

Sr No	Code No.	Description	Unit	Plain			Sub mountainous Region		
				Quantity	Rate (in Rs )	Cost (in Rs)	Total	Rate ( in Rs )	Cost (in Rs)
1		Furnishing and Placing Reinforced/ Prestressed cement concrete in super-structure as per drawing and Technical Specification							
		As per MoRT&H Specification 1500 ,1600 &1700							
A		RCC Grade M20							
		Case I							
		Labour cost as per analysis 7 C					565.34		621.87
		cost of concrete as per analysis 7 C					3173.49		3230.02
		Per Cum Basic Cost of Labour, Material & Machinery (I+II+III) as per analysis 7 C		2794.84					
		For solid slab super-structure							
	(i)	Height up to 5m							
IV		Formwork & staging @ 20%				558.97			
		sundries @ 3% on 558.97				16.77			
		Contractor's profit and overhead charges @ 21.50% on 575.74				123.78			
						699.52			
		Labour cess @ 1% on 699.52				7.00			
		Rate 1 cum				706.52	706.52		706.52
		sub mountainous @ 10% on 706.52							70.65
							1271.86		1399.04
							3880.01		4007.19
	(ii)	Height 5m to 10m							
IV		Formwork & staging @ 25%				698.71			
		sundries @ 3% on 698.71				20.96			
		Contractor's profit and overhead charges @ 21.50% on 719.67				154.73			
						874.40			
		Labour cess @ 1% on 874.4				8.74			
		Rate 1 cum				883.14	883.14		883.14
		sub mountainous @ 10% on 883.14							88.31
							1448.48		1593.32
							4056.63		4201.47
	(iii)	Height above 10m							
IV		Formwork & staging @ 30%				838.45			
		sundries @ 3% on 838.45				25.15			
		Contractor's profit and overhead charges @ 21.50% on 863.6				185.67			
						1049.27			
		Labour cess @ 1% on 1049.27				10.49			
		Rate 0 cum				1059.76	1059.76		1059.76
		sub mountainous @ 10% on 1059.76							105.98
							1625.10		1787.61
							4233.25		4395.76
		For T-beam & slab							
	(i)	Height up to 5m							
IV		Formwork & staging @ 25%				698.71			
		sundries @ 3% on 698.71				20.96			
		Contractor's profit and overhead charges @ 21.50% on 719.67				154.73			
						874.40			
		Labour cess @ 1% on 874.4				8.74			
		Rate 1 cum				883.14	883.14		883.14
		sub mountainous @ 10% on 883.14							88.31



			sub mountainous @ 10% on 1016.35									101.64
										<b>1436.96</b>		<b>1580.66</b>
										<b>4045.11</b>		<b>4188.81</b>
			<b>For T-beam &amp; slab</b>									
		(i)	<b>Height up to 5m</b>									
IV			Formwork & staging @	25%				670.09				
			sundries @ 3% on 670.09					20.10				
			Contractor's profit and overhead charges @ 21.50% on 690.19					148.39				
								838.58				
			Labour cess @ 1% on 838.58					8.39				
				Rate 1	cum			846.97	846.97			846.97
			sub mountainous @ 10% on 846.97									84.70
										<b>1267.58</b>		<b>1394.34</b>
										<b>3875.73</b>		<b>4002.49</b>
		(ii)	<b>Height 5m to 10m</b>									
IV			Formwork & staging @	30%				804.10				
			sundries @ 3% on 804.1					24.12				
			Contractor's profit and overhead charges @ 21.50% on 828.22					178.07				
								1006.29				
			Labour cess @ 1% on 1006.29					10.06				
				Rate 1	cum			1016.35	1016.35			1016.35
			sub mountainous @ 10% on 1016.35									101.64
										<b>1436.96</b>		<b>1580.66</b>
										<b>4045.11</b>		<b>4188.81</b>
		(iii)	<b>Height above 10m</b>									
IV			Formwork & staging @	35%				938.12				
			sundries @ 3% on 938.12					28.14				
			Contractor's profit and overhead charges @ 21.50% on 966.26					207.75				
								1174.01				
			Labour cess @ 1% on 1174.01					11.74				
				Rate 1	cum			1185.75	1185.75			1185.75
			sub mountainous @ 10% on 1185.75									118.58
										<b>1606.36</b>		<b>1767.00</b>
										<b>4214.51</b>		<b>4375.15</b>
<b>B</b>			<b>RCC Grade M25</b>									
			<b>Using Concrete Mixer</b>									
			<b>Case I</b>									
			Labour cost as per analysis 7 E						565.34			621.87
			cost of concrete as per analysis 7 E						3499.83			3556.36
			Per Cum Basic Cost of Labour, Material & Machinery (I+II+III) as per analysis 7 E			3088.58						
			<b>For solid slab super-structure</b>									
		(i)	<b>Height up to 5m</b>									
IV			Formwork & staging @	20%				617.72				
			sundries @ 3% on 617.72					18.53				
			Contractor's profit and overhead charges @ 21.50% on 636.25					136.79				
								773.04				
			Labour cess @ 1% on 773.04					7.73				
				Rate 1	cum			780.77	780.77			780.77
			sub mountainous @ 10% on 780.77									78.08
										<b>1346.11</b>		<b>1480.72</b>
										<b>4280.60</b>		<b>4415.21</b>
		(ii)	<b>Height 5m to 10m</b>									
IV			Formwork & staging @	25%				772.15				
			sundries @ 3% on 772.15					23.16				
			Contractor's profit and overhead charges @ 21.50% on 795.31					170.99				

									966.30				
			Labour cess @ 1% on 966.3						9.66				
				Rate 1	cum				975.96	975.96			975.96
			sub mountainous @ 10% on 975.96										97.60
										<b>1541.30</b>			<b>1695.43</b>
										<b>4475.79</b>			<b>4629.92</b>
			<b>(iii) Height above 10m</b>										
IV			Formwork & staging @	30%					926.57				
			sundries @ 3% on 926.57						27.80				
			Contractor's profit and overhead charges @ 21.50% on 954.37						205.19				
									1159.56				
			Labour cess @ 1% on 1159.56						11.60				
				Rate 1	cum				1171.16	1171.16			1171.16
			sub mountainous @ 10% on 1171.16										117.12
										<b>1736.50</b>			<b>1910.15</b>
										<b>4670.99</b>			<b>4844.64</b>
			<b>For T-beam &amp; slab</b>										
			<b>(i) Height up to 5m</b>										
IV			Formwork & staging @	25%					772.15				
			sundries @ 3% on 772.15						23.16				
			Contractor's profit and overhead charges @ 21.50% on 795.31						170.99				
									966.30				
			Labour cess @ 1% on 966.3						9.66				
				Rate 1	cum				975.96	975.96			975.96
			sub mountainous @ 10% on 975.96										97.60
										<b>1541.30</b>			<b>1695.43</b>
										<b>4475.79</b>			<b>4629.92</b>
			<b>(ii) Height 5m to 10m</b>										
IV			Formwork & staging @	30%					926.57				
			sundries @ 3% on 926.57						27.80				
			Contractor's profit and overhead charges @ 21.50% on 954.37						205.19				
									1159.56				
			Labour cess @ 1% on 1159.56						11.60				
				Rate 1	cum				1171.16	1171.16			1171.16
			sub mountainous @ 10% on 1171.16										117.12
										<b>1736.50</b>			<b>1910.15</b>
										<b>4670.99</b>			<b>4844.64</b>
			<b>(iii) Height above 10m</b>										
IV			Formwork & staging @	35%					1081.00				
			sundries @ 3% on 1081						32.43				
			Contractor's profit and overhead charges @ 21.50% on 1113.43						239.39				
									1352.82				
			Labour cess @ 1% on 1352.82						13.53				
				Rate 1	cum				1366.35	1366.35			1366.35
			sub mountainous @ 10% on 1366.35										136.64
										<b>1931.69</b>			<b>2124.86</b>
										<b>4866.18</b>			<b>5059.35</b>
			<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>										
			<b>Case II</b>										
			Labour cost as per analysis 7 E							420.61			462.67
			cost of concrete as per analysis 7 E							3355.10			3397.16
			Per Cum Basic Cost of Labour, Material & Machinery (I+II+III) as per analysis 7 E				2974.08						
			<b>For solid slab super-structure</b>										
			<b>(i) Height up to 5m</b>										

IV		Formwork & staging @	20%				594.82				
		sundries @ 3% on 594.82					17.84				
		Contractor's profit and overhead charges @ 21.50% on 612.66					131.72				
							744.38				
		Labour cess @ 1% on 744.38					7.44				
			Rate 1	cum			751.82	751.82			751.82
		sub mountainous @ 10% on 751.82									75.18
								<b>1172.43</b>			<b>1289.67</b>
								<b>4106.92</b>			<b>4224.16</b>
		<b>(ii) Height 5m to 10m</b>									
IV		Formwork & staging @	25%				743.52				
		sundries @ 3% on 743.52					22.31				
		Contractor's profit and overhead charges @ 21.50% on 765.83					164.65				
							930.48				
		Labour cess @ 1% on 930.48					9.30				
			Rate 1	cum			939.78	939.78			939.78
		sub mountainous @ 10% on 939.78									93.98
								<b>1360.39</b>			<b>1496.43</b>
								<b>4294.88</b>			<b>4430.92</b>
		<b>(iii) Height above 10m</b>									
IV		Formwork & staging @	30%				892.22				
		sundries @ 3% on 892.22					26.77				
		Contractor's profit and overhead charges @ 21.50% on 918.99					197.58				
							1116.57				
		Labour cess @ 1% on 1116.57					11.17				
			Rate 1	cum			1127.74	1127.74			1127.74
		sub mountainous @ 10% on 1127.74									112.77
								<b>1548.35</b>			<b>1703.18</b>
								<b>4482.84</b>			<b>4637.67</b>
		<b>For T-beam &amp; slab</b>									
		<b>(i) Height up to 5m</b>									
IV		Formwork & staging @	25%				743.52				
		sundries @ 3% on 743.52					22.31				
		Contractor's profit and overhead charges @ 21.50% on 765.83					164.65				
							930.48				
		Labour cess @ 1% on 930.48					9.30				
			Rate 1	cum			939.78	939.78			939.78
		sub mountainous @ 10% on 939.78									93.98
								<b>1360.39</b>			<b>1496.43</b>
								<b>4294.88</b>			<b>4430.92</b>
		<b>(ii) Height 5m to 10m</b>									
IV		Formwork & staging @	30%				892.22				
		sundries @ 3% on 892.22					26.77				
		Contractor's profit and overhead charges @ 21.50% on 918.99					197.58				
							1116.57				
		Labour cess @ 1% on 1116.57					11.17				
			Rate 1	cum			1127.74	1127.74			1127.74
		sub mountainous @ 10% on 1127.74									112.77
								<b>1548.35</b>			<b>1703.18</b>
								<b>4482.84</b>			<b>4637.67</b>
		<b>(iii) Height above 10m</b>									
IV		Formwork & staging @	35%				1040.93				
		sundries @ 3% on 1040.93					31.23				

