

6-4 River Bed Materials & Cross Section

6 – 4 River Bed Materials Investigation and River Cross Section Toposurvey results

1) River Bed Materials Investigation

The results of investigation are shown from page A6-4-1 to A6-4-12.

GEOCE Consultants (P) Ltd.
TEST PIT LOG OF GRID SAMPLING

Hydrological Study For Basic Design Study on The Project For Construction of Sindhu Road Construction, Section III

Change: Ch-31-100
Location: Rashi Kheola, Riverbed Surface

Ground Elevation: 539.679 m
Coordinates: N 3036711.030 and E 283277.842

Test Pit No: 1
Approx. Dimension of TP: 1.00 x 1.00 x 0.60 m

Date: March 2008
Logged By: KB

Classification Group Symbol	Graphic	Depth (m)	Type and Depth of Sample Taken	CLASSIFICATION AND DESCRIPTION OF MATERIAL (Typical name, colour, in wet condition, odour, if any degree of plasticity, grain size range and description, moisture conditions, degree of compaction and other pertinent information)	Dimension of 15th Gravel		
					Length L, cm	Breadth B, cm	Height H, cm
GP		0.05		0 to 30 cm, Sandy GRAVEL, greyish, medium grained sand, micaceous, little non plastic fines, sub rounded and sub angular Boulder, hard and strong	4.5	3	2
		0.10					
		0.15					
		0.20					
		0.25					
		0.30					
GP		0.35	Bulk for GSA	30 to 60 cm, Sandy GRAVEL, greyish, medium grained sand, micaceous, little non plastic fines, sub rounded and sub angular Boulder, hard and strong, maximum size of boulder fraction of 14 x 12 x 8 cm			
		0.40					
		0.45					
		0.50					
		0.55					
		0.60					

Test Pit Log of Grid Sampling at Location TP-1

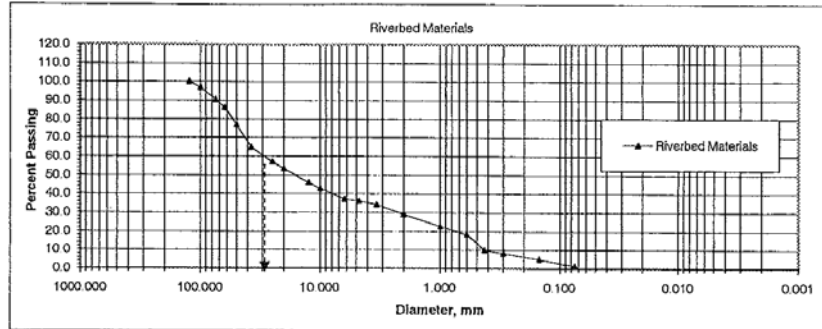
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TEST RESULTS OF RIVERBED MATERIALS

Hydrological Study For Basic Design Study on The Project For Construction of Sindhull Road Construction, Section III

Test Pit No	TP - 1	Material Source	Foshi Khola	March 2008
Location	Ch 31+100	Sampling from	Riverbed Surface at Right Bank	KB

LABORATORY TEST RESULTS

A. Particle Size Distribution



Description	D 80 mm	Boulder (%)	Gravel (%)	Sand (%)			Silt & Clay (%)	Silt (%)	Clay (%)
				Coarse	Medium	Fine			
Riverbed Materials	30	10	54	7	18	9	1	-	-

B. Other Test Results

Description	Length H, cm	Breadth B, cm	Height H, cm	Mean siz, $x = \text{SQRT} (LxBxH)^{1/3}$
Dimension of 15th Gravel	4.50	3.00	2.00	3

C. Photograph



River bed condition and mean particle size at Location TP-1

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TEST PIT LOG OF GRID SAMPLING
 Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III

