

No.	Thickness of each layer			Site Photos	Remarks
A8-2-1	Surface - 1	20 cm	Asphalt pavement		
	Surface – 2	20 cm	Base		

No.	Thickness of each layer			Site Photos	Remarks
A8-2-2	Surface - 1	20 cm	Asphalt pavement		
	Surface – 2	30 cm	Rockfill		

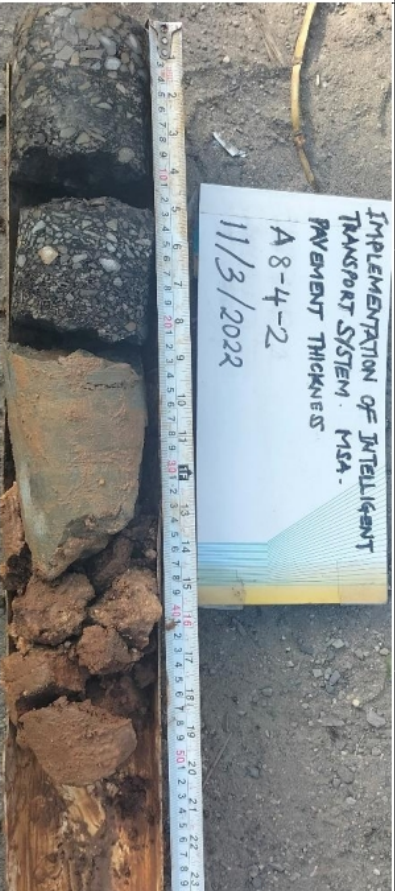
No.	Thickness of each layer			Site Photos	Remarks
A8-2-3	Surface - 1	8 cm	Asphalt pavement		
	Surface - 2	22 cm	Base		

No.	Thickness of each layer			Site Photos	Remarks
A8-3-1	Surface - 1	14 cm	Asphalt pavement		
	Surface - 2	31 cm	Rockfill		

No.	Thickness of each layer			Site Photos	Remarks
A8-3-2	Surface - 1	15 cm	Asphalt pavement		
	Surface - 2	32 cm	Rockfill		

No.	Thickness of each layer			Site Photos	Remarks
A8-3-3	Surface - 1	9 cm	Asphalt pavement		
	Surface - 2	20 cm	Base		

No.	Thickness of each layer			Site Photos	Remarks
A8-4-1	Surface - 1	20 cm	Asphalt pavement	 IMPLEMENTATION OF INTELLIGENT TRANSPORT SYSTEM - MSA. PAVEMENT THICKNESS A8-4-1 11/3/2022	
	Surface - 2	15 cm	Base		

No.	Thickness of each layer			Site Photos	Remarks
A8-4-2	Surface - 1	20 cm	Asphalt pavement	 IMPLEMENTATION OF INTELLIGENT TRANSPORT SYSTEM - MSA. PAVEMENT THICKNESS A8-4-2 11/3/2022	
	Surface - 2	15 cm	Rockfill		
	Surface - 3	15 cm	Subbase		

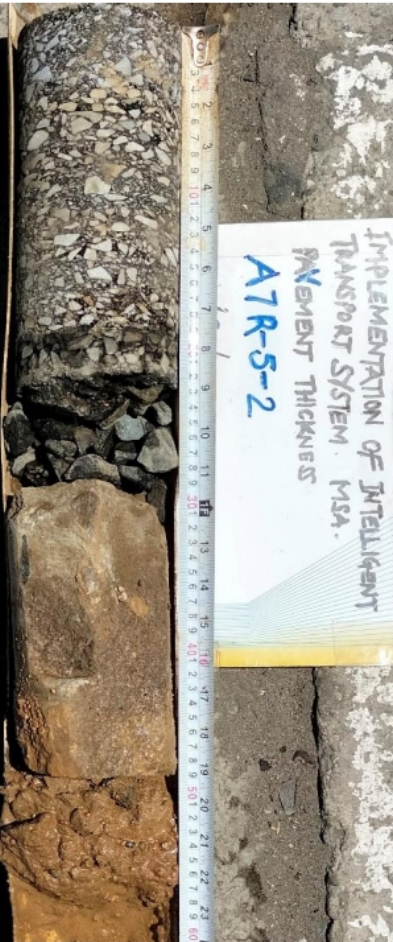
No.	Thickness of each layer			Site Photos	Remarks
A8-4-3	Surface - 1	20 cm	Concrete pavement		
	Surface - 2	10 cm	Asphalt pavement		
	Surface - 3	15 cm	Concrete pavement		
	Surface - 4	5 cm	Base		

No.	Thickness of each layer			Site Photos	Remarks
A7R-4-1	Surface - 1	8 cm	Asphalt pavement		
	Surface - 2	22 cm	Base		

No.	Thickness of each layer			Site Photos	Remarks
A7R-4-2	Surface - 1	17 cm	Asphalt pavement		
	Surface - 2	28 cm	Rockfill		

No.	Thickness of each layer			Site Photos	Remarks
A7R-4-3	Surface - 1	22 cm	Asphalt pavement		
	Surface - 2	18 cm	Rockfill		
	Surface - 3	10 cm	Subbase		

No.	Thickness of each layer			Site Photos	Remarks
A7R-5-1	Surface - 1	15 cm	Asphalt pavement		
	Surface - 2	35 cm	Rockfill/Crushed stone		

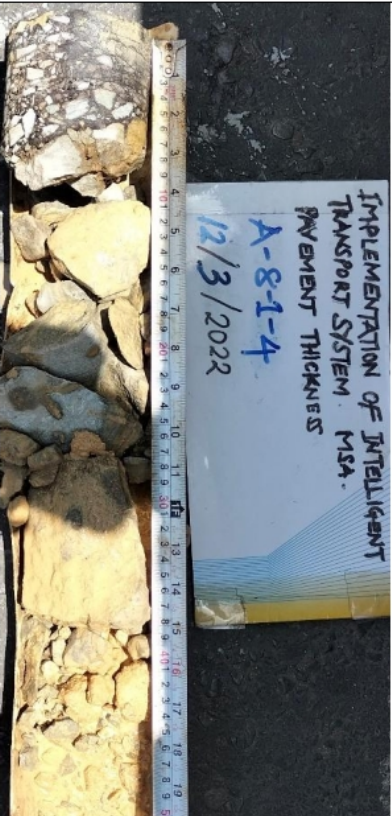
No.	Thickness of each layer			Site Photos	Remarks
A7R-5-2	Surface - 1	23 cm	Asphalt pavement		
	Surface - 2	26 cm	Rockfill/Crushed stone		

No.	Thickness of each layer			Site Photos	Remarks
A7R-5-3	Surface - 1	18 cm	Asphalt pavement		
	Surface - 2	7 cm	Crushed stone		
	Surface - 3	17 cm	Rockfill		
	Surface - 4	15 cm	Subbase		

No.	Thickness of each layer			Site Photos	Remarks
A8-1-1	Surface - 1	20 cm	Asphalt pavement		
	Surface - 2	30 cm	Crushed stone		
	Surface - 3	5 cm	Subbase		

No.	Thickness of each layer			Site Photos	Remarks
A8-1-2	Surface - 1	20 cm	Asphalt pavement		
	Surface - 2	15 cm	Crushed stone		
	Surface - 3	13 cm	Rockfill		

No.	Thickness of each layer			Site Photos	Remarks
A8-1-3	Surface - 1	14 cm	Asphalt pavement		
	Surface - 2	11 cm	Crushed stone		
	Surface - 3	24 cm	Rockfill		

No.	Thickness of each layer			Site Photos	Remarks
A8-1-4	Surface - 1	8 cm	Asphalt pavement		
	Surface - 2	30 cm	Rockfill/Crushed stone		
	Surface - 3	10 cm	Subbase		

APPENDIX II

Particle Size Distribution (Sieves)

Particle Size Distribution

Project

Client

Location

Delivered on

Test Date

Pavement Investigation

Nippon Koei Co. Ltd

Mombasa County

27/01/2022

02/02/2022

Sampling Point

Sample No.

A7-1 TP1

Depth (m)

Code

1m

BS 1377-2: 90

Proportion of size categories according to USCS (%)

% FINES (SILT, CLAY)

% SAND

% GRAVEL

% COBBLES AND BOULDERS

% Sand in Coarse Portion

% Gravel in Coarse Portion

FineMediumCoarse

FineCoarse

21

79

1

0

0

0

99

1

Sieve and/or Hydrometer Data

Aperture /Dia.

% Passing

100.0000

100.00

90.0000

100.00

75.0000

100.00

63.0000

100.00

50.0000

100.00

37.5000

100.00

28.0000

100.00

20.0000

100.00

14.0000

100.00

10.0000

99.70

6.3000

99.60

5.0000

99.30

4.0000

99.10

2.0000

98.20

1.0000

96.10

0.6000

61.60

0.4250

43.40

0.3000

33.80

0.1500

22.00

0.0750

20.60

Grading Curve

% Passing

Particle Size (mm)

100.00

90.00

80.00

70.00

60.00

50.00

40.00

30.00

20.00

10.00

0.00

0.0010

0.0100

0.1000

1.0000

10.0000

100.0000

Grain Size Ranges USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW

$C_u = \frac{D_{60}}{D_{10}}$

Greater than 4

$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$

Between 1 and 3

GP

Not meeting all gradation requirements for GW

GM

Atterberg limits below "A" Line or P.I. Less than 4

Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.

GC

Atterberg limits above "A" Line or P.I. greater than 7

SW

$C_u = \frac{D_{60}}{D_{10}}$

Greater than 4

$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$

Between 1 and 3

SP

Not meeting all gradation requirements for SW

SM

Atterberg limits below "A" Line or P.I. Less than 4

Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.

SC

Atterberg limits above "A" Line or P.I. greater than 7

Tested By: Halima

Checked By: Lenana

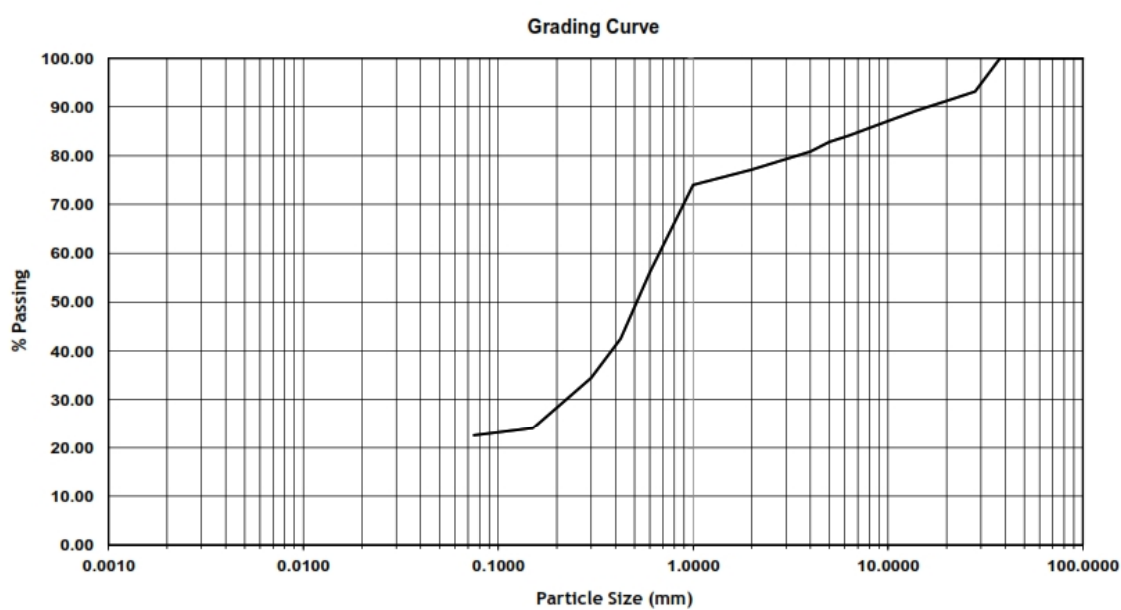
Verified By: Adede

79

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-1 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		20	35	6	4	13			
	23	60			17		0	78	22

[illegible]

Grain Size Ranges USCS	FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-1 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	21	47	0	0	1				
	31	69			1		0	99	1

Sieve and/or Hydrometer Data	
Aperture /Dia.	% Passing
100.0000	100.00
90.0000	100.00
75.0000	100.00
63.0000	100.00
50.0000	100.00
37.5000	100.00
28.0000	100.00
20.0000	100.00
14.0000	99.40
10.0000	99.40
6.3000	99.40
5.0000	99.40
4.0000	99.30
2.0000	99.10
1.0000	98.00
0.6000	69.90
0.4250	51.80
0.3000	42.80
0.1500	32.80
0.0750	30.70

Grading Curve

The graph plots % Passing (Y-axis, 0.00 to 100.00) against Particle Size (mm) (X-axis, logarithmic scale from 0.0010 to 100.0000). The curve shows a sharp increase in % passing between 0.1500 mm and 0.4250 mm, indicating a well-graded material.

Grain Size Ranges	USCS
0.075 mm to 0.425 mm	FINES (Clay, Silt)
0.425 mm to 75 mm	SAND
75 mm to 100 mm	GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNITED SOIL CLASSIFICATION CRITERIA																								
GW	$C_u =$	D_{60}	Greater than 4	$C_c =$	D_{30}^2	Between 1 and 3																		
		D_{10}			$D_{10} \times D_{60}$																			
<table><tr><td>GP</td><td colspan="6">Not meeting all gradation requirements for GW</td></tr><tr><td>GM</td><td colspan="3">Atterberg limits below "A" Line or P.I. Less than 4</td><td colspan="3" rowspan="2">Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.</td></tr><tr><td>GC</td><td colspan="3">Atterberg limits above "A" Line or P.I. greater than 7</td></tr></table>							GP	Not meeting all gradation requirements for GW						GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.			GC	Atterberg limits above "A" Line or P.I. greater than 7		
GP	Not meeting all gradation requirements for GW																							
GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.																				
GC	Atterberg limits above "A" Line or P.I. greater than 7																							
SW	$C_u =$	D_{60}	Greater than 4	$C_c =$	D_{30}^2	Between 1 and 3																		
		D_{10}			$D_{10} \times D_{60}$																			
<table><tr><td>SP</td><td colspan="6">Not meeting all gradation requirements for SW</td></tr><tr><td>SM</td><td colspan="3">Atterberg limits below "A" Line or P.I. Less than 4</td><td colspan="3" rowspan="2">Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.</td></tr><tr><td>SC</td><td colspan="3">Atterberg limits above "A" Line or P.I. greater than 7</td></tr></table>							SP	Not meeting all gradation requirements for SW						SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.			SC	Atterberg limits above "A" Line or P.I. greater than 7		
SP	Not meeting all gradation requirements for SW																							
SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.																				
SC	Atterberg limits above "A" Line or P.I. greater than 7																							

