

**CADANGAN KERJA-KERJA PENGISARAN DAN PENURAPAN SEMULA JALAN DI KAWASAN PARLIMEN-  
PARLIMEN DALAM WILAYAH PERSEKUTUAN KUALA LUMPUR UNTUK DEWAN BANDARAYA KUALA  
LUMPUR BAGI TEMPOH DUA (2) TAHUN**

**JADUAL KADAR HARGA NO. 1 : ROADWORKS**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
1-1	<b>MOBILIZATION AND DEMOBILIZATION</b>		
1-1-1	Mobilization and demobilization of road work machines with Roller, Paving Machine, Milling Machine and necessary machines.	no.	3,000.00
1-2	<b>CATIONIC BITUMINOUS EMULSION</b>		
1-2-1	Supply Cationic Bitumen Emulsion (RS-1K) conforming to the requirements of M.S. 161 & spread at an approximate rate of 0.4 - 0.5 litres/m <sup>2</sup> over consolidated road base.	m <sup>2</sup>	2.00
1-2-2	Supply Cationic Bitumen Emulsion (RS-2K) as specified and spread at an approximate rate of 0.4 - 0.5 litres/m <sup>2</sup> over the milled and cleaned surfaces or existing pavement surfaces.	m <sup>2</sup>	2.50
1-3	<b>CONSTRUCTION OF NEW ROAD AND ROAD WIDENING.</b>		
1-3-1	Supply all equipments, plant and labour <b>excavate to formation level</b> and depth <b>not exceeding 300mm</b> in pre-prepared lengths. prevent or minimise inconvenience to pedestrian and vehicular traffic, cart all excavated materials away from the site as directed. <b>Roll to formation with a roller of not less than 8 tonne weight to consolidate subgrade.</b> Excavated material shall be removed immediately from site to the Contractor's tip. Rates shall include all works mentioned above.	m <sup>2</sup>	7.00
1-3-2	- do - but for depth <b>exceeding 300mm but exceeding 450mm.</b>	m <sup>2</sup>	10.00
1-3-3	Provide all equipments & manpower to <b>Supply Quarry Dust</b> from an approved quarry to fill up low areas, level, spread & roll to depth of filling not exceeding 1.5m.	m <sup>3</sup>	8.55
1-3-4	<b>Excavate Soft Patches</b> and remove all debris from site. Depression to be <b>filled with Quarry Dust</b> supply from an approved quarry compact to correct formation level, roll and consolidate with an 8 ton roller or a powered wacker.	m <sup>3</sup>	142.50
1-3-5	Supply <b>Crusher Run Stone</b> from an approved quarry and spread over formation, fill interstices with a proportion of smaller gauge stones packed to a consolidated thickness or not less than <b>225mm (9 inches)</b> and <b>roll in two layers each of 112.5mm (4.5 inches)</b> with a roller of not less than 8 tonne weight true to line, camber and level.	m <sup>2</sup>	19.24
1-3-6	- do - but to a consolidated thickness of <b>not less than 300mm</b> and roll in three (3) layers each of 100mm.	m <sup>2</sup>	25.65
1-3-7	- do - but to a consolidated thickness of <b>not less than 375mm</b> and roll in four (4) layers each of 95mm.	m <sup>2</sup>	32.06
1-3-8	- do - but to a consolidated thickness of <b>not less than 450mm</b> and roll in four (4) layers each of 112.5mm.	m <sup>2</sup>	38.48
1-3-9	Purchase approved <b>Bituminous Macadam Binder Course ACB 28</b> (20mm nominal size granite agg.) from approved manufacturer, transport to site, spread and roll to a consolidated thickness of <b>not less than 50 mm</b> with a roller of not less than 10 tonne weight or an approved vibratory roller as directed by the S.O.	m <sup>2</sup>	27.00
1-3-10	- ditto - but for <b>Asphaltic Concrete AC 10, AC 14 or AC 20</b> (Marshal method) as per specified to a concolidated thickness of <b>not less than 40 mm thickness.</b>	m <sup>2</sup>	28.00

