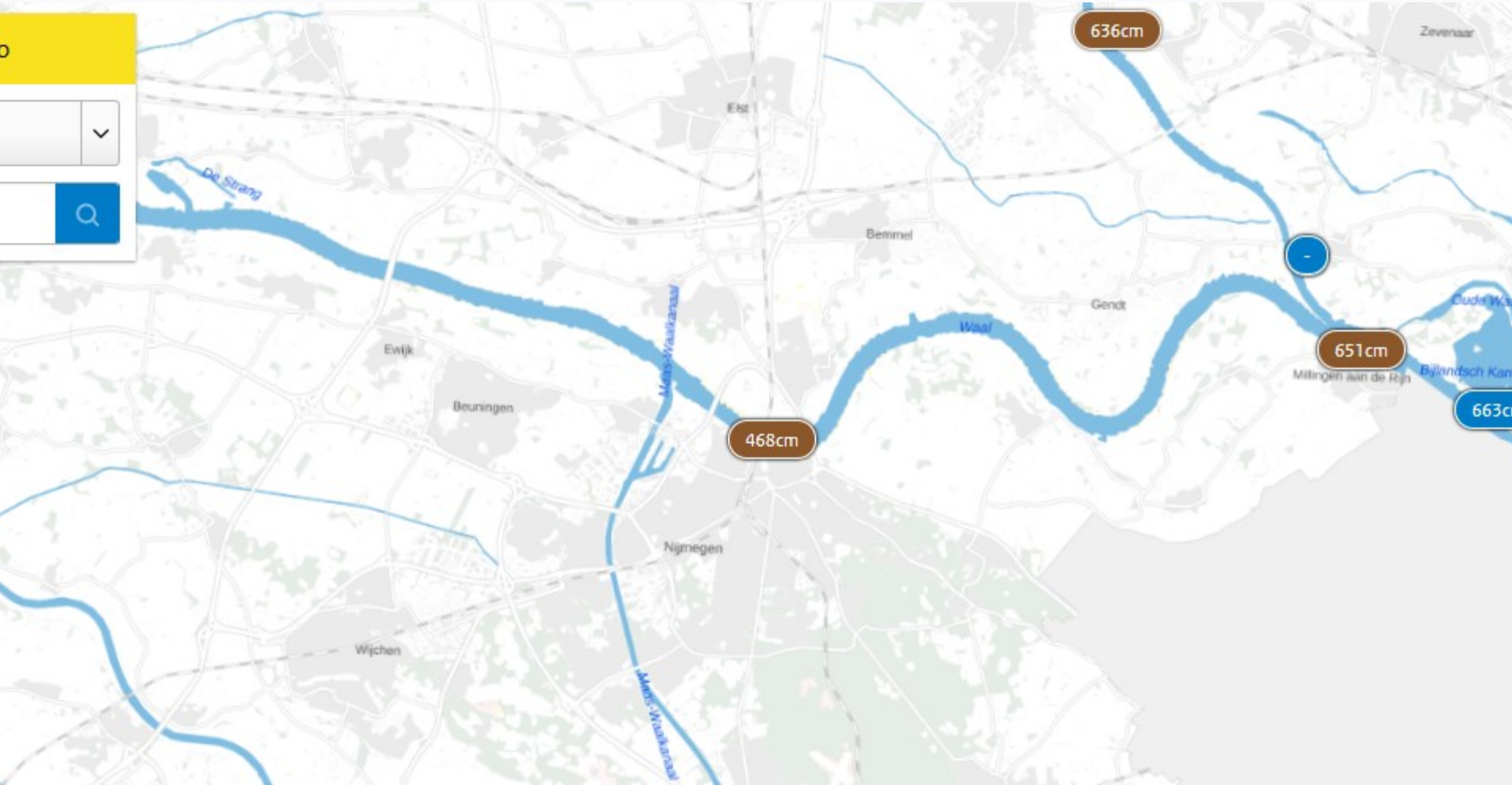
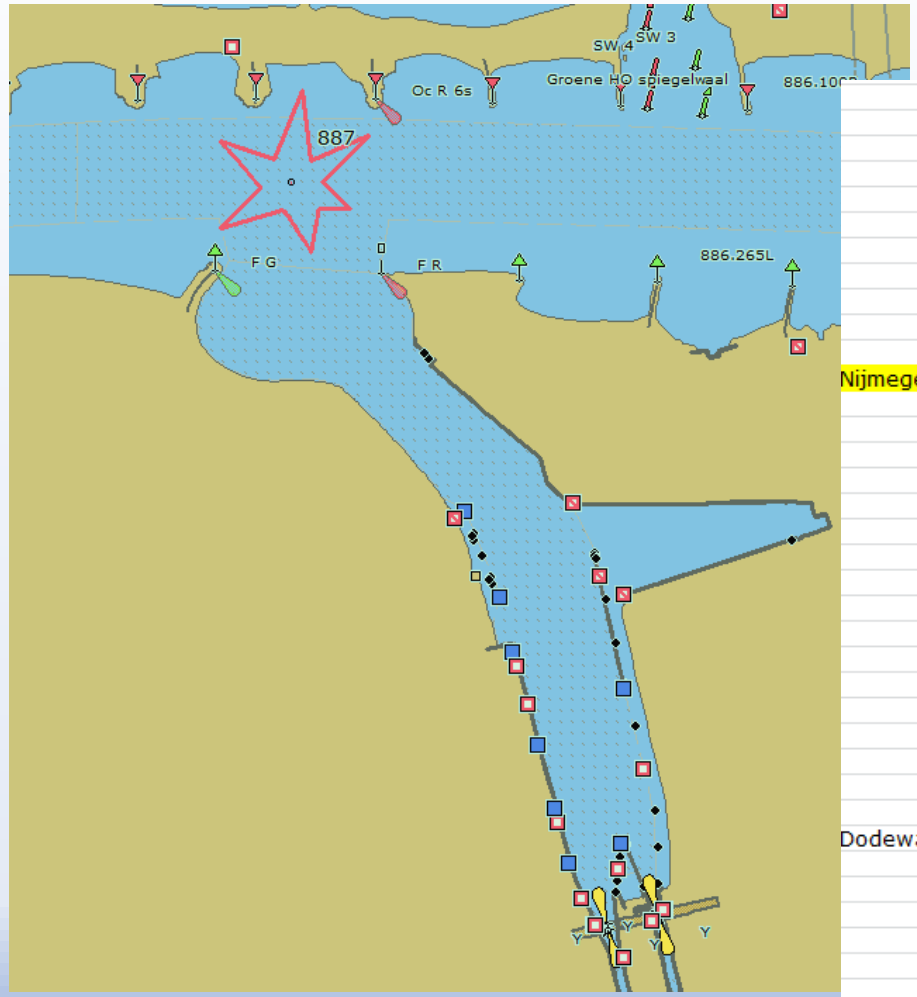
Lock Weurt (connected to the river Waal)