Tested By: Halima

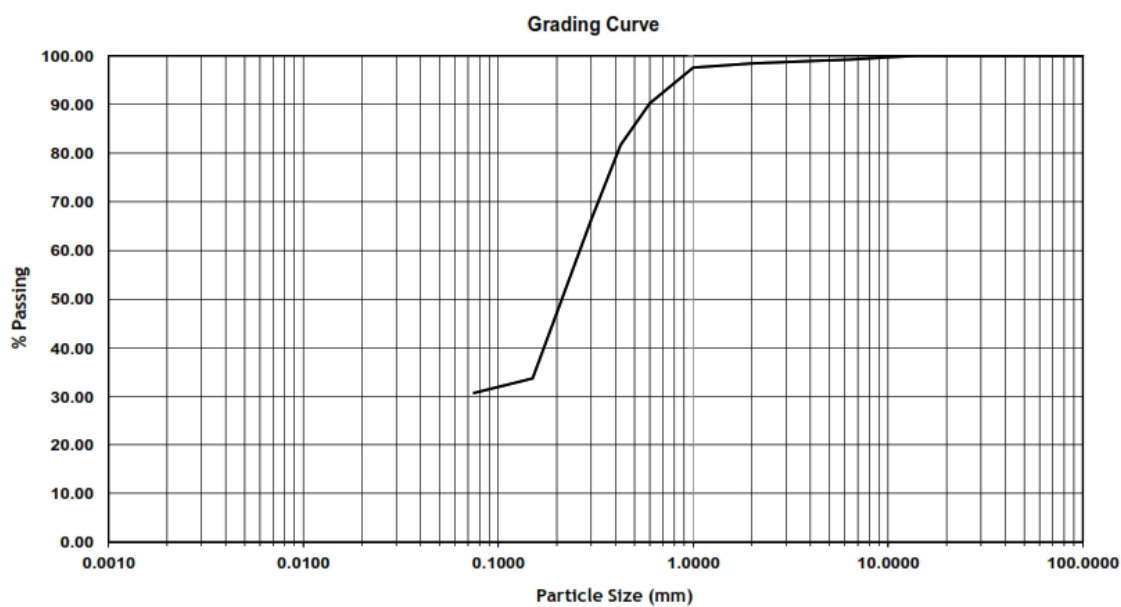
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-2 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	51	17	1	1	0				
31	68	1			0	99	1		

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

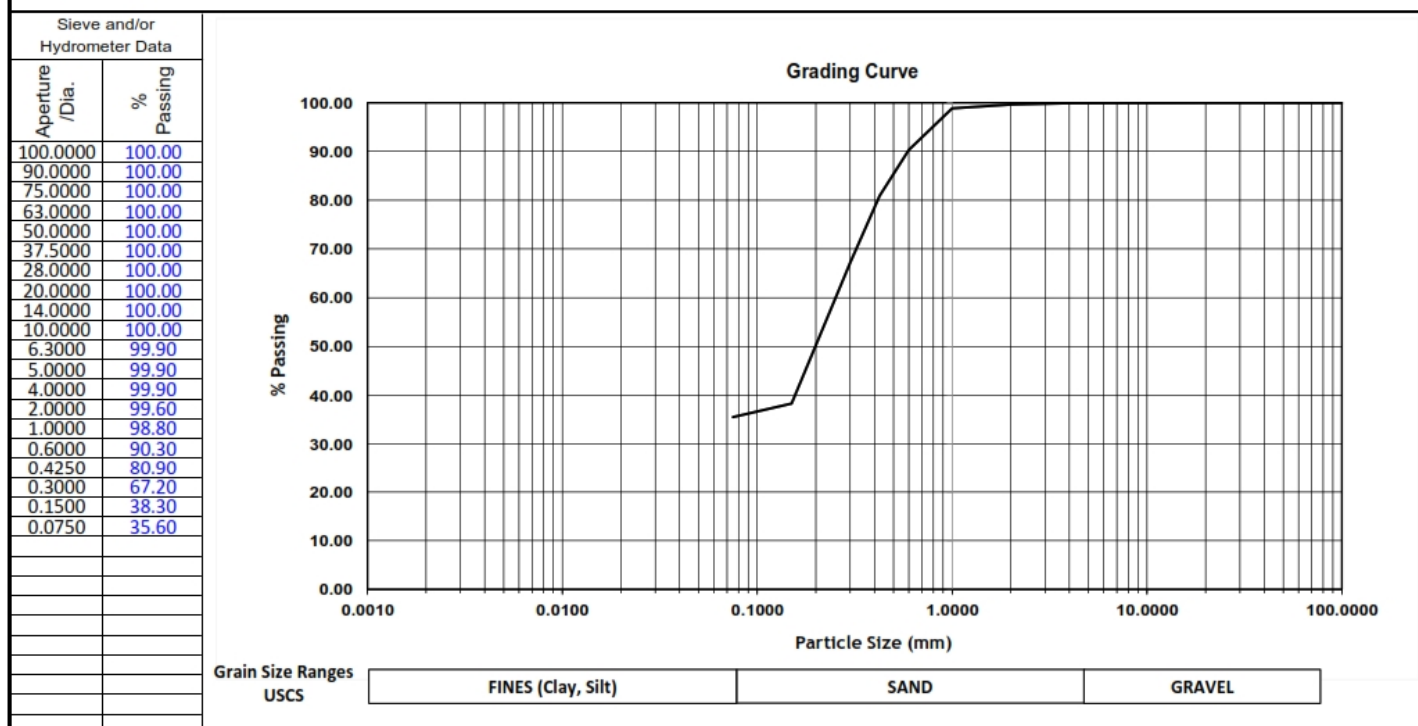
Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-2 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		45	19	0	0	0			
	36	64			0		0	100	0



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	GP	Not meeting all gradation requirements for GW			
	GM	Atterberg limits below "A" Line or P.I. Less than 4		Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	GC	Atterberg limits above "A" Line or P.I. greater than 7			
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	SP	Not meeting all gradation requirements for SW			
	SM	Atterberg limits below "A" Line or P.I. Less than 4		Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	SC	Atterberg limits above "A" Line or P.I. greater than 7			

Tested By: Halima

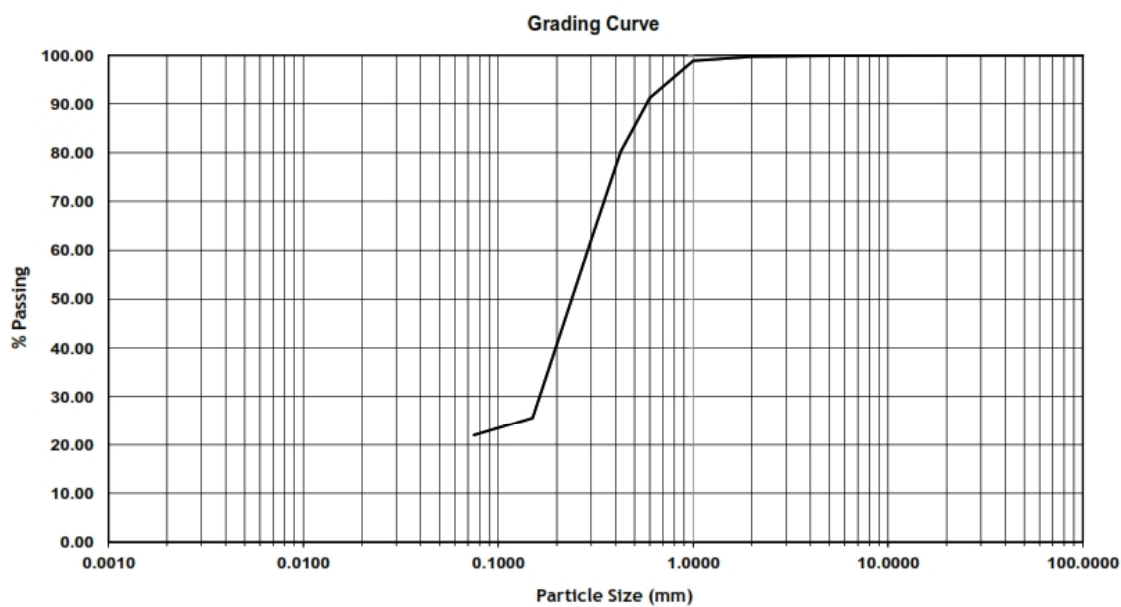
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-2 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		58	20	0	0	0			
	22	78	0	0	0	100	0		

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

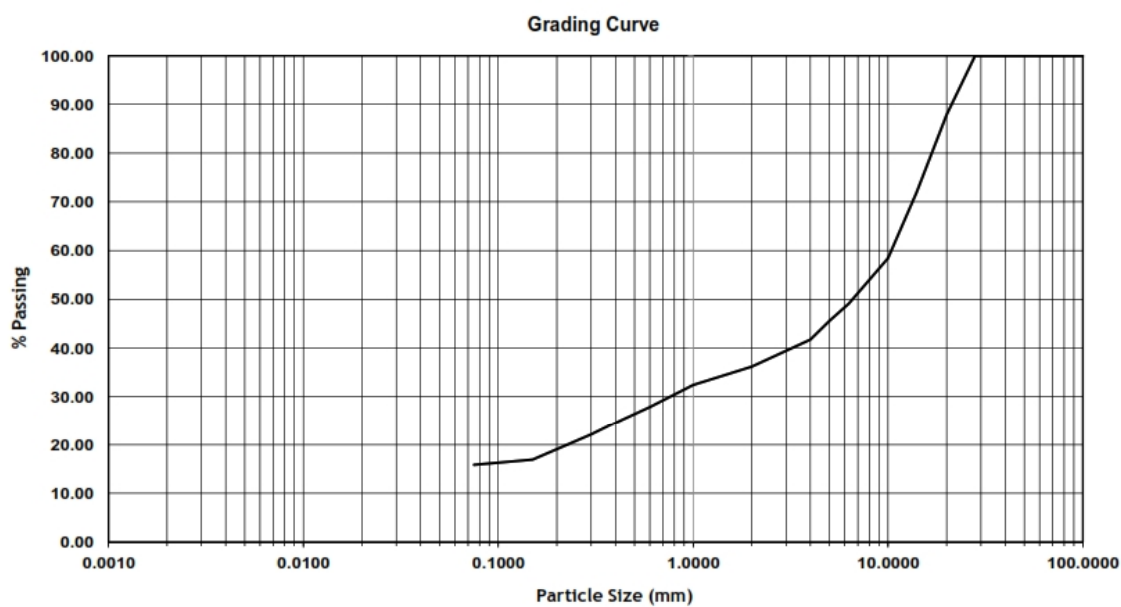
Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-4 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	9	11	9	13	42				
16	30	54	0	35	65				

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
--------------------	------	--------

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

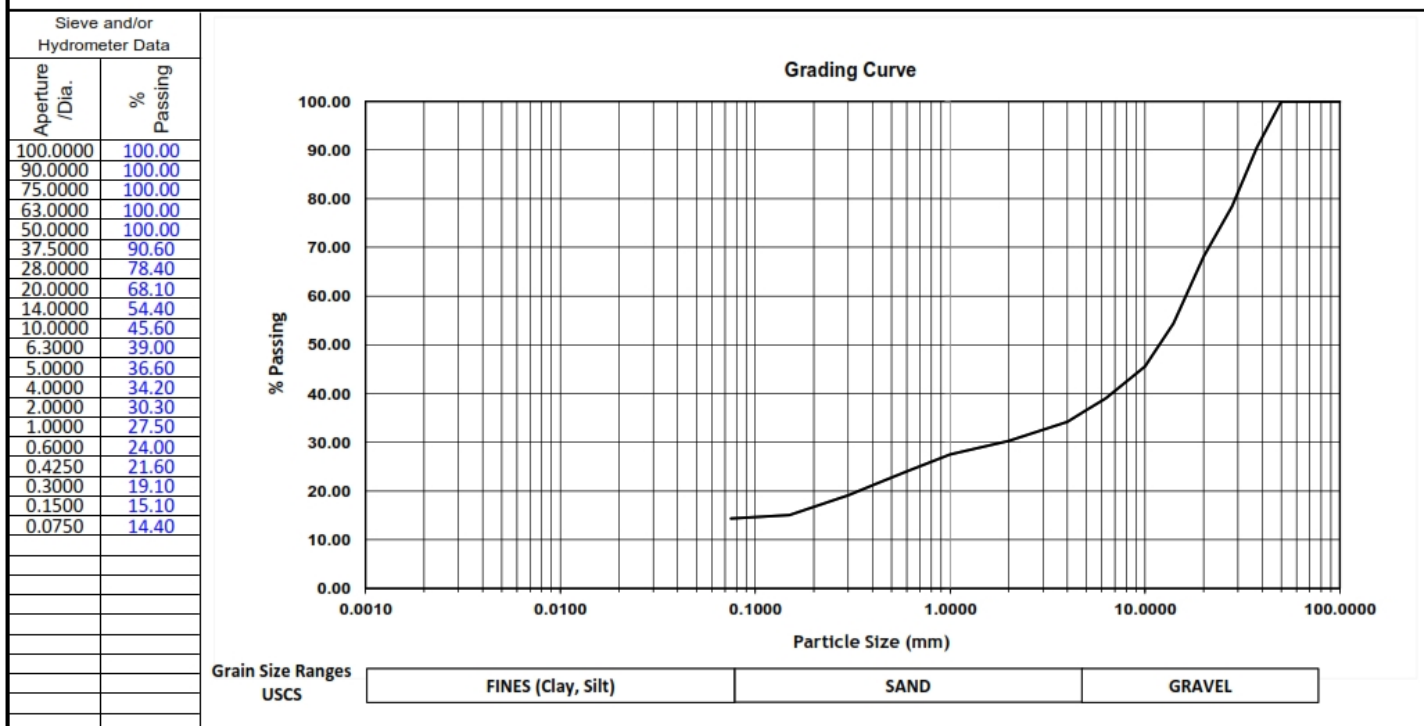
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-4 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		7	9	6	9	54			
	14	22			63		0	26	74



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
GP	Not meeting all gradation requirements for GW			
GM	Atterberg limits below "A" Line or P.I. Less than 4		Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
GC	Atterberg limits above "A" Line or P.I. greater than 7			
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
SP	Not meeting all gradation requirements for SW			
SM	Atterberg limits below "A" Line or P.I. Less than 4		Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
SC	Atterberg limits above "A" Line or P.I. greater than 7			

Tested By: Halima

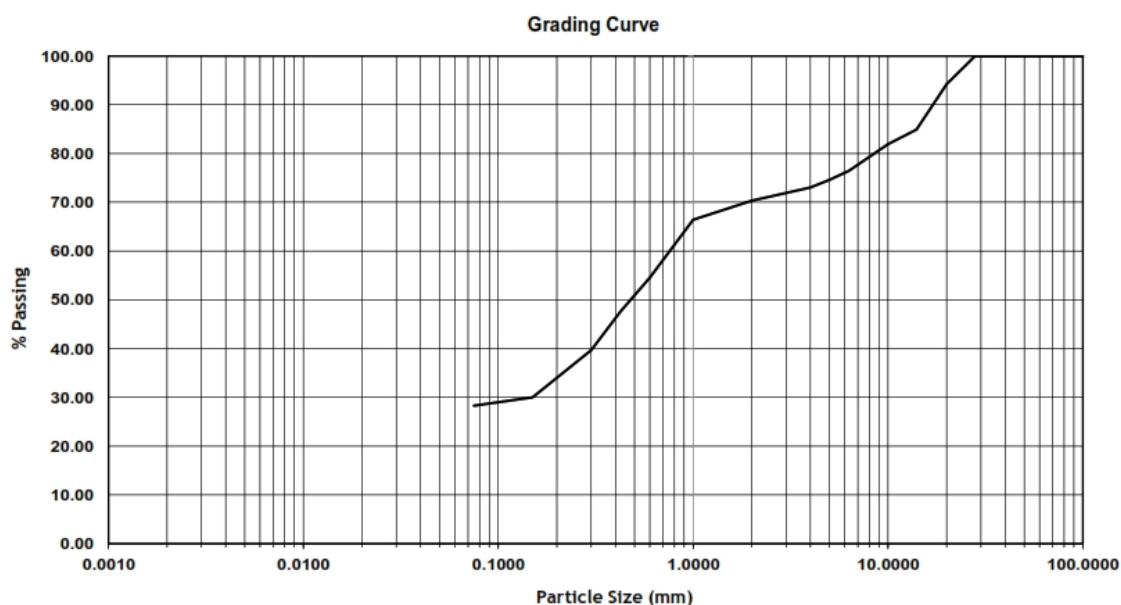
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7-4 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	19	23	4	7	18				
28	46	25	0	65	35				

