

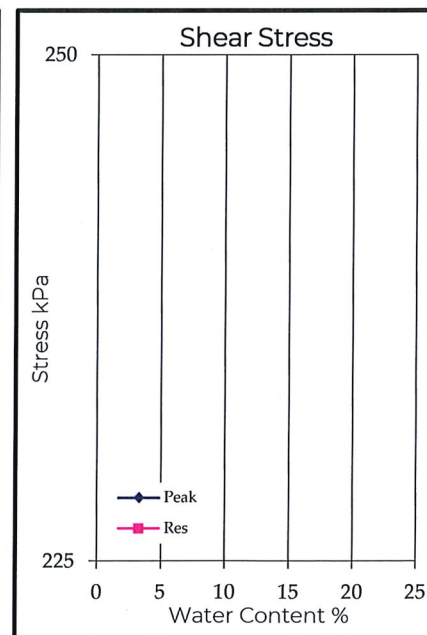
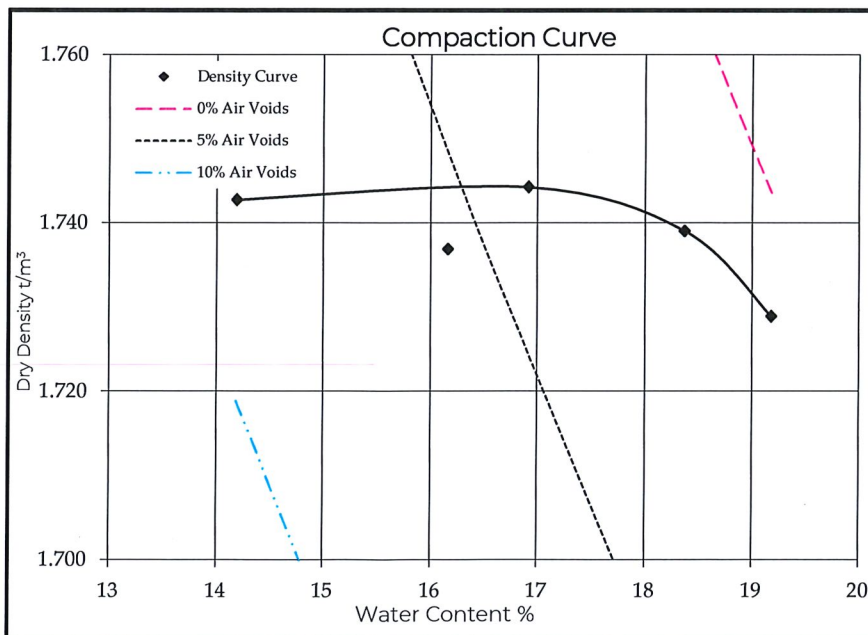
DRY DENSITY / WATER CONTENT RELATIONSHIP HEAVY COMPACTION



Project : Ground Investigation for Northland Corridor
Location : Alternative to Brynderwyn Hills Section
Client : NZTA C/- Aurecon & WSP NZ Ltd
Contractor : -
Sampled by : NC Site Team
Date sampled : 29/09/25
Sampling method : As received
Sample description : Refer to BH2B_1114 log report
Sample condition : Natural; as excavated
Solid density : 2.62 t/m³ (Assumed)
Source : BH2B_1114
Depth of sample : 8.05 - 13.50m

Project No : 1-C2466.16
Lab Ref No : WL4708/135_MDD
Client Ref No : -

Test Results					
Maximum dry density	1.74	t/m ³	Natural water content	19.2	%
Optimum water content	17	%	Fraction tested	Passing 19mm	
Sample ID	-4	-3	-2	-1	Nat
Bulk density t/m ³	1.990	2.018	2.039	2.058	2.061
Water content %	14.2	16.2	16.9	18.4	19.2
Dry density t/m ³	1.743	1.737	1.744	1.739	1.729
Sample condition	Dry Med Dense	Dry Med Dense	Moist Dense	Moist Med Dense	Wet Med Dense
Peak stress kPa	UTP	UTP	UTP	UTP	UTP
Remoulded stress kPa	-	-	-	-	-



Test Methods	Notes
Compaction NZS 4402 : 1986 Test 4.1.2 (Heavy)	All information supplied by Client
Shear Strength using a Hand Held Shear Vane, NZ Geotechnical Soc Inc 8/2001	

Date tested : 9-10/12/25
Date reported : 12/12/25

Sampling is not covered by IANZ Accreditation. Results apply only to sample tested.
This report may only be reproduced in full

Approved Signatory

Designation : Senior Civil Engineering Technician
Date : 12/12/25



Test results indicated as not accredited are outside the scope of the laboratory's accreditation