Weurt
Lock(s)
Gauge
W 21C
W 21D
Oc R 4s
F G
Oc R 6s
SW-4
Groene HO spiegelwaal
886.100R
886.265L
65
885.720R
885.915L
885.785L
885.635L
885.280R
RW 2
RW 4
SWN 4
Fl R 5s
sf clr 41.3
RW 6
RW 8
RW 12
RW 16
884.835L
Rode HL Waalhaven
Iso R 4s
F R
66
RW 18
68
883.065L
883.265L
Iso R 4s
Oc G 4s
Oc G 6s
882.500R
882.585L
882.745L
882.005L
882.205L
69
RW 1
Iso
881.180R
881.360R
RW 5
881.375L
881.555L
70
880.79
sf clr 36.3
Y

wtwgag Nijmegen 8 nov 2018 (very low waterlevel)

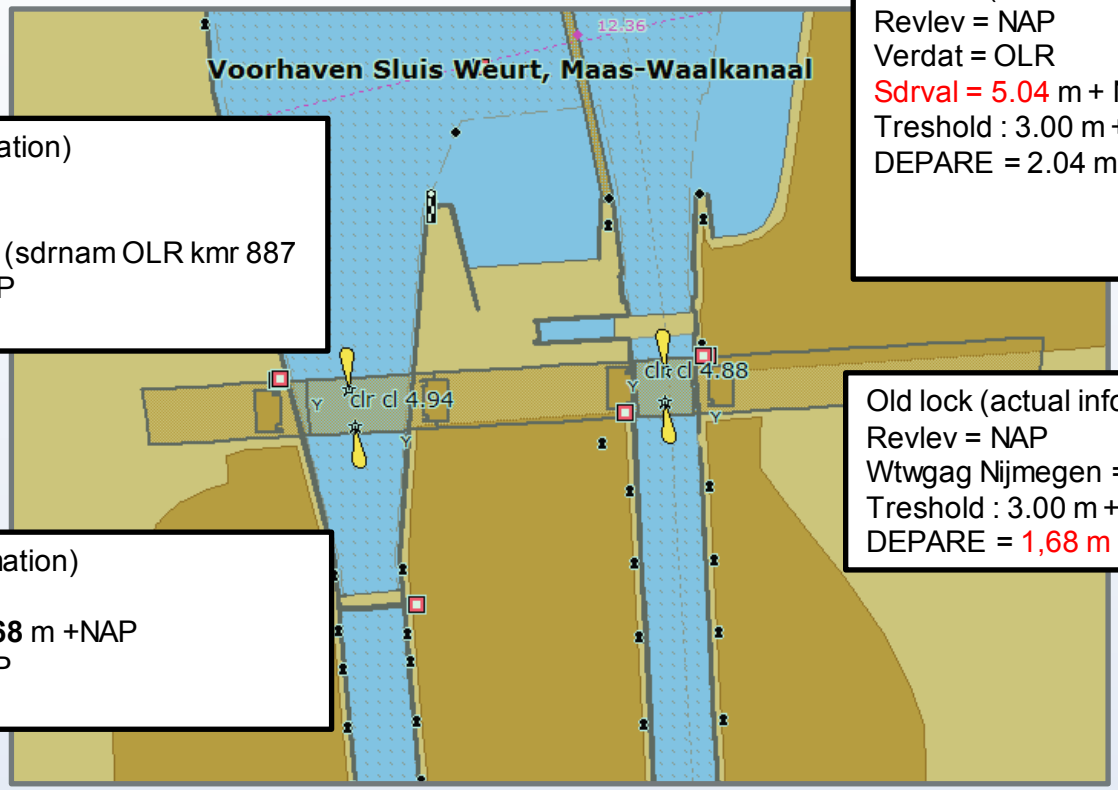


Locks Weurt are related to the OLR value Kmr 887



	874	6,52
	875	6,39
	876	6,24
	877	6,16
	878	6,10
	879	6,01
	880	5,94
	881	5,84
	882	5,75
	883	5,68
	884	5,46
Nijmegen haven	884,87	5,23
	885	5,23
	886	5,12
	887	5,04
	888	4,94
	889	4,86
	890	4,78
	891	4,70
	892	4,62
	893	4,53
	894	4,45
	895	4,36
	896	4,28
	897	4,19
	898	4,10
	899	4,00
	900	3,90
	901	3,79
Dodewaard	901,375	3,76
	902	3,68
	903	3,59
	904	3,49
	905	3,40
	906	3,31
	907	3,20
	908	3,07

The waterlevels are much less than the OLR value (22102018 wtwgag = 4.35 m NAP!!) ; SO The capacity of the locks is decreased in this period and have much impact on voyageplans etc.



New lock (static Information)
Revlev = NAP
Verdat = OLR
Sdrval = 5.04 m + NAP (sdrnam OLR kmr 887
Treshold : 1.50 m + NAP
DEPARE = 3.54 m