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

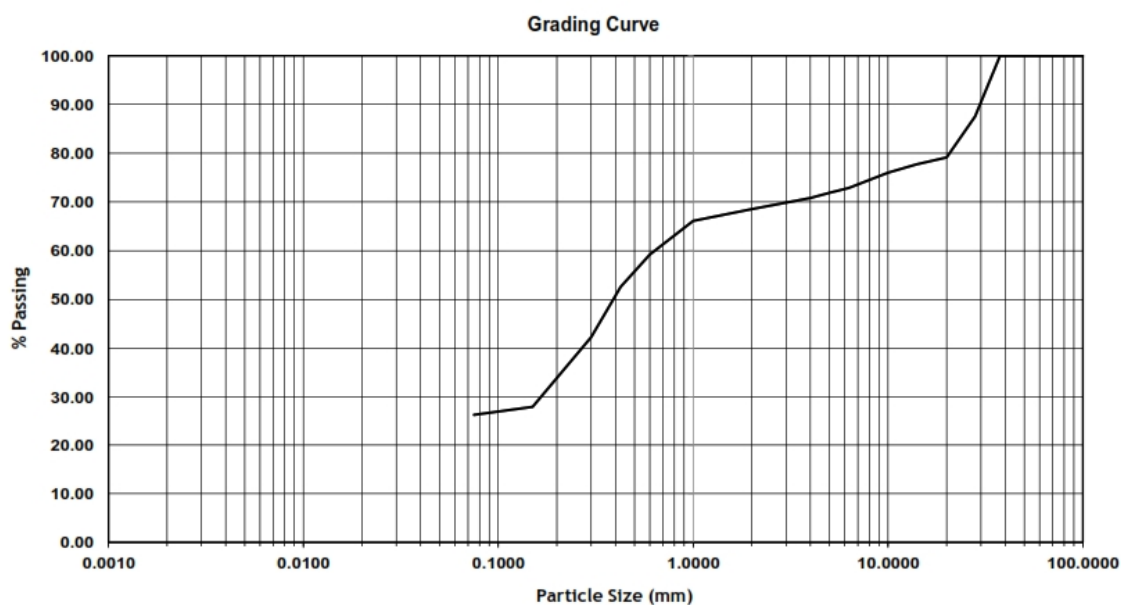
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-3 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		26	16	3	4	24			
	26	46			28		0	62	38

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

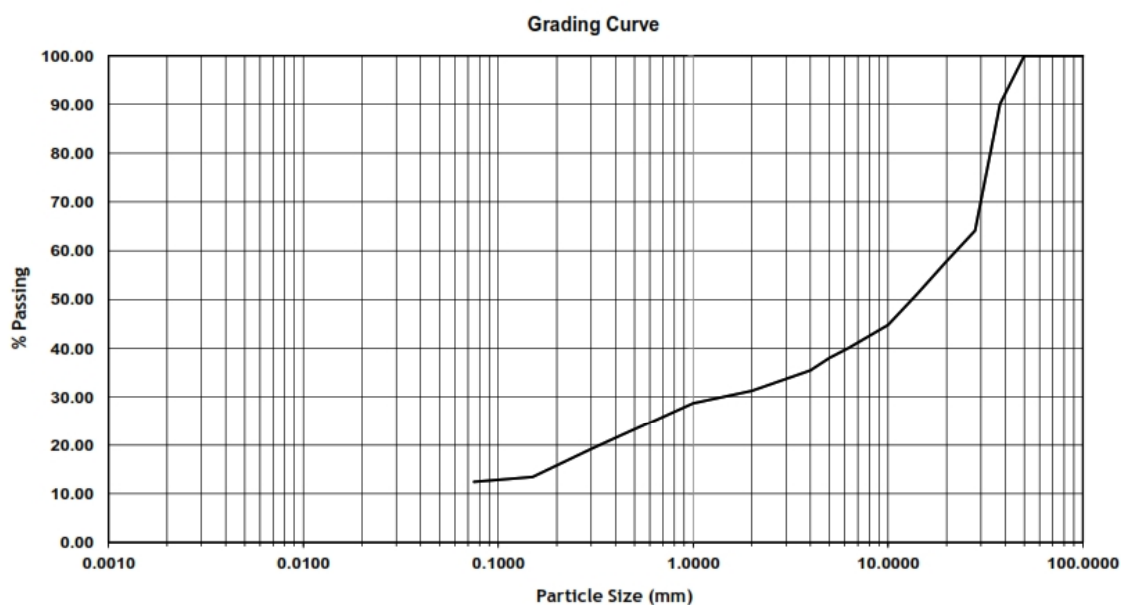
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-3 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	10	9	7	7	55				
	13	26			62		0	29	71

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

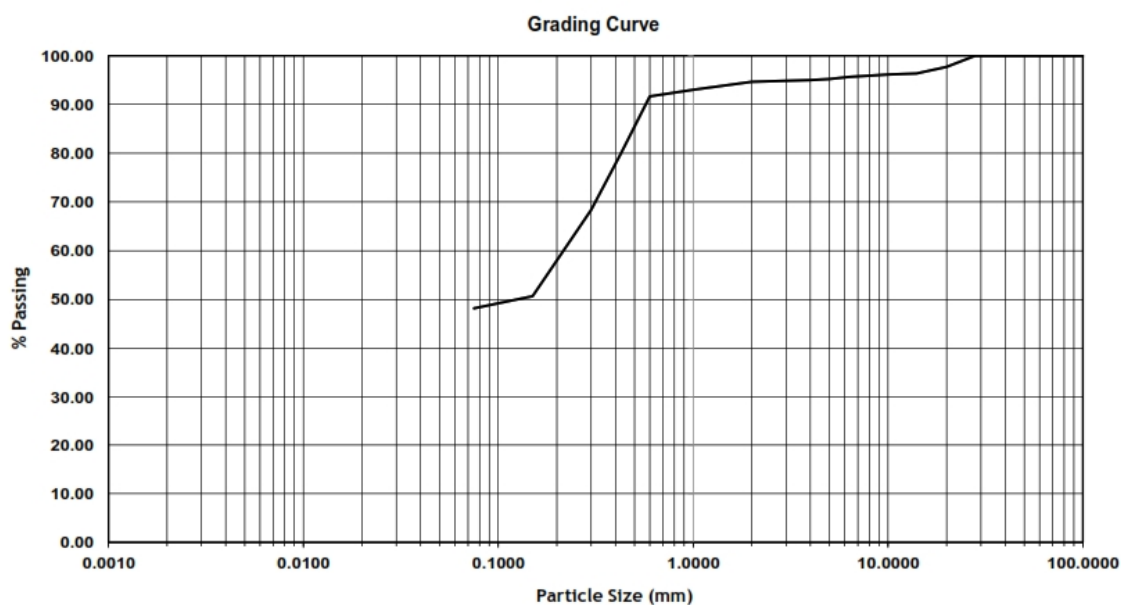
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-3 TP3	Depth (m)	1.0m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	32	15	1	1	4				
	48	47			5		0	91	9

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA						
GW	$C_u =$	D_{60}	Greater than 4	$C_c =$	D_{30}^2	Between 1 and 3
		D_{10}			$D_{10} \times D_{60}$	
GP	Not meeting all gradation requirements for GW					
GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.		
GC	Atterberg limits above "A" Line or P.I. greater than 7					
SW	$C_u =$	D_{60}	Greater than 4	$C_c =$	D_{30}^2	Between 1 and 3
		D_{10}			$D_{10} \times D_{60}$	
SP	Not meeting all gradation requirements for SW					
SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.		
SC	Atterberg limits above "A" Line or P.I. greater than 7					

Tested By: Halima

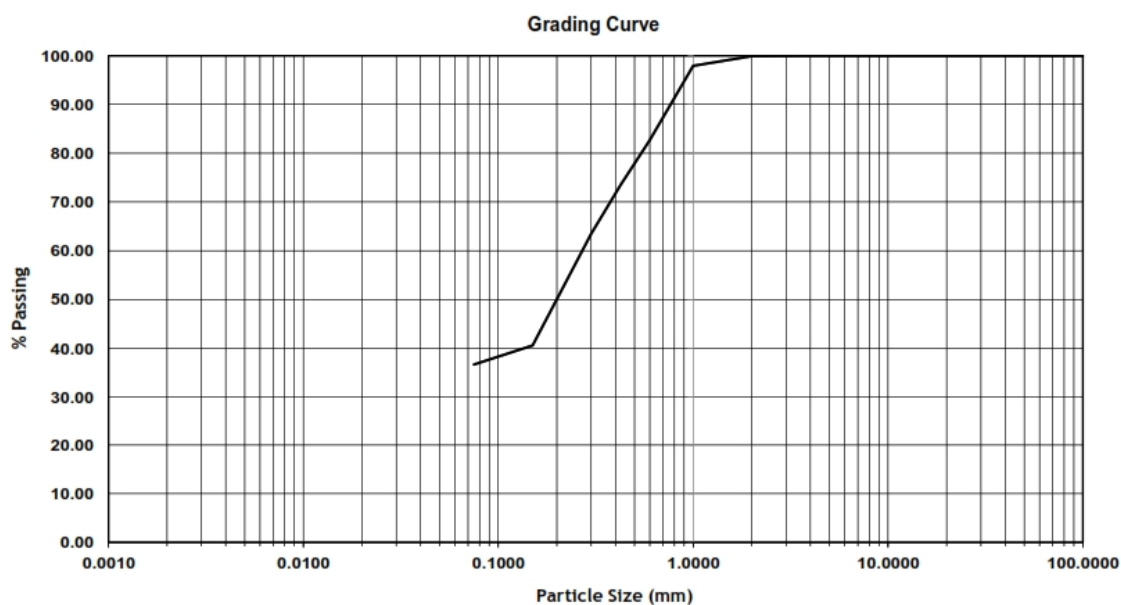
Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-3 TP4	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	37	26	0	0	0	0	0	100	0

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

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KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-4 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		26	23	2	2	10			
	38	51			11		0	82	18

Sieve and/or Hydrometer Data	
Aperture /Dia.	% Passing
100.0000	100.00
90.0000	100.00
75.0000	100.00
63.0000	100.00
50.0000	100.00
37.5000	100.00
28.0000	92.90
20.0000	92.90
14.0000	91.10
10.0000	90.40
6.3000	89.40
5.0000	88.70
4.0000	88.20
2.0000	87.20
1.0000	84.70
0.6000	73.10
0.4250	64.30
0.3000	56.10
0.1500	39.70
0.0750	38.10

Grading Curve

Particle Size (mm)	% Passing
0.075	38.10
0.150	39.70
0.300	56.10
0.425	64.30
0.600	73.10
1.000	84.70
2.000	87.20
4.750	90.40
7.500	91.10
10.000	92.90
15.000	92.90
20.000	100.00

Grain Size Ranges USCS

FINES (Clay, Silt)	SAND	GRAVEL
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KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

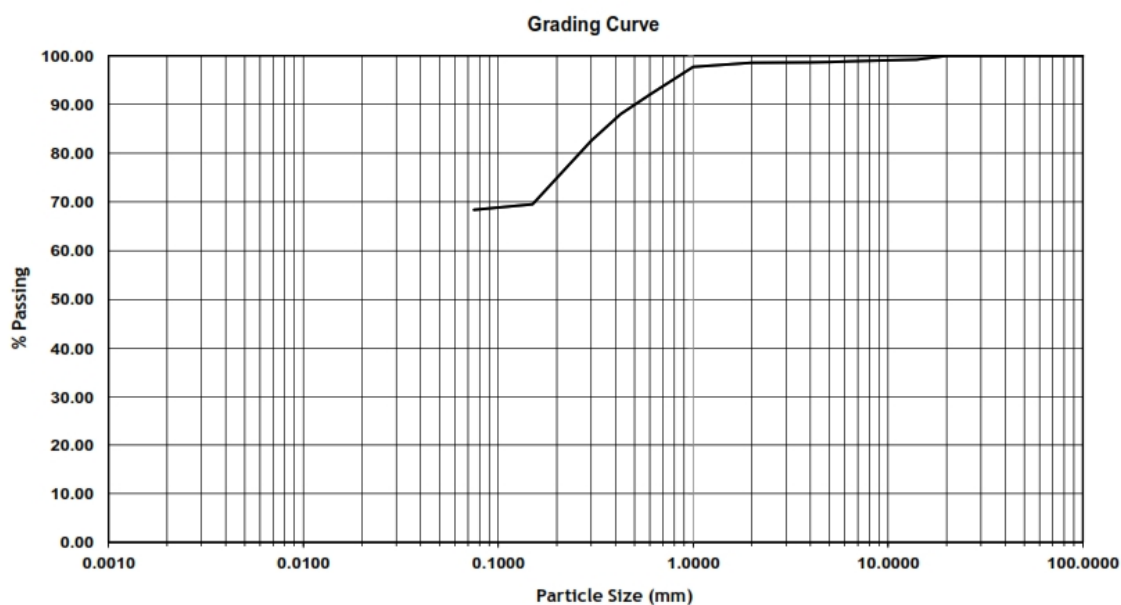
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-4 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	20	11	0	0	1				
68	30	1	0	96	4				

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

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KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

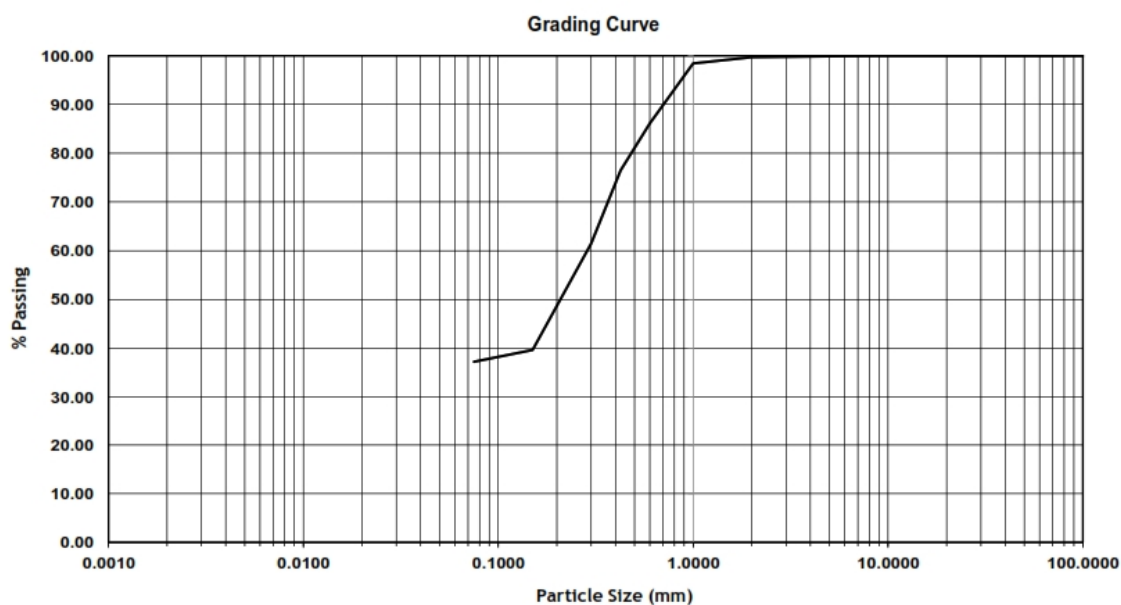
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-4 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	37	63	0	0	0	0	0	100	0