		Contractor's profit and overhead charges @ 21.50% on 1072.16					230.51				
							1302.67				
		Labour cess @ 1% on 1302.67					13.03				
		Rate 1 cum					1315.70	1315.70			1315.70
		sub mountainous @ 10% on 1315.7									131.57
								<b>1736.31</b>			<b>1909.94</b>
<b>C</b>								<b>4670.80</b>			<b>4844.43</b>
		<b>RCC Grade M 30</b>									
		<b>Using Concrete Mixer</b>									
		<b>Case I</b>									
		Labour cost as per analysis 7 g					565.34				621.87
		cost of concrete as per analysis 7 g					3523.15				3579.68
		Per Cum Basic Cost of Labour, Material & Machinery (I+II+III) as per analysis 7 g				3109.56					
		<b>For solid slab super-structure</b>									
	(i)	<b>Height up to 5m</b>									
IV		Formwork & staging @	20%				621.91				
		sundries @ 3% on 621.91					18.66				
		Contractor's profit and overhead charges @ 21.50% on 640.57					137.72				
							778.29				
		Labour cess @ 1% on 778.29					7.78				
		Rate 1 cum					786.07	786.07			786.07
		sub mountainous @ 10% on 786.07									78.61
								<b>1351.41</b>			<b>1486.55</b>
								<b>4309.22</b>			<b>4444.36</b>
	(ii)	<b>Height 5m to 10m</b>									
IV		Formwork & staging @	25%				777.39				
		sundries @ 3% on 777.39					23.32				
		Contractor's profit and overhead charges @ 21.50% on 800.71					172.15				
							972.86				
		Labour cess @ 1% on 972.86					9.73				
		Rate 1 cum					982.59	982.59			982.59
		sub mountainous @ 10% on 982.59									98.26
								<b>1547.93</b>			<b>1702.72</b>
								<b>4505.74</b>			<b>4660.53</b>
	(iii)	<b>Height above 10m</b>									
IV		Formwork & staging @	30%				932.87				
		sundries @ 3% on 932.87					27.99				
		Contractor's profit and overhead charges @ 21.50% on 960.86					206.58				
							1167.44				
		Labour cess @ 1% on 1167.44					11.67				
		Rate 1 cum					1179.11	1179.11			1179.11
		sub mountainous @ 10% on 1179.11									117.91
								<b>1744.45</b>			<b>1297.02</b>
								<b>4702.26</b>			<b>4876.70</b>
		<b>For T-beam &amp; slab</b>									
	(i)	<b>Height up to 5m</b>									
IV		Formwork & staging @	25%				777.39				
		sundries @ 3% on 777.39					23.32				
		Contractor's profit and overhead charges @ 21.50% on 800.71					172.15				
							972.86				
		Labour cess @ 1% on 972.86					9.73				
		Rate 1 cum					982.59	982.59			982.59
		sub mountainous @ 10% on 982.59									98.26
								<b>1547.93</b>			<b>1702.72</b>







			sundries @ 3% on 733.3					22.00				
			Contractor's profit and overhead charges @ 21.50% on 755.3					162.39				
								917.69				
			Labour cess @ 1% on 917.69					9.18				
			Rate 1 cum					926.87	926.87			926.87
			sub mountainous @ 10% on 926.87									92.69
									<b>1492.21</b>			<b>1641.43</b>
									<b>4537.43</b>			<b>4686.65</b>
		(iii)	<b>Height above 10m</b>									
IV			Formwork & staging @	28%				892.71				
			sundries @ 3% on 892.71					26.78				
			Contractor's profit and overhead charges @ 21.50% on 919.49					197.69				
								1117.18				
			Labour cess @ 1% on 1117.18					11.17				
			Rate 1 cum					1128.35	1128.35			1128.35
			sub mountainous @ 10% on 1128.35									112.84
									<b>1693.69</b>			<b>1863.06</b>
									<b>4738.91</b>			<b>4908.28</b>
			<b>For T-beam &amp; slab</b>									
		(i)	<b>Height up to 5m</b>									
IV			Formwork & staging @	23%				733.30				
			sundries @ 3% on 733.3					22.00				
			Contractor's profit and overhead charges @ 21.50% on 755.3					162.39				
								917.69				
			Labour cess @ 1% on 917.69					9.18				
			Rate 1 cum					926.87	926.87			926.87
			sub mountainous @ 10% on 926.87									92.69
									<b>1492.21</b>			<b>1641.43</b>
									<b>4537.43</b>			<b>4686.65</b>
		(ii)	<b>Height 5m to 10m</b>									
IV			Formwork & staging @	28%				892.71				
			sundries @ 3% on 892.71					26.78				
			Contractor's profit and overhead charges @ 21.50% on 919.49					197.69				
								1117.18				
			Labour cess @ 1% on 1117.18					11.17				
			Rate 1 cum					1128.35	1128.35			1128.35
			sub mountainous @ 10% on 1128.35									112.84
									<b>1693.69</b>			<b>1863.06</b>
									<b>4738.91</b>			<b>4908.28</b>
		(iii)	<b>Height above 10m</b>									
IV			Formwork & staging @	33%				1052.12				
			sundries @ 3% on 1052.12					31.56				
			Contractor's profit and overhead charges @ 21.50% on 1083.68					232.99				
								1316.67				
			Labour cess @ 1% on 1316.67					13.17				
			Rate 1 cum					1329.84	1329.84			1329.84
			sub mountainous @ 10% on 1329.84									132.98
									<b>1895.18</b>			<b>2084.69</b>
									<b>4940.40</b>			<b>5129.91</b>
			<b>For box girder and balanced cantilever.</b>									
		(i)	<b>Height up to 5m</b>									
IV			Formwork & staging @	38%				1211.53				
			sundries @ 3% on 1211.53					36.35				
			Contractor's profit and overhead charges @ 21.50% on 1247.88					268.29				

									1516.17				
			Labour cess @ 1% on 1516.17						15.16				
			Rate 1	cum					1531.33	1531.33			1531.33
			sub mountainous @ 10% on 1531.33										153.13
										<b>2096.67</b>			<b>2306.33</b>
										<b>5141.89</b>			<b>5351.55</b>
			<b>(ii) Height 5m to 10m</b>										
IV			Formwork & staging @	48%					1530.36				
			sundries @ 3% on 1530.36						45.91				
			Contractor's profit and overhead charges @ 21.50% on 1576.27						338.90				
									1915.17				
			Labour cess @ 1% on 1915.17						19.15				
			Rate 1	cum					1934.32	1934.32			1934.32
			sub mountainous @ 10% on 1934.32										193.43
										<b>2499.66</b>			<b>2749.62</b>
										<b>5544.88</b>			<b>5794.84</b>
			<b>(iii) Height above 10m</b>										
IV			Formwork & staging @	58%					1849.18				
			sundries @ 3% on 1849.18						55.48				
			Contractor's profit and overhead charges @ 21.50% on 1904.66						409.50				
									2314.16				
			Labour cess @ 1% on 2314.16						23.14				
			Rate 1	cum					2337.30	2337.30			2337.30
			sub mountainous @ 10% on 2337.3										233.73
										<b>2902.64</b>			<b>3192.90</b>
										<b>5947.86</b>			<b>6238.12</b>
			<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>										
			<b>Case II</b>										
			Labour cost as per analysis 7 h							420.61			462.67
			cost of concrete as per analysis 7 h							3465.83			3507.89
			Per Cum Basic Cost of Labour, Material & Machinery (I+II+III) as per analysis 7 h				3073.74						
			<b>For solid slab super-structure</b>										
			<b>(i) Height up to 5m</b>										
IV			Formwork & staging @	18%					553.27				
			sundries @ 3% on 553.27						16.60				
			Contractor's profit and overhead charges @ 21.50% on 569.87						122.52				
									692.39				
			Labour cess @ 1% on 692.39						6.92				
			Rate 1	cum					699.31	699.31			699.31
			sub mountainous @ 10% on 699.31										69.93
										<b>1119.92</b>			<b>1231.91</b>
										<b>4165.14</b>			<b>4277.13</b>
			<b>(ii) Height 5m to 10m</b>										
IV			Formwork & staging @	23%					706.96				
			sundries @ 3% on 706.96						21.21				
			Contractor's profit and overhead charges @ 21.50% on 728.17						156.56				
									884.73				
			Labour cess @ 1% on 884.73						8.85				
			Rate 1	cum					893.58	893.58			893.58
			sub mountainous @ 10% on 893.58										89.36
										<b>1314.19</b>			<b>1445.61</b>
										<b>4359.41</b>			<b>4490.83</b>
			<b>(iii) Height above 10m</b>										

IV		Formwork & staging @	28%				860.65				
		sundries @ 3% on 860.65					25.82				
		Contractor's profit and overhead charges @ 21.50% on 886.47					190.59				
							1077.06				
		Labour cess @ 1% on 1077.06					10.77				
		Rate 1	cum				1087.83	1087.83			1087.83
		sub mountainous @ 10% on 1087.83									108.78
								<b>1508.44</b>			<b>1659.28</b>
								<b>4553.66</b>			<b>4704.50</b>
		<b>For T-beam &amp; slab</b>									
	(i)	<b>Height up to 5m</b>									
IV		Formwork & staging @	23%				706.96				
		sundries @ 3% on 706.96					21.21				
		Contractor's profit and overhead charges @ 21.50% on 728.17					156.56				
							884.73				
		Labour cess @ 1% on 884.73					8.85				
		Rate 1	cum				893.58	893.58			893.58
		sub mountainous @ 10% on 893.58									89.36
								<b>1314.19</b>			<b>1445.61</b>
								<b>4359.41</b>			<b>4490.83</b>
	(ii)	<b>Height 5m to 10m</b>									
IV		Formwork & staging @	28%				860.65				
		sundries @ 3% on 860.65					25.82				
		Contractor's profit and overhead charges @ 21.50% on 886.47					190.59				
							1077.06				
		Labour cess @ 1% on 1077.06					10.77				
		Rate 1	cum				1087.83	1087.83			1087.83
		sub mountainous @ 10% on 1087.83									108.78
								<b>1508.44</b>			<b>1659.28</b>
								<b>4553.66</b>			<b>4704.50</b>
	(iii)	<b>Height above 10m</b>									
IV		Formwork & staging @	33%				1014.34				
		sundries @ 3% on 1014.34					30.43				
		Contractor's profit and overhead charges @ 21.50% on 1044.77					224.63				
							1269.40				
		Labour cess @ 1% on 1269.4					12.69				
		Rate 1	cum				1282.09	1282.09			1282.09
		sub mountainous @ 10% on 1282.09									128.21
								<b>1702.70</b>			<b>1872.97</b>
								<b>4747.92</b>			<b>4918.19</b>
		<b>For box girder and balanced cantilever.</b>									
	(i)	<b>Height up to 5m</b>									
IV		Formwork & staging @	38%				1168.02				
		sundries @ 3% on 1168.02					35.04				
		Contractor's profit and overhead charges @ 21.50% on 1203.06					258.66				
							1461.72				
		Labour cess @ 1% on 1461.72					14.62				
		Rate 1	cum				1476.34	1476.34			1476.34
		sub mountainous @ 10% on 1476.34									147.63
								<b>1896.95</b>			<b>2086.64</b>
								<b>4942.17</b>			<b>5131.86</b>
	(ii)	<b>Height 5m to 10m</b>									
IV		Formwork & staging @	48%				1475.40				
		sundries @ 3% on 1475.4					44.26				

		Contractor's profit and overhead charges @ 21.50% on 1519.66						326.73				
								1846.39				
		Labour cess @ 1% on 1846.39						18.46				
		Rate 1 cum	1	cum				1864.85	1864.85			1864.85
		sub mountainous @ 10% on 1864.85										186.49
									<b>2285.46</b>			<b>2514.01</b>
									<b>5330.68</b>			<b>5559.23</b>
		<b>(iii) Height above 10m</b>										
IV		Formwork & staging @	58%					1782.77				
		sundries @ 3% on 1782.77						53.48				
		Contractor's profit and overhead charges @ 21.50% on 1836.25						394.79				
								2231.04				
		Labour cess @ 1% on 2231.04						22.31				
		Rate 1 cum	1	cum				2253.35	2253.35			2253.35
		sub mountainous @ 10% on 2253.35										225.34
									<b>2673.96</b>			<b>2941.36</b>
									<b>5719.18</b>			<b>5986.58</b>
<b>E</b>		<b>RCC/PSC Grade M-40</b>										
		<b>Using Concrete Mixer</b>										
		<b>Case I</b>										
		Unit	1	cum								
		Taking output	15	cum								
<b>I</b>		<b>Material</b>										
(i)	0.00	Cement	440	kg	tonne	6.60	5245.35	34619.31				
(ii)	0.00	Coarse sand			cum	6.75	280.73	1894.93				
(iii)	0.00	20 mm Aggregate			cum	8.10	435.24	3525.44				
(iv)	0.00	10 mm Aggregate			cum	5.40	461.32	2491.13				
		Total-1						42530.81				
		Contractor's profit @ 10% on 42530.81						4253.08				
		Cost	15	cum				46783.89				
		Rate 1 cum	1	cum				3118.93				
		Labour cess @ 1% on 3118.93						31.19				
		Total						3150.12	3150.12			3150.12
<b>II</b>		<b>Labour</b>										
(i)	L-29	Mate			day	0.96	151.44	145.38				
(ii)	L-10	Mason			day	2.00	223.36	446.72				
(iii)	L-35	Mazdoor			day	22.00	136.69	3007.18				
		Total-II						3599.28				
<b>III</b>		<b>Hiring charges of Machinery</b>										
(i)	2.10	Concrete mixer (cap. 0.40/0.28 cum)			hour	6.00	225.00	1350.00				
(ii)	2.24	Generator 33 KVA			hour	6.00	360.00	2160.00				
		Total-III						3510.00				
								7109.28				
		Per Cum Basic Cost of Labour, Material & Machinery (I+II+III)				3309.34						
		sundries @ 3% on 7109.28						213.28				
		Contractor's profit and overhead charges @ 21.50% on 7322.56						1574.35				
								8896.91				
		Labour cess @ 1% on 8896.91						88.97				
		Cost	15	cum				8985.88				
		Rate 1 cum	1	cum				599.06				599.06
		sub mountainous @ 10% on 599.06										59.91
									599.06			658.97
									3749.18			3809.09
		<b>For solid slab super-structure</b>										
		<b>(i) Height up to 5m</b>										
IV		Formwork & staging @	20%					661.87				
		sundries @ 3% on 661.87						19.86				
		Contractor's profit and overhead charges @ 21.50% on 681.73						146.57				