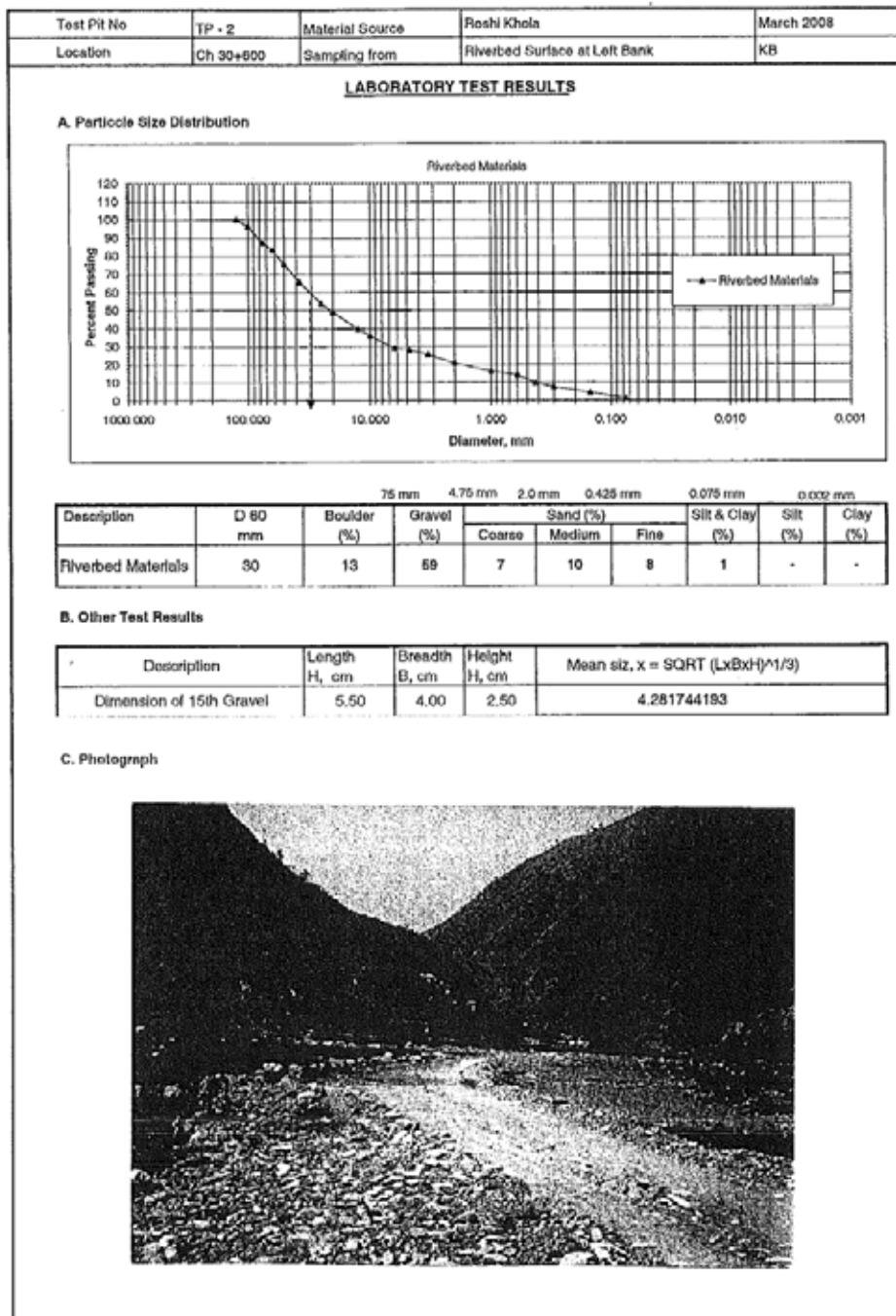
Chainage: Ch 30+600 Ground Elevation: 526.633 m Test Pit No: 2 Date: March 2008
 Location: Roshi, Kholu, Riverbed Surface Coordinates: N 3038782.400 and E 308607.652 Approx. Dimension of TP: 0.91 x 0.90 x 0.60 m Logged By: KB