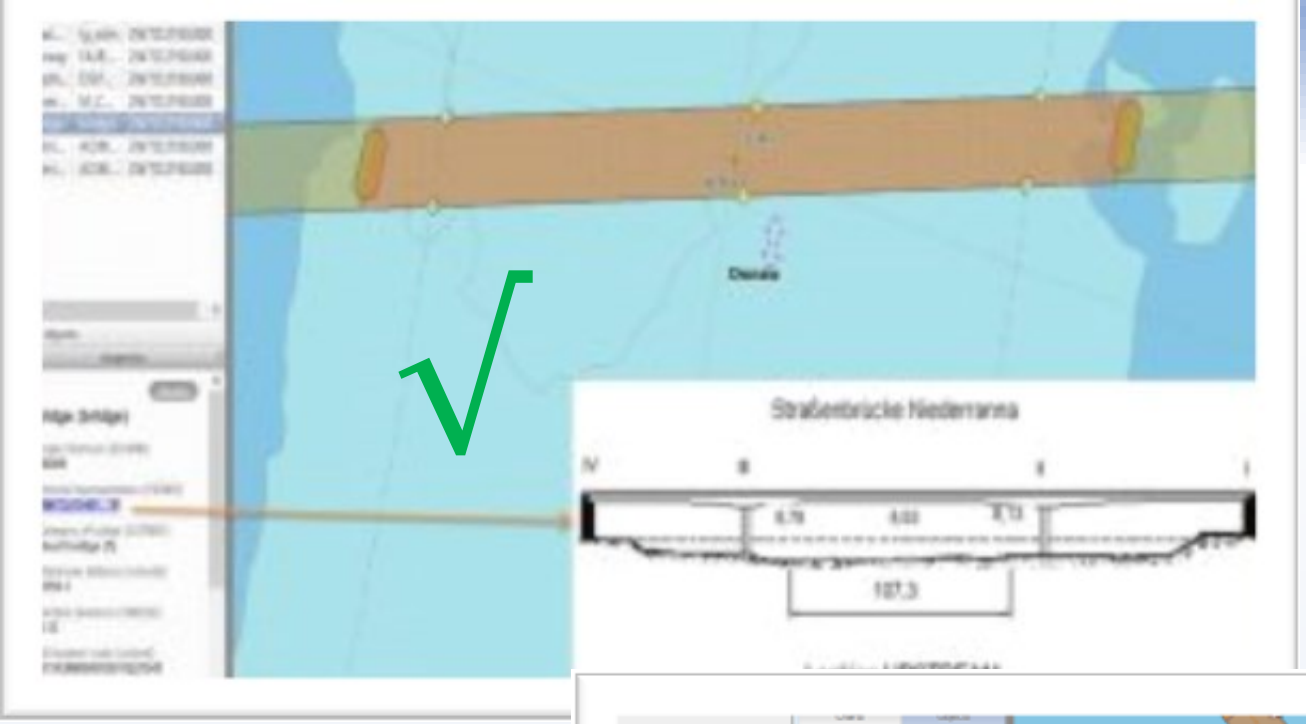
Old lock (static Information)
Revlev = NAP
Verdat = OLR
Sdrval = 5.04 m + NAP (sdrnam OLR kmr 887
Treshold : 3.00 m + NAP
DEPARE = 2.04 m

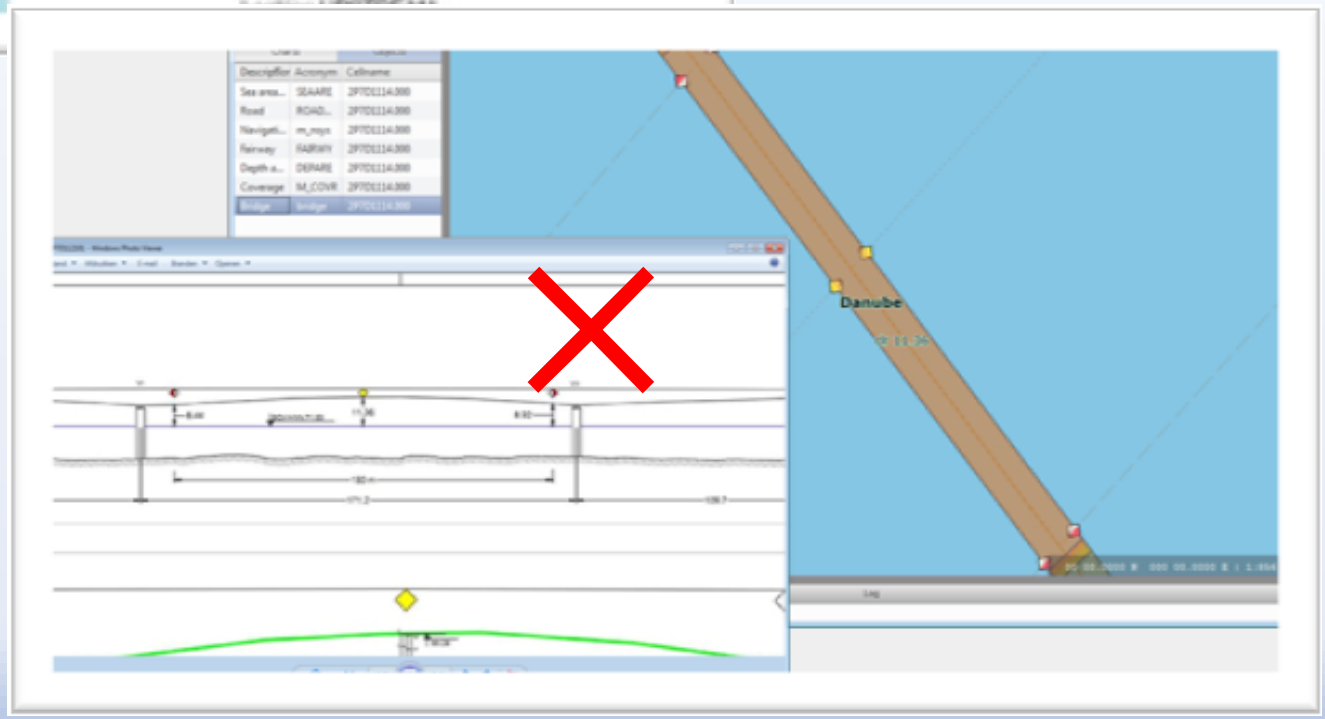
Old lock (actual information)
Revlev = NAP
Wtwgag Nijmegen = **4.68** m +NAP
Treshold : 3.00 m + NAP
DEPARE = 1,68 m