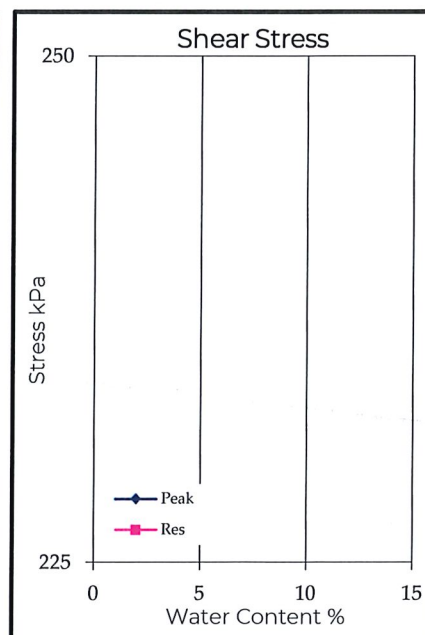
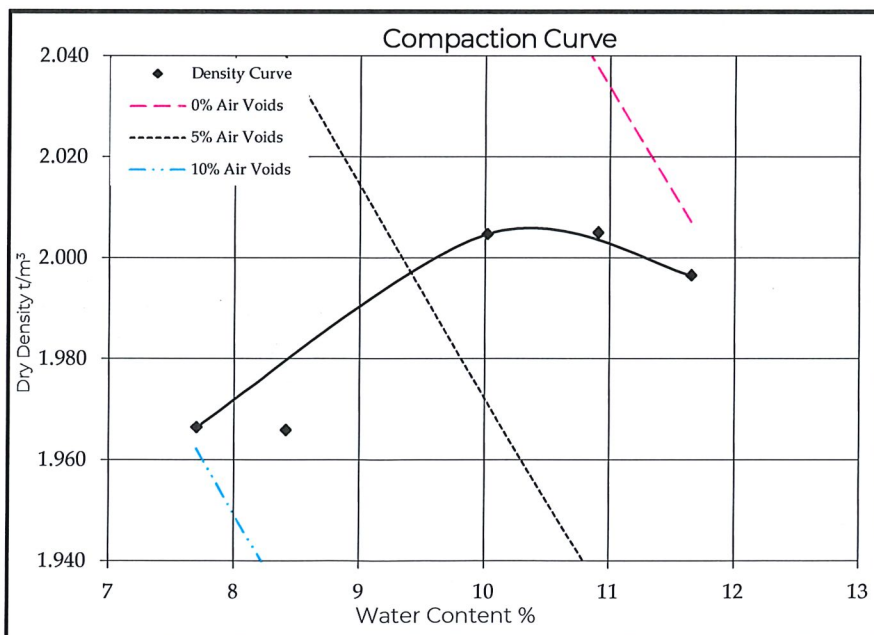
**DRY DENSITY / WATER CONTENT RELATIONSHIP
HEAVY COMPACTION**



Project : Ground Investigation for Northland Corridor
 Location : Alternative to Brynderwyn Hills Section
 Client : NZTA C/- Aurecon & WSP NZ Ltd
 Contractor : -
 Sampled by : NC Site Team
 Date sampled : 16/09/25
 Sampling method : As received
 Sample description : Refer to BH2B_1130 log report
 Sample condition : Natural; as excavated
 Solid density : 2.62 t/m³ (Assumed)
 Source : BH2B_1130
 Depth of sample : 15.08 - 25.18m

Project No : 1-C2466.16
 Lab Ref No : WL4708/136_MDD
 Client Ref No : -

Test Results						
Maximum dry density	2.01	t/m ³	Natural water content	10.0	%	
Optimum water content	10	%	Fraction tested	Passing 19mm		
Sample ID	-2	-1	Nat	+1	+2	
Bulk density t/m ³	2.118	2.131	2.206	2.224	2.229	
Water content %	7.7	8.4	10.0	10.9	11.7	
Dry density t/m ³	1.966	1.966	2.005	2.005	1.997	
Sample condition	Moist Med Dense	Moist Med Dense	Moist Dense	Moist Med Dense	Wet Med Dense	
Peak stress kPa	UTP	UTP	UTP	UTP	UTP	
Remoulded stress kPa	-	-	-	-	-	



Test Methods	Notes
Compaction NZS 4402:1986 Test 4.1.2 (Heavy)	All information supplied by Client
Shear Strength using a Hand Held Shear Vane, NZ Geotechnical Soc Inc 8/2001	