									828.30				
			Labour cess @ 1% on 828.3						8.28				
				Rate 1	cum				836.58	836.58			836.58
			sub mountainous @ 10% on 836.58										83.66
										<b>1435.64</b>			<b>1579.21</b>
										<b>4585.76</b>			<b>4729.33</b>
			<b>(ii) Height 5m to 10m</b>										
IV			Formwork & staging @	25%					827.33				
			sundries @ 3% on 827.33						24.82				
			Contractor's profit and overhead charges @ 21.50% on 852.15						183.21				
									1035.36				
			Labour cess @ 1% on 1035.36						10.35				
				Rate 1	cum				1045.71	1045.71			1045.71
			sub mountainous @ 10% on 1045.71										104.57
										<b>1644.77</b>			<b>1809.25</b>
										<b>4794.89</b>			<b>4959.37</b>
			<b>(iii) Height above 10m</b>										
IV			Formwork & staging @	30%					992.80				
			sundries @ 3% on 992.8						29.78				
			Contractor's profit and overhead charges @ 21.50% on 1022.58						219.85				
									1242.43				
			Labour cess @ 1% on 1242.43						12.42				
				Rate 0	cum				1254.85	1254.85			1254.85
			sub mountainous @ 10% on 1254.85										125.49
										<b>1853.91</b>			<b>2039.31</b>
										<b>5004.03</b>			<b>5189.43</b>
			<b>For T-beam &amp; slab</b>										
			<b>(i) Height up to 5m</b>										
IV			Formwork & staging @	25%					827.33				
			sundries @ 3% on 827.33						24.82				
			Contractor's profit and overhead charges @ 21.50% on 852.15						183.21				
									1035.36				
			Labour cess @ 1% on 1035.36						10.35				
				Rate 1	cum				1045.71	1045.71			1045.71
			sub mountainous @ 10% on 1045.71										104.57
										<b>1644.77</b>			<b>1809.25</b>
										<b>4794.89</b>			<b>4959.37</b>
			<b>(ii) Height 5m to 10m</b>										
IV			Formwork & staging @	30%					992.80				
			sundries @ 3% on 992.8						29.78				
			Contractor's profit and overhead charges @ 21.50% on 1022.58						219.85				
									1242.43				
			Labour cess @ 1% on 1242.43						12.42				
				Rate 1	cum				1254.85	1254.85			1254.85
			sub mountainous @ 10% on 1254.85										125.49
										<b>1853.91</b>			<b>2039.31</b>
										<b>5004.03</b>			<b>5189.43</b>
			<b>(iii) Height above 10m</b>										
IV			Formwork & staging @	35%					1158.27				
			sundries @ 3% on 1158.27						34.75				
			Contractor's profit and overhead charges @ 21.50% on 1193.02						256.50				
									1449.52				
			Labour cess @ 1% on 1449.52						14.50				
				Rate 1	cum				1464.02	1464.02			1464.02

		sub mountainous @ 10% on 1464.02										146.40
										2063.08		2269.39
										5213.20		5419.51
		<b>Case II</b>										
		<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>										
		Unit	1	cum								
		Taking output	120	cum								
I		<b>Material</b>										
(i)	0.00	Cement	440	kg	tonne	52.80	5245.35	276954.48				
(ii)	0.00	Coarse sand			cum	54.00	280.73	15159.42				
(iii)	0.00	20 mm Aggregate			cum	64.80	435.24	28203.55				
(iv)	0.00	10 mm Aggregate			cum	43.20	461.32	19929.02				
		Total-I						340246.47				
		Contractor's profit @ 10% on 340246.47						34024.65				
		Cost	120	cum				374271.12				
		Rate	1	cum				3118.93				
		Labour cess @ 1% on 3118.93						31.19				
		Total						3150.12	3150.12			3150.12
II		<b>Labour</b>										
(i)	L-29	Mate			day	0.94	151.44	142.35				
(ii)	L-10	Mason			day	3.50	223.36	781.76				
(iii)	L-35	Mazdoor			day	20.00	136.69	2733.80				
		Total-II						3657.91				
III		<b>Hiring charges of Machinery</b>										
(i)	2.30	Batching Plant			hour	6.00	2160.00	12960.00				
(ii)	2.22	Generator 100 KVA			hour	6.00	675.00	4050.00				
(iii)	2.19	Loader 1 cum capacity			hour	6.00	780.00	4680.00				
(iv)	2.57	Transit Mixer 4 cum capacity for lead upto 1 km.			hour	15.00	900.00	13500.00				
(v)	2.80	Concrete Pump			hour	6.00	247.50	1485.00				
		Total-III						36675.00				
								40332.91				
		Per Cum Basic Cost of Labour, Material & Machinery (I+II+III)				3171.49						
		sundries @ 3% on 40332.91						1209.99				
		Contractor's profit and overhead charges @ 21.50% on 41542.9						8931.72				
								50474.62				
		Labour cess @ 1% on 50474.62						504.75				
		Cost	120	cum				50979.37				
		Rate	1	cum				424.83				424.83
		sub mountainous @ 10% on 424.83										42.48
								424.83				467.31
								3574.95				3617.43
		<b>For solid/voided slab super-structure</b>										
	(i)	<b>Height up to 5m</b>										
IV		Formwork & staging @	18%					570.87				
		sundries @ 3% on 570.87						17.13				
		Contractor's profit and overhead charges @ 21.50% on 588						126.42				
								714.42				
		Labour cess @ 1% on 714.42						7.14				
		Rate	1	cum				721.56	721.56			721.56
		sub mountainous @ 10% on 721.56										72.16
								1146.39				1261.03
								4296.51				4411.15
	(ii)	<b>Height 5m to 10m</b>										
IV		Formwork & staging @	23%					729.44				
		sundries @ 3% on 729.44						21.88				
		Contractor's profit and overhead charges @ 21.50% on 751.32						161.53				
								912.85				

		Labour cess @ 1% on 912.85					9.13				
		Rate 1	cum				921.98	921.98			921.98
		sub mountainous @ 10% on 921.98									92.20
								<b>1346.81</b>			<b>1481.49</b>
								<b>4496.93</b>			<b>4631.61</b>
		<b>(iii) Height above 10m</b>									
IV		Formwork & staging @	28%				888.02				
		sundries @ 3% on 888.02					26.64				
		Contractor's profit and overhead charges @ 21.50% on 914.66					196.65				
							1111.31				
		Labour cess @ 1% on 1111.31					11.11				
		Rate 0	cum				1122.42	1122.42			1122.42
		sub mountainous @ 10% on 1122.42									112.24
								<b>1547.25</b>			<b>1701.97</b>
								<b>4697.37</b>			<b>4852.09</b>
		<b>For T-beam &amp; slab</b>									
		<b>(i) Height up to 5m</b>									
IV		Formwork & staging @	23%				729.44				
		sundries @ 3% on 729.44					21.88				
		Contractor's profit and overhead charges @ 21.50% on 751.32					161.53				
							912.85				
		Labour cess @ 1% on 912.85					9.13				
		Rate 1	cum				921.98	921.98			921.98
		sub mountainous @ 10% on 921.98									92.20
								<b>1346.81</b>			<b>1481.49</b>
								<b>4496.93</b>			<b>4631.61</b>
		<b>(ii) Height 5m to 10m</b>									
IV		Formwork & staging @	28%				888.02				
		sundries @ 3% on 888.02					26.64				
		Contractor's profit and overhead charges @ 21.50% on 914.66					196.65				
							1111.31				
		Labour cess @ 1% on 1111.31					11.11				
		Rate 1	cum				1122.42	1122.42			1122.42
		sub mountainous @ 10% on 1122.42									112.24
								<b>1547.25</b>			<b>1701.97</b>
								<b>4697.37</b>			<b>4852.09</b>
		<b>(iii) Height above 10m</b>									
IV		Formwork & staging @	33%				1046.59				
		sundries @ 3% on 1046.59					31.40				
		Contractor's profit and overhead charges @ 21.50% on 1077.99					231.77				
							1309.76				
		Labour cess @ 1% on 1309.76					13.10				
		Rate 1	cum				1322.86	1322.86			1322.86
		sub mountainous @ 10% on 1322.86									132.29
								<b>1747.69</b>			<b>1922.46</b>
								<b>4897.81</b>			<b>5072.58</b>
		<b>For cast in situ box girder, segment construction and balanced cantilever, 38-58 per cent of cost of concrete.</b>									
		<b>(i) Height up to 5m</b>									
IV		Formwork & staging @	23%				729.44				
		sundries @ 3% on 729.44					21.88				
		Contractor's profit and overhead charges @ 21.50% on 751.32					161.53				
							912.85				
		Labour cess @ 1% on 912.85					9.13				
		Rate 1	cum				921.98	921.98			921.98

			sub mountainous @ 10% on 921.98									92.20
											<b>1346.81</b>	<b>1481.49</b>
											<b>4496.93</b>	<b>4631.61</b>
		(ii)	<b>Height 5m to 10m</b>									
IV			Formwork & staging @	28%					888.02			
			sundries @ 3% on 888.02						26.64			
			Contractor's profit and overhead charges @ 21.50% on 914.66						196.65			
									1111.31			
			Labour cess @ 1% on 1111.31						11.11			
				Rate 1	cum				1122.42	1122.42		1122.42
			sub mountainous @ 10% on 1122.42									112.24
											<b>1547.25</b>	<b>1701.97</b>
											<b>4697.37</b>	<b>4852.09</b>
		(iii)	<b>Height above 10m</b>									
IV			Formwork & staging @	33%					1046.59			
			sundries @ 3% on 1046.59						31.40			
			Contractor's profit and overhead charges @ 21.50% on 1077.99						231.77			
									1309.76			
			Labour cess @ 1% on 1309.76						13.10			
				Rate 1	cum				1322.86	1322.86		1322.86
			sub mountainous @ 10% on 1322.86									132.29
											<b>1747.69</b>	<b>1922.46</b>
											<b>4897.81</b>	<b>5072.58</b>
F			<b>PSC Grade M-45</b>									
			<b>Using Batching Plant, Transit Mixer and Concrete Pump</b>									
				Unit	1 cum							
			Taking output	120 cum								
I			<b>Material</b>									
(i)	0.00		Cement	465	kg	tonne	55.80	5245.35	292690.53			
(ii)	0.00		Coarse sand			cum	54.00	280.73	15159.42			
(iii)	0.00		20 mm Aggregate			cum	64.80	435.24	28203.55			
(iv)	0.00		10 mm Aggregate			cum	43.20	461.32	19929.02			
			Total-I						355982.52			
			Contractor's profit @ 10% on 355982.52						35598.25			
				Cost	120	cum			391580.77			
				Rate 1	cum				3263.17			
			Labour cess @ 1% on 3263.17						32.63			
			Total						3295.80	3295.80		3295.80
II			<b>Labour</b>									
(i)	L-29		Mate			day	0.94	151.44	142.35			
(ii)	L-10		Mason			day	3.50	223.36	781.76			
(iii)	L-35		Mazdoor			day	20.00	136.69	2733.80			
			Total-II						3657.91			
III			<b>Hiring charges of Machinery</b>									
(i)	2.30		Batching Plant			hour	6.00	2160.00	12960.00			
(ii)	2.22		Generator 100 KVA			hour	6.00	675.00	4050.00			
(iii)	2.19		Loader 1 cum capacity			hour	6.00	780.00	4680.00			
(iv)	2.57		Transit Mixer 4 cum capacity for lead upto 1 km.			hour	15.00	900.00	13500.00			
(v)	2.80		Concrete Pump			hour	6.00	247.50	1485.00			
			Total-III						36675.00			
									40332.91			
			Per Cum Basic Cost of Labour, Material & Machinery (I+II+III)				3302.63					
			sundries @ 3% on 40332.91						1209.99			
			Contractor's profit and overhead charges @ 21.50% on 41542.9						8931.72			
									50474.62			
			Labour cess @ 1% on 50474.62						504.75			
				Cost	120	cum			50979.37			
				Rate 1	cum				424.83			424.83
			sub mountainous @ 10% on 424.83									42.48