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<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
1- 4	<b>RECONSTRUCTION WORKS</b>		
1-4-1	Cut existing road surface with <b>Mechanical Diamond Cutter</b> in straight line or as new road alignment to a depth not less that 50mm as directed by the Engineer.	m	6.65
1-4-2	<b>Excavate to Break Up Existing road pavement</b> and dispose to tips provided by the Contractor and approved by the Engineer.	m <sup>3</sup>	30.40
1-4-3	Extra over Item 1-4-2 above for <b>excavation through soft patches</b> of existing sub-grade and dispose to tips provided by the contractor and approved by the Engineer.	m <sup>3</sup>	21.38
1-4-4	Extra over Item 1-4-2 above for <b>excavation through existing sub-grade</b> to depth <b>not exceeding 100mm</b> , and dispose to tips provided by the contractor and approved by the Engineer.	m <sup>2</sup>	2.85
1-4-5	Supply & spread <b>Quarry Dust or approved equivalent sub-base materials</b> over existing sub-grade or to replace excavated sub-grade materials as per Item 1-4-4 above & compact to a consolidated thickness of not less than 100mm	m <sup>2</sup>	8.55
1-4-6	Supply & spread <b>Quarry Dust or approved equivalent sub-base materials</b> to fill soft patches excavated area & compact to a consolidated levels as directed by the Engineer.	m <sup>3</sup>	85.50
1-4-7	Supply & spread <b>Crushed Aggregates</b> from an approved quarry, spread and compact to a consolidated thickness, true to line, level and camber.	m <sup>3</sup>	85.50
1-4-8	Purchase approved <b>Asphaltic Concrete Binder Course (ACB28)</b> , transport to site, lay & compact to a consolidated thickness of <b>not less than 100mm</b> as a <b>Binder Course</b> .	m <sup>2</sup>	54.15
1-5	<b>POTHOLE PATCH</b>		
1-5-1	Supply, leveling and compressing "Hot mixed" for pothole patching/ road repair work for "Pothole"/ Road damage using "Baby Roller/ Plate Compactor", "Breaker & Cutter" and all suitable equipment for the purpose of completing the work perfectly.	m <sup>2</sup>	249.38
1-6	<b>HOT RECYCLE THERMAL PATCHER</b>		
1-6-1	Deployment of Hot Recycle Thermal complete with suitable motor vehicle and qualified experience technical workers to repair Potholes and Damaged Road within the period of FULL 8 working hours.	no.	2,660.00
1-6-2	Supply all labour and bituminous material to repair the potholes or damaged road surface.	m <sup>2</sup>	150.00
1-7	<b>REGULATION WORKS</b>		
1-7-1	Purchase approved <b>Asphaltic Concrete Binder Course (ACB28)</b> transport to site, lay, regulate and roll to a consolidated level as directed by the Engineer.	M. Ton	240.00
1-7-2	- do - as per item 1-7-1 but to carry out works at <b>BACKLANE or SIDELANE</b>	M. Ton	275.50

