

Initial Channel Layout Worksheet

1. Leading Line Name: **Test Channel-Aug01**

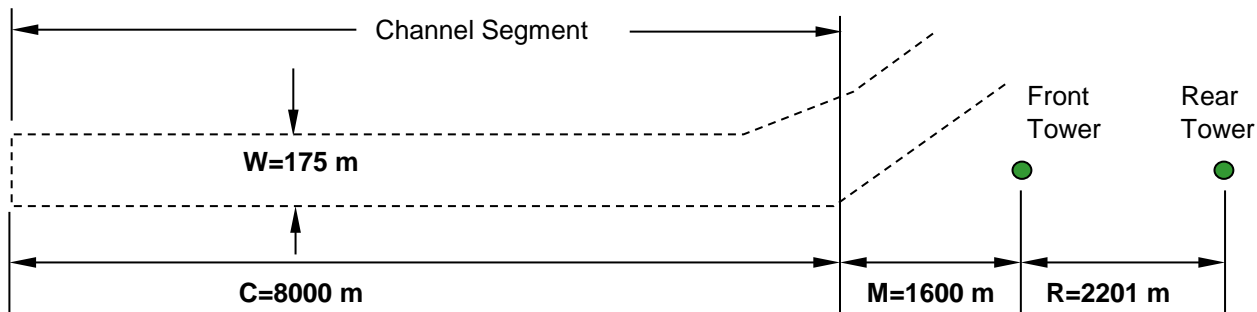
2. Channel Length (C): **8 000** (m)

3. Channel Width (W): **175** (m)

Distance Near End/Front Twr (M): **1 600** (m)

Distance between Towers (R): **2 201** (m)

Preliminary Values to Enter into Leading Line Design Program for Analysis



Initial Channel Layout

Test Channel-Aug01		
1. Leading Line Name:	N	
Night or Day Lights? (N or D)	8 000	(m)
2. Length of Channel:	175	(m)
3. Width of Channel:	2	(m)
4. Mean Range of Tide:	none	
5. Background Lighting: (none, minor or considerable)		
7. Minimum Visibility:	7	(nm)
8. Design Visibility:	10	(nm)
9. Maximum Visibility:	20	(nm)
10. Distance between FL & RL:	2201	(m)
11. Distance FL to near end cl	1600	(m)
12. Safe Height Above Water:	4	(m)
13. Daymarks to be used? (Y or N)	Y	
14. Daytime Lights to be used? (Y and N)	Y	
15. Obstructions (optional):	Location*	Height**
#1	500	4,0
#2		

*Distance from near end of channel to obstruction (m).
**Height above MHW (m).

FL-Recommended daymark length:	10,2	(m)
FL-Recommended daymark width:	6,8	(m)
16. FL-Selected Daymark length:	10,2	(m)
RL-Recommended daymark length:	17,2	(m)
RL-Recommended daymark width:	11,5	(m)
17. RL-Selected Daymark length:	12,2	(m)
Practical limit is 12.2 meters in length		
FL - Minimum Intensity:	848	(cd)
18. FL - Selected Intensity (IF):	12 000	(cd)
FL - Recommended Intensity:	8 477	(cd)
FL - Maximum Intensity:	29 137	(cd)
RL - Minimum Intensity:	2 129	(cd)
19. RL - Selected Intensity (IR):	30 000	(cd)
RL - Recommended Intensity:	23 484	(cd)
RL - Maximum Intensity:	196 474	(cd)
Recommended IR/IF:	2,77	
IR/IF for selected intensities:	2,50	
(FL & RL heights referenced to MHW)		
Recommended Min Height FL:	14,7	(m)
20. Selected Height FL:	15,5	(m)
Recommended Min Height RL:	38,3	(m)
21. Selected Height RL:	39	(m)

Test Channel-Aug01				
6. HEIGHT OF EYE: 8 (m)				
Distance from	Off Axis Distance (m)	Cross Track Factor	γ (mrad)	
Near End				PROBLEM CODES:
8 000	19	21%	1,7	8,
7 200	17	19%	1,8	8,
6 400	15	17%	1,9	
5 600	13	15%	2,0	
4 800	11	12%	2,2	
4 000	9	10%	2,4	
3 200	7	8%	2,6	
2 400	6	7%	2,8	
1 600	4	5%	3,0	
800	3	3%	3,1	
0	2	2%	2,6	