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

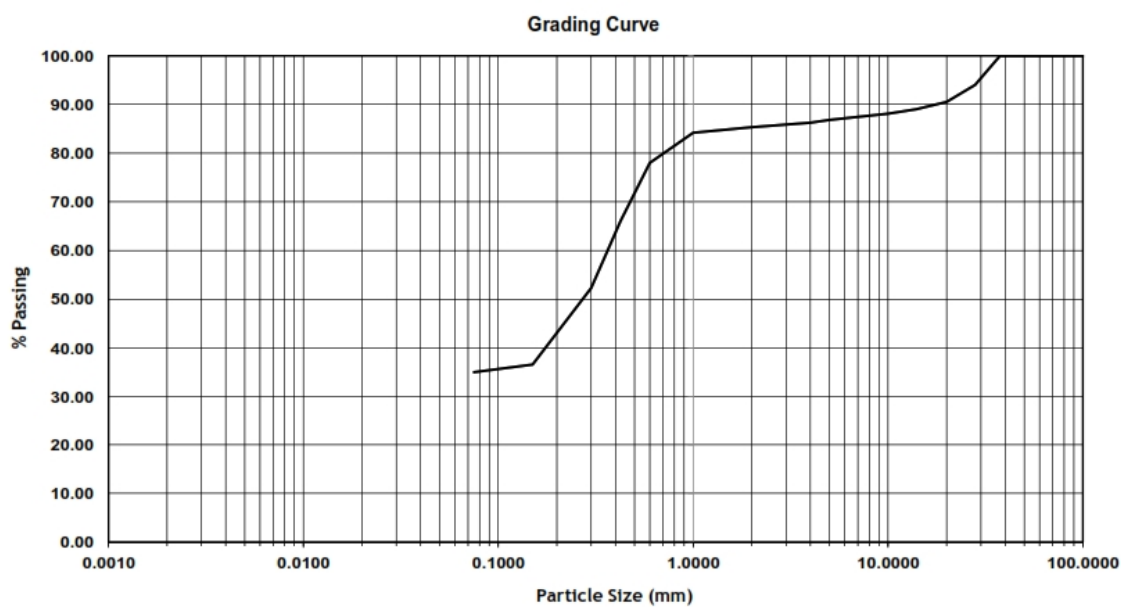
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-5 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	31	19	2	1	12				
	35	52			13		0	80	20

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

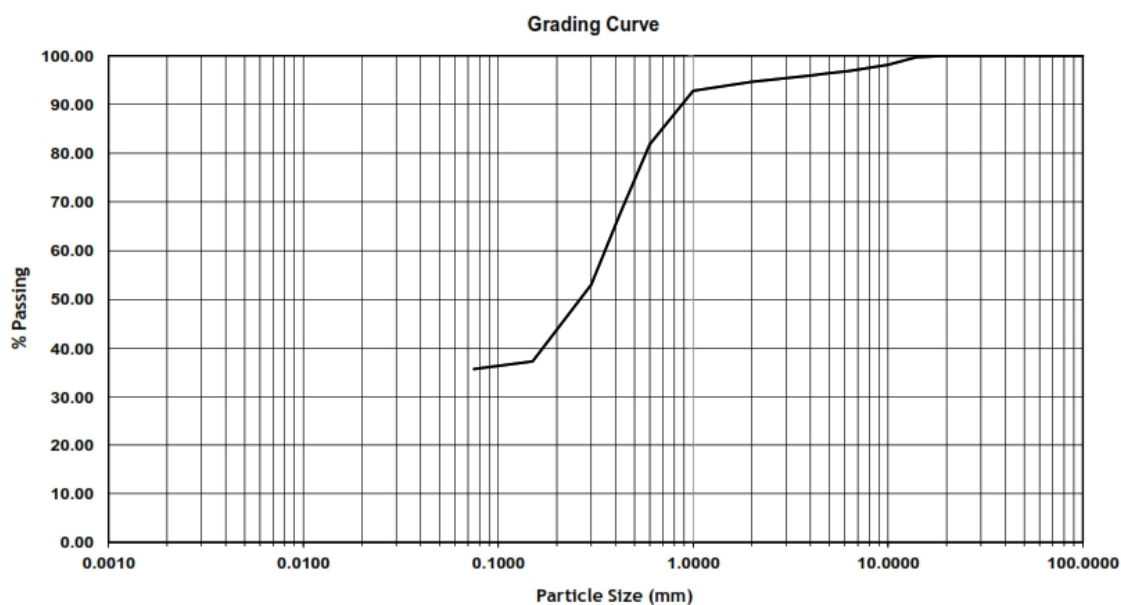
Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-5 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	32	27	2	2	2	0	94	6	

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

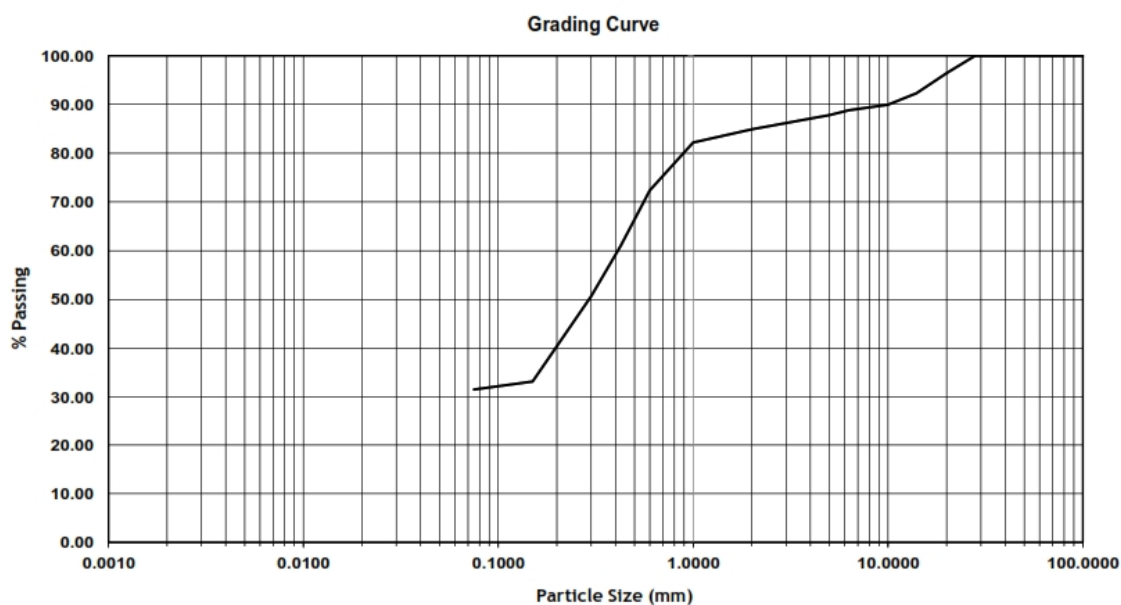
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A7R-5 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		29	24	3	2	10			
	32	56			12		0	82	18

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
--------------------	------	--------

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-1 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		31	27	3	1	4			
	35	61			5		0	93	7

Sieve and/or Hydrometer Data	
Aperture /Dia.	% Passing
100.0000	100.00
90.0000	100.00
75.0000	100.00
63.0000	100.00
50.0000	100.00
37.5000	100.00
28.0000	100.00
20.0000	98.10
14.0000	96.60
10.0000	96.10
6.3000	95.50
5.0000	95.40
4.0000	94.90
2.0000	92.60
1.0000	88.30
0.6000	73.70
0.4250	66.00
0.3000	58.60
0.1500	36.60
0.0750	34.90

Grading Curve

The graph plots % Passing (Y-axis, 0.00 to 100.00) against Particle Size (mm) (X-axis, logarithmic scale from 0.0010 to 100.0000). The curve shows a sharp increase in % passing between 0.15 mm and 0.6 mm, leveling off near 100% for larger particle sizes.

Grain Size Ranges	USCS
0.075 mm to 0.425 mm	FINES (Clay, Silt)
0.425 mm to 4.75 mm	SAND
4.75 mm to 75 mm	GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I.
SC	Atterberg limits above "A" Line or P.I. greater than 7	Between 4 and 7 are borderline cases requiring use of dual symbols.

Tested By: Halima

Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-1 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	38	13	0	0	0				
48	52	0	0	0	99	1			

[illegible]

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

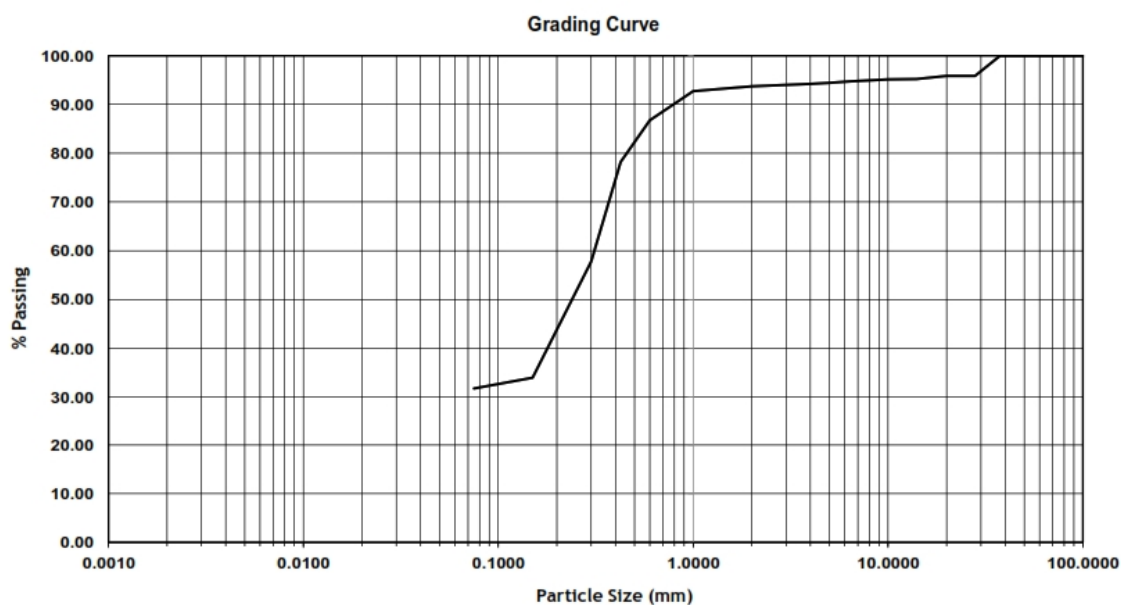
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-1 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	46	16	1	1	5				
32	63	6	0	92	8				

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

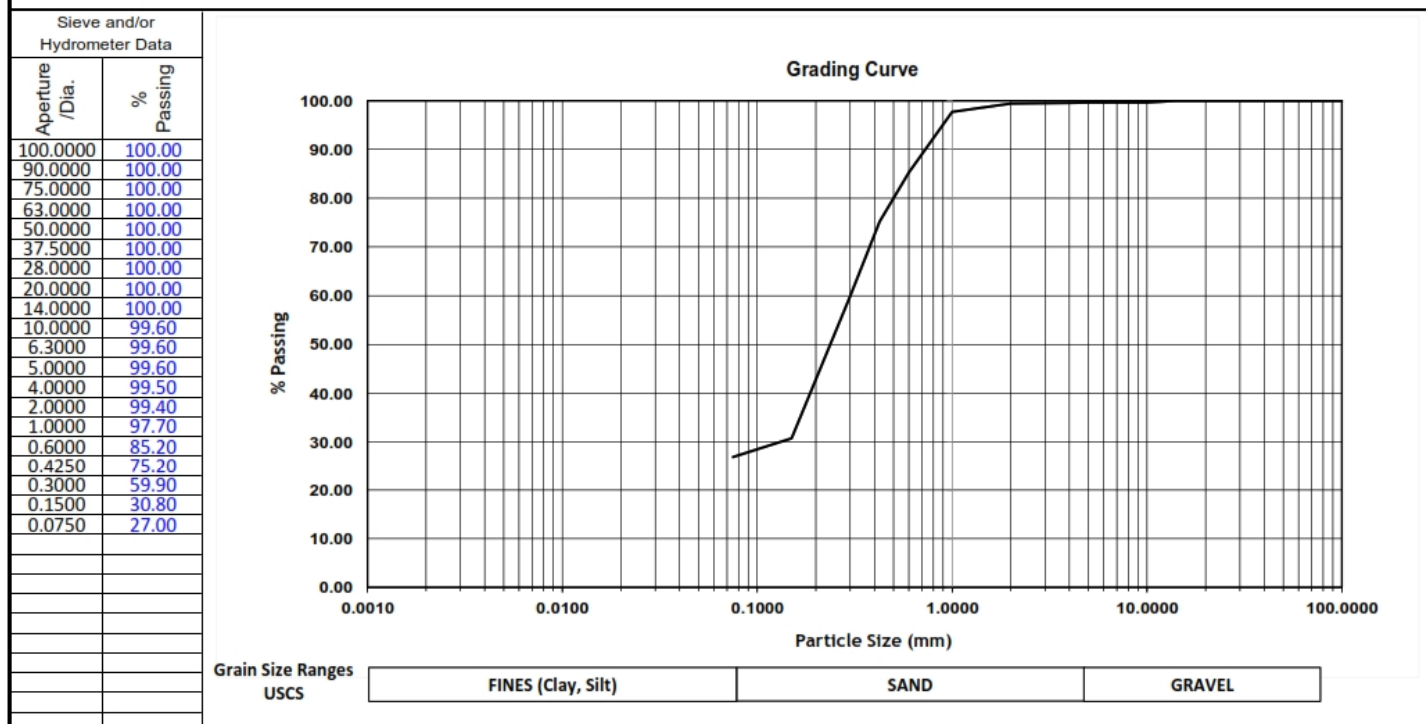
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-1 TP4	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		48	24	0	0	0			
	27	73			0		0	99	1



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
GP	Not meeting all gradation requirements for GW				
GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
GC	Atterberg limits above "A" Line or P.I. greater than 7				
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
SP	Not meeting all gradation requirements for SW				
SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
SC	Atterberg limits above "A" Line or P.I. greater than 7				

