

PRELIMINARY INFORMATION SHEET (BRIDGE)

Nominal Pile Driving Capacity and Resistance Factor			
Proposed Substructure	Nominal Pile Driving Capacity (kips)	Pile Test Resistance Factor	Governing Loading Condition
Abutments 1 & 3	583	0.65	Strength Ib (compression)
Abutment 1 & 3 Wingwall	320	1	Extreme Ib (compression)
Piers 1, 2, 4 & 5	798	0.65	Strength III (compression)

Geotechnical Soil Parameters	
Soil Type	Effective Unit Weight, γ' (pcf)
Abutment Wingwall Backfill (Dry)	140
Medium Dense Sand (Dry)	120
Medium Dense Sand (Submerged)	57.6
Dense Sand (Submerged)	62.6
Weathered Rock (Submerged)	77.6
Bedrock (Submerged)	87.6

Maximum Pile Deflections		
Proposed Substructure	Lateral Pile Deflection, d_y	Lateral Pile Deflection, d_z
Abutments 1 & 3 (fixed connection)	0.57	0
Abutments 1 & 3 (pinned connection)	1.18	0
Abutment 1 & 3 Wingwall (fixed connection)	0.23	0
Abutment 1 & 3 Wingwall (pinned connection)	0.52	0
Piers 1, 2, 4 & 5 (fixed connection)	0.19	0.13
Piers 1, 2, 4 & 5 (pinned connection)	0.5	0.41

Note: 1) Pile group lateral deformation (d_y and d_z) calculated based upon the Service loading condition.

Pile Tip Elevation Summary				
Pier/Abutment	Proposed Bottom of Footing Elevation (ft)	Estimated Pile Tip Elevation to Achieve Nominal Axial Resistance (ft)	Estimated Pile Embedment Length (ft)	Minimum Pile Tip Elevation (ft)
Pier 1	390	323	67	360
Pier 2	390	344	46	360
Pier 4	388	335	53	358
Pier 5	388	345	43	358
Abutment 1	461	356	105	436
Abutment 3	461	356	105	436
Abutment 1 Wingwall	465	390	75	440
Abutment 3 Wingwall	465	390	75	440

Note: 1) Minimum pile tip elevations were based on the depth to lateral stability (or lateral fixity) estimated from GROUP analysis. However, it is expected that the final pile tip elevations will be governed by the nominal axial resistance of the piles.

PROJECT NAME: WINDSOR
PROJECT NUMBER: IM 091-1(64)

FILE NAME: z10o188Pl.dgn
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PRELIMINARY INFORMATION SHEET 2

PLOT DATE: 7/31/2015
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