			Rate	1	cum				3407.42				
			Labour cess @ 1% on 3407.42						34.07				
			Total						3441.49	3441.49			3441.49
II			<b>Labour</b>										
(i)	L-29		Mate		day	0.94	151.44	142.35					
(ii)	L-10		Mason		day	3.50	223.36	781.76					
(iii)	L-35		Mazdoor		day	20.00	136.69	2733.80					
			Total-II					3657.91					
III			<b>Hiring charges of Machinery</b>										
(i)	2.30		Batching Plant		hour	6.00	2160.00	12960.00					
(ii)	2.22		Generator 100 KVA		hour	6.00	675.00	4050.00					
(iii)	2.19		Loader 1 cum capacity		hour	6.00	780.00	4680.00					
(iv)	2.57		Transit Mixer 4 cum capacity for lead upto 1 km.		hour	15.00	900.00	13500.00					
(v)	2.80		Concrete Pump		hour	6.00	247.50	1485.00					
			Total-III					36675.00					
								40332.91					
			Per Cum Basic Cost of Labour, Material & Machinery (I+II+III)				3433.76						
			sundries @ 3% on 40332.91					1209.99					
			Contractor's profit and overhead charges @ 21.50% on 41542.9					8931.72					
								50474.62					
			Labour cess @ 1% on 50474.62					504.75					
			Cost	120	cum			50979.37					
			Rate	1	cum			424.83					424.83
			sub mountainous @ 10% on 424.83										42.48
									424.83				467.31
									3866.32				3908.80
			<b>For cast-in-situ box girder, segmental construction and balanced cantilever</b>										
		(i)	<b>Height up to 5m</b>										
IV			Formwork & staging @	35%				1201.82					
			sundries @ 3% on 1201.82					36.05					
			Contractor's profit and overhead charges @ 21.50% on 1237.87					266.14					
								1504.01					
			Labour cess @ 1% on 1504.01					15.04					
			Rate	1	cum			1519.05	1519.05				1519.05
			sub mountainous @ 10% on 1519.05										151.91
									<b>1943.88</b>				<b>2138.27</b>
									<b>5385.37</b>				<b>5579.76</b>
		(ii)	<b>Height 5m to 10m</b>										
IV			Formwork & staging @	45%				1545.19					
			sundries @ 3% on 1545.19					46.36					
			Contractor's profit and overhead charges @ 21.50% on 1591.55					342.18					
								1933.73					
			Labour cess @ 1% on 1933.73					19.34					
			Rate	1	cum			1953.07	1953.07				1953.07
			sub mountainous @ 10% on 1953.07										195.31
									<b>2377.90</b>				<b>2615.69</b>
									<b>5819.39</b>				<b>6057.18</b>
		(iii)	<b>Height above 10m</b>										
IV			Formwork & staging @	55%				1888.57					
			sundries @ 3% on 1888.57					56.66					
			Contractor's profit and overhead charges @ 21.50% on 1945.23					418.22					
								2363.45					
			Labour cess @ 1% on 2363.45					23.63					
			Rate	1	cum			2387.08	2387.08				2387.08
			sub mountainous @ 10% on 2387.08										238.71
									<b>2811.91</b>				<b>3093.10</b>



			sub mountainous @ 10% on 2027.66									202.77
											<b>2452.49</b>	<b>2697.74</b>
											<b>6039.68</b>	<b>6284.93</b>
		(iii)	<b>Height above 10m</b>									
IV			Formwork & staging @	55%					1960.69			
			sundries @ 3% on 1960.69						58.82			
			Contractor's profit and overhead charges @ 21.50% on 2019.51						434.19			
									2453.70			
			Labour cess @ 1% on 2453.7						24.54			
				Rate 1	cum				2478.24	2478.24		2478.24
			sub mountainous @ 10% on 2478.24									247.82
											<b>2903.07</b>	<b>3193.37</b>
											<b>6490.26</b>	<b>6780.56</b>
2			<b>Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications</b>									
			<b>As per MoRT&amp;H Specification 1600</b>									
				Unit 1	MT							
				Taking output 1	MT							
I			<b>Material</b>									
(i)	0.00		HYSD bars including 5 per cent overlaps and wastage			tonne	1.05	41055.69	43108.47			
(ii)	0.00		Binding wire			Kg	8.00	49.59	396.68			
				Total-I					43505.15			
			Contractor's profit @ 10% on 43505.15						4350.52			
				Cost 1	MT				47855.67			
				Rate 1	MT				47855.67			
			Labour cess @ 1% on 47855.67						478.56			
			Total						48334.23	48334.23		48334.23
II			Labour for cutting, bending, shifting to site, tying and placing in position									
(i)	L-29		Mate			day	0.44	151.44	66.63			
(ii)	L-5		Blacksmith			day	3.00	223.36	670.08			
(iii)	L-35		Mazdoor			day	8.00	136.69	1093.52			
				Total-II					1830.23			
			sundries @ 3% on 1830.23						54.91			
			Contractor's profit and overhead charges @ 21.50% on 1885.14						405.31			
									2290.45			
			Labour cess @ 1% on 2290.45						22.90			
					1 MT				2313.35			
				Cost 1	MT				2313.35	<b>2313.35</b>		2313.35
			sub mountainous @ 10% on 2313.35									231.34
												<b>2544.69</b>
											<b>50647.58</b>	<b>50878.92</b>
3			<b>High tensile steel wires/strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications</b>									
			<b>As per MoRT&amp;H Specification 1800</b>									
				Unit 1	MT							
				Taking output 0.377	MT							
			Details of cost for 12T13 strand 40 m long cable (weight = 0.377 MT)									
I			<b>Material</b>									
	0.00		H.T. Strand @ 9.42 kg/m including 2 per cent for wastage and extra length for jacking			MT	0.385	64881.95	24979.55			
	0.00		Sheathing duct ID 66 mm along with 5 per cent extra length 40 x 1.05 = 42 m.			m	42.00	99.08	4161.36			
	0.00		Tube anchorage set complete with bearing plate, permanent wedges etc			Nos	2.00	2090.92	4181.84			
	0.00		Cement for grouting including 3 per cent wastage @ 3.00 kg/m = 3 x 1.03 x 40 = 123.60 kg (say, = 125 kg)			MT	0.125	5245.35	655.67			
			Add 0.50 per cent cost of material for Spacers, Insulation tape and miscellaneous items						1698.92			

			Total-I					35677.34				
			Contractor's profit @ 10% on 35677.34					3567.73				
			Cost	0.377	MT			39245.07				
			Rate	1	MT			104098.33				
			Labour cess @ 1% on 104098.33					1040.98				
			Total					105139.31	105139.31			105139.31
<b>II</b>			<b>Labour</b>									
			<b>i) For making and fixing cables, anchorages</b>									
	L-29	Mate			day	0.16	151.44	24.23				
	L-5	Blacksmith			day	1.00	223.36	223.36				
	L-35	Mazdoor			day	3.00	136.69	410.07				
			<b>ii) For prestressing</b>									
	L-29	Mate/Supervisor			day	0.05	151.44	7.57				
	L-20	Prestressing operator / Fitter			day	0.25	223.36	55.84				
	L-35	Mazdoor			day	1.00	136.69	136.69				
			<b>iii) For grouting</b>									
	L-29	Mate/Supervisor			day	0.05	151.44	7.57				
	L-10	Mason			day	0.25	223.36	55.84				
	L-35	Mazdoor			day	1.00	136.69	136.69				
			Total-II					1057.86				
<b>III</b>			<b>Hiring charges of Machinery</b>									
	2.47	Stressing jack with pump			hour	2.50	124.50	311.25				
	2.26	Grouting pump with agitator			hour	1.00	104.00	104.00				
	2.24	Generator 33 KVA.			hour	3.50	360.00	1260.00				
			Total-III					1675.25				
			Total-II+III					2733.11				
			sundries @ 3% on 2733.11					81.99				
			Contractor's profit and overhead charges @ 21.50% on 2815.1					605.25				
								3420.35				
			Labour cess @ 1% on 3420.35					34.20				
				0.377	MT			3454.55				
			Cost	1	MT			9163.26	9163.26			9163.26
			sub mountainous @ 10% on 9163.26									916.33
												10079.59
									114302.57			115218.90
<b>4</b>		<b>A</b>	<b>Mastic Asphalt</b>									
			<b>Providing and laying 6 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in MOST Drg. No SD/200.</b>									
			<b>As per MoRT&amp;H Specification 515 &amp; 2702</b>									
			Unit	1	sqm							
			Taking output = 151.51 sqm (2 tonnes)(0.909 cum) assuming a density of 2.2 tonnes/cum.	151.51	sqm							
<b>I</b>			<b>Material</b>									
			Proportion of material required for mastic asphalt is 25 % bitumen and 75 % lime stone dust filler.									
	M-7 (b)		i) Bitumen 80/100 or 60/70 or 30/40 @ 25 per cent by weight of mix. 2 x 25/100 = 0.5		tonne	0.500	36400.00	18200.00				
	M-29(i)		ii) Lime stone dust filler with calcium carbonate content not less than 80 per cent by weight @ 75 per cent by weight of mix = 2 x 75/100 = 1.5		tonne	1.50	5687.50	8531.25				
			Total-I					26731.25				
			Contractor's profit @ 10% on 26731.25					2673.13				
			Cost	151.5	sqm			29404.38				
			Rate	1	sqm			194.08				
			Labour cess @ 1% on 194.08					1.94				
			Total					196.02	196.02			196.02
<b>II</b>			<b>Labour</b>									
	L-29	Mate			day	0.49	151.44	74.21				
	L-35	Mazdoor			day	11.00	136.69	1503.59				
	L-31	Mazdoor (Skilled)			day	1.25	164.69	205.86				
			Total-II					1783.66				
<b>III</b>			<b>Machinery</b>									
	2.37	Mechanical broom @ 1250 sqm per hour			hour	0.06	345.00	20.70				
	#REF!	Air compressor 250 cfm			hour	0.06	309.00	18.54				
	2.36	Mastic cooker 1 tonne capacity			hour	6.00	60.00	360.00				

	2.60		Bitumen boiler 1500 litres capacity		hour	6.00	192.00	1152.00				
	2.59		Tractor for towing and positioning of mastic cooker and bitumen boiler		hour	1.00	351.00	351.00				
			Total-III					1902.24				
			Total-II+III					3685.90				
			sundries @ 3% on 3685.9					110.58				
			Contractor's profit and overhead charges @ 21.50% on 3796.48					816.24				
								4612.72				
			Labour cess @ 1% on 4612.72					46.13				
				151.5	sqm			4658.85				
			Cost	1	sqm			30.75	30.75			30.75
			sub mountainous @ 10% on 30.75									3.08
												33.83
									226.77			229.85
		<b>B</b>	<b>Mastic Asphalt</b>									
			Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 9.5 mm nominal size at the rate of 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 deg. C, protruding 1 mm to 4 mm over mastic surface, all complete as per clause 515.									
			As per MoRT&H Specification 515 & 2702									
			Unit = sqm	1	sqm							
			Taking output = 72.46 sqm (2 tonnes)(0.869 cum) assuming a density of 2.3 tonnes/cum.	72.46	sqm							
<b>I</b>			<b>Material</b>									
			Base mastic (without coarse aggregates) = 60 per cent									
			Coarse aggregate(3.35mm to 9.5 mm size) = 40 per cent .									
			Proportion of material required for mastic asphalt with coarse aggregates (based on mix design done by CRRI for a specific case)									
	M-7 (b)		i) Bitumen 80/100 or 60/70 or 30/40 @ 10.2 per cent by weight of mix. $2 \times 10.2/100 = 0.204$		tonne	0.204	36400.00	7425.60				
	0.00		ii) Crusher stone dust @ 31.9 per cent by weight of mix = $2 \times 31.9/100 = 0.638$ tonnes = $0.638/1.625 = 0.39$		cum	0.39	280.73	109.48				
	M-29(i)		iii) Lime stone dust filler with calcium carbonate content not less than 80 per cent by weight @ 17.92 per cent by weight of mix = $2 \times 17.92/100 = 0.36$		tonne	0.36	5687.50	2047.50				
	0.00		iv) Coarse aggregates 9.5 mm to 3.35 mm size @ 40 per cent by weight of mix = $2 \times 40/100 = 0.8$ MT = $0.8/1.456 = 0.55$		cum	0.55	461.32	253.73				
	0.00		v) Pre-coated stone chips of 9.5 mm nominal size for skid resistance = $72.46 \times 0.005/10 = 0.036$		cum	0.036	1351.00	48.64				
	M-7		vi) Bitumen for coating of chips @ 2 per cent by weight = $0.036 \times 1.456 \times 2/100 = 0.001048$ MT = 1.05kg		kg	1.05	34.23	35.95				
			Total-I					9920.90				
			Contractor's profit @ 10% on 9920.9					992.09				
			Cost	72.5	sqm			10912.99				
			Rate	1	sqm			150.61				
			Labour cess @ 1% on 150.61					1.51				
			Total					152.12	152.12			152.12
<b>II</b>			<b>Labour</b>									
	L-29		Mate		day	0.49	151.44	74.21				
	L-35		Mazdoor		day	11.00	136.69	1503.59				
	L-31		Mazdoor (Skilled)		day	1.25	164.69	205.86				
			Total-II					1783.66				
<b>III</b>			<b>Machinery</b>									
	2.37		Mechanical broom @ 1250 sqm per hour		hour	0.06	345.00	20.70				
	#REF!		Air compressor 250 cfm		hour	0.06	309.00	18.54				
	2.36		Mastic cooker 1 tonne capacity		hour	6.00	60.00	360.00				
	2.60		Bitumen boiler 1500 litres capacity		hour	6.00	192.00	1152.00				
	2.59		Tractor for towing and positioning of mastic cooker and bitumen boiler		hour	1.00	351.00	351.00				