New lock (actual information)
Revlev = NAP
Wtwgag Nijmegen = **4.68** m +NAP
Treshold : 1.50 m + NAP
DEPARE = **3,18 m**

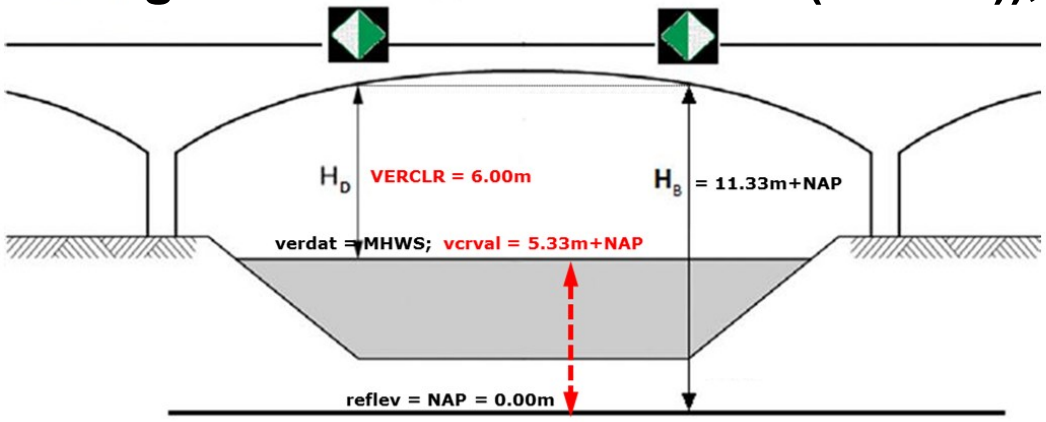
Example use of vcrval at bridges

The vertical clearance in the IENC is the smallest (safest) passage height of a span over navigable water and is determined by the smallest vertical distance between the normative high water level for shipping (MHW on rivers ; 43 (Dutch High Water Reference Level (MHW) and the underside of the span.