Classification Group Symbol	Graphic	Depth (m)	Type and Depth of Sample Taken	CLASSIFICATION AND DESCRIPTION OF MATERIAL (Typical name, colour, in wet condition, odour, if any degree of plasticity, grain size range and descriptors, moisture conditions, degree of compactness and other pertinent information)	Dimension of 150 Gravel		
					Length L, cm	Breadth B, cm	Height H, cm
GP		0.05			5.5	4	2.5
		0.10		0 to 30 cm, Sandy GRAVEL, greyish, medium grained sand, micaceous, little non plastic fines, sub rounded and sub angular Boulder, hard and strong			
		0.15					
		0.20					
		0.25					
		0.30					
		0.35	Bulk for GSA	30 to 60 cm, Sandy GRAVEL, greyish, medium grained sand, micaceous, little non plastic fines, sub rounded and sub angular Boulder, hard and strong, maximum size of boulder fraction of 17 x 14 x 4 cm			
		0.40					
		0.45					
		0.50					
0.55							
0.60							

Test Pit Log of Grid Sampling at Location TP-2

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TEST RESULTS OF RIVERBED MATERIALS

Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III



River bed condition and mean particle size at Location TP-2

GEOCE CONSULTANTS (P) LTD.
TEST PIT LOG OF GRID SAMPLING

Hydrological Study For Basic Design Study on The Project For Construction of Sindhuji Road Construction, Section III

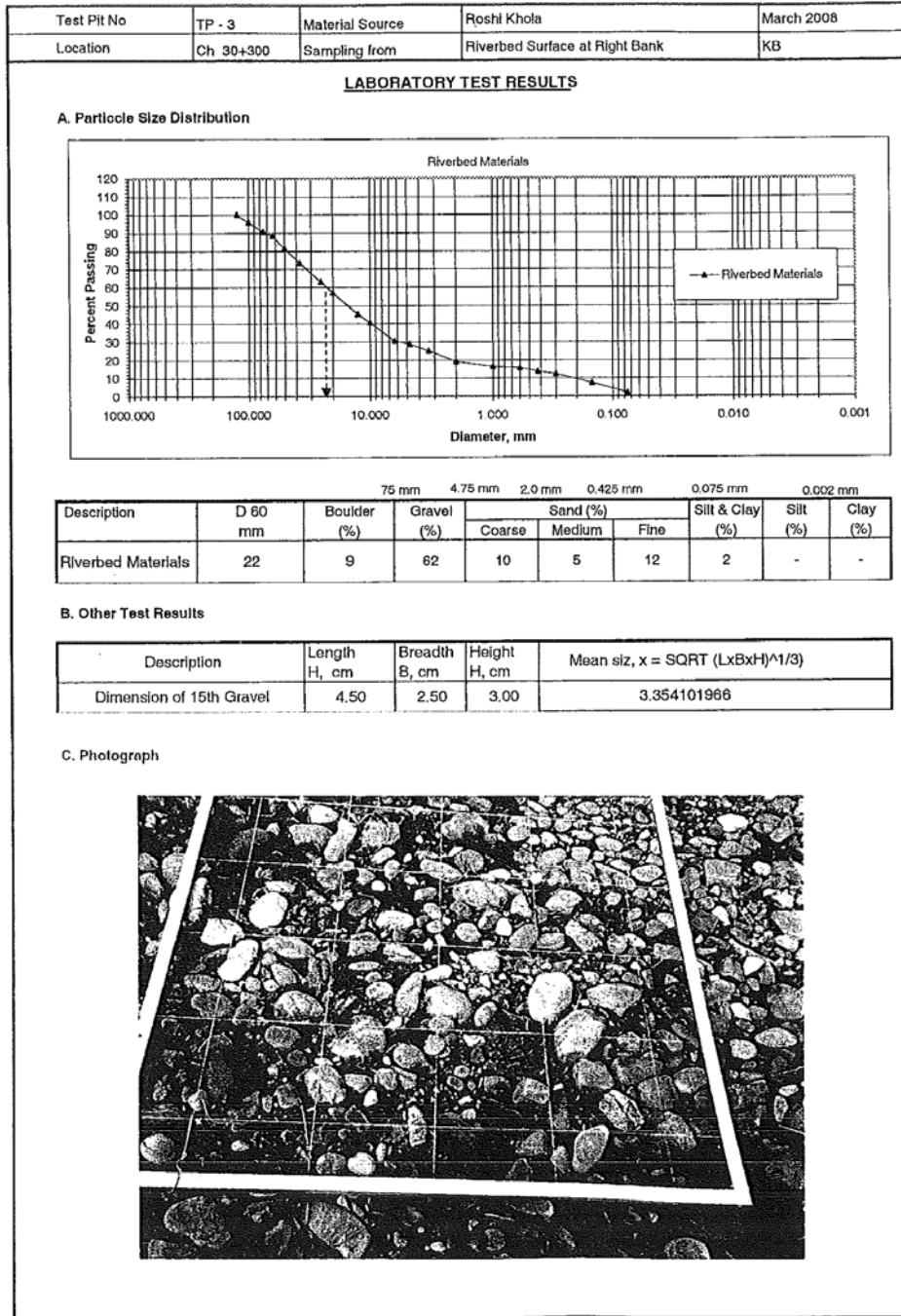
Cheimage Ch 30x300 Ground Elevation: 533.845 m Test Pit No: 3 Date: March 2008
 Location: Boshli Khela, Riverbed Surface Coordinates: N 3036875.520 and E 383810.562 Approx. Dimension of TP: 0.80 x 0.90 x 0.60 m Logged By: KB

