BRIDGE DESIGN REPORT

IRC:6-2016 & IRC:112-2015 COMPLIANT

Project: Bridge Design - Span 30m

Location: Extracted from Excel

Engineer: Auto-Design System

Date: 11/23/2025

INPUT DATA

Design Discharge		m^3/s
Span		m
Width		m
HFL		m MSL
Bed Level		m MSL
Concrete Grade	M25	
Steel Grade	Fe415	
SBC	200	kPa

HYDRAULICS

Velocity	8.25	m/s
Afflux	0.892	m
Design WL	101.49	m
Froude Number	1.297	
Cross-Section Area	109.03	m²

AFFLUX (96 POINTS)

1	6.39	17.31	0.548
2	6.43	17.49	0.553
3	6.48	17.67	0.558
4	6.52	17.85	0.562
5	6.57	18.04	0.567
6	6.61	17.31	0.586
7	6.65	17.49	0.591
8	6.69	17.67	0.595
9	6.74	17.85	0.600
10	6.78	18.04	0.604
11	6.82	17.31	0.625
12	6.86	17.49	0.629
13	6.90	17.67	0.633
14	6.94	17.85	0.637
15	6.98	18.04	0.642
16	7.02	17.31	0.663
17	7.06	17.49	0.667
18	7.10	17.67	0.671
19	7.14	17.85	0.675
20	7.18	18.04	0.679
21	7.22	17.31	0.701
22	7.26	17.49	0.705
23	7.30	17.67	0.709
24	7.34	17.85	0.712
25	7.38	18.04	0.716
26	7.42	17.31	0.739
27	7.46	17.49	0.743
28	7.49	17.67	0.746
29	7.53	17.85	0.750
30	7.57	18.04	0.754
31	7.61	17.31	0.777
32	7.64	17.49	0.780
33	7.68	17.67	0.784
34	7.72	17.85	0.787
35	7.75	18.04	0.791
36	7.79	17.31	0.815
37	7.83	17.49	0.818
38	7.86	17.67	0.822
39	7.90	17.85	0.825
40	7.93	18.04	0.828
41	7.97	17.31	0.853
42	8.01	17.49	0.856
43	8.04	17.67	0.859
44	8.08	17.85	0.862
45	8.11	18.04	0.865
46	8.15	17.31	0.891
47	8.18	17.49	0.894
48	8.22	17.67	0.897
49	8.25	17.85	0.900
50	8.28	18.04	0.903

PIER DESIGN

Width	1.20	m
Length	2.50	m
Depth	2.50	m
Number	3	nos
Spacing	13.20	m
Sliding FOS	1.50	' S A F E
Overturning FOS	1.80	' S A F E

PIER LOAD CASES (70)

ABUTMENT DESIGN

Height	102.99	m
Width	4.50	m
Base Width	8.10	m
Sliding FOS	1.50	' S A F E
Overturning FOS	2.00	' S A F E

ABUTMENT LOAD CASES (70)

SLAB DESIGN

Thickness	1500	mm
Design Load	159.84	kN/m²
Long Moment	6473.7	kN.m/m
Trans Moment	2877.2	kN.m/m
Shear Force	2397.7	kN/m

QUANTITIES

Total Concrete	3624.11	m³
Total Steel	0.00	tonnes
Slab Concrete	378.00	m³
Pier Concrete	56.25	m³
Abutment Concrete	3189.86	m³
Formwork	756.00	m²