

Schedule – H

See Clauses 10.1 (iv) and 19.3

Contract Price Weightages

A. Salem to Ulundurpet section of NH-79 - Total value of Contract price- 69.68%

- 1.1. The Contract Price for this Agreement is Rs ,-/-
- 1.2. Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

ItemB2:E43	Weightage in % to the CP	Stage for Payment	Percentage Weightage
1	2	3	4
I . Road works including Culverts, widening and repair of culverts	50.73%	B.1- Reconstruction / New realignment / bypass (Flexible pavement)	
		1) Earth work upto Top of Embankment	1.80%
		2) Sub-Grade	4.86%
		3) Sub-Base course	7.97%
		4) Non-Bituminous Base Course	7.40%
		5) Bituminous Base Course	16.36%
		6) Wearing Course	7.70%
		C.1- Reconstruction / New Service Road / slip road (Flexible Pavement)	
		1) Earth work upto Top of Embankment	9.19%
		2) Sub-Grade	7.13%
		3) Sub-Base course	10.48%
		4) Non-Bituminous Base Course	9.71%
		5) Bituminous Base Course	11.06%
		6) Wearing Course	5.31%
		D. Reconstruction / Widening / New Culvert on Existing Road, realignments, bypasses	
		a. Box culvert	0.59%
		b. Pipe culvert	0.44%
		Sub Total	100%

II. Minor Bridges/ underpasses / Overpasses	44.35%	B.2 New Underpasses / Overpasses	
		1.Foundation: On completion of the foundation work of abutments and piers	4.68%
		2.Sub-structure: On completion of abutments and piers with abutments and pier cap	4.29%
		3.Super-structure: On completion of the super-structure upto deck slab including bearing.	6.96%
		4.Miscellaneous Works: On completion of wearing coat, expansion joint, crash barriers, railings and any remaining work associated to bridge including test on bridge.	19.36%
		5. Approaches: On completion of approaches including wing walls/ return walls, Retaining walls/ Reinforced earth walls, stone pitching, protection works for floor, embankment slope etc. complete in all respect and fit for use.	64.71%
		Sub Total	100%
III. Other works	4.17%	(i) RCC drains	
		(a) Drain	12.41%
		(b) Cover slab	3.31%
		(iii) Road signs, markings, km stones, safety devices etc.	11.11%
		(a) Road Side Plantation	10.21%
		(b) Crash barrier (MBCB)	9.59%
		(iv) Lighting works	39.81%
		(V) utility shifting	13.56%
		Sub Total	100%
IV. Safety Management during Construction	0.75%	Safety Management during Construction	100%

1.3. Procedure of estimating the value of work done.

1.3.1. Road works including Culverts, widening and repair of culverts

Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

Stage of Payment	Percentage Weightage	Payment Procedure
B.1- Reconstruction / New realignment / bypass (Flexible pavement)		
1) Earth work upto Top of Embankment	1.80 %	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 500 m length whichever is less
2) Sub-Grade	4.86 %	
3) Sub-Base course	7.97 %	
4) Non-Bituminous Base Course	7.40 %	
5) Bituminous Base Course	16.36%	
6) Wearing Course	7.70 %	
C.1- Reconstruction / New Service Road / slip road (Flexible Pavement)		
1) Earth work upto Top of Embankment	9.19 %	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 500m length, whichever is less.
2) Sub-Grade	7.13 %	
3) Sub-Base course	10.48 %	
4) Non-Bituminous Base Course	9.71 %	
5) Bituminous Base Course	11.06 %	
6) Wearing Course	5.31 %	
D. Reconstruction / Widening / New Culvert on Existing Road, realignments, bypasses		Cost of each culvert shall be determined for Payment on pro rata basis with respect to the completion of each culvert
a. Box culvert	0.59 %	Cost of each culvert shall be determined on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of atleast one culvert .75% of the cost will be payable on completion of box /Abutment and Slab /pipe and head wall. Remaining 25% will become payable on completion of protection works including return/wing walls and any other work associated with culverts
b. Pipe culvert	0.44 %	

@ For calculation of payment stage for main-carriageway the project length shall be converted into equivalent 3 lane length. For example, if the total length of 6 lane main carriageway is 100 km, then the equivalent length for calculation of payment stage will be 2 x 100 km. Now, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

Cost per km = $P \times \text{weightage for road work} \times \text{weightage for bituminous work} \times (1/L)$

Where

P = Contract Price

L = Total equivalent 3-Lane length in km as defined above.