Tested By: Halima

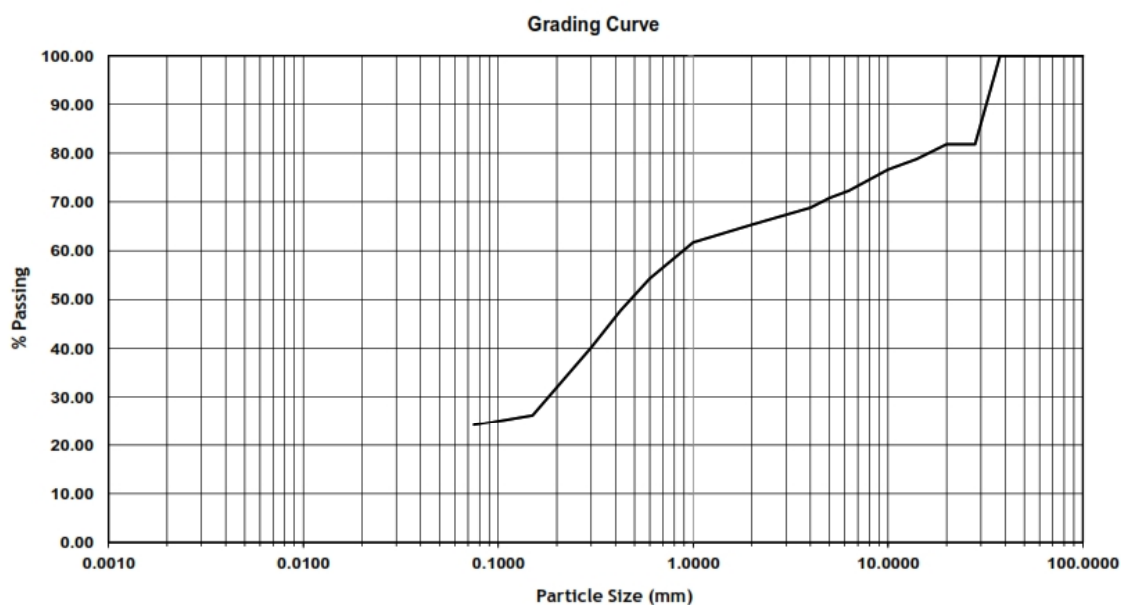
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-2 TP1	Depth (m)	0.0-0.8
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		24	18	6	6	23			
	24	47			29		0	61	39

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

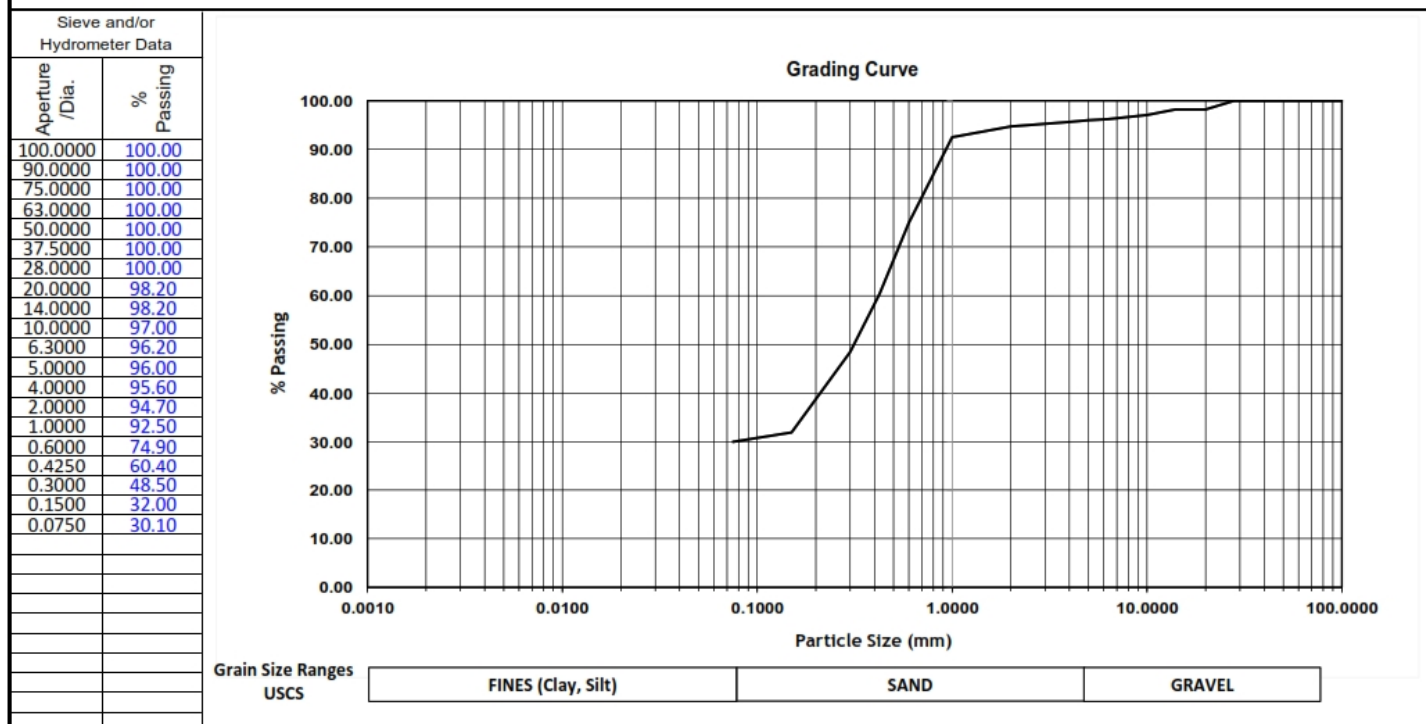
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-2 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		30	34	1	1	3			
	30	66			4		0	94	6



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
GP	Not meeting all gradation requirements for GW				
GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
GC	Atterberg limits above "A" Line or P.I. greater than 7				
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
SP	Not meeting all gradation requirements for SW				
SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
SC	Atterberg limits above "A" Line or P.I. greater than 7				

Tested By: Halima

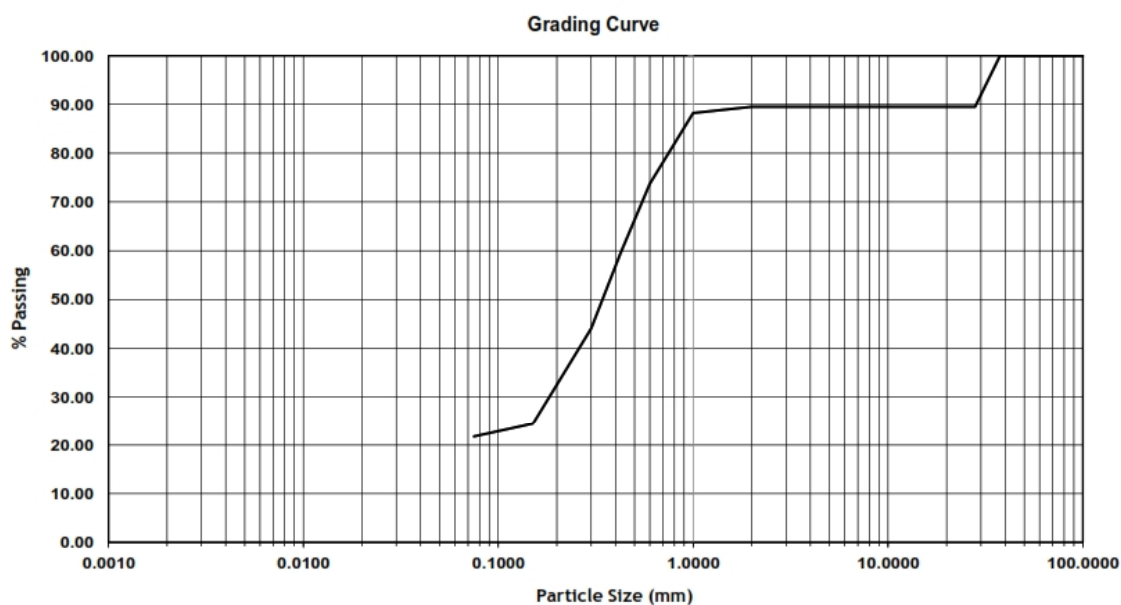
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-2 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		38	30	0	0	11			
	22	68			11		0	87	13

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-3 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	30	28	2	1	6				
34	60	7	0	90	10				

Sieve and/or Hydrometer Data	
Aperture /Dia.	% Passing
100.0000	100.00
90.0000	100.00
75.0000	100.00
63.0000	100.00
50.0000	100.00
37.5000	100.00
28.0000	100.00
20.0000	96.80
14.0000	95.80
10.0000	94.30
6.3000	93.40
5.0000	93.10
4.0000	92.70
2.0000	91.20
1.0000	87.70
0.6000	74.40
0.4250	63.40
0.3000	52.90
0.1500	35.80
0.0750	33.60

Grading Curve

Grain Size Ranges USCS	FINES (Clay, Silt)	SAND	GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	---------	-------------------------	----------------	---------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

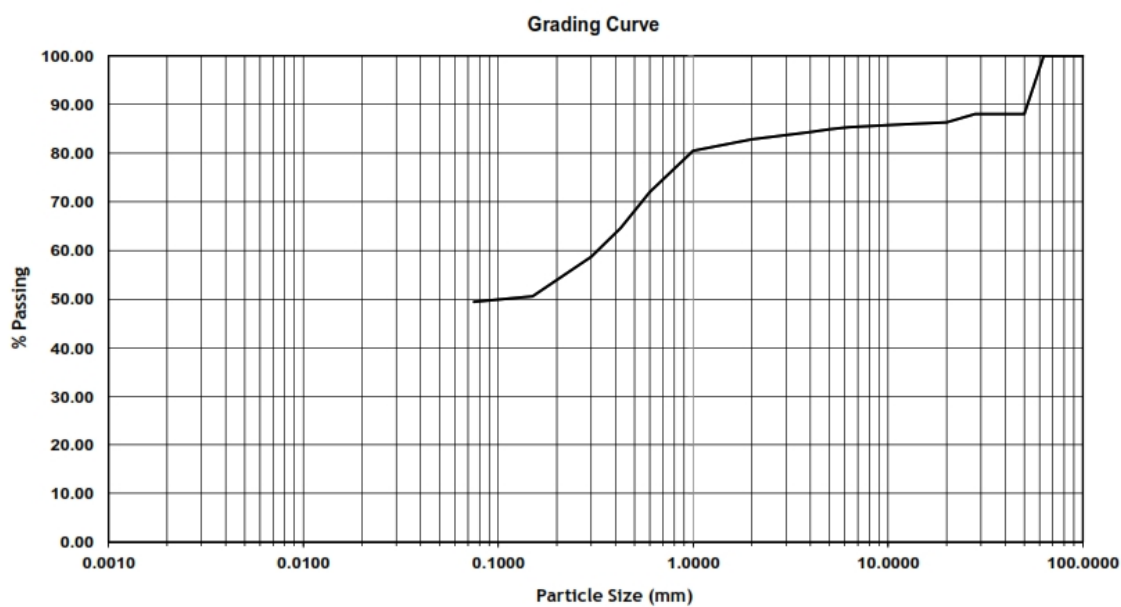
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-3 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	15	18	2	1	14				
50	35	15			0	70	30		

[illegible]

Grain Size Ranges USCS	FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

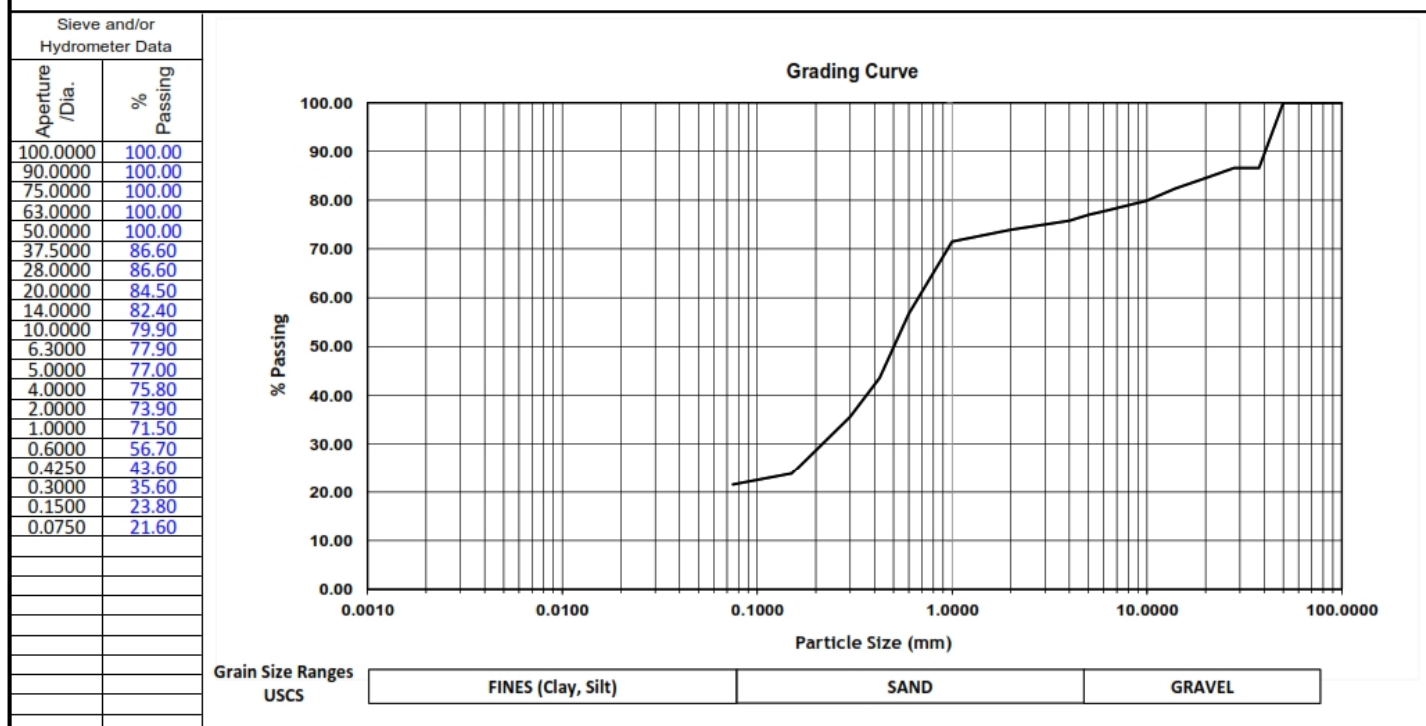
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-3 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		22	30	3	3	20			
	22	55			23		0	71	29



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
GP	Not meeting all gradation requirements for GW				
GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
GC	Atterberg limits above "A" Line or P.I. greater than 7				
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
SP	Not meeting all gradation requirements for SW				
SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
SC	Atterberg limits above "A" Line or P.I. greater than 7				