Classification Group Symbol	Graphic	Depth (m)	Type and Depth of Sample Taken	CLASSIFICATION AND DESCRIPTION OF MATERIAL (Typical name, colour, in wet condition, odour, if any degree of plasticity, grain size range and description, moisture conditions, degree of compactness and other pertinent information)				Dimension of 15th Gravel		
								Length L, cm	Breadth B, cm	Height H, cm
GP		0.05		0 to 30 cm, Sandy GRAVEL, greyish, fine grained sand, micaceous, sub rounded and sub angular Boulder, flaky gravel fraction, hard and strong	4.5	2.5	3	3.354101556		
		0.10								
		0.15								
		0.20								
		0.25								
GP		0.30		30 to 60 cm, Sandy GRAVEL, greyish, fine grained sand, micaceous, sub rounded and sub angular Boulder, flaky gravel fraction, hard and strong, maximum size of boulder fraction of 22 x 12 x 7 cm						
		0.35	Bulk for GSA							
		0.40								
		0.45								
		0.50								
		0.55								
		0.60								

Test Pit Log of Grid Sampling at Location TP-3

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TEST RESULTS OF RIVERBED MATERIALS

Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III



River bed condition and mean particle size at Location TP-3

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TEST PIT LOG OF GRID SAMPLING
 Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III

Chainage: Ch 27+800
 Location: **Sunkosi Nadi Flood Plain**
 Ground Elevation: **519.560 m**
 Coordinates: **N 3035719.730 and E 384653.326**
 Test Pit No: **4**
 Aprox. Dimension of TP: **0.50 x 0.70 x 0.65 m**
 Date: **March 2008**
 Logged By: **KB**

Classification Group Symbol	Depth (m)	Type and Depth of Sample Taken	CLASSIFICATION AND DESCRIPTION OF MATERIAL <i>(Typical name, colour, in wet condition, odour, if any degree of plasticity, grain size range and description, moisture conditions, degree of compactness and other pertinent information)</i>	Dimension of 15th Gravel at Riverbed		
				Length L, cm	Breadth B, cm	Height H, cm
MS	0.05		0 to 25 cm, Silty SAND, greyish, fine grained sand, grass roots extended upto 10 cm from ground level	0	0	0
	0.10					
	0.15					
	0.20					
	0.25					
MS	0.30		25 to 50 cm, Silty SAND, greyish, fine grained sand, with occasional rounded boulder			
	0.35					
	0.40					
GP	0.45		50 to 60 cm, Sandy GRAVEL, greyish, fine grained sand, little micaceous mixed with little non plastic fines, sub rounded and sub angular, hard & strong maximum size of boulder fraction of 23 x 20 x 9 cm			
	0.50					
	0.55					
	0.60					