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<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
1-8	<b>RESURFACING WORKS</b>		
1-8-1	Purchase approved Asphaltic Concrete Wearing Course ( <b>ACW 10 or ACW 14</b> ) transport to site, lay & compact- do as per specified to a consolidated thickness of not less than 40mm.	m <sup>2</sup>	30.88
1-8-2	- do - as per item 1-8-1 but works to carry out <b>at Sidelanes / Backlanes</b> having reserves of not more than 6 metres, entrances of houses / premises and road humps to line, level and profile as 'directed by the Engineer.	m <sup>2</sup>	28.98
1-8-3	<b>Trimming Road Edges</b> Supply all labour and tools to trim and clear edges of carriageways prior to the above mentioned works of all grass, vegetations, silt and others as instructed by the engineer. Rate to include for carting away to dumps to be provided by the Contractor.	m <sup>2</sup>	1.50
1-9	<b>MILL AND PAVE ASPHALTIC CONCRETE WEARING COURSE (ACW)</b>		
1-9-1	Supply power-operated cold milling machine to <b>MILL 50mm Thickness in a Single Pass</b> over existing pavement or uneven bituminous materials and transport all milling waste to DBKL stores or location as directed by the Engineer.	m <sup>2</sup>	6.00
1-9-2	- do - but <b>MILL exceeding 50mm Tickness. but not exceeding 100mm</b>	m <sup>2</sup>	8.00
1-9-3	Purchase approved <b>Asphaltic Concrete Wearing Course (ACW 10, ACW 14 or ACW 20)</b> (Marshal Method) as per specified to a consolidated thickness of not less than 50 mm.	m <sup>2</sup>	30.00
1-10	<b>MILL AND PAVE STONE MIXED ASPHALT (SMA)</b>		
1-10-1	Provide all approved machine, supply and transport to site <b>Fibre Stabilised Stone Mastic Asphalt (SMA Premium Grade Bitumen)</b> from approved Batch Plant to lay surface course of as specified transport to site, lay and roll to a consolidated thickness of not less than 50mm.	m <sup>2</sup>	55.00
1-11	<b>MILL AND PAVE FIBRE REINFORCED ASPHALT CONCRETE (FRAC)</b>		
1-11-1	Provide all approved machine, supply and transport to site <b>Fibre Reinforced Asphalt Concrete (FRAC)</b> from approved <b>Batch Plant</b> to lay surface course of as specified transport to site, lay and roll to a consolidated thickness of not less than 50mm.	m <sup>2</sup>	40.00
1-12	<b>MILL AND PAVE CUP LUMP ASPHALT CONCRETE (CLAC)</b>		
1-12-1	Provide all approved machine, supply and transport to site Cup Lump Asphalt Concrete from approved Batch Plant to lay surface course of as specified transport to site, lay and roll to a consolidated thickness of not less than 50mm.	m <sup>2</sup>	65.00

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<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
1-13	<b>MILL AND PAVE SEMI RIGID PAVEMENT</b>		
1-13-1	Purchased approved <b>Open Graded Asphaltic Concrete (with Polymer modified bitumen)</b> as specified, transport to site, lay and roll to a compacted thickness of not less than 50mm.	m <sup>2</sup>	48.00
1-13-2	Supply & Mix using an <b>Approved Continuous Flow Mixer</b> , pump and spread approved mortar over the Open Graded Asphaltic Concrete as specified in item 1-13-1. The finished surface to be broomed just before initial set. Colour to be its original <b>Natural colour GREY</b> .	m <sup>2</sup>	195.00
1-13-3	All as per item 1-13-2 above but approved mortar to be <b>Colour to be either RED, GREEN, YELLOW BLUE or RED</b> .	m <sup>2</sup>	205.00
1-14	<b>RIGID PAVEMENT USING FIBRE REINFORCED</b>		
1-14-1	Supply, lay, vibrate and screed Fiber Reinforced Concrete Grade 40, 150mm thick. Dosage of fibres is 4kg/cu.m.	m <sup>2</sup>	114.00
1-14-2	Supply, lay, vibrate and screed Fiber Reinforced Concrete Grade 40, 200mm thick. Dosage of fibres is 4kg/cu.m.	m <sup>2</sup>	142.50
1-15	<b>REMOVE OF HARDENED CONCRETE ON ROAD SURFACE</b>		
1-15-1	Deployment of complete machineries with suitable motor vehicles,tools, equipment and qualified experience technical workers to remove hardened concrete dirt on road within the period of full 8 working hours (included supply of 2 lorries,driver,4 worker,backhoe,compressor and hacker, etc)	L/S	2,185.00
1-15-2	To excavate hardened concrete dirt on road surface exceeding 1m <sup>2</sup> but not exceeding 5m <sup>2</sup> waste to be removed from site and dispose to location provided by contractor or as directed by the S.O	no.	3,325.00
1-15-3	To excavate hardened concrete dirt on road surface exceeding 5m <sup>2</sup> <b>but not exceeding 10m<sup>2</sup></b> waste to be removed from site and dispose to location provided by contractor or as directed by the S.O	no.	5,225.00
1-15-4	Deployment of complete machineries with suitable motor vehicles tools,equipment and workers to remove hardened concrete dirt on road and waste to be removed from site and dispose to location provided by contractor or as directed by the S.O	m <sup>2</sup>	100.00