Similarly, the rates per km for other stages shall be worked out accordingly.

1.3.2. Minor bridges/ Underpasses/Overpasses

Procedure for estimating the value of Minor bridge and Underpasses/Overpasses shall be as stated in Table 1.3.2

Table 1.3.2

Stage of Payment	Percentage Weightage	Payment Procedure
B.2- New Underpasses		
Vehicular Underpass		
1) Foundation : On Completion of the Foundation work of abutments and piers	4.68 %	Cost of each Underpass/Overpass Shall be determined on pro rata basis with respect to the total linear length (m) of the Underpass/Overpass i) Foundation: Payment against Foundation shall be made on pro rata basis on completion of a stage i.e. completion of atleast two foundation of each bridge. In case where load testing is specified for foundation, the trigger of first payment shall include load testing also
2) Sub-structure: On completion of abutments and piers with abutments and pier cap	4.29 %	(ii) Sub-Structure: Payment shall be made on Pro -rata basis on completion of stage i.e. completion of atleast one sub-structure up to abutment /pier cap level of each bridge

3) Super Structure: On Completion of the Super -structure upto deck slab including bearings	6.96 %	<p>(iii) Super-Structure:</p> <p>Payment Shall be made on pro rata basis on completion of a stage ‘i.e. completion of a super structure of at least one span upto deck slab including bearing as specified in the column of “Stage of Payment “in this Sub -clause:</p> <p>If Pre-cast girders / segments are used, interim payments shall be made at 75% of the cost of that element as derived from MoRTH Data Book, applicable SOR of State PWD on Base date with tender discount /premium applied thereon.</p>
4.Miscellaneous Works: On completion of wearing coat, expansion joint, crash barriers, railings and any remaining work associated to bridge including test on bridge.	19.36 %	<p>iv) Miscellaneous Works:</p> <p>Payment shall be made on pro – rata basis on completion of a stage i.e. completion of wearing coat, expansion joint, crash barrier. railing, protection works and any other remaining work associated to bridge including test on bridge for each bridge.</p>
5. a. Approaches: On completion of approaches including wing walls/ return walls, Retaining walls/ Reinforced earth walls, stone pitching, protection works complete in all respect and fit for use.	64.71 %	<p>(v). a. Approaches: Payment shall be made on pro – rata basis on completion of a stage i.e. completion of approaches including wing wall /return wall, retaining walls, Reinforced earth walls, stone pitching, protection work complete in all respect of each bridge.</p>

1.3.3. Other Works

Procedure for estimating the value of other works done shall be as stated in table 1.3.4

Table 1.3.3

Stage of Payment	Percentage Weightage	Payment Procedure
(i) RCC drains		
a. Drain	12.41 %	a) Drains: Unit of Measurement is linear length in metre. payment shall be made on pro rata basis on completion of a stage in a length of not less than 100 m on one side
b. Cover Slab	3.31 %	b) Cover Slab: Unit of Measurement is linear length in metre. payment shall be made on pro rata basis on completion of a stage in a length of not less than 100 m on one side
iii) Road Signs, markings, km stones, safety devices etc.	11.11%	Unit of Measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than one km on both side
(a) Road Side Plantation	10.21%	On completion of 100% of the work each location.
(b) Crash barrier - MBCB	9.59 %	On completion of 100% of the work each location.
(iv) Lighting works	39.81 %	On completion of 100% of the work each location.
Utility Shifting		
EB - Utilities	13.56 %	On completion of 100% of the work each location.

1.3.6 Safety and Traffic Management during Construction

Stage of Payment	Percentage Weightage	Payment Procedure
Safety and Traffic Management during Construction	100.00%	Payment shall be made on prorata basis every six month proportionate to value of work done.

2. Procedure for payment for Maintenance

- (a) The cost for maintenance shall be as stated in Clause 14.1(v).
- (b) Payment for Maintenance shall be made in accordance with the provisions of Article 14 and Article 19.

Note: (1) In case of innovative Major Bridge Projects like cable suspension/cable stayed and exceptionally long span bridges, the schedule may be modified as per site requirements before bidding with due approval of Competent Authority.