Date tested : 9-10/12/25
 Date reported : 15/12/25

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Approved Signatory

Designation : Senior Civil Engineering Technician
 Date : 15/12/25



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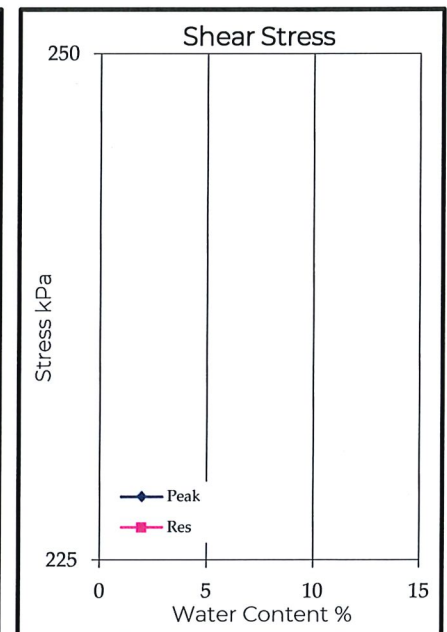
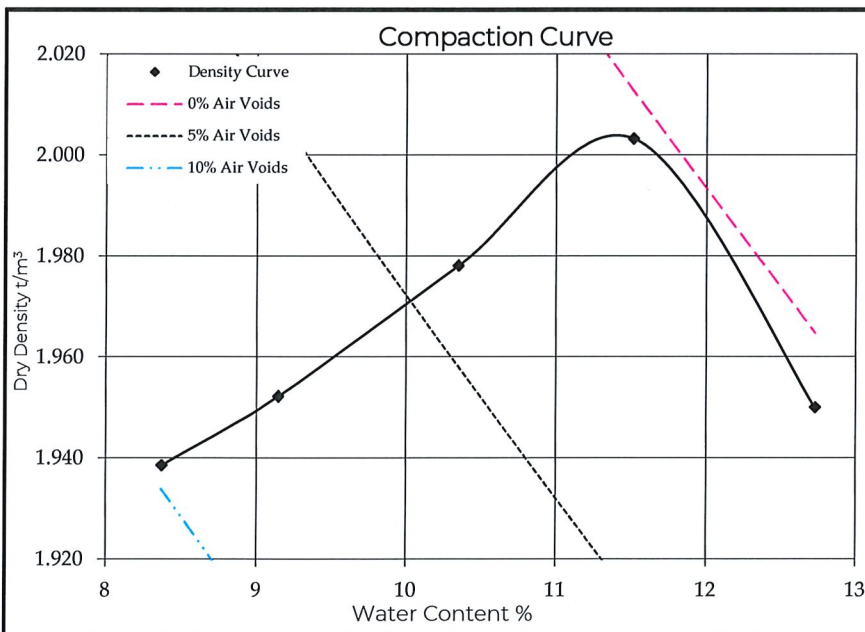
DRY DENSITY / WATER CONTENT RELATIONSHIP HEAVY COMPACTION



Project : Ground Investigation for Northland Corridor
Location : Alternative to Brynderwyn Hills Section
Client : NZTA C/- Aurecon & WSP NZ Ltd
Contractor : -
Sampled by : NC Site Team
Date sampled : 04/09/25
Sampling method : As received
Sample description : Refer to BH2B_1145 log report
Sample condition : Natural; as excavated
Solid density : 2.62 t/m³ (Assumed)
Source : BH2B_1145
Depth of sample : 33.00 - 37.50m

Project No : 1-C2466.16
Lab Ref No : WL4708/137_MDD
Client Ref No : -

Test Results						
Maximum dry density	2.00	t/m ³	Natural water content		9.1	%
Optimum water content	11	%	Fraction tested		Passing 19mm	
Sample ID	-1	Nat	+1	+2	+3	
Bulk density t/m ³	2.101	2.131	2.183	2.234	2.198	
Water content %	8.4	9.1	10.3	11.5	12.7	
Dry density t/m ³	1.939	1.952	1.978	2.003	1.950	
Sample condition	Moist Med Dense	Moist Med Dense	Moist Med Dense	Moist Dense	Wet Med Dense	
Peak stress kPa	UTP	UTP	UTP	UTP	UTP	
Remoulded stress kPa	-	-	-	-	-	



Test Methods	Notes
Compaction NZS 4402 : 1986 Test 4.1.2 (Heavy)	All information supplied by Client
Shear Strength using a Hand Held Shear Vane, NZ Geotechnical Soc Inc 8/2001	

Date tested : 9-10/12/25
Date reported : 12/12/25

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Approved Signatory

Designation : Senior Civil Engineering Technician
Date : 12/12/25



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