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**JADUAL KADAR HARGA NO. 2 : INTERLOCKING PAVER**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
2-1	<b>INTERLOCKING &amp; CLAY PAVER, CULTURED GRANITE &amp; CONCRETE SLAB TILED &amp; OTHER MISCELLANEOUS FOOTPATH SURFACE.</b>		
2-1-1	<b><u>INTERLOCKING PAVER AND CONCRETE SLAB</u></b> Supply all plant and labour and <b>excavate to formation level</b> to depth <b>not exceeding 150mm</b> , cart away all excavated materials away to approved tips provided by the contractor. Roll formation with a roller of not less than 2 tonne weight to consolidate the <b>sub-grade / footpath foundation</b> .	m <sup>2</sup>	4.28
2-1-2	- do - but <b>exceeding 150mm but not exceeding 250mm depth</b> .	m <sup>2</sup>	7.13
2-1-3	Supply <b>Crusher Run Stone</b> from an approved quarry and spread over formation, fill interstices with a proportion of smaller gauge stones packed to a consolidated thickness or not less than 100mm and roll with a roller of not less than 2 tonne weight true to line, camber and level.	m <sup>2</sup>	8.55
2-1-4	Supply approved <b>Sand</b> , transport to site spread, roll and consolidate to thickness less than 30mm with a roller of not less than 2 tonne weight.	m <sup>2</sup>	3.80
2-1-5	Provide and lay <b>1:2:4 20mm aggregate concrete</b> in edge restrain. Include for all mixing, placing vibrating and consolidating as required. Include formwork and other necessary works.	m <sup>3</sup>	289.75
2-1-7	- do - but for <b>60mm heavy duty interlocking paving units (45 Mpa)</b> for driveway, car park and Drop-Off area.	m <sup>2</sup>	106.20
2-1-8	- do - but for <b>80mm heavy duty interlocking paving units (45 Mpa)</b> road traffic and vehicle area.	m <sup>2</sup>	119.40
2-1-14	Provide labour and materials, <b>carefully take out existing Interlocking Paving units, excavate formation</b> to a depth <b>not exceeding 140mm</b> remove all excavated material, supply crusher-run stone of granite or limestone from an approved quarry and spread over formation and consolidate with an 8 ton roller or powered wacker true to line, camber and level to a consolidated thickness of not less than 100mm. Supply approved sand, spread over crusher-run stone <b>foundation</b> , roll and consolidate to <b>thickness not less than 30mm</b> with roller not less than 2 tonne weight or powered wacker. Then lay the existing interlocking paving units back to exact line, level and gradient as required on the prepared sand bedding as described.	m <sup>2</sup>	24.70
2-1-18	Provide labour and materials, <b>carefully take out existing interlocking paving units, transport to Dewan Bandaraya Store</b> at Jalan Cheras or to any site in the Wilayah Persekutuan Kuala Lumpur as directed by the Engineer.	m <sup>2</sup>	17.58