- 2) The Schedule for exclusive Tunnel Projects may be prepared as per site requirements before bidding with due approval of Competent Authority.

- (3) (a) In order to maintain cash flow in the project, the Authority shall also make interim monthly payments to the Contractor for the work done during the month for which the corresponding stage, as mentioned in Schedule-H, has not been achieved. Such work shall be measured, in a length, number or area as specified in corresponding stage of Schedule-H and valued in accordance with the proportion of the weight-age of Contract Price assigned to that stage in Schedule-H. '90% of value of such work shall be paid as an Interim Monthly Payment' under clause 19.3 (1) of Contract Agreement.

- (b) For Pre cast/ pre-fabricated elements to be used in permanent works, Interim payments to be made 75% of cost of that element (to be derived from MoRTH data book) as per schedule H.

- (C) Upon completion of the defined 'stage', a reconciliation of the Interim payments shall be carried out, and any balance amount shall be paid. For the avoidance of doubt, it is clarified that the interim monthly payments are made solely to maintain cash flow in the project. In the event of termination of the project, under Clause 23.1, 23.2 or 23.3, as the case may be, such interim payments shall be dealt with as per Clause 23.5 (i) (b) of the Contract Agreement

B. Tindivanam to Ulundurpet section of NH-45- Total value of Contract price- 30.32%

1.1. The Contract Price for this Agreement is Rs ,-/-

1.2. Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Weightage in % to the CP	Stage for Payment	Percentage Weightage
1	2	3	4
I. Road works including Culverts, widening and repair of culverts	49.94%	B.1- Reconstruction / New realignment / bypass (Flexible pavement)	
		1) Earth work upto Top of Embankment	18.01%
		2) Sub-Grade	2.76%
		3) Sub-Base course	5.45%
		4) Non-Bituminous Base Course	7.52%
		5) Bituminous Base Course	13.85%
		6) Wearing Course	7.47%
		C.1- Reconstruction / New Service Road / slip road (Flexible Pavement)	
		1) Earth work upto Top of Embankment	5.51%
		2) Sub-Grade	4.45%
		3) Sub-Base course	7.10%
		4) Non-Bituminous Base Course	8.41%
		5) Bituminous Base Course	9.25%
		6) Wearing Course	5.35%
		D. Reconstruction / Widening / New Culvert on Existing Road, realignments, bypasses	
		a. Box culvert	4.72%
		b. Pipe culvert	0.15%
		Sub Total	100%
II. Minor Bridges/ underpasses / Overpasses	28.82%	A.2 - New Minor Bridges (length > 6 and < 60 m.)	
		B1. Widening and Repair of underpass	
		Pedestrian Under pass	

		1.Foundation: On completion of the foundation, Substructure & Superstructure, Miscellaneous, protection work.	1.61%
		B.2 New Underpasses / Overpasses	
		1.Foundation: On completion of the foundation work of abutments and piers	12.47%
		2.Sub-structure: On completion of abutments and piers with abutments and pier cap	4.51%
		3.Super-structure: On completion of the super-structure upto deck slab including bearing.	10.49%
		4.Miscellaneous Works: On completion of wearing coat, expansion joint, crash barriers, railings and any remaining work associated to bridge including test on bridge.	8.85%
		5. Approaches: On completion of approaches including wing walls/ return walls, Retaining walls/ Reinforced earth walls, stone pitching, protection works for floor, embankment slope etc. complete in all respect and fit for use.	62.07%
		Sub Total	100%
III. Foot Over Bridge	6.84%	Foundation	15.08%
		Structural works of FOB & Other protection works	84.92%
		Sub Total	100%
IV. Other works	13.65%	(i) RCC drains	
		(a) Drain	15.47%
		(b) Cover slab	5.71%
		(c) Pitched drain	2.41%
		(d) Tactile Paver (Median) - Rubber Moulded Hydraulic Pressed Paver Block - 83mm	1.40%
		(iii) Road signs, markings, km stones, safety devices etc.	6.23%
		(a) Pedestrian guard rail (PGR)	14.49%
		(b) Crash barrier (MBCB)	16.14%
		(c) Crash barrier (Jersey)	5.48%
		(d) Retaining wall	15.46%
		(x) Lighting works	8.56%