Straßenbrücke Niederranna
127.3

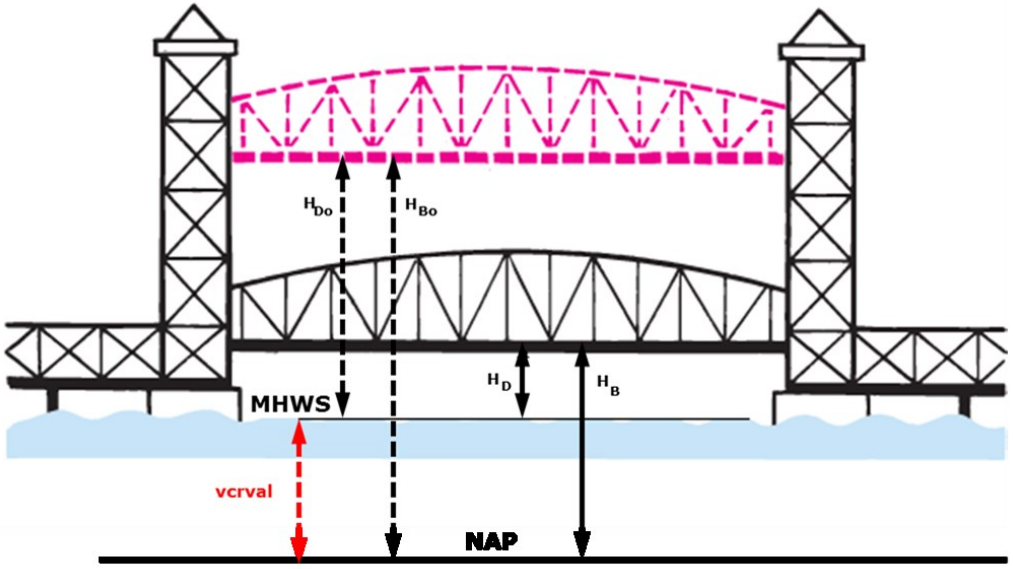

Danube

Examples of use of vcrval attribute
Verdat =43 (Dutch High Water Reference Level (MHWS)),

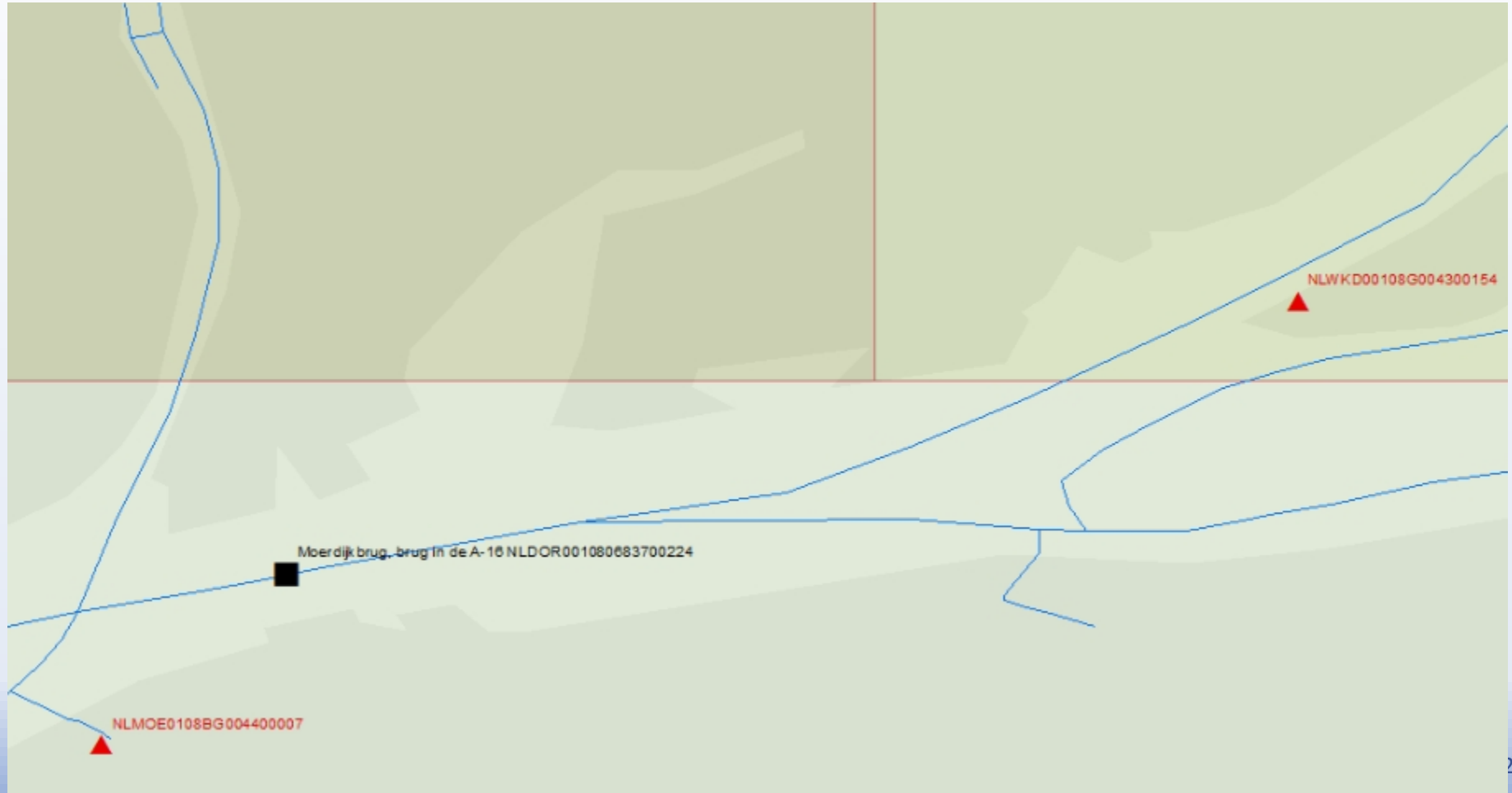


H_D = vertical clearance to the bottom of the fully loaded bridge at the normative high water level for shipping (MHWS)