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**JADUAL KADAR HARGA NO. 3 : RAISE UP MANHOLE WORKS**

ITEM	DESCRIPTION	UNIT	RATE
3-1	<b>RAISE UP MANHOLE WORKS</b>		
	<b><u>Jabatan Bekalan Air (JBA) Chambers</u></b>		
3-1-1	Supply all labour, materials, tool, barricades, road signs and raise or lower <b>Jabatan Bekalan Air (JBA) chambers Type 'B'</b> to the finished road level including hacking existing brick and/or concrete foundation to frame and giving protection for new works to set, all in accordance to JKAWS Standard Drawing	no.	500.00
3-1-2	- do - but SYABAS chambers Type 'E'	no.	500.00
3-1-3	-ditto- but SYABAS chambers Type 'E' extra large	no.	600.00
	<b><u>Jabatan Pembetung &amp; Perparitan (JP&amp;P) / IWK Manholes</u></b>		
3-1-4	All as per item 3-1-1 above but to raise or lower Jabatan Pembetungan & Perparitan / IWK heavy-duty cast iron manhole cover and frame all in accordance to JKAWS Standard Drawing.	no.	800.00
	<b><u>Telekom Malaysia Berhad (TM) Manholes</u></b>		
3-1-5	All as per item 3-1-1 above but to raise or lower TM Type 3E manhole cover and frame of dimension 2' x 2' all in accordance to JKAWS Standard Drawing	no.	800.00
3-1-6	- do - but for TM Type '7E' manhole cover and frame of dimension 3' x 2'	no.	900.00
3-1-7	<b><u>Sump Grating and Gully Trap</u></b> All as per item 3-1-1 above but to raise or lower Sump Grating and Gully Trap cover and frame all in accordance to JKAWS Standard Drawing	no.	100.00
3-1-8	<b><u>Heavyduty manhole slab with cover</u></b> All as per item 3-1-1 above but to raise or lower to finished existing/new road level including hacking existing brick and/or concrete foundation to frame and giving protection for new finished level. Work shall include road cutting by mechanical road cutter, hacking, clean surface and relay with epoxy compound as per specification on existing concrete surface, supply and installation, all in accordance to drawing No. JKAWS/SP/MH.	no.	1,425.00
3-2	<b>MISCELLANEOUS WORKS</b>		
3-2-2	Supply all labour and tools <b>trim, and clear edges of carriageways</b> prior to the above mentioned works of all grass, vegetations silt and others as instructed by the S.O. Rate to include for carting away to dumps to be provided by the Contractor.	m	1.50
3-2-3	Supply all labour , material and tools to install <b>NATURAL RUBBER HUMP (Intermediate Piece Size 500mm X 350mm X 50mm)</b> all as per Specification in the document. Rate shall include all Galvanised Steel Metal Plate ( <b>size 500mm X 350mm X 3mm</b> ) , Bolts & Nuts, drilling of holes and other related works to install the rubber hump.	m	80.00
3-1-3	-ditto- but for <b>END PIECE Size 250mm X 350mm X 50mm</b>	Pair	200.00
3-1-3	Supply all labour , material and tools to install <b>NATURAL RUBBER WHEEL STOPPER (Size 100mm X 150mm X 575mm)</b> all as per Specification in the document. Rate shall include all bolts & Nuts, drilling of holes and other related works to install in the Rubber Wheel Stopper.	no.	100.00
3-3	<b>TRASH SCREEN</b>		
3-3-1	Supply fabricate and fix in position, heavy duty mild steel trash screen consists of 50mm x 50mm x 12mm angle iron frame. Fill should be of 50mm x 12mm mild steel flats at 50mm centre to centre welded to frame.	m <sup>2</sup>	500.00