Test Pit Log of Grid Sampling at Location TP-4

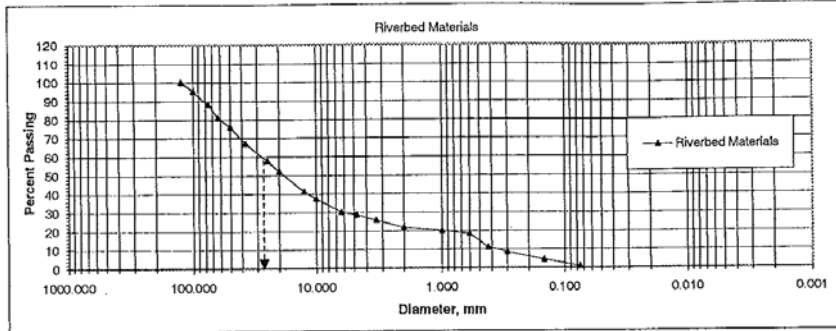
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TEST RESULTS OF RIVERBED MATERIALS

Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III

Test Pit No	TP - 4	Material Source	Sunkoshi Nadi	March 2008
Location	Ch 27+800	Sampling from	River Flood Plain at Right Bank	KB

LABORATORY TEST RESULTS

A. Particle Size Distribution

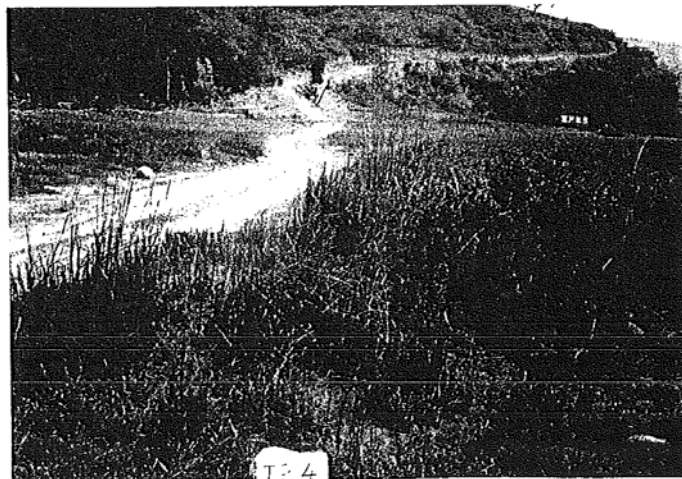


Description	D 60 mm	Boulder (%)	Gravel (%)	Sand (%)			Silt & Clay (%)	Silt (%)	Clay (%)
				Coarse	Medium	Fine			
Riverbed Materials	28	12	59	7	10	10	1	-	-

B. Other Test Results

Description	Length H, cm	Breadth B, cm	Height H, cm	Mean siz, x = SQRT (LxBxH) ^{1/3}
Dimension of 15th Gravel	0.00	0.00	0.00	0

C. Photograph



River bed condition and mean particle size at Location TP-4

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TEST PIT LOG OF GRID SAMPLING
 Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III