Tested By: Halima

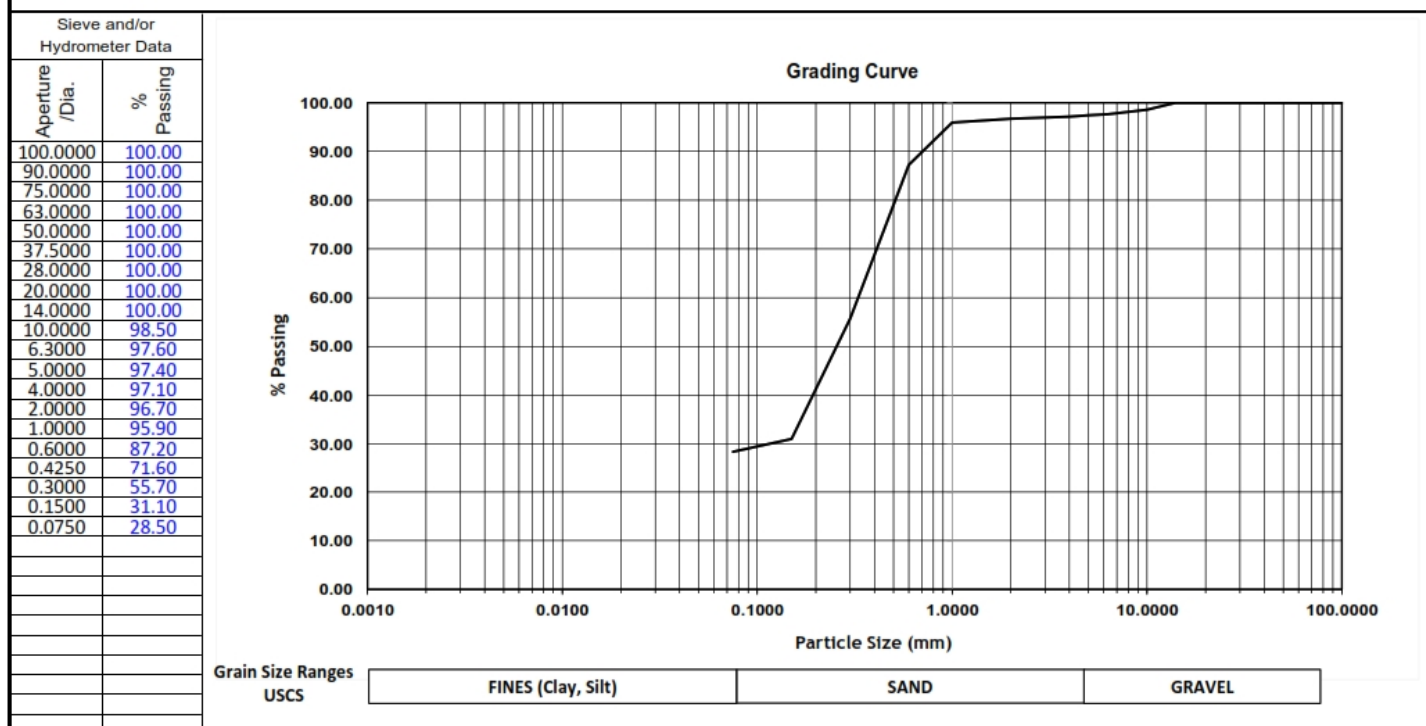
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-4 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		43	25	1	1	2			
	29	69			3		0	96	4



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	GP	Not meeting all gradation requirements for GW			
	GM	Atterberg limits below "A" Line or P.I. Less than 4		Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	GC	Atterberg limits above "A" Line or P.I. greater than 7			
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	SP	Not meeting all gradation requirements for SW			
	SM	Atterberg limits below "A" Line or P.I. Less than 4		Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	SC	Atterberg limits above "A" Line or P.I. greater than 7			

Tested By: Halima

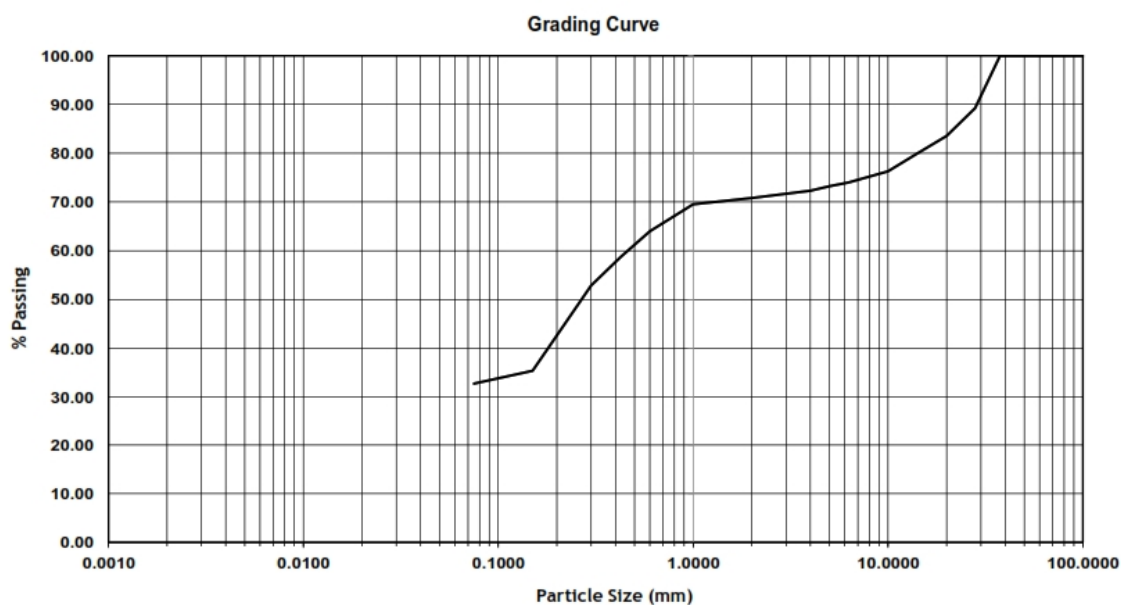
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-4 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	26	12	2	3	24				
	33	40		27		0	60	40	

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

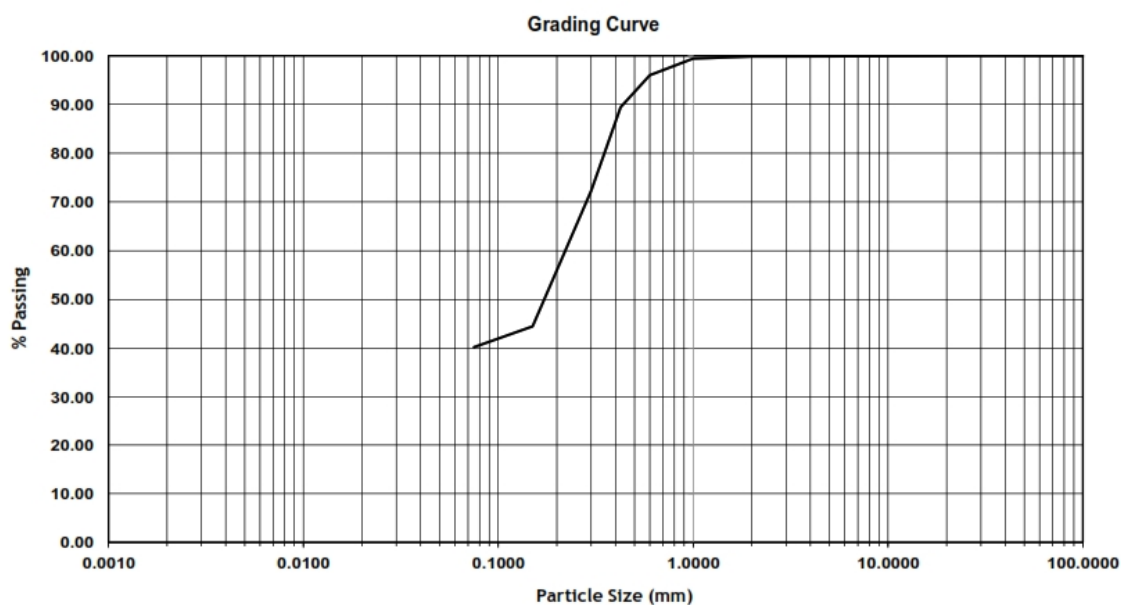
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	A8-4 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	49	10	0	0	0	0	0	100	0

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

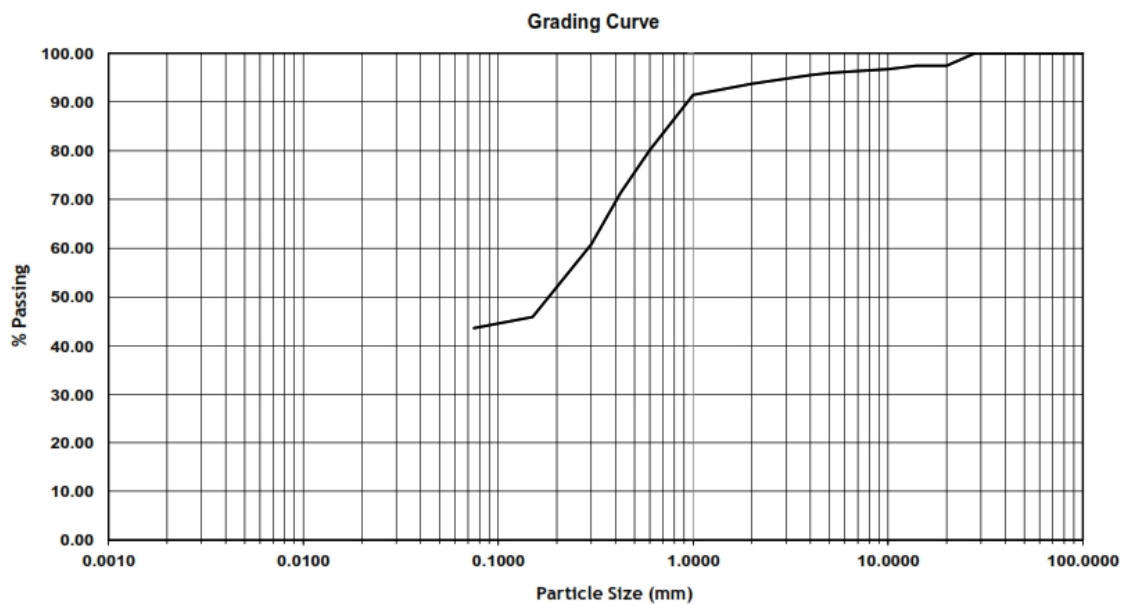
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	H1 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		28	22	2	1	3			
	44	52	4	0	93	7			

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}}{D_{10} \times D_{60}}$	Between 1 and 3
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GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

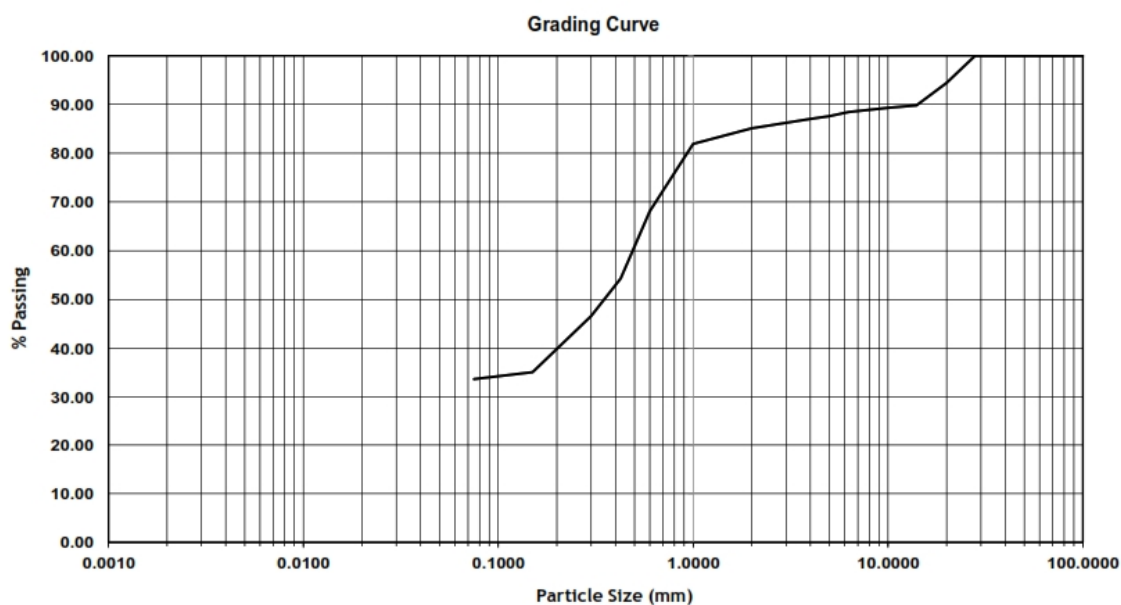
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	H1 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		21	31	3	2	11			
	34	54	12	0	81	19			

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

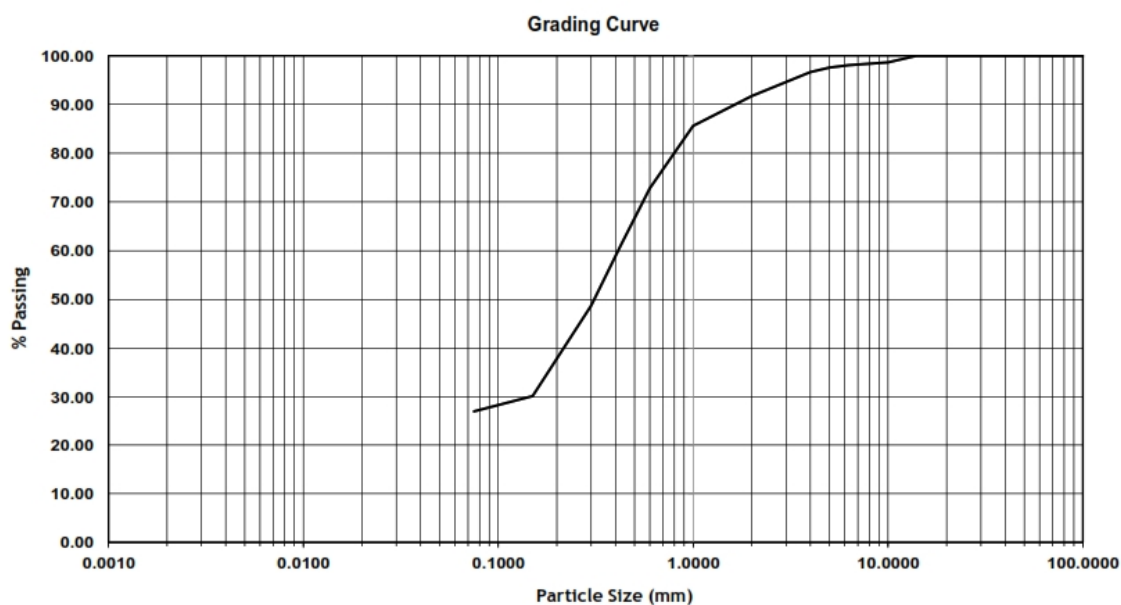
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	H1 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	34	31	6	1	1				
27	70				3		0	97	3