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**JADUAL KADAR HARGA NO. 4 : ROAD MARKING WORKS**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
4-1	<b>ROAD MARKING WORKS</b>		
4-1-1	Supply all labour, materials and equipment to apply <b>White or Yellow HOT THERMOPLASTIC Road Markings</b> (minimum 3mm thickness) as Edge lines, Center lines, Give-way lines, Yellows Bars, Yellow Boxes or any Continuous line on road pavements as directed by the Engineer using the Center lines, Give-way lines, Yellows Bars, Yellow Boxes or any <b>SCREED METHOD</b> all as per Specification in the document. Rate shall include the cleaning of road surface by water jetting and preliminary setting-out	m <sup>2</sup>	34.00
4-1-2	- do - as per Item 4-1-1 above but as Arrows, Alphabets or any special symbols as directed by the Engineer.	m <sup>2</sup>	38.00
4-1-3	Supply all labour, materials and equipment to apply <b>White or Yellow PREFORMED (All Weathered Thermoplastic)</b> 3mm thickness as Edge lines, Center lines, Give-way lines, Yellows Bars, Yellow Boxes or any Continuous line on road pavements as directed by the Engineer using the Center lines, Give-way lines, Yellows Bars, Yellow Boxes or any <b>SCREED METHOD</b> all as per Specification in the document. Rate shall include the cleaning of road surface by water jetting and preliminary setting-out	m <sup>2</sup>	109.25
4-1-4	- do - as per Item 4-1-3 above but as <b>PREFORMED TAPE (All Weathered Thermoplastic)</b> to design and lay Arrows, Alphabets or any special symbols as directed by the Engineer.	m <sup>2</sup>	147.25
4-1-5	Supply all labour, materials and equipment to apply <b>TWO COMPONENT COLD / HOT PLASTIC COATING (Rumble Strip)</b> 3mm thickness as for Traffic Reducing Speed line all as per Specification in the document. Rate shall include the cleaning of road surface by water jetting and preliminary setting-out	m <sup>2</sup>	395.00
4-1-6	Supply all labour and equipments to apply <b>SHOTBLASTING</b> treatment to remove existing road line / contaminations / coating on road surface without damaging the existing road surface inclusive its bituminous properties and bonding on any reduction in working life of the bituminous surface. Works shall include removal all debris from site.	m <sup>2</sup>	37.00
4-1-7	Supply all labour, materials and equipment to apply <b>RESIN BINDER COLOUR SURFACE (OMNIGRIP)</b> minimum 3mm thickness for Colour Road Surface all as per Specification in the document. Rate shall include cleaning of road surface by water jetting and other preliminary setting-out	m <sup>2</sup>	375.00
4-1-8	Supply all labour, materials and equipment to apply <b>MODIFIED COLD APPLIED COLOUR SURFACE TREATMENT (PUMATRACK)</b> minimum 3mm thickness for Colour Road Surface all as per Specification in the document. Rate shall include cleaning of road surface by water jetting and other preliminary setting out	m <sup>2</sup>	295.00
4-1-9	Supply all labour, materials and equipment to install <b>RAISED PAVEMENT MARKER (ROAD STUD)</b> all as per Specification in the document. Rate shall include drilling of hole and setting out the exact point where the marker to be install.	no.	45.50
4-1-10	Supply all labour, materials and equipment to install <b>THERMO NYLON POLYAMIDE DELINEATOR</b> size 84mm x 104mm all as per Specification in the document. Rate shall include drilling of hole and epoxy and setting out the exact point where the delineator to be install	no.	18.00
4-1-11	Supply all labour, materials and equipment to install high quality ABS or ASA <b>DELINEATOR</b> size 125mm x 70mm x 80mm all as per Specification in the document. Rate shall include drilling of hole and epoxy and setting out the exact point where the delineator instructed to be install	no.	35.00
4-1-12	-ditto- for Delineator size 160mm x 75mm x 90mm	no.	37.50

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**JADUAL KADAR HARGA NO. 5 : FIELD TESTING**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
5-1	<b>FIELD TESTING</b>		
5-1-1	Ground Penetrating Radar (GPR) Survey		
	(i) Pavement Layer Thickness Measurement	lane-km	489.25
	(ii) Void Detection at Bridge Approaches	bridge	5,747.50
	(iii) Utilities Detection	lump sum/day	8,217.50
5-1-2	Macro Texture Depth Measurement using Mini Texture Meter (MTM) mean value per 50 meter section)	50m Section	142.50
5-1-3	Road Profiler and Roughness Measurement using Walking Profiler	lane-km	3,325.00
5-1-4	Surface Irregularity Test using Rolling Straight Edge	300m Section	332.50
5-1-5	Tranverse Irregularity Test using Rolling Straight Edge	no.	30.40
5-1-6	Skid Resistance Test using Pendulum Tester	no.	33.25
5-1-7	Trial Pit - Excavate trial pit of size 1m x 1m, up to subgrade level and carry out logging and mapping side wall and backfilling	no.	1,315.75
5-1-8	Field Density Test (FDT)		
	(i) Sand replacement method (small pouring cylinder method)	no.	356.25
	(ii) Sand replacement method (large pouring cylinder method)	no.	413.25
	(iii) Percentage Refusal Density (PRD) Test	no.	380.00
5-1-9	In-situ CBR USING Clegg Hammer	no.	66.50