		Total-III						1902.24				
		Total-II+III						3685.90				
		sundries @ 3% on 3685.9						110.58				
		Contractor's profit and overhead charges @ 21.50% on 3796.48						816.24				
								4612.72				
		Labour cess @ 1% on 4612.72						46.13				
			72.5	sqm				4658.85				
		Cost	1	sqm				64.30	64.30			64.30
		sub mountainous @ 10% on 64.3										6.43
												70.73
									216.42			222.85
	Note	1.The rates for 6 mm or any other thickness may be worked out on pro-rata basis.										
		2. Where tack coat is required to be provided before laying mastic asphalt, the same is required to be measured and paid separately.										
		3.The quantities of binder, filler and aggregates are for estimating purpose. Exact quantities shall be as per mix design.										
		4.This rate analysis is based on design made by CRRI for a specific case and is meant for estimating purposes only. Actual design is required to be done for each case.										
		5.The quantity of bitumen works out 17 per cent of the mastic asphalt blocks without aggregates and falls within the standards laid down by MoRTH Specifications.										
5		Construction of precast RCC railing of M30 Grade , aggregate size not exceeding 12 mm, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.										
		As per MoRTH Specification 2703 , 1500,1600 & 1700										
		Unit	1	m								
		Taking output	48	m								
		Basic cost of material,labour & machinery as per analysis 1 C						3109.56				
		Complete Labour cost of concrete as per analysis 7 G ( sheet 21analysis )						565.34		621.87		
		Cost	48	m	cum	4.092	565.34	2313.37		621.87	2544.69	
		Rate	1	m					48.20			53.01
		Labour cost of steel ( inc. O.H etc.) for 1 m length				0.865	2313.35		41.69		2544.69	45.86
		Material										
		No. of vertical posts = (12 + 2)/2 = 28 Nos., External area of vertical post 0.25x0.275 =0.069sqm, Concrete in vertical posts = 0.069 x 28 =1.932 cum, Hand rail in 3 tiers = 3 x 24 = 72 m, External area = 0.170 x 0.175 = 0.03 sqm, Concrete in hand rails = 0.03 x 72 = 2.16 cum, Total Concrete = 1.932 + 2.16 = 4.092 cum. (Refer MoRTH SD / 202).										
(I)		Cement concrete M30 Grade by using Concrete mixture, rate inc.cost of material,labour & machinery with O.H etc.but excluding formwork.			cum	4.092	2957.81	12103.36				
		Cost	48	m								
		Rate	1	m					252.15			252.15
		Cement concrete M30 Grade by using Concrete mixture, excluding formwork.			cum	4.092	3109.56	12724.33				
		Formwork , handling & fixingof precast panels @	5%					636.22				
IV		sundries @ 3% on 636.22						19.09				
		Contractor's profit and overhead charges @ 21.50% on 655.31						140.89				
								796.20				
		Labour cess @ 1% on 796.2						7.96				
		Cost	48	m				804.16				
		Rate	1	m					16.75			16.75
		HYSD bar reinforcement Rate			tonne	0.865	43505.15	37631.95				
		Cost of steel ( inc. O.H etc.) for 1 m length			tonne	0.865	48334.23	871.02	871.02			871.02
		Handling & fixing of precast panels in position @	5%					2549.63				



			sundries @ 3% on 2549.63					76.49				
			Contractor's profit and overhead charges @ 21.50% on 2626.12					564.62				
								3190.74				
			Labour cess @ 1% on 3190.74					31.91				
			Cost	48	m			3222.65				
			Rate	1	m			67.14	67.14			67.14
			sub mountainous @ 10% on 16.75									1.68
												68.82
			Labour rate						173.78			184.44
			Rate	1	m				1207.06			1208.74
			<b>Total</b>									
	<b>Note</b>		1.Quantities of material have been adopted from standard plans of MoRTH vide drawing no. SD/202.									
			2.48 m length is the total linear length adding both sides of 24 m span.									
6		<b>A</b>	<b>Construction of RCC railing of M30 Grade concrete , in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.</b>									
			<b>As per MoRTH Specification 2703 , 1500,1600 &amp; 1700</b>									
			Unit	1	m							
			Taking output	48	m							
			Basic cost of material,labour & machinery as per analysis 1 C					3109.56				
			Complete Labour cost of concrete as per analysis 7 G ( sheet 21analysis )					565.34		621.87		
			Cost	48	m	cum	4.092	565.34	2313.37		621.87	2544.69
			Rate	1	m					48.20		53.01
			Labour cost of steel ( inc. O.H etc.) for 1 m length				0.865	2313.35		41.69		2544.69
I			<b>Material</b>									
			Cement concreteM30 Grade by using batching plant, excluding formwork									
			No. of vertical posts = (12 + 2)2 = 28 Nos., External area of vertical post 0.25x0.275 = 0.069sqm, Concrete in vehicle posts = 0.069 x 28 = 1.932 cum, Hand rail in 3 tiers = 3 x 24 = 72 m, External area = 0.170 x 0.175 = 0.03 sqm, Concrete in hand rails = 0.03 x 72 = 2.16 cum, Total Concrete = 1.932 + 2.16 = 4.092 cum. (Refer MoRTH SD / 202).									
			Cement concrete M30 Grade by using Concrete mixture, rate inc.cost of material,labour & machinery with O.H etc.but excluding formwork.			cum	4.092	2957.81	12103.36			
			Cost	48	m							
			Rate	1	m					252.15		252.15
(II)			Cement concrete M30 Grade by using Concrete mixture, excluding formwork.			cum	4.092	3109.56	12724.33			
IV			Formwork @	12%					1526.92			
			sundries @ 3% on 1526.92						45.81			
			Contractor's profit and overhead charges @ 21.50% on 1572.73						338.14			
									1910.87			
			Labour cess @ 1% on 1910.87						19.11			
			Cost	48	m				1929.98			
			Rate	1	m				40.21	40.21		40.21
			sub mountainous @ 10% on 40.21									4.02
			HYSID bar reinforcement Rate			tonne	0.865	43505.15	37631.95			
			Cost of steel ( inc. O.H etc.) for 1 m length			tonne	0.865	48334.23	871.02			871.02
			Labour rate							871.02		
			Rate	1	m					130.10		143.10
										1163.38		1167.40
	<b>Note</b>		1. Quantities of material have been adopted from standard plans of MoRTH vide drawing no. SD/202.									

			2. 48 m length is the total linear length adding both sides of 24 m span.										
6		B	Construction of RCC railing of M20 Grade concrete , in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings No 24 of PWD and technical specifications.										
			As per MoRT&H Specification 2703 , 1500,1600 & 1700										
			Unit	1	m								
			Taking output .	10.3	m								
			Labour cost as per analysis 7 C						565.34				621.87
			cost of concrete as per analysis 7 C						3173.49				3230.02
			Basic cost of material,labour & machinery						2794.84				
I			<b>Material</b>										
			Cement concrete M 20 Grade , by using Concrete mixture, rate inc.cost of material,labour & machinery with O.H etc.but excluding formwork			cum	1.163	3173.49	3690.77	3690.77	3230.02	3756.51	3756.51
			No. of vertical posts = (4 + 2) = 6 Nos., Hand rail in 2 tiers = 2 x 9.28,kerb 0.225*0.225 Total Concrete = 1.163										
						cum	1.163	2794.84	3250.40				
IV			Formwork @	12%					390.05				
			sundries @ 3% on 390.05						11.70				
			Contractor's profit and overhead charges @ 21.50% on 401.75						86.38				
									488.13				
			Labour cess @ 1% on 488.13						4.88				
			Cost	10.3	m				493.01				
			Rate	1	m				47.87	47.87			47.87
			sub mountainous @ 10% on 47.87										4.79
			<b>Labour only</b>			cum	1.163	565.34	657.49		621.87	723.23	
			Rate	1	m				63.83	63.83			70.22
			Labour rate							111.70			122.88
			Rate	1	m					406.20			417.37
6		C	Construction of RCC railing of M25 Grade concrete , in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings No 24 of PWD and technical specifications.										
			As per MoRT&H Specification 2703 , 1500,1600 & 1700										
			Unit	1	m								
			Taking output .	10.3	m								
			Labour cost as per analysis 7 E						565.34				621.87
			cost of concrete as per analysis 7 E						3499.83				3556.36
			Basic cost of material,labour & machinery						3088.58				
I			<b>Material</b>										
			Cement concrete M 25 Grade , by using Concrete mixture, rate inc.cost of material,labour & machinery with O.H etc.but excluding formwork			cum	1.163	3499.83	4070.30	4070.30	3556.36	4136.05	4136.05
			No. of vertical posts = (4 + 2) = 6 Nos., Hand rail in 2 tiers = 2 x 9.28,kerb 0.225*0.225 Total Concrete = 1.163										
						cum	1.163	3088.58	3592.02				
IV			Formwork @	12%					431.04				
			sundries @ 3% on 431.04						12.93				
			Contractor's profit and overhead charges @ 21.50% on 443.97						95.45				
									539.42				
			Labour cess @ 1% on 539.42						5.39				
			Cost	10.3	m				544.81				
			Rate	1	m				52.89	52.89			52.89
			sub mountainous @ 10% on 52.89										5.29
			<b>Labour only</b>			cum	1.163	565.34	657.49		621.87	723.23	

			Rate	1	m				63.83	63.83			70.22
			Labour rate							116.72			128.40
			Rate	1	m					448.06			459.74
7			<b>Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification</b> <b>As per MoRT&amp;H Specification 2703.2 &amp; 1900</b>										
			Unit	1	m								
			Taking output = 2 x 50 m span = 100 m	100	m								
I			<b>Material:</b>										
	0.00		1) ISMC 100 = 2.806 x 1.05 = 2.946 MT			tonne	2.946	38143.69	112371.31				
	0.00		2) MS Flat = 0.964 x 1.05 = 1.012 MT			tonne	1.012	38143.69	38601.41				
	0.00		3) MS bars = 0.17 x 1.05 = 0.180 MT			tonne	0.18	38143.69	6865.86				
	0.00		4) MS bolts, nuts and washers			tonne	0.15	58025.00	8703.75				
			Add @ 5 per cent of cost of material for painting one shop coat with red oxide primer and three coats of synthetic enamel paint and consumables to safeguard against weathering and corrosion.						8327.12				
				5%									
			Add for cost of concrete for fixing vertical posts in the performed recess @ 1 per cent of cost of material.						1665.42				
				1%									
			Add for electricity charges, welding and drilling equipment, electrodes and other consumables @ 1 per cent of cost of material.						1665.42				
				1%									
			Total-I						178200.29				
			Contractor's profit @ 10% on 178200.29						17820.03				
			Cost	100	m				196020.32				
			Rate	1	m				1960.20				
			Labour cess @ 1% on 1960.2						19.60				
			Total						1979.80	1979.80			1979.80
II			<b>Labour</b>										
	L-29		Mate			day	2.80	151.44	424.03				
	L-31		Mazdoor (Skilled)			day	30.00	164.69	4940.70				
	L-35		Mazdoor			day	40.00	136.69	5467.60				
			Total-II						10832.33				
			Total-II+III						10832.33				
			sundries @ 3% on 10832.33						324.97				
			Contractor's profit and overhead charges @ 21.50% on 11157.3						2398.82				
									13556.12				
			Labour cess @ 1% on 13556.12						135.56				
					100	m			13691.68				
			Cost	1	m				136.92	136.92			136.92
			sub mountainous @ 10% on 136.92										13.69
													150.61
										2116.72			2130.41
8			<b>Drainage Spouts with 6 m long 100 mm dia GI pipe light grade drainage pipe, complete as per drawing no. SD/205 and Technical specification (For ROB,s)</b> <b>As per MoRT&amp;H Specification 2705</b>										
			Unit	1	No								
			Taking output	1	No								
I			<b>Material</b>										
	0.00		Corrosion resistant Structural steel including 5 per cent wastage			Kg	4.00	40.00	160.00				
	M-225 (b)		GI pipe 100mm dia			metre	6.00	525.00	3150.00				
	0.00		GI bolt 10 mm Dia			each	6.00	16.25	97.50				
	0.00		Galvanised MS flat clamp			each	2.00	50.00	100.00				
			Total-I						3507.50				
			Add Contractor's profit @ 10% i.e. on Rs 3507.5						350.75				
			Add Labour cess @ 1% i.e. on Rs 3858.25						38.58				
									3896.83	3896.83			3896.83
II			<b>Labour</b>										
			<b>For fabrication</b>										
	L-29		Mate			day	0.02	151.44	3.03				
	L-5		Skilled (Blacksmith, welder etc.)			day	0.02	223.36	4.47				
	L-35		Mazdoor			day	0.02	136.69	2.73				
			<b>For fixing in position</b>										
	L-29		Mate			day	0.01	151.44	1.51				
	L-10		Mason			day	0.01	223.36	2.23				
	L-35		Mazdoor			day	0.20	136.69	27.34				