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

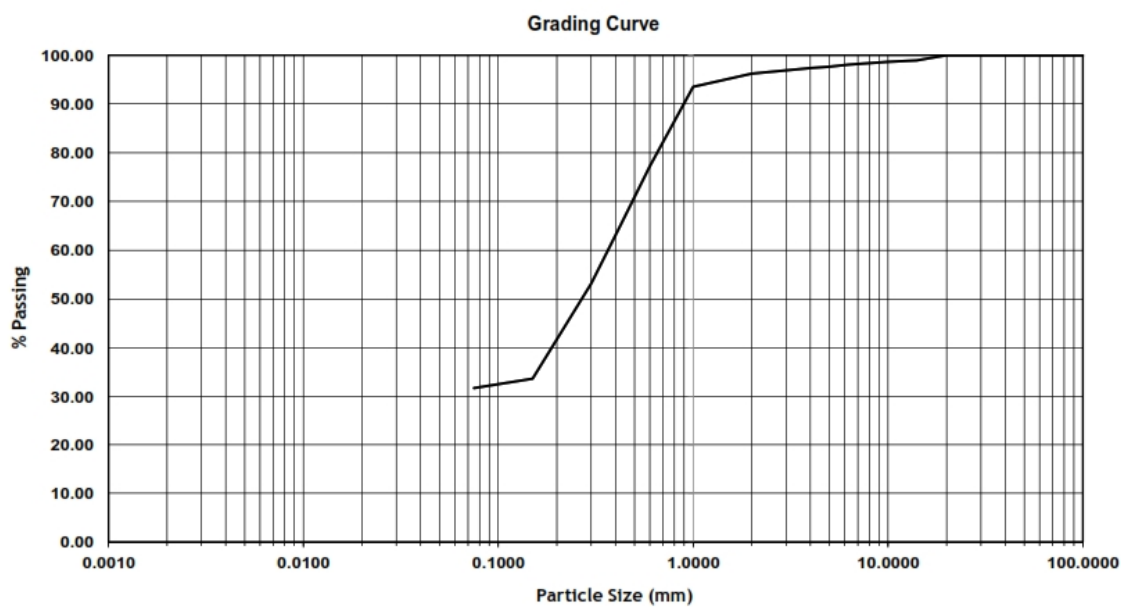
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	H6 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		33	31	1	1	1			
	32	66			2		0	96	4

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

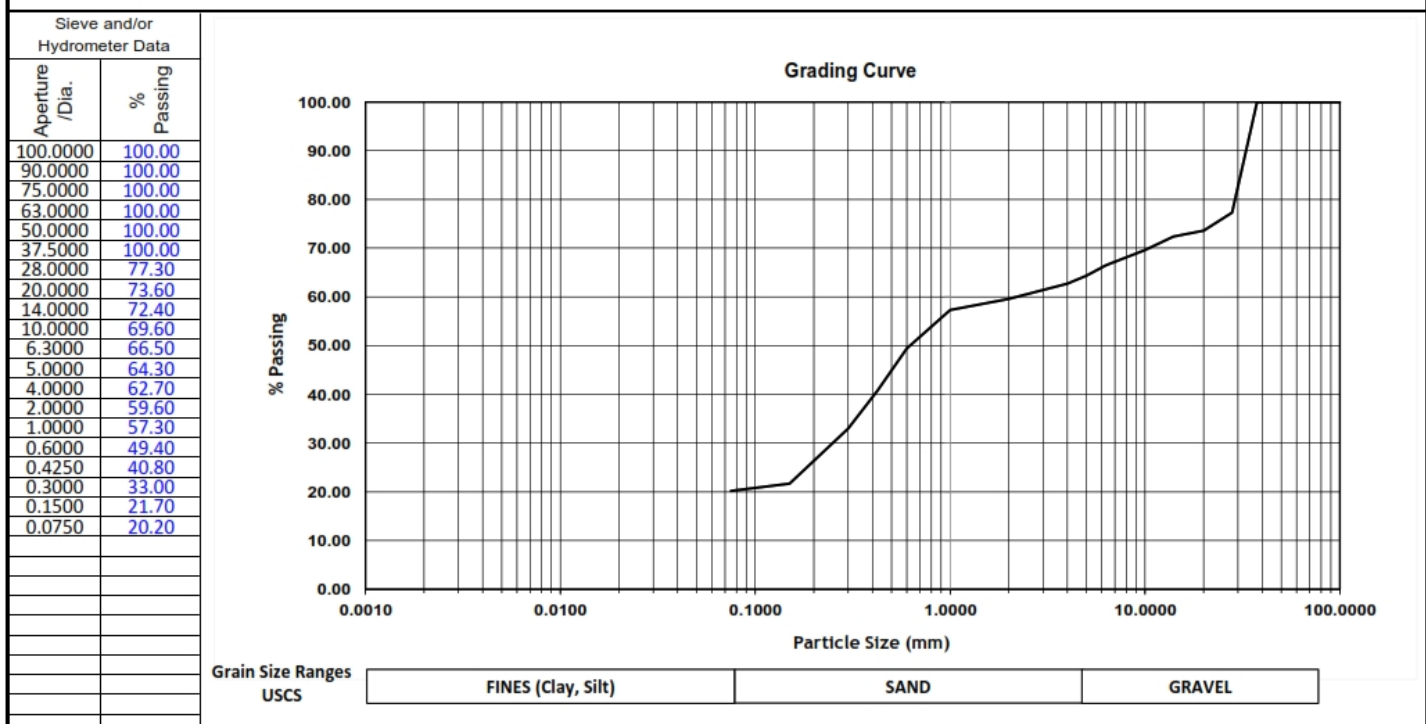
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	H6 TP2	Depth (m)	0.5m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		21	19	5	5	30			
	20	44			36		0	55	45



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KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

RELATIONSHIP BETWEEN GRADEATION REQUIREMENTS					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	GP	Not meeting all gradation requirements for GW			
	GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.		
	GC	Atterberg limits above "A" Line or P.I. greater than 7			
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	SP	Not meeting all gradation requirements for SW			
	SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.		
	SC	Atterberg limits above "A" Line or P.I. greater than 7			

Tested By: Halima

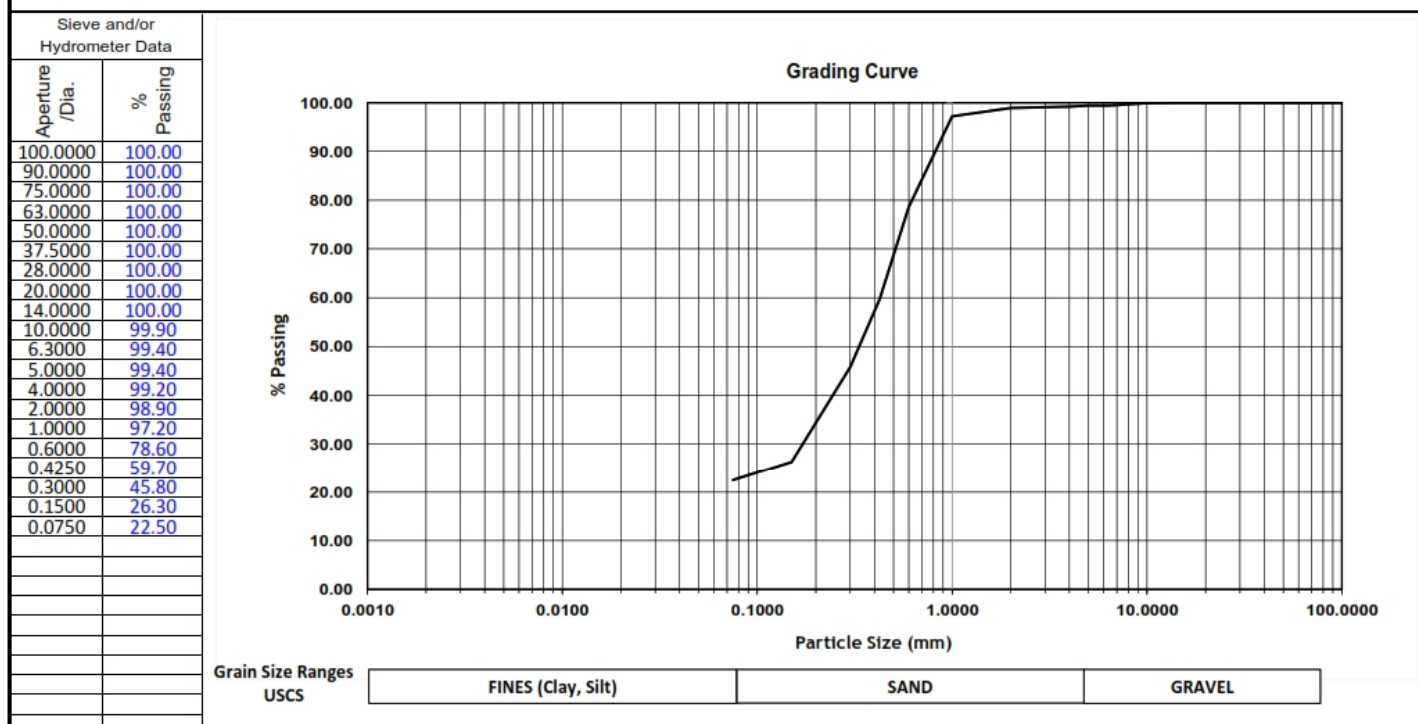
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	H6 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		37	39	1	1	0			
	23	77			1		0	99	1



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	GP	Not meeting all gradation requirements for GW			
	GM	Atterberg limits below "A" Line or P.I. Less than 4		Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	GC	Atterberg limits above "A" Line or P.I. greater than 7			
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	SP	Not meeting all gradation requirements for SW			
	SM	Atterberg limits below "A" Line or P.I. Less than 4		Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	SC	Atterberg limits above "A" Line or P.I. greater than 7			

Tested By: Halima

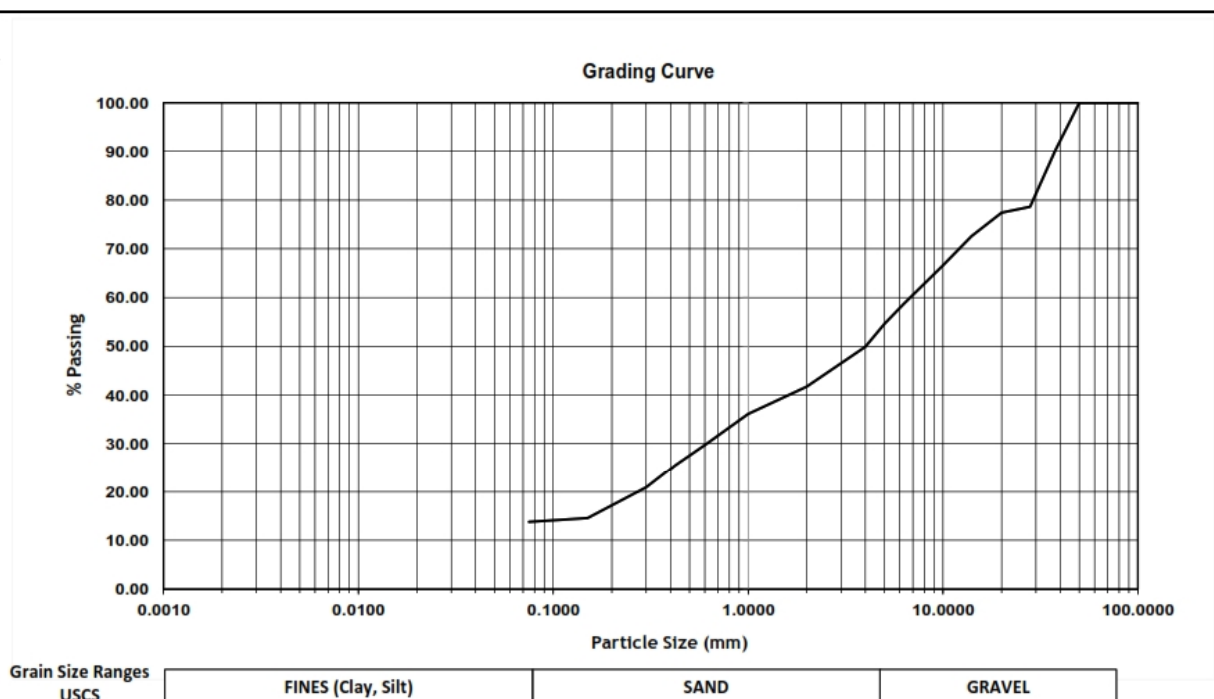
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	L5 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		12	16	13	12	33			
	14	41			45		0	47	53

[illegible]

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNITED SOIL CLASSIFICATION CRITERIA																								
GW	$C_u =$	D_{60}	Greater than 4	$C_c =$	D_{30}^2	Between 1 and 3																		
		D_{10}			$D_{10} \times D_{60}$																			
<table><tr><td>GP</td><td colspan="6">Not meeting all gradation requirements for GW</td></tr><tr><td>GM</td><td colspan="3">Atterberg limits below "A" Line or P.I. Less than 4</td><td colspan="3" rowspan="2">Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.</td></tr><tr><td>GC</td><td colspan="3">Atterberg limits above "A" Line or P.I. greater than 7</td></tr></table>							GP	Not meeting all gradation requirements for GW						GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.			GC	Atterberg limits above "A" Line or P.I. greater than 7		
GP	Not meeting all gradation requirements for GW																							
GM	Atterberg limits below "A" Line or P.I. Less than 4			Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.																				
GC	Atterberg limits above "A" Line or P.I. greater than 7																							
SW	$C_u =$	D_{60}	Greater than 4	$C_c =$	D_{30}^2	Between 1 and 3																		
		D_{10}			$D_{10} \times D_{60}$																			
<table><tr><td>SP</td><td colspan="6">Not meeting all gradation requirements for SW</td></tr><tr><td>SM</td><td colspan="3">Atterberg limits below "A" Line or P.I. Less than 4</td><td colspan="3" rowspan="2">Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.</td></tr><tr><td>SC</td><td colspan="3">Atterberg limits above "A" Line or P.I. greater than 7</td></tr></table>							SP	Not meeting all gradation requirements for SW						SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.			SC	Atterberg limits above "A" Line or P.I. greater than 7		
SP	Not meeting all gradation requirements for SW																							
SM	Atterberg limits below "A" Line or P.I. Less than 4			Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.																				
SC	Atterberg limits above "A" Line or P.I. greater than 7																							

Tested By: Halima

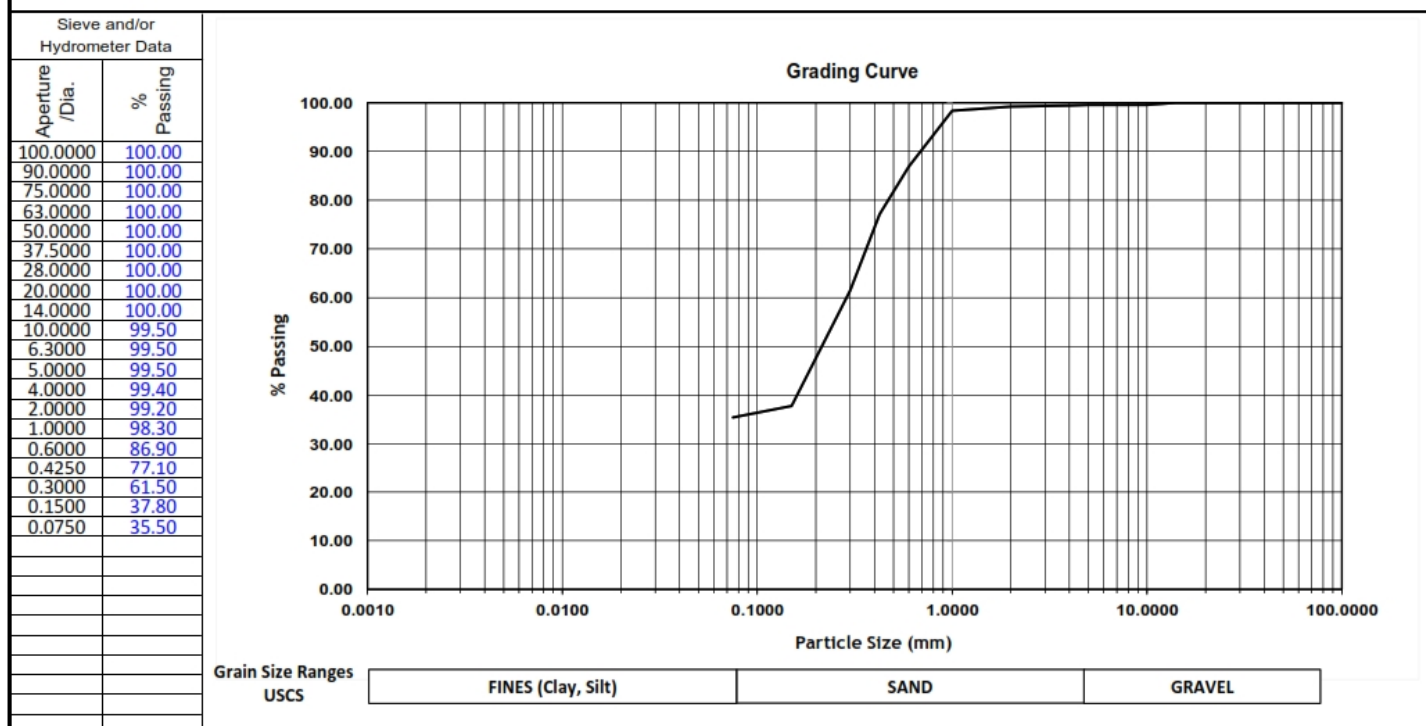
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	M1 TP1	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
		42	22	0	0	1			
	36	64			1		0	99	1



NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA					
GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	GP	Not meeting all gradation requirements for GW			
	GM	Atterberg limits below "A" Line or P.I. Less than 4		Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	GC	Atterberg limits above "A" Line or P.I. greater than 7			
SW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3	
	SP	Not meeting all gradation requirements for SW			
	SM	Atterberg limits below "A" Line or P.I. Less than 4		Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.	
	SC	Atterberg limits above "A" Line or P.I. greater than 7			

Tested By: Halima

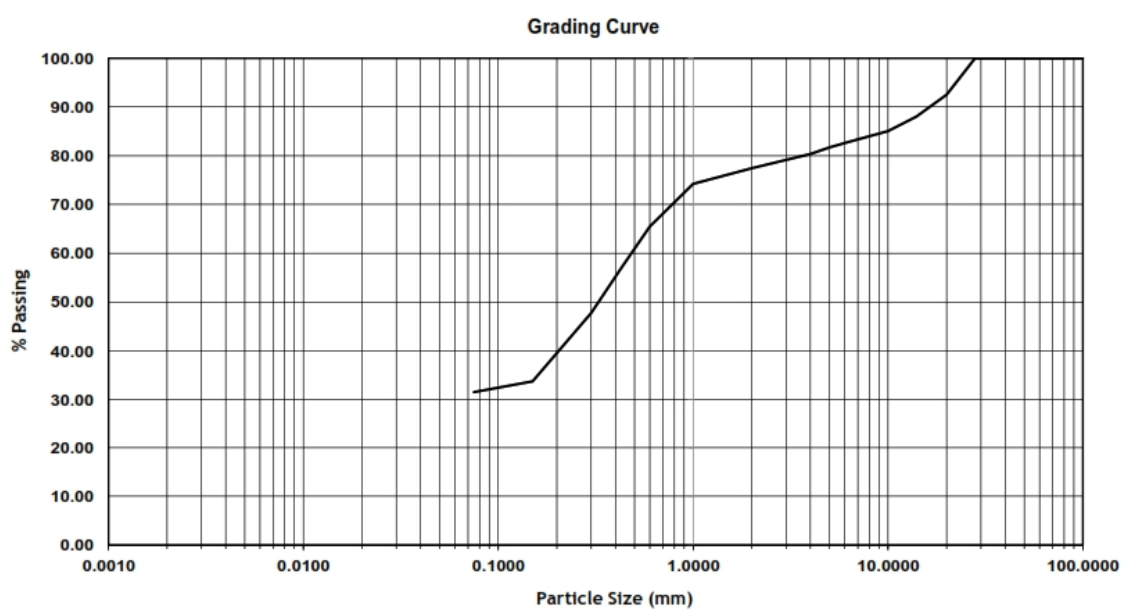
Checked By: Lenana

Verified By: Adede

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	M1 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	25	21	4	3	15				
	32	50			18		0	73	27

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
--------------------	------	--------

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

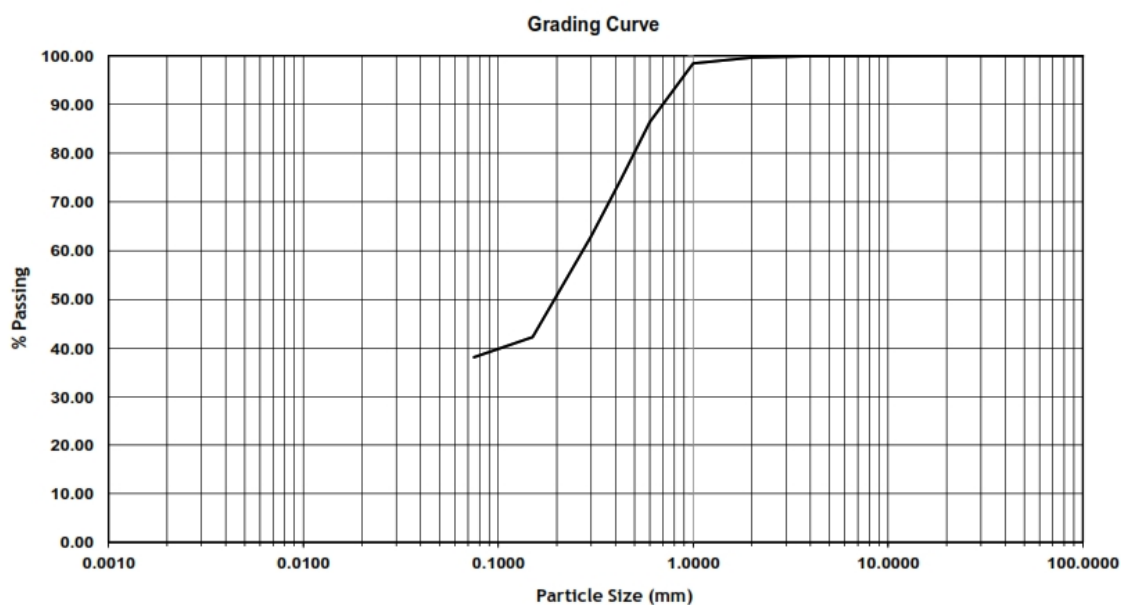
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	M1 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	36	25	0	0	0				
	38	62			0		0	100	0

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

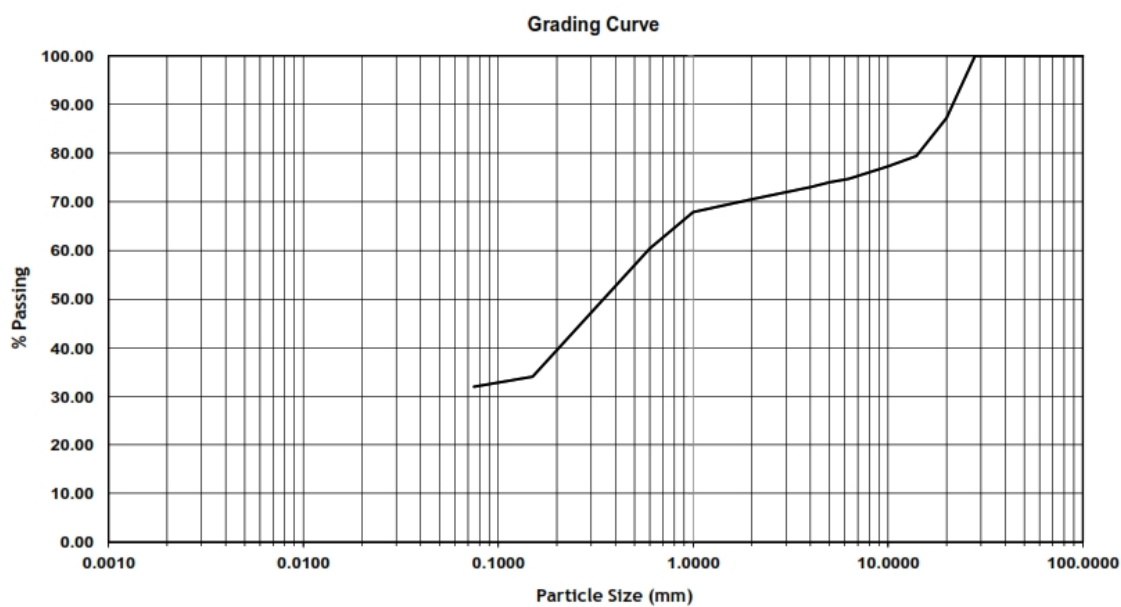
Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	M2 TP1	Depth (m)	0.4m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	22	17	4	3	23				
	32	42			26		0	62	38

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
--------------------	------	--------

NOTE: The results above are used in conjunction with atterberg results for classification of soil samples according to the USCS system. These classifications are provided in the report

KEY TO THE UNIFIED SOIL CLASSIFICATION CRITERIA

GW	$C_u =$	$\frac{D_{60}}{D_{10}}$	Greater than 4	$C_c =$	$\frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
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GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" Line or P.I. Less than 4	Above "A" Line with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
GC	Atterberg limits above "A" Line or P.I. greater than 7	

SW	$C_U = \frac{D_{60}}{D_{10}}$	Greater than 4	$C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$	Between 1 and 3
----	-------------------------------	----------------	---	-----------------

SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" Line or P.I. Less than 4	Limits plotting in shaded zone with P.I. Between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" Line or P.I. greater than 7	

Tested By: Halima

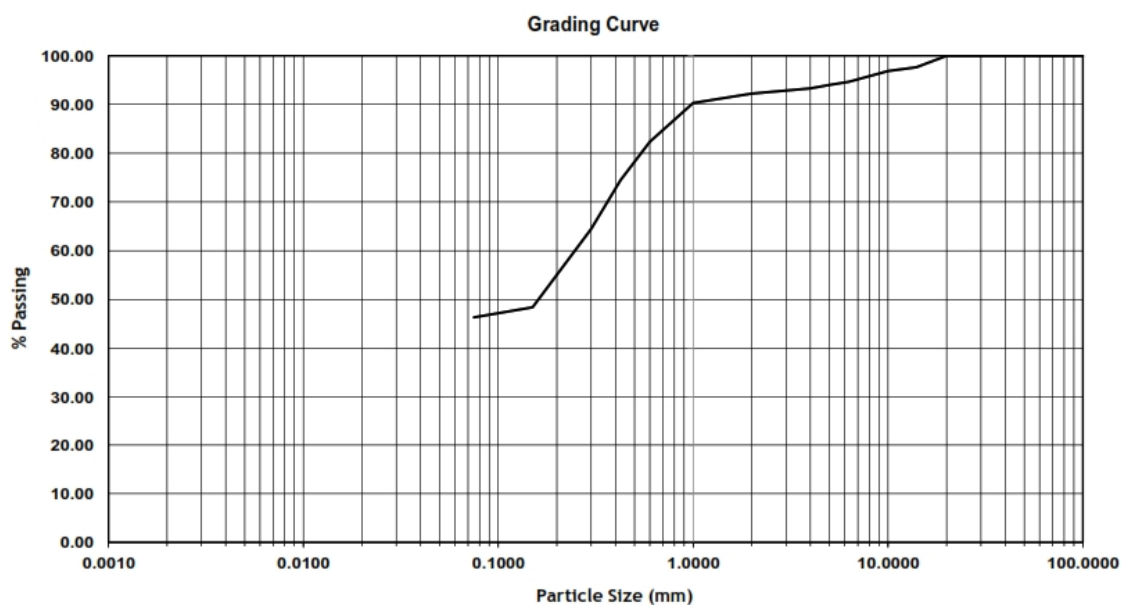
Checked By: Lenana

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	M2 TP2	Depth (m)	1m
Test Date	02/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	28	18	2	3	3				
46	48	6	0	89	11				

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)

SAND

GRAVEL

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Tested By: Halima

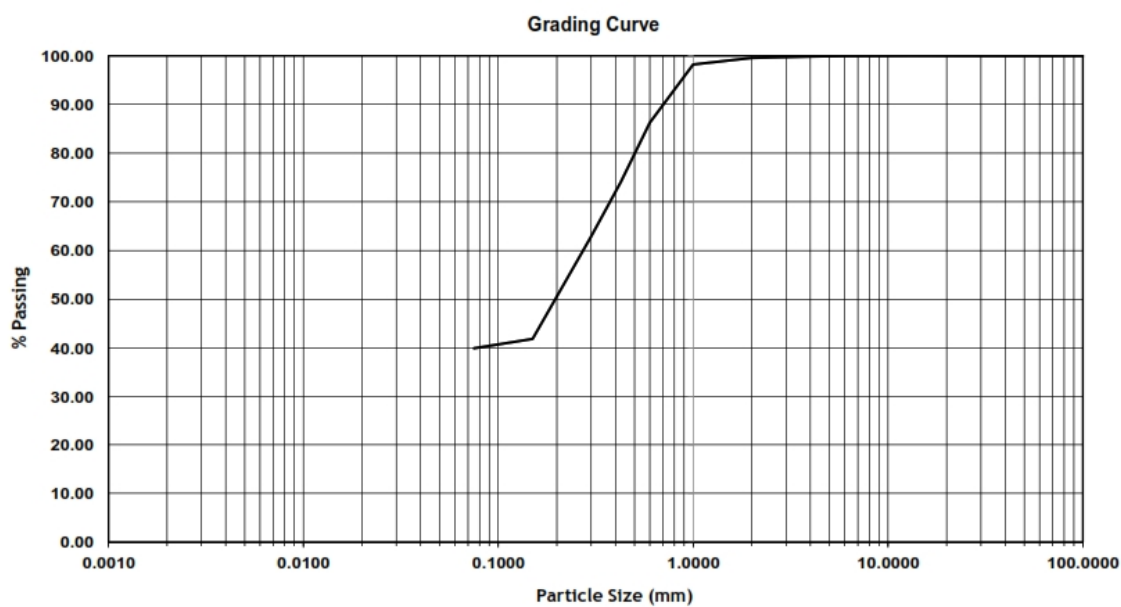
Checked By: **Lenana**

Verified By: **Adede**

Particle Size Distribution

Project	Pavement Investigation				
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on	27/01/2022	Sampling Point	M2 TP3	Depth (m)	1m
Test Date	07/02/2022	Sample No.		Code	BS 1377-2: 90

Proportion of size categories according to USCS (%)	% FINES (SILT, CLAY)	% SAND			% GRAVEL		% COBBLES AND BOULDERS	% Sand in Coarse Portion	% Gravel in Coarse Portion
		Fine	Medium	Coarse	Fine	Coarse			
	34	26	0	0	0	0			
40	60	0			0	0	100	0	

[illegible]

Grain Size Ranges
USCS

FINES (Clay, Silt)	SAND	GRAVEL
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Tested By: Halima

Checked By: Lenana

Verified By: **Adede**