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**JADUAL KADAR HARGA NO. 6 : LABORATORY TEST**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
<b>6-1</b>	<b>AGGREGATE TESTING</b>		
6-1-1	Sieve Analysis	no.	80.94
6-1-2	Ten Percent Fines Value	no.	86.64
6-1-3	Aggregate Crushing Value	no.	86.64
6-1-4	Aggregate Impact Value	no.	80.94
6-1-5	Flakiness Index	no.	91.20
6-1-6	Elongation Index	no.	95.76
6-1-7	Augularity Number	no.	91.20
6-1-8	S.P Gravity / Water Absorption	no.	46.74
6-1-9	Unconfined Compressive Strength of Rock Core	no.	60.42
6-1-10	Polished-stone Value	no.	1,664.40
6-1-11	Aggregate Stripping Test	no.	91.20
6-1-12	Soundness of Aggregate	no.	152.76
6-1-13	Los Angeles Abrasion Value	no.	71.82
6-1-14	Silt / Clay Content	no.	64.98
6-1-15	Sulphate Content	no.	136.80
6-1-16	Chloride Content	no.	115.14
6-1-17	Procter Test	no.	112.86
6-1-18	Methylene Blue Test	no.	85.50
<b>6-2</b>	<b>BITUMEN TEST</b>		
6-2-1	Brookfield Viscosity	no.	171.00
6-2-2	Engler Viscosity	no.	96.90
6-2-3	Saybolt Furol Viscosity	no.	94.62
6-2-4	Settlement	no.	119.70
6-2-5	Sieve Test	no.	99.18
6-2-6	Residue on Sieving	no.	107.16
6-2-7	Particle Charge	no.	61.56
6-2-8	Residue & Oil Distillate by Distillation	no.	83.22
6-2-9	Engler Viscosity	no.	88.92
6-2-10	Storage Stability	no.	99.18
6-2-11	Workability	no.	57.00
6-2-12	Residue by Evaporation	no.	88.92
6-2-13	Penetration Test	no.	83.22
6-2-14	Flash Point	no.	77.52
6-2-15	Kinematic Viscosity	no.	156.18
6-2-16	Softening Point	no.	86.64
6-2-17	Ductility	no.	111.72
6-2-18	Water Content	no.	86.64
6-2-19	Binder Content	no.	86.64
6-2-20	Binder Recovery	no.	128.82
6-2-21	Bitumen Density	no.	79.80
6-2-22	Loss of Heating of Oil And Asphaltic Compound	no.	171.00
6-2-23	Specific Gravity	no.	88.92
6-2-24	Drop in Penetration	no.	79.80
6-2-25	Ph of Aqueous Solution	no.	43.32
6-2-26	Binder Drain (loose sample from client)	no.	85.50
6-2-27	Binder Drain with sample preparation	no.	193.80
6-2-28	Solubility Test	no.	216.60
6-2-29	Rolling Thin Film Oven Test ( RTFOT)	no.	285.00

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BANDARAYA KUALA LUMPUR BAGI TEMPOH DUA (2) TAHUN**

**JADUAL KADAR HARGA NO. 6 : LABORATORY TEST**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
6-2-30	The Film Oven Test (TFOT)	no.	273.60
6-2-31	Penetration on Residue	no.	111.72
6-2-32	Elastic Recovery	no.	114.00
6-2-33	Ductility on Residue	no.	114.00
6-2-34	Prepare Binder Modification	no.	205.20
<b>6-3</b>	<b>PREMIX TEST</b>		
6-3-1	<u>Marshall Test:-</u>		
	(i) Making of Test Specimen (permohonan hendaklah mengemukakan bahan-bahan seperti batu baur, filler dan binder)	no.	108.30
	(ii) Preparation Specimen from Loose Sample	no.	51.30
	(iii) Density of Test Specimen	no.	45.60
	(iv) Determination of Voids	no.	347.70
	(v) Measurement of Flow & Stability	no.	52.44
6-3-2	Determination of Binder Content	no.	128.82
6-3-3	Grading of Mineral Aggregate	no.	49.02
6-3-4	Resilient Modulus	no.	336.30
6-3-5	Indirect Tensile Test (ITS)	no.	52.44
6-3-6	Dynamic Creep Modulus / Repeated Load Axial Test	no.	427.50
6-3-7	Cantabro	no.	71.82
6-3-8	Fatigue Test	no.	1,710.00
6-3-9	Wheel Tracking	no.	427.50
6-3-10	Making of Wheel Tracking Specimen	no.	216.60
6-3-11	Theoretical Maximum Specific Gravity	no.	79.80
6-3-12	Water Susceptibility	no.	91.20
6-3-13	Jet Fuel Immersion	no.	342.00
6-3-15	Kinematic Viscosity	no.	156.18
6-3-16	Softening Point	no.	86.64
6-3-17	Ductility	no.	111.72
6-3-18	Water Content	no.	86.64
6-3-19	Binder Content	no.	86.64
6-3-20	Binder Recovery	no.	128.82