		Add @ 5 per cent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bituminous paint, mild steel grating etc.	5%				177.44					
		Total-II					218.75					
		Add Sundries @ 3% i.e. on Rs 218.75					6.56					
		Add Over head & Contractor's profit @ 21.50% i.e. on Rs 225.31					48.44					
		Add Labour cess @ 1% i.e. on Rs 273.75					2.74					
							276.49	276.49				276.49
		Add 10% for submountainous region										27.65
												304.14
								4173.32				4200.97
	Note	1. In case of viaducts in urban areas, the drainage spouts should be connected with suitably located pipelines to discharge the surface run-off to drains provided at ground level.										
		2. In case of bridges, sufficient length of G.I Pipe shall be provided to ensure that there is no splashing of water from the drainage spout on the structure.										
B		Drainage Spouts with 0.60m long 100 mm dia GI pipe light grade drainage pipe, complete as per drawing no. SD/205 and Technical specification (For Bridges)										
		As per MoRT&H Specification 2705										
		Unit	1	No								
		Taking output	1	No								
I		Material										
	0.00	Corrosion resistant Structural steel including 5 per cent wastage			Kg	4.00	40.00	160.00				
	M-225 (b)	GI pipe 100mm dia			metre	0.60	525.00	315.00				
	0.00	GI bolt 10 mm Dia			each	4.00	16.25	65.00				
		Total-I						540.00				
		Contractor's profit @ 10% on 540						54.00				
		Cost	1	No				594.00				
		Rate	1	No				594.00				
		Labour cess @ 1% on 594						5.94				
		Total						599.94	599.94			599.94
II		Labour										
		For fabrication										
	L-29	Mate			day	0.02	151.44	3.03				
	L-5	Skilled (Blacksmith, welder etc.)			day	0.02	223.36	4.47				
	L-35	Mazdoor			day	0.02	136.69	2.73				
		For fixing in position										
	L-29	Mate			day	0.01	151.44	1.51				
	L-10	Mason			day	0.01	223.36	2.23				
	L-35	Mazdoor			day	0.20	136.69	27.34				
		Add @ 5 per cent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bituminous paint, mild steel grating etc.	5%					29.07				
		Total-II						70.38				
		Add Sundries @ 3% i.e. on Rs 70.38						2.11				
		Add Over head & Contractor's profit @ 21.50% i.e. on Rs 72.49						15.59				
		Add Labour cess @ 1% i.e. on Rs 88.08						0.88				
								88.96	88.96			88.96
		Add 10% for submountainous region										8.90
												97.86
									688.90			697.80
9		PCC M15 Grade, as leveling course below approach slab complete as per drawing and Technical specification										
		As per MoRT&H Specification 2700										
		Unit	1	cum								
		Taking output	1	cum								
		Material										
		Concrete, Rate as per item 7A			cum	1.00	2861.65	2861.65				2930.34
		Labour Rate						686.92				755.61
10		Reinforced cement concrete approach slab using M-30 grade concrete, including reinforcement and formwork complete as per drawing and Technical specification										
		As per MoRT&H Specification 1500, 1600, 1700 & 2704										
		Complete Labour cost concrete as per analysis 7 g				1.00	420.61	420.61				462.67
		Complete Labour cost of steel				0.050	2313.35	115.67				2544.69
		Complete cost of concrete as per analysis 7 g					3378.42					3420.48
		Unit	1	cum								
		Taking output	1	cum								

I			<b>Material</b>										
			Complete cost of Cement concrete M30 Grade by using batching plant, excluding formwork			cum	1.000	3378.42	3378.42		3420.48	3420.48	
			HYSD bar reinforcement (Including OH & CP)			tonne	0.050	48334.23	2416.71		48334.23	2416.71	
			Cost	1	cum				5795.13			5837.19	
			Rate	1	cum				5795.13	5795.13		5837.19	5837.19
			Cement concrete M30 Grade by using batching plant, excluding formwork			cum	1.000	2995.06	2995.06				
			HYSD bar reinforcement			tonne	0.050	43505.15	2175.26				
			Cost	1	cum				5170.32				
			Rate	1	cum				5170.32				
IV			Formwork @	2%					103.41			116.74	
			sundries @ 3% on 103.41						3.10				
			Contractor's profit and overhead charges @ 21.50% on 106.51						22.90				
									129.41				
			Labour cess @ 1% on 129.41						1.29				
			Cost	1	cum				130.70				
			Rate	1	cum				130.7	130.70			130.7
			sub mountainous @ 10% on 130.7										13.07
													143.77
			Labour rate							666.98			733.67
			Rate	1	cum					5925.83			5980.96
I			<b>Material</b>										
	Note		The grade of reinforced cement concrete may be adopted as M30 for severe conditions and M25 for moderate conditions.										
12			<b>Precast - pretensioned Girders</b>										
			Providing using M-40 grade concrete , precasting, transportation and placing in position precast pretensioned concrete girders as per drawing and technical specifications										
			As per MoRT&H Specification 1800&2300										
			Unit	1	cum								
			Taking output	1	cum								
			Grade of concrete - M40										
I			<b>Material</b>										
	0.00		Cement			tonne	0.44	5245.35	2307.95				
	0.00		Coarse sand			cum	0.45	280.73	126.33				
	0.00		20 mm Aggregate			cum	0.54	435.24	235.03				
	0.00		10 mm Aggregate			cum	0.36	461.32	166.08				
	0.00		HYSD steel .			tonne	0.10	41055.69	4105.57				
	0.00		HT strand with 5 per cent as wastage and extra length for anchoring			tonne	0.06	64881.95	3892.92				
	0.00		LDO for steam curing			Litre	37.00	29.12	1077.44				
			Add consumables such as binding wire, foam, packing tape, shuttering oil, HDPE pipe for unbonding of strand, bolt & nuts etc @ 1 per cent of material cost	1%					119.11				
			Total-I						12030.43				
			Contractor's profit @ 10% on 12030.43						1203.04				
			Cost	1	cum				13233.47				
			Rate	1	cum				13233.47				
			Labour cess @ 1% on 13233.47						132.33				
			Total						13365.80	13365.80			13365.80
II			<b>Labour</b>										
			(i) Cutting, bending, making reinforcement cage, placing in position, binding etc. complete										
			<b>Taking quantity of steel 100 Kg/cum of concrete including laps and wastage</b>										
	L-29		Mate			day	0.06	151.44	9.09				
	L-31		Mazdoor (Skilled)			day	0.35	164.69	57.64				
	L-35		Mazdoor			day	1.40	136.69	191.37				
			(ii) Cable cutting and threading in position including binding by insulation tape with HDPE pipes etc., prestressing and cutting of extra length of HT strand after de-stressing.										
			<b>Taking quantity of HT strand 60 Kg/cum</b>										
	L-29		Mate			day	0.02	151.44	3.03				
	L-31		Mazdoor (Skilled)			day	0.14	164.69	23.06				
	L-35		Mazdoor			day	0.50	136.69	68.35				
			(iii) Erection and dismantling of shuttering										
			<b>Taking shuttering area 10 sqm/cum of concrete</b>										
	L-29		Mate			day	0.12	151.44	18.17				
	L-31		Mazdoor (Skilled)			day	1.00	164.69	164.69				
	L-35		Mazdoor			day	2.00	136.69	273.38				
			(iv) Concreting by Batching plant and stationary concrete pump										

	L-29	Mate		day	0.03	151.44	4.54				
	L-31	Mazdoor (Skilled)		day	0.05	164.69	8.23				
	L-35	Mazdoor		day	0.60	136.69	82.01				
		<b>(v) Steam curing and manual curing</b>									
	L-29	Mate		day	0.01	151.44	1.51				
	L-35	Mazdoor		day	0.35	136.69	47.84				
		<b>(vi) Handling of precast girder, stacking in stockyard and again loading in trailer</b>									
	L-29	Mate		day	0.01	151.44	1.51				
	L-35	Mazdoor		day	0.25	136.69	34.17				
		<b>(vii) Placement of girders in position over pier caps including placement of sand jacks, channel, levelling etc.</b>									
	L-29	Mate		day	0.01	151.44	1.51				
	L-31	Mazdoor (Skilled)		day	0.06	164.69	9.88				
	L-35	Mazdoor		day	0.24	136.69	32.81				
		Total-II					1032.79				
		<b>c) Hiring charges of Machinery</b>									
		<b>i) At casting yard</b>									
	2.22	Generator 100 KVA		hour	0.05	675.00	33.75				
	2.40	Batching Plant @ 20 cum/hour		hour	0.05	1800.00	90.00				
	2.57	Transit Mixer 4 cum capacity		hour	0.10	900.00	90.00				
	2.80	Concrete Pump stationary		hour	0.05	247.50	12.38				
	2.13	Crane 35 tonne capacity		hour	0.10	825.00	82.50				
	2.64	Trailer 30 tonne capacity		hour	0.10	750.00	75.00				
	2.19	Loader		hour	0.05	780.00	39.00				
		<b>ii) For transportation and placement at site</b>									
	2.13	Crane 35 tonne capacity		hour	0.15	825.00	123.75				
	2.64	Trailer 30 tonne capacity during placement.		hour	0.15	750.00	112.50				
		Cost of formwork, steam curing arrangement, pretensioning arrangement etc @ 5 per cent of cost material, labour and machinery					3385.86				
		Total-III					4044.74				
		Total-II+III					5077.53				
		sundries @ 3% on 5077.53					152.33				
		Contractor's profit and overhead charges @ 21.50% on 5229.86					1124.42				
							6354.28				
		Labour cess @ 1% on 6354.28					63.54				
		Cost 1 cum					6417.82				
		Rate 1 cum					6417.82	<b>6417.82</b>			6417.82
		sub mountainous @ 10% on 6417.82									641.78
											<b>7059.60</b>
								<b>19783.62</b>			<b>20425.40</b>
<b>12</b>		<b>Crash Barriers</b>									
	<b>A</b>	<b>Reinforced Cement Concrete Crash Barrier-Including steel reinforcement and form work.</b>									
		Provision of an Reinforced cement concrete crash barrier at the edges of the Bridge,road, approaches to bridge structures and medians, constructed with M-40 grade concrete , with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified-with concrete mixture.									
		Unit	1 m								
		Taking output	10 m								
<b>I</b>		<b>Material</b>									
	<b>(i)</b>	M 40 grade concrete ( inc.O.H etc.) Rate taken from item no1 E				<b>3749.18</b>		<b>3809.09</b>			
		Labour rate of conc.( inc.O.H etc.) Rate taken from item no1 E				<b>599.06</b>		<b>658.97</b>			
		Labour rate of steel, taken from item no 2				<b>2313.35</b>		<b>2544.69</b>			
		M 40 grade concrete		cum	3.000	3749.18	11247.54	3809.09	11427.27		
		HYSD steel reinforcement including dowel bars		tonne	0.280	50647.58	14181.32	50878.92	14246.10		
0.00		pre moulded asfalt joint filler		sqm	0.320	600.00	192.00	600.00	192.00		
		cost	10 m				25620.86		25865.37		
			1 m				2562.09	<b>2562.09</b>	2586.537	<b>2586.54</b>	
		<b>Labour only</b>									
		M 40 grade concrete		cum	3.000	599.06	1797.18	658.97	1976.91		