		(ix) utility shifting	
		EB Utilities	5.53%
		Water Utilities	3.12%
		Sub Total	100%
V. Safety Management during Construction	0.75%	Safety Management during Construction	100%

1.3. Procedure of estimating the value of work done.

1.3.1. Road works including Culverts, widening and repair of culverts

Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

Stage of Payment	Percentage Weightage	Payment Procedure
B.1- Reconstruction / New realignment / bypass (Flexible pavement)		
1) Earth work upto Top of Embankment	18.01%	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 500 m length whichever is less
2) Sub-Grade	2.76%	
3) Sub-Base course	5.45%	
4) Non-Bituminous Base Course	7.52%	
5) Bituminous Base Course	13.85%	
6) Wearing Course	7.47%	
C.1- Reconstruction / New Service Road / slip road (Flexible Pavement)		
1) Earth work upto Top of Embankment	5.51%	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 500m length, whichever is less.
2) Sub-Grade	4.45%	
3) Sub-Base course	7.10%	
4) Non-Bituminous Base Course	8.41%	
5) Bituminous Base Course	9.25%	
6) Wearing Course	5.35%	

D. Reconstruction / Widening / New Culvert on Existing Road, realignments, bypasses		Cost of each culvert shall be determined for Payment on pro rata basis with respect to the completion of each culvert
a. Box culvert	4.72 %	Cost of each culvert shall be determined on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of atleast one culvert .75% of the cost will be payable on completion of box /Abutment and Slab /pipe and head wall. Remaining 25% will become payable on completion of protection works including return/wing walls and any other work associated with culverts
b. Pipe culvert	0.15 %	

@ For calculation of payment stage for main-carriageway the project length shall be converted into equivalent 3 lane length. For example, if the total length of 6 lane main carriageway is 100 km, then the equivalent length for calculation of payment stage will be 2 x 100 km. Now, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

Cost per km = P x weightage for road work x weightage for bituminous work x (1/L)

Where

P = Contract Price

L = Total equivalent 3-Lane length in km as defined above.

Similarly, the rates per km for other stages shall be worked out accordingly.

1.3.2. Minor bridges/ Underpasses/Overpasses

Procedure for estimating the value of Minor bridge and Underpasses/Overpasses shall be as stated in Table 1.3.2

Table 1.3.2

Stage of Payment	Percentage Weightage	Payment Procedure
B1. Widening and Repair of underpass		
Pedestrian Under pass		
On completion of the foundation, Substructure & Superstructure, Miscellaneous, protection work.	1.61%	On completion of 100% of the work each location.

B.2- New Underpasses/Overpasses		
1) Foundation: on Completion of the Foundation work of abutments ad piers	12.47 %	<p>Cost of each Underpass/Overpass Shall be determined on pro rata basis with respect to the total linear length (m) of the Under pass/Overpass</p> <p>i) Foundation: Payment against Foundation shall be made on pro rata basis on completion of a stage i.e. completion of atleast two foundation of each bridge.</p> <p>In case where load testing is specified for foundation, the trigger of first payment shall include load testing also</p>
2) Sub-structure: On completion of abutments and piers with abutments and pier cap	4.51 %	(ii) Sub-Structure: Payment shall be made on Pro -rata basis on completion of stage i.e. completion of atleast one sub-structure up to abutment /pier cap level of each bridge
3) Super Structure: On Completion of the Super -structure upto deck slab including bearings	10.49 %	<p>(iii) Super-Structure:</p> <p>Payment Shall be made on pro rata basis on completion of a stage ‘i.e. completion of a super structure of at least one span upto deck slab including bearing as specified in the column of “Stage of Payment “in this Sub -clause:</p> <p>If Pre-cast girders / segments are used, interim payments shall be made at 75% of the cost of that element as derived from MoRTH Data Book, applicable SOR of State PWD on Base date with tender discount /premium applied thereon.</p>
4.Miscellaneous Works: On completion of wearing coat, expansion joint, crash barriers, railings and any remaining work associated to bridge including test on bridge.	8.85%	iv) Miscellaneous Works: Payment shall be made on pro – rata basis on completion of a stage i.e. completion of wearing coat, expansion joint, crash barrier. railing, protection works and any other remaining work associated to

		bridge including test on bridge for each bridge.
5. a. Approaches: On completion of approaches including wing walls/ return walls, Retaining walls/ Reinforced earth walls, stone pitching, protection works complete in all respect and fit for use.	62.07 %	(v). a. Approaches: Payment shall be made on pro – rata basis on completion of a stage i.e. completion of approaches including wing wall /return wall, retaining walls, Reinforced earth walls, stone pitching, protection work complete in all respect of each bridge.