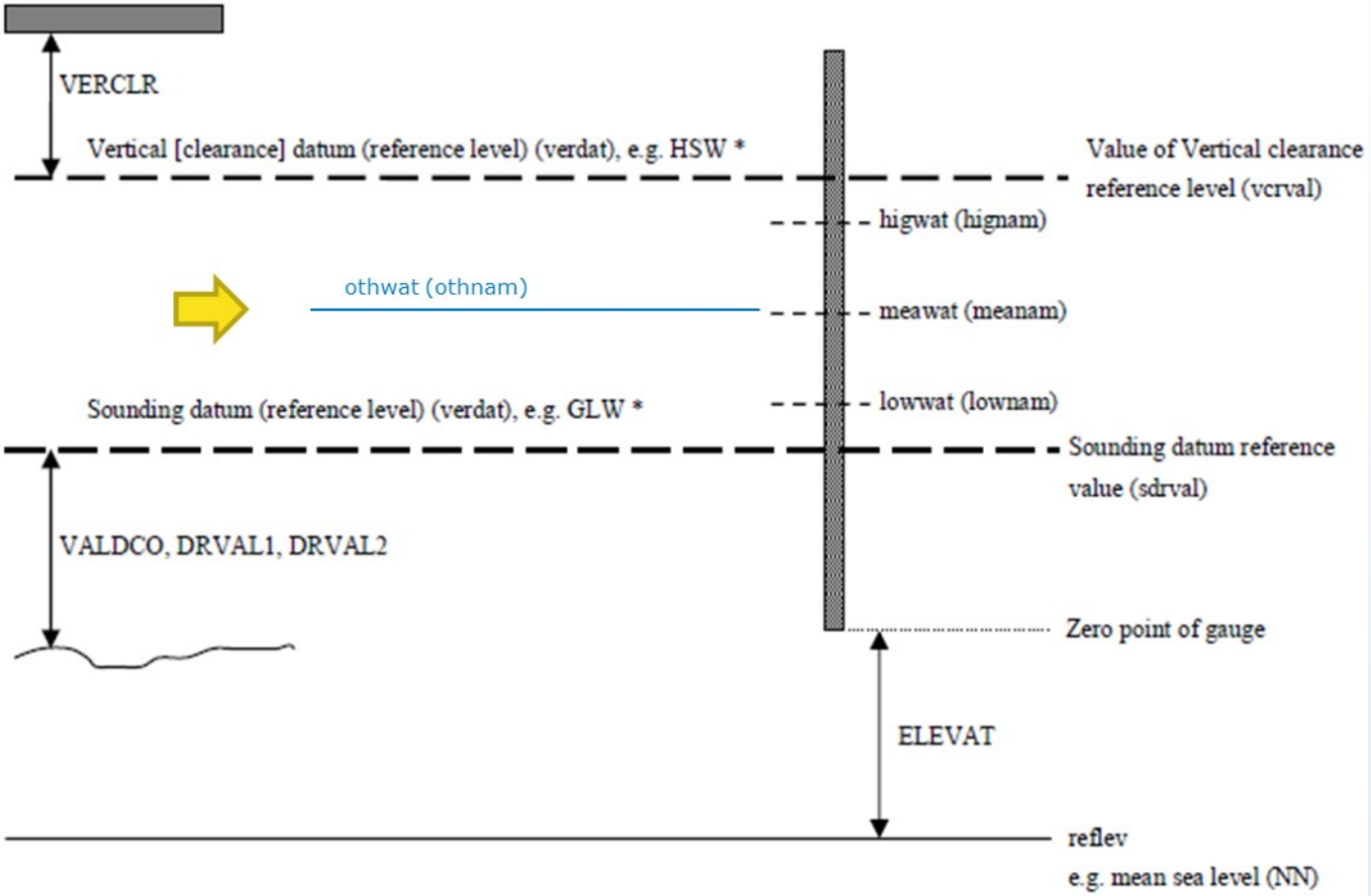
H_B = height of the bottom of the fully loaded bridge in relation to NAP (reflev)