			HYSD steel reinforcement including dowel bars			tonne	0.280	2313.35	647.74		2544.69	712.51	
			sundries @ 3% on 2444.92						73.35			80.68	
			Contractor's profit and overhead charges @ 21.50% on 2518.27						541.43			595.57	
									3059.70			3365.67	
			Labour cess @ 1% on 3059.7						30.60			33.66	
				10	m				3090.30			3399.33	
				1	m				309.03	<b>309.03</b>		339.93	<b>339.93</b>
			sub mountainous @ 10% on 309.03										33.99
			M 40 grade concrete			cum	3.000	3309.34	9928.02				
			HYSD steel reinforcement including dowel bars			tonne	0.280	43505.15	12181.44				
			pre moulded asphalt joint filler			sqm	0.320	600.00	192.00				
			cost						22301.46				
			Formwork @	12%					2676.18				
			sundries @ 3% on 2676.18						80.29				
			Contractor's profit and overhead charges @ 21.50% on 2756.47						592.64				
									3349.11				
			Labour cess @ 1% on 3349.11						33.49				
			Cost		10	m			3382.60				
			Rate	1	m				338.26	338.26			338.26
			sub mountainous @ 10% on 25959.12										33.83
													372.09
			<b>Rate</b>		1	m				<b>2900.35</b>			<b>2958.63</b>
			<b>labour rate</b>							<b>647.29</b>			<b>746.01</b>

		<b>B</b>	Provision of an Reinforced cement concrete crash barrier at the edges of the Bridge,road, approaches to bridge structures and medians, constructed with M-40 grade concrete , as per dimensions in the <b>PWD stanadard drawing No 27.Section 1</b> ,Including form work but excluding steel reinforcement-and at locations directed by the Engineer, all as specified-with concrete mixture.										
			Unit	1	m								
			Taking output	10	m								
			M 40 grade concrete ( inc.O.H etc.) Rate taken from item no1 E			cum		<b>3749.18</b>			<b>3809.09</b>		
			Labour rate of conc.( inc.O.H etc.) Rate taken from item no1 E			cum		<b>599.06</b>			<b>658.97</b>		
			Basic cost of material,labour & machinery			cum		<b>3309.34</b>					
			<b>Material</b>										
			M 40 grade concrete (complete rate)			cum	2.870	3749.18	10760.15		3809.09	10932.09	
	0.00		MS plate 300*(140+150)/2*16 mm+Bracket for cabel(50*50*6mm@900mmc/c)=8.921Kg			tonne	0.045	48461.56	2161.63		48461.56	2161.63	
	CSR ITEM No 33.13(iv)		GI pipe 50 mm dia including 3 coats of painting.			metre	10.00	298.26	2982.60		298.26	2982.60	
	0.00		Reflective tape 100mm*150mm size			Nos	10.00	30.00	300.00		30.00	300.00	
									5444.23			5444.23	
			Contractor's profit @ 10% on 5444.23						544.42			544.42	
									5988.65			5988.65	
			Labour cess @ 1% on 5988.65						59.89			59.89	
			Cost	10	m				16808.69			16980.63	
			Rate	1	m				1680.87	1681		1698.06	1698
			<b>Labour</b> for M 40 grade concrete			cum	2.870	298.26	856.01				
			Labour of Structure steel			tonne	0.045	5872.16	261.93				
				10	m				1117.94				
				1	m				111.79	<b>111.79</b>			<b>111.79</b>
			sub mountainous @ 10% on 111.794										11.18
			M 40 grade concrete			cum	2.870	3309.34	9497.80				
			MS plate 300*(140+150)/2*16 mm+Bracket for cabel(50*50*6mm@900mmc/c)=8.921Kg			tonne	0.045	44055.96	1965.12				
			GI pipe 50 mm dia including 3 coats of painting.			metre	10.00	298.26	2982.60				
			Reflective tape 100mm*150mm size			Nos	10.00	30.00	300.00				
								Total	14745.52				
			Formwork @	12%					1769.46				
			sundries @ 3% on 1769.46						53.08				
			Contractor's profit and overhead charges @ 21.50% on 1822.54						391.85				
									2214.39				
			Labour cess @ 1% on 2214.39						22.14				
			Cost	10	m				2236.53				
			Rate	1	m				223.65	223.65			223.65
			sub mountainous @ 10% on 223.65										22.37
													246.02
			Total rate						<b>1904.52</b>				<b>1944.08</b>
			<b>Labour rate</b>						<b>335.44</b>				<b>368.99</b>
		<b>C</b>	Provision of an Reinforced cement concrete crash barrier at the edges of the Bridge,road, approaches to bridge structures and medians, constructed with M-40 grade concrete , as per dimensions in the <b>Punjab PWD stanadard drawing No 27.Section 2</b> ,Including form work but excluding steel reinforcement-and at locations directed by the Engineer, all as specified-with concrete mixture.										
			Unit	1	m								
			Taking output	10	m								
			M 40 grade concrete ( inc.O.H etc.) Rate taken from item no1 E			cum		<b>3749.18</b>			<b>3809.09</b>		



			Labour rate of conc.( inc.O.H etc.) Rate taken from item no1 E			cum		599.06			658.97		
			Basic cost of material,labour & machinery			cum		3309.34					
I			<b>Material</b>										
		(I)	<b>a) M 40 grade concrete</b>										
			<b>M 40 grade concrete including OH &amp; CP etc.</b>			cum	4.51	3749.18	16905.05		3809.09	17175.19	
	0.00		MS plate 300*(140+150)/2*16 mm=7.847 Kg-5No			tonne	0.04	44055.96	1728.54		44055.96	1728.54	
	CSR ITEM No 33.13(iv)		GI pipe 50 mm dia including 3 coats of painting.			metre	10.00	298.26	2982.60		298.26	2982.60	
	0.00		Reflective tape 100mm*150mm size			Nos	10.00	30.00	300.00		30.00	300.00	
	0.00		Precast chequered tiles 20 mm thick laid in cement mortar 1:3			Sqm	5.25	261.87	1374.83		261.87	1374.83	
			Cement concrete 1:4:8			Nos	1.37	1472.27	2009.64		1472.27	2009.64	
	0.00		PVC pipe 100 mm dia			Nos	22.00	113.88	2505.29		113.88	2505.29	
									10900.90			10900.90	
			Contractor's profit @ 10% on 10900.9						1090.09			1090.09	
			Cost	10	m				28896.04			29166.17	
			Rate	1	m				2889.60			2916.62	
			Labour cess @ 1% on 2889.6						28.90			29.17	
			Total						2918.50	2918.50		2945.79	2945.79
			<b>Labour for M 40 grade concrete</b>			cum	4.510	3309.34	14925.12				
	0.00		Precast chequered tiles 20 mm thick laid in cement mortar 1:3			Sqm	5.25	74.91	393.27				
			Cement concrete 1:4:8			Nos	1.37	410.76	560.69				
									15879.08				
			Formwork @	12%					1905.49				
			sundries @ 3% on 1905.49						57.16				
			Contractor's profit and overhead charges @ 21.50% on 1962.65						421.97				
									2384.62				
			Labour cess @ 1% on 2384.62						23.85				
			Cost	10	m				2408.47				
			Rate	1	m				240.85	240.85			240.85
			sub mountainous @ 10% on 240.85										24.09
			<b>Labour</b>										
			<b>M 40 grade concrete</b>										
			MS plate 300*(140+150)/2*16 mm=7.847 Kg-5No			tonne	0.04	5872.16	230.39				
			Precast chequered tiles 20 mm thick laid in cement mortar 1:3			Sqm	5.25	74.91	393.27				
			Cement concrete 1:4:8			Nos	1.37	410.76	560.69				
			Total -II						953.96				
			sundries @ 3% on 953.96						28.62				
			Contractor's profit and overhead charges @ 21.50% on 982.58						211.25				
									1193.83				
			Labour cess @ 1% on 1193.83						11.94				
				10	m				1205.77				
			Cost	1	m				120.58	120.58			120.58
			sub mountainous @ 10% on 120.58										12.06
			Total rate							3159.35			3210.73
			Labour rate							361.43			397.58

		D	Provision of an Reinforced cement concrete crash barrier at the edges of the Bridge,road, approaches to bridge structures and medians, constructed with M-40 grade concrete using cement , as per dimensions in the <b>PWD stanadard drawing No 27.Section 3</b> ,Including form work but excluding steel reinforcement- and at locations directed by the Engineer, all as specified-with concrete mixture.										
			Unit	1	m								
			Taking output	10	m								
			M 40 grade concrete ( inc.O.H etc.) Rate taken from item no1 E			cum		3749.18			3809.09		
			Labour rate of conc.( inc.O.H etc.) Rate taken from item no1 E			cum		599.06			658.97		
			Basic cost of material,labour & machinery			cum		3309.34					
I			<b>Material</b>										
		(i)	a) <b>M 40 grade concrete</b>										
			<b>M 40 grade concrete</b>			cum	2.87	3749.18	10760.15		3809.09	10932.09	
	0.00		b) MS plate 300*(140+150)/2*16 mm=7.847 Kg-5No			tonne	0.04	44055.96	1728.54		44055.96	1728.54	
	CSR ITEM No 33.13(iv)		c) GI pipe 50 mm dia including 3 coats of painting.			metre	10.00	298.26	2982.60		298.26	2982.60	
	0.00		d) Reflective tape 100mm*150mm size			Nos	10.00	30.00	300.00		30.00	300.00	
	0.00		e) PVC pipe 100 mm dia			Nos	22.00	113.88	2505.29		113.88	2505.29	
									7516.43			7516.42	
			Contractor's profit @ 10% on 7516.43						751.64			751.64	
			Cost	10	m				19028.22			19200.15	
			Rate	1	m				1902.82			1920.02	
			Labour cess @ 1% on 1902.82						19.03			19.20	
			Total						1921.85	1921.85		1939.22	1939.22
			M 40 grade concrete			cum	2.870	3749.18	10760.15				
			Cost of material as above						7516.43				
			Formwork @	12%					2193.19				
			sundries @ 3% on 2193.19						65.80				
			Contractor's profit and overhead charges @ 21.50% on 2258.99						485.68				
									2744.67				
			Labour cess @ 1% on 2744.67						27.45				
			Cost	10	m				2772.12				
			Rate	1	m				277.21	277.21			277.21
			sub mountainous @ 10% on 277.21										27.72
			<b>Labour</b>										
			<b>M 40 grade concrete</b>										
			MS plate 300*(140+150)/2*16 mm=7.847 Kg-5No			tonne	0.04	5872.16	230.39				
			Total -II						230.39				
			sundries @ 3% on 230.39						6.91				
			Contractor's profit and overhead charges @ 21.50% on 237.3						51.02				
									288.32				
			Labour cess @ 1% on 288.32						2.88				
				10	m				291.20				
			Cost	1	m				29.12	29.12			29.12
			sub mountainous @ 10% on 29.12										2.91
			Total rate							2199.06			2244.15
			Labour rate							306.33			336.96

		E	Provision of an Reinforced cement concrete crash barrier at the edges of the Bridge,road, approaches to bridge structures and medians, constructed with M-40 grade concrete , as per dimensions in the <b>PWD stanadard drawing No 27.Section 4</b> ,Including form work but excluding steel reinforcement-and at locations directed by the Engineer, all as specified-with concrete mixture.										
			Unit	1	m								
			Taking output	10	m								
			M 40 grade concrete ( inc.O.H etc.) Rate taken from item no1 E			cum		3749.18			3809.09		
			Labour rate of conc.( inc.O.H etc.) Rate taken from item no1 E			cum		599.06			658.97		
			Basic cost of material,labour & machinery			cum		3309.34					
I			<b>Material</b>										
		(i) a)	<b>M 40 grade concrete</b>										
			<b>M 40 grade concrete</b>			cum	4.869	3749.18	18254.76		3809.09	18546.46	
	0.00		b) MS plate 300*(140+150)/2*16 mm=7.847 Kg-5No			tonne	0.04	44055.96	1728.54		44055.96	1728.54	
	CSR ITEM No 33.13(iv)		c) GI pipe 50 mm dia including 3 coats of painting.			metre	10.00	298.26	2982.60		298.26	2982.60	
	0.00		d) Reflective tape 100mm*150mm size			Nos	10.00	30.00	300.00		30.00	300.00	
	CSR ITEM No 14.58		e) Precast checqured tiles 20 mm thick laid in cement mortar 1:3			Sqm	12.75	261.87	3338.88		261.87	3338.88	
			f) Cement concrete 1:4:8			Nos	3.97	1472.27	5847.84		1472.27	5847.84	
	0.00		g) PVC pipe 100 mm dia			Nos	30.00	113.88	3416.30		113.88	3416.30	
			Contractor's profit @ 10% on 17614.16						17614.16			17614.16	
			Cost	10	m				1761.42			1761.42	
			Rate	1	m				37630.34			37922.04	
			Labour cess @ 1% on 3763.03						3763.03			3792.20	
			Total						37.63			37.92	
									3800.66	3800.66		3830.12	3830.12
			M 40 grade concrete			cum	4.869	3309.34	16113.17				
			Cost of material as above						17614.16				
			Formwork @	12%					4047.28				
			sundries @ 3% on 4047.28						121.42				
			Contractor's profit and overhead charges @ 21.50% on 4168.7						896.27				
									5064.97				
			Labour cess @ 1% on 5064.97						50.65				
			Cost	10	m				5115.62				
			Rate	1	m				511.56	511.56		511.56	511.56
			sub mountainous @ 10% on 2240.1									51.16	51.16
			<b>Labour</b>										
			<b>M 40 grade concrete</b>										
			MS plate 300*(140+150)/2*16 mm=7.847 Kg-5No			tonne	0.04	5872.16	230.39				
			Precast checqured tiles 20 mm thick laid in cement mortar 1:3			Sqm	12.75	261.87	3338.88				
			Cement concrete 1:4:8			Nos	3.97	410.76	1631.55				
			Total -II						5200.82				
			sundries @ 3% on 5200.82						156.02				
			Contractor's profit and overhead charges @ 21.50% on 5356.84						1151.72				
									6508.56				
			Labour cess @ 1% on 6508.56						65.09				
				10	m				6573.65				
			Cost	1	m				657.37	657.37		657.37	657.37
			sub mountainous @ 10% on 657.37									65.74	65.74
			Total rate							4312.22		4392.84	4392.84
			Labour rate							1168.93		1285.83	1285.83
		F	<b>Metal Beam Crash Barrier</b>										
			Type - A, "W" : Metal Beam Crash Barrier										

		Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fittings to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810											
			Unit	1 m									
			Taking output	4.5 m									
I		<b>Material</b>											
	0.00	1.Corrugated sheet,3 mm thick, "W" beam section railing,4.5 m in length 2. Channel post 150 x 75 x 5 mm,1.8 m long,3 Nos @ 16.4 kg per metre 3. Spacer 150 x 75 x 5 mm channel 0.33 m long,3 Nos @ 16.4 kg per metre 4. Nuts and bolts			metre	4.50	2050.00	9225.00					
		Add 20 per cent of the cost of material for concrete,fabrication etc.)	20%					1845.00					
		Total-I						11070.00					
		Contractor's profit @ 10% on 11070						1107.00					
		Cost	4.5	m				12177.00					
		Rate	1	m				2706.00					
		Labour cess @ 1% on 2706						27.06					
		Total						2733.06	2733.06				2733.06
II		<b>Labour</b>											
	L-29	Mate			day	0.06	151.44	9.09					
	L-5	Blacksmith			day	0.50	223.36	111.68					
	L-35	Mazdoor			day	1.00	136.69	136.69					
		Total-II						257.46					
III		<b>Hiring charges of Machinery</b>											
	2.59	Tractor-trolley			hour	0.10	351.00	35.10					
		Total-III						35.10					
		Total-II+III						292.56					
		sundries @ 3% on 292.56						8.78					
		Contractor's profit and overhead charges @ 21.50% on 301.34						64.79					
								366.13					
		Labour cess @ 1% on 366.13						3.66					
		Cost	4.5	cum				369.79					
		Rate	1	cum				82.18	82.18				82.18
		sub mountainous @ 10% on 82.18											8.22
													90.40
									2815.24				2823.46
13		<b>Painting on concrete surface</b>											
		Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.											
		As per MoRT&H Specification 800											
		Unit	1 sqm										
		Taking output	10 sqm										
I		<b>Material</b>											
	M-36e(ii)	Water based paint of approved quality for cement concrete surface			Litres	5.00	98.39	491.950					
		Total-I						491.95					
		Contractor's profit @ 10% on 491.95						49.20					
		Cost	10	sqm				541.15					
		Rate	1	sqm				54.12					
		Labour cess @ 1% on 54.12						0.54					
		Total						54.66	54.66				54.66
II		<b>Labour</b>											
	L-29	Mate			day	0.01	151.44	1.510					
	L-41	Painter			day	0.25	190.00	47.500					
	L-31	Mazdoor (Skilled)			day	0.25	164.69	41.170					
		Total-II						90.18					
		sundries @ 3% on 90.18						2.71					
		Contractor's profit and overhead charges @ 21.50% on 92.89						19.97					
								112.86					

		Labour cess @ 1% on 112.86					1.13					
		Cost	10	sqm			113.99					
		Rate	1	sqm			11.40	11.40				11.40
		sub mountainous @ 10% on 11.4										1.14
												12.54
								66.06				67.20
14		<b>Burried Joint</b>										
		Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised weldable structural steel plate as per IS: 2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm c/c along the centre line of the plate, all as specified in clause 2604.										
		<b>As per MoRT&amp;H Specification 2604</b>										
		Unit	1	m								
		Taking output	12	m								
I		<b>Material</b>										
	0.00	Galvanised M.S plate 200 mm wide, 12 mm thick @ 94.20 kg/sqm including 5 per cent wastage			kg	237.50	50.00	11875.000				
		Add 1 per cent of cost of steel plate cutting, welding consumables and galvanised nails.						118.75				
		Total-I						11993.75				
		Contractor's profit @ 10% on 11993.75						1199.38				
		Cost	12	m				13193.13				
		Rate	1	m				1099.43				
		Labour cess @ 1% on 1099.43						10.99				
		Total						1110.42	1110.42			1110.42
II		<b>Labour</b>										
	L-29	Mate			day	0.02	151.44	3.030				
	L-35	Mazdoor			day	0.40	136.69	54.680				
	L-31	Mazdoor (Skilled)			day	0.20	164.69	32.940				
		Total-II						90.65				
		sundries @ 3% on 90.65						2.72				
		Contractor's profit and overhead charges @ 21.50% on 93.37						20.07				
								113.44				
		Labour cess @ 1% on 113.44						1.13				
		Cost	12	m				114.57				
		Rate	1	m				9.55	9.55			9.55
		sub mountainous @ 10% on 9.55										0.96
												10.51
								1119.97				1120.93
		<b>Note</b> Guidelines laid down vide the MoRTH circular No. RW/NH-34059/1/96-S&R dated 30.11.2000 and subsequent corrigendum dated 25.01.2001 may be referred for expansion joints.										
15		<b>Filler joint</b>										
		<b>As per MoRT&amp;H Specification 2605</b>										
(i)		Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.										
		Unit	1	m								
		Taking output	12	m								
I		<b>Material</b>										
	0.00	Copper plate - 12m long x 250 mm wide			kg	55.00	485.30	26691.50				
		Area = 12 x 0.25 = 3 sqm										
		Weight = 3 x 0.002 x 8900 = 53.4 kg										
		Wastage @ 2.5 per cent = 1.33 kg/54.73 kg say = 55 kg.										
		Total-I						26691.50				
		Contractor's profit @ 10% on 26691.5						2669.15				
		Cost	12	m				29360.65				
		Rate	1	m				2446.72				
		Labour cess @ 1% on 2446.72						24.47				
		Total						2471.19	2471.19			2471.19
II		<b>Labour</b>										
		Cutting, bending, carrying & fixing etc.										
	L-29	Mate			day	0.04	151.44	6.06				

	L-35		Mazdoor			day	0.50	136.69	68.35				
	L-31		Mazdoor (Skilled)			day	0.50	164.69	82.35				
			Total-II						156.76				
			sundries @ 3% on 156.76						4.70				
			Contractor's profit and overhead charges @ 21.50% on 161.46						34.71				
									196.17				
			Labour cess @ 1% on 196.17						1.96				
			Cost	12	m				198.13				
			Rate	1	m				16.51	16.51			16.51
			sub mountainous @ 10% on 16.51										1.65
													18.16
										2487.70			2489.35
(ii)			<b>Providing &amp; fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing &amp; Technical Specification.</b>										
			Unit	1	m								
			Taking output	12	m								
I			<b>Material</b>										
			Area = 12 x 0.25 = 3 sqm										
	0.00		20 mm thick compressible fibre board 12 m long x 25 cm deep.			sqm	3.00	527.50	1582.50				
			Total-I						1582.50				
			Contractor's profit @ 10% on 1582.5						158.25				
			Cost	12	m				1740.75				
			Rate	1	m				145.06				
			Labour cess @ 1% on 145.06						1.45				
			Total						146.51	146.51			146.51
II			<b>Labour</b>										
			For carrying, placing & fixing.										
	L-29		Mate			day	0.008	151.44	1.21				
	L-35		Mazdoor			day	0.10	136.69	13.67				
	L-31		Mazdoor (Skilled)			day	0.10	164.69	16.47				
			Total-II						31.35				
			sundries @ 3% on 31.35						0.94				
			Contractor's profit and overhead charges @ 21.50% on 32.29						6.94				
									39.23				
			Labour cess @ 1% on 39.23						0.39				
			Cost	12	m				39.62				
			Rate	1	m				3.30	3.30			3.30
			sub mountainous @ 10% on 3.3										0.33
													3.63
										149.81			150.14
(iii)			<b>Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.</b>										
			Unit	1	m								
			Taking output	12	m								
I			<b>Material</b>										
	0.00		Premoulded joint filler 12 m long, 20 mm thick and 300 mm deep.			sqm	3.60	600.00	2160.00				
			Total-I						2160.00				
			Contractor's profit @ 10% on 2160						216.00				
			Cost	12	m				2376.00				
			Rate	1	m				198.00				
			Labour cess @ 1% on 198						1.98				
									199.98	199.98			199.98
II			<b>Labour</b>										
	L-29		Mate			day	0.01	151.44	1.51				
	L-31		Mazdoor			day	0.20	136.69	27.34				
	L-35		Mazdoor (Skilled)			day	0.10	164.69	16.47				
			Total-II						45.32				
			sundries @ 3% on 45.32						1.36				

		Contractor's profit and overhead charges @ 21.50% on 46.68					10.04				
							56.72				
		Labour cess @ 1% on 56.72					0.57				
		Cost	12	m			57.29				
		Rate	1	m			4.77	4.77			4.77
		sub mountainous @ 10% on 4.77									0.48
											5.25
								204.75			205.23
(iv)		Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight									
		Unit	1	m							
		Taking output	12	m							
		12m long x 100 mm wide x 10mm deep recess									
I		Material									
	0.00	Sand			cum	0.012	280.73	3.37			
		Volume 12 x 0.1 x 0.01 = 0.012 cum									
		Weight 0.012 x 1400 = 16.8kg									
	M-7	Bitumen			Kg	1.000	34.23	34.23			
		16.8 x 0.06 = 1 kg									
		Total-I						37.60			
		Contractor's profit @ 10% on 37.6						3.76			
		Cost	12	m				41.36			
		Rate	1	m				3.45			
		Labour cess @ 1% on 3.45						0.03			
								3.48	3.48		3.48
II		Labour									
	L-29	Mate			day	0.02	151.44	3.03			
	L-35	Mazdoor			day	0.50	136.69	68.35			
	L-31	Mazdoor (Skilled)			day	0.10	164.69	16.47			
		Total-II						87.85			
		sundries @ 3% on 87.85						2.64			
		Contractor's profit and overhead charges @ 21.50% on 90.49						19.46			
								109.95			
		Labour cess @ 1% on 109.95						1.10			
		Cost	12	m				111.05			
		Rate	1	m				9.25	9.25		9.25
		sub mountainous @ 10% on 9.25									0.93
											10.18
								12.73			13.66
		Note									
		For arriving at the final rate of filler joints per m length and per cm depth of joint filling compound, the rates at Sl. No. i), ii), iii) & iv) shall be added									
16		Asphaltic Plug joint									
		Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate of 200mm x 6mm of weldable structural steel conforming to IS: 2062, asphaltic plug to consist of polymer modified bitumen binder, carefully selected single size aggregate of 12.5 mm nominal size and a heat resistant foam caulking/backer rod, all as per approved drawings and specifications.									
		As per MoRT&H Specification 2600									
		Unit	1	m							
		Taking output	12	m							
I		Material									
	0.00	Crushed stone aggregate 12.5 mm nominal size			cum	0.75	461.32	345.99			
	M-7	Bitumen (VG-30)			kg	77.50	34.23	2653.14			
	0.00	Galvanised structural steel plate 200 mm wide, 6 mm thick, 12 m long (2.4 sqm) @ 47.10 kg/sqm including 5 per cent wastage			kg	113.00	50.00	5650.00			
		Add 1 per cent for welding and foam caulking/backer rod and other incidentals.	1%					86.49			