Test Channel-Aug01				
6. HEIGHT OF EYE: 15 (m)				
Distance from	Off Axis Distance (m)	Cross Track Factor	γ (mrad)	
Near End				PROBLEM CODES:
8 000	20	22%	1,8	8,
7 200	17	20%	1,9	8,
6 400	15	18%	2,1	
5 600	14	15%	2,3	
4 800	12	13%	2,5	
4 000	10	11%	2,7	
3 200	8	9%	3,0	
2 400	7	8%	3,4	
1 600	5	6%	3,9	
800	4	4%	4,5	
0	2	3%	5,1	

Test Channel-Aug01				
6. HEIGHT OF EYE: 23 (m)				
Distance from	Off Axis Distance (m)	Cross Track Factor	γ (mrad)	
Near End				PROBLEM CODES:
8 000	21	23%	1,9	8,
7 200	18	21%	2,1	8,
6 400	16	19%	2,3	
5 600	14	17%	2,5	
4 800	13	14%	2,8	
4 000	11	12%	3,1	
3 200	9	11%	3,6	
2 400	8	9%	4,1	
1 600	6	7%	4,9	
800	4	5%	6,1	
0	3	3%	8,0	

Test Channel-Aug01				
ILLUMINANCE RATIOS & VALUES				
Distance from	For 10 nm visibility: (E in micro-lux)			
Near End	E+/E-	E (RFL)	E (RRL)	
8 000	1,2	27	31	
7 200	1,1	37	41	
6 400	1,1	51	55	
5 600	1,0	72	73	
4 800	1,0	103	100	
4 000	1,1	154	138	
3 200	1,2	238	195	
2 400	1,4	391	284	
1 600	1,6	695	426	
800	2,1	1 409	669	
0	3,2	3 611	1 117	

PROBLEM CODES:

8. RL dayboard too small in min visibility.

Leading Line Name:	Test Channel-Aug01	
Night or Day Lights? (N or D)	D	
Length of Channel:	8 000	(m)
Width of Channel:	175	(m)
Mean Range of Tide:	2	(m)
Background Lighting: (none for daytime)	none	
Minimum Visibility:	7	(nm)
Design Visibility:	10	(nm)
Maximum Visibility:	20	(nm)
Distance between FL & RL:	2 201	(m)
Distance FL to near end channel:	1 600	(m)
Safe Height Above Water:	4	(m)
Daymarks to be used? (Y or N)	Y	
Obstructions (optional):	Location*	Height**
#1	500	4,0
#2	0	0,0

*Distance from near end of channel to obstruction (m).

**Height above MHW (m).

FL-Recommended daymark length:	10,2	(m)
FL-Recommended daymark width:	6,8	(m)
FL-Selected Daymark length:	10,2	(m)
RL-Recommended daymark length:	17,2	(m)
RL-Recommended daymark width:	11,5	(m)
RL-Selected Daymark length:	12,2	(m)
Practical limit is 12.2 meters in length		
FL - Minimum Intensity:	847 171	(cd)
18. FL - Selected Intensity (IF):	1 050 000	(cd)

RL - Minimum Intensity:	2 128 886	(cd)
19. RL - Selected Intensity (IR):	2 650 000	(cd)

Recommended IR/IF:	2,77
IR/IF for selected intensities:	2,52

(FL & RL heights referenced to MHW)

Recommended Min Height FL:	14,7	(m)
Selected Height FL:	16,5	(m)

Recommended Min Height RL:	37,7	(m)
Selected Height RL:	38	(m)

Test Channel-Aug01				
HEIGHT OF EYE: 8 (m)				
Distance from	Off Axis Distance	Cross Track	γ	
Near End	(m)	Factor	(MLW)	PROBLEM CODES:
8 000	18	20%	1,5	8,
7 200	16	18%	1,6	8,
6 400	14	16%	1,7	
5 600	12	13%	1,8	
4 800	10	11%	1,9	
4 000	8	10%	2,1	
3 200	7	8%	2,2	
2 400	5	6%	2,4	
1 600	4	4%	2,5	
800	3	3%	2,4	
0	1	1%	1,7	