**CADANGAN KERJA-KERJA PENGISARAN DAN PENURAPAN SEMULA JALAN DI KAWASAN  
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BANDARAYA KUALA LUMPUR BAGI TEMPOH DUA (2) TAHUN**

**JADUAL KADAR HARGA NO. 6 : LABORATORY TEST**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
6-4	<b>LABORATORY MIX DESIGN</b>		
6-4-1	Conventional Mixes		
	(i) Dense Bituminous Macadam (DBM)	no.	760.00
	(ii) Asphaltic Concrete Binder Course (ACBC)	no.	1,425.00
	(iii) Asphaltic Concrete Wearing Course (ACWC)	no.	1,425.00
6-4-2	Wet Mix Macadam	no.	380.00
6-4-3	Technology Mixes		
	(i) Hot In Place Recycling (HIPR)	no.	2,375.00
	(ii) Cold In Place Recycling with Cement (CIRP + C)	no.	1,425.00
	(iii) Cold In Place Recycling with Emulsion (CIRP + E)	no.	1,900.00
	(iv) Cold In Place Recycling with Lime (CIRP + L)	no.	1,425.00
	(v) Foam Bitumen Recycling (FOAM)	no.	3,800.00
6-4-4	Modified Mix	no.	1,900.00
6-4-5	Porous Mix	no.	1,900.00
6-4-6	Modified Binder		
	(i) Very Thin Overlay (VTO)	no.	2,375.00
	(ii) Drainage Asphalt (Drainage)	no.	2,375.00
6-4-7	Cement Stabilized Mixes		
	Preparation, remoulding, during, specimen for compressive strength	no.	47.50

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BANDARAYA KUALA LUMPUR BAGI TEMPOH DUA (2) TAHUN**

**TABLE 7: DATA COLLECTION**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>RATE</b>
7-1	<b>DATA COLLECTION</b>		
7-1-1	Approved Road Scanner (IRS) Survey	lane-km	266.00
7-1-2	Falling Weight Deflectometer (FWD) Test	no.	83.60
	(i) 50 m Intervals	lane-km	503.50
	(ii) 100m Intervals	lane-km	437.00
	(iii) 200m Intervals	lane-km	361.00
7-1-3	Manual Surface Condition Survey	lane-km	171.00
7-1-4	Extraction of Asphalt Core (4" dia)	no.	125.40
7-1-5	Extraction of Asphalt Core (6" dia)	no.	142.50
7-1-6	Dynamic cone Penetrometer (DCP)Test (up to subgrade level or Max 1.2m depth)		125.40
7-1-7	Skid Resistance Test using Grip Tester		475.00
	(i) Minimum survey length (SL) = 400 LANE-KM	lane-km	
	(ii) 800>SL>400	lane-km	380.00
	(iii) 1200>SL>800	lane-km	332.50
	(iv) SL>1000	lane-km	285.00
7-1-8	<p>Supply all labour and equipments to carry out Pavement Condition Assesment on using as per specification and procedure stated in the documents. Work shall include HDM4 analysis to generate maintenance treatment data after data being collected by the follwing a, b, c &amp; d data collector test.</p> <p><b>a. MULTI LASER PROFILER SURVEY,</b>  <b>b. FALLING WEIGHT DEFLECTOMETER</b>  <b>c. ASPHALT CORING</b>  <b>d. DYNAMIC CONE PENETROMETER TEST</b></p> <p>NOTE : The contractor are allowed to utilise upon approval and supervision by DBKL personal <b>SPAJa Road Asset Management System</b> install in DBKL network and server.</p>	lane-km	1,520.00