Moerdijk bridges
For calculation actual clearances in tidal waters, you need level information from more than one wtwgag's (depending on time during the tide and river discharche)



The illustration for wtwgag in the IENC EG misses the attributes othwat and othnam. With these attributes you are able to registrate **official strive (design) waterlevels** (verdat = local datum 24)



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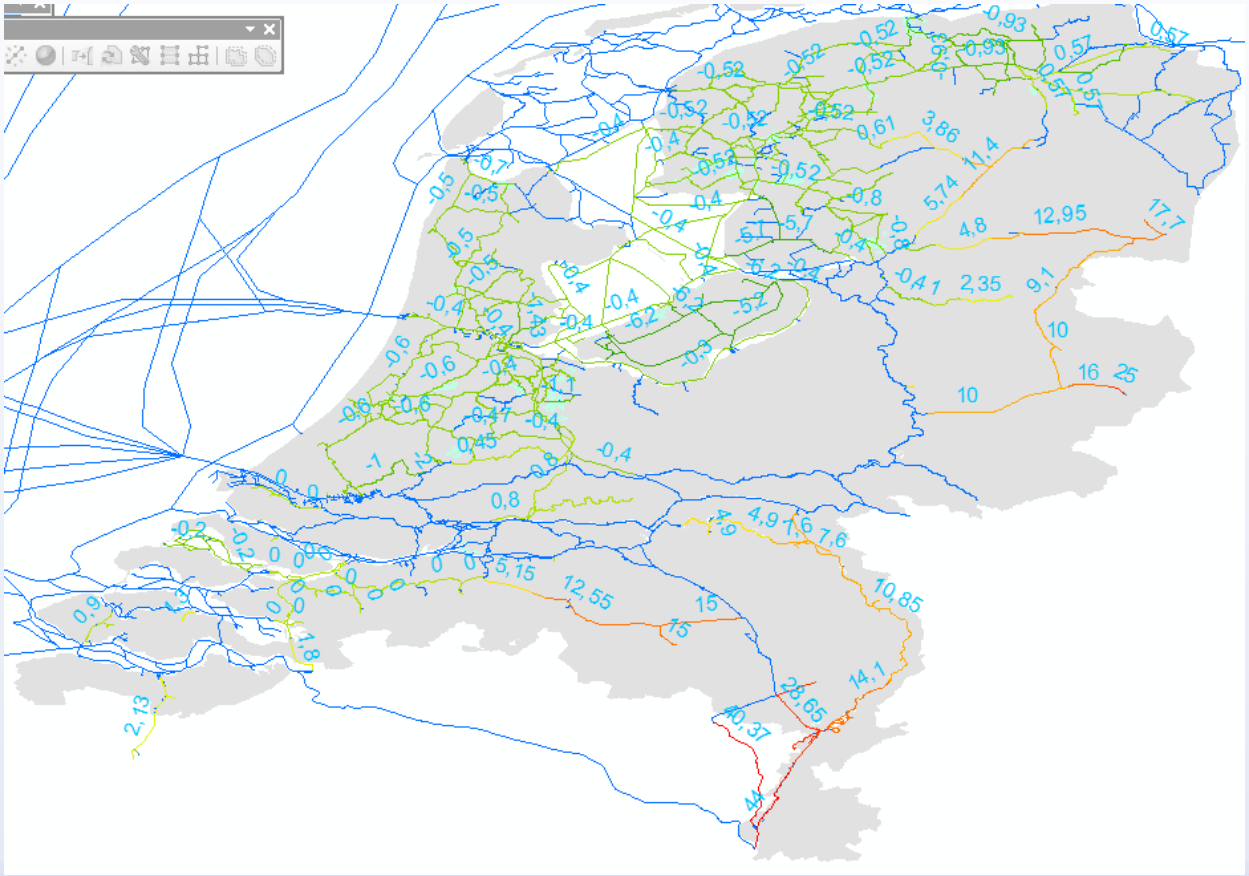
In NL there are more than 56 official (design) strive-waterlevels (verdat = Local datum (24)



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