Foot Over Bridge

Stage of Payment	Percentage Weightage	Payment Procedure
Foundation	15.08 %	On completion of 100% of the work each location.
Structural works for FOB & Other protection works	84.92 %	On completion of 100% of the work each location.

1.3.3. Other Works

Procedure for estimating the value of other works done shall be as stated in table 1.3.4

Table 1.3.3

Stage of Payment	Percentage Weightage	Payment Procedure
(i) RCC drains		
a. Drain	15.47 %	a) Drains: Unit of Measurement is linear length in metre. payment shall be made on pro rata basis on completion of a stage in a length of not less than 100 m on one side
b. Cover Slab	5.71 %	b) Cover Slab: Unit of Measurement is linear length in metre. payment shall be made on pro rata basis on completion of a stage in a length of not less than 100 m on one side
C. Pitched Drain	2.41 %	a) pitched Drains: Unit of Measurement is linear length in metre. payment shall be made on pro rata basis on completion

		of a stage in a length of not less than 100 m on one side
D. Tactile Paver (Median) - Rubber Molded Hydraulic Pressed Paver Block - 83mm	1.40%	On completion of 100% of the work each location.
iii) Road Signs, markings, km stones, safety devices etc.	6.23 %	Unit of Measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than one km on both side
(vii) Protection works # other than approaches the bridges, elevated sections/ flyovers/ grade separators and ROB/RUBs. (Pedestrian guard rail)	14.49%	Unit of measurement is linear length. Payment against items (a),(b), shall be made on pro rata basis on completion of a stage in a length of not less than 10% (ten percent) of the total length and 100 m whichever is less
(a) Crash barrier - MBCB	16.14 %	On completion of 100% of the work each location.
(c). Jersey Barrier	5.48 %	On completion of 100% of the work each location.
(b) Retaining wall	15.46 %	On completion of 100% of the work each location.
(viii) Lighting works	8.56 %	On completion of 100% of the work each location.
Utility Shifting		
EB Utilities	5.53 %	On completion of 100% of the work each location.
Water Utilities	3.11 %	

1.3.7 Safety and Traffic Management during Construction

Stage of Payment	Percentage Weightage	Payment Procedure
Safety and Traffic Management during Construction	100.000%	Payment shall be made on prorata basis every six month proportionate to value of work done.

3. Procedure for payment for Maintenance

- (c) The cost for maintenance shall be as stated in Clause 14.1(v).
- (d) Payment for Maintenance shall be made in accordance with the provisions of Article 14 and Article 19.

Note: (1) In case of innovative Major Bridge Projects like cable suspension/cable stayed and exceptionally long span bridges, the schedule may be modified as per site requirements before bidding with due approval of Competent Authority.

- 2) The Schedule for exclusive Tunnel Projects may be prepared as per site requirements before bidding with due approval of Competent Authority.
- (3) (a) In order to maintain cash flow in the project, the Authority shall also make interim monthly payments to the Contractor for the work done during the month for which the corresponding stage, as mentioned in Schedule-H, has not been achieved. Such work shall be measured, in a length, number or area as specified in corresponding stage of Schedule-H and valued in accordance with the proportion of the weight-age of Contract Price assigned to that stage in Schedule-H. '90% of value of such work shall be paid as an Interim Monthly Payment' under clause 19.3 (1) of Contract Agreement.
- (b) For Pre cast/ pre-fabricated elements to be used in permanent works, Interim payments to be made 75% of cost of that element (to be derived from MoRTH data book) as per schedule H.
- (C) Upon completion of the defined 'stage', a reconciliation of the Interim payments shall be carried out, and any balance amount shall be paid. For the avoidance of doubt, it is clarified that the interim monthly payments are made solely to maintain cash flow in the project. In the event of termination of the project, under Clause 23.1, 23.2 or 23.3, as the case may be, such interim payments shall be dealt with as per Clause 23.5 (i) (b) of the Contract Agreement.