Test Channel-Aug01				
HEIGHT OF EYE: 15 (m)				
Distance from	Off Axis Distance	Cross Track	γ	
Near End	(m)	Factor	(MLW)	PROBLEM CODES:
8 000	18	21%	1,6	8,
7 200	16	19%	1,7	8,
6 400	14	17%	1,9	
5 600	13	14%	2,0	
4 800	11	12%	2,2	
4 000	9	11%	2,4	
3 200	8	9%	2,7	
2 400	6	7%	3,0	
1 600	5	5%	3,4	
800	3	4%	3,8	
0	2	2%	4,2	

Test Channel-Aug01				
HEIGHT OF EYE: 23 (m)				
Distance from	Off Axis Distance	Cross Track	γ	
Near End	(m)	Factor	(MLW)	PROBLEM CODES:
8 000	19	22%	1,8	8,
7 200	17	20%	1,9	8,
6 400	15	18%	2,1	
5 600	14	16%	2,3	
4 800	12	14%	2,5	
4 000	10	12%	2,8	
3 200	9	10%	3,2	
2 400	7	8%	3,7	
1 600	6	6%	4,4	
800	4	5%	5,4	
0	3	3%	7,1	

Test Channel-Aug01				
ILLUMINANCE RATIOS & VALUES				
Distance from	For 10 nm visibility: (E in micro-lux)			
Near End	E+/E-	E (RFL)	E (RRL)	
8 000	1,2	2 382	2 778	
7 200	1,1	3 229	3 643	
6 400	1,1	4 452	4 827	
5 600	1,0	6 262	6 475	
4 800	1,0	9 029	8 813	
4 000	1,1	13 436	12 206	
3 200	1,2	20 836	17 266	
2 400	1,4	34 185	25 075	
1 600	1,6	60 856	37 658	
800	2,1	123 261	59 122	
0	3,2	315 977	98 697	

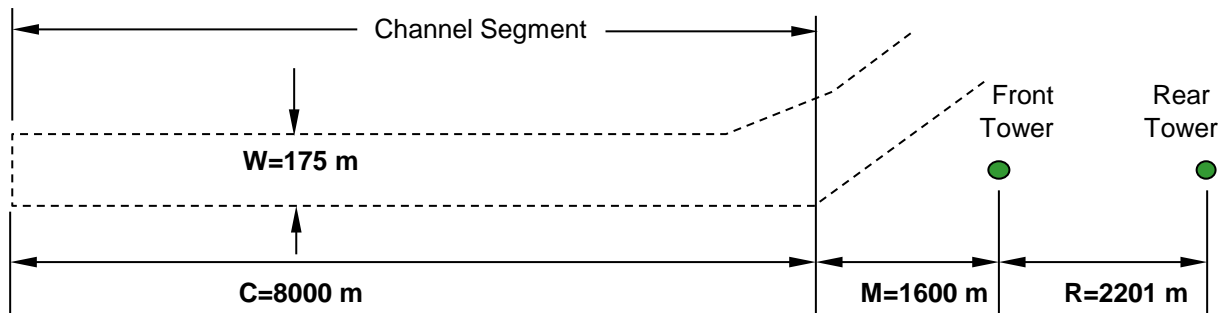
PROBLEM CODES:

8. RL dayboard too small in min visibility.

Final Leading Line Configuration

Leading Line Name: **Test Channel-Aug01**

Channel Length (C):	8 000	Meters
Channel Width (W):	175	Meters
Distance Near End/Front Twr (M):	1 600	Meters
Distance between Towers (R):	2 201	Meters
Range Front Light Intensity (Day):	1 050 000	Candela
Range Front Light Intensity (Night):	12 000	Candela
Front Dayboard Height:	10,2	Meters
Range Front Light Height (Night):	15,5	Meters
Range Front Light Height (Day):	16,5	Meters
Range Rear Light Intensity (Day):	2 650 000	Candela
Range Rear Light Intensity (Night):	30 000	Candela
Rear Dayboard Height:	12,2	Meters
Range Rear Light Height (Night):	39,0	Meters
Range Rear Light Height (Day):	38	Meters



Final Channel Layout