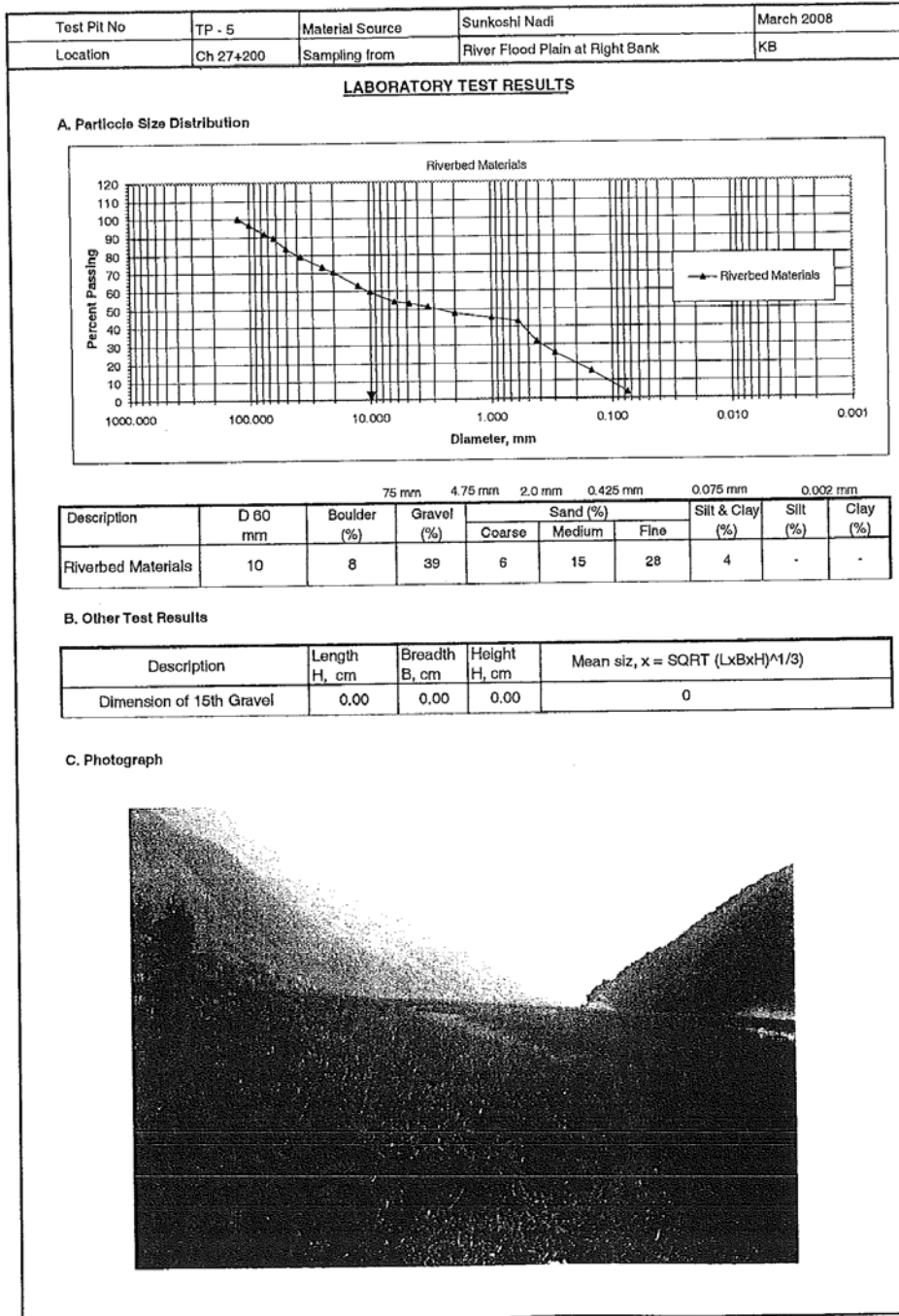
Chainage: Ch 27+200 Ground Elevation: 517.352 m Test Pit No: 5 Date: March 2008
 Location: Sunkost Nadi Flood Plain Coordinates: N 3035397.180 and E 384904.652 Approx. Dimension of TP: 0.90 x 0.80 x 0.60 m Logged By: KB

Classification Group Symbol	Depth (m)	Type and Depth of Sample Taken	CLASSIFICATION AND DESCRIPTION OF MATERIAL <i>(Typical name, colour, in wet condition, odour, if any degree of plasticity, grain size range and description, moisture conditions, degree of compactness and other pertinent information)</i>	Dimension of 15th Gravel at Riverbed		
				Length L, cm	Breadth B, cm	Height H, cm
MS	0.05		0 to 40 cm, Silty SAND, greyish, fine grained sand, grass roots extended upto 12 cm from ground level	0	0	0
	0.10			0	0	0
	0.15			0	0	0
	0.20			0	0	0
	0.25			0	0	0
	0.30			0	0	0
	0.35			0	0	0
SP	0.40		40 to 60 cm, Gravelly SAND, greyish/brownish, fine grained sand, little micaceous, mixed with little non plastic fines, sub rounded and sub angular Boulder and falky gravel fractions, hard & strong maximum size of boulder fraction of 16 x 13 x 5 cm			
	0.45	Bulk for GSA				
	0.50					
	0.55					
	0.60					

Test Pit Log of Grid Sampling at Location TP-5

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TEST RESULTS OF RIVERBED MATERIALS

Hydrological Study For Basic Design Study on The Project For Construction of Sindhuli Road Construction, Section III



River bed condition and mean particle size at Location TP-5