

| INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH                             |  |      |          |                             |                   |
|--|--|------|----------|-----------------------------|-------------------|
| CONSTRUCTION OF ROADS IN ACADEMIC AREA AT IISER CAMPUS, VITHURA(BALANCE WORKS) |  |      |          |                             |                   |
| SCHEDULE OF QUANTITIES   |  |      |          |                             |                   |
| ITEM NO  | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 1.0  | <b>SITE CLEARANCE</b>  |      |          |                             |                   |
| 1.1  | Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area .  | Sqm  | 2960.00  |                             |                   |
| 1.2  | Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 metres |      |          |                             |                   |
| a)   | Cement concrete grade M10 and below  | Cum  | 3.00     |                             |                   |
| b)   | Cement concrete grade M15 and M20  | Cum  | 2.00     |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| c)                     | Stone masonry  | Cum  | 45.00    |                             |                   |
| d)                     | Steel bars all dia   | kg   | 60.00    |                             |                   |
| <b>2.0</b>             | <b>EARTH WORK</b>  |      |          |                             |                   |
| 2.1                    | Removal of unserviceable soil including excavation, loading and disposal upto 1000 metres lead but excluding replacement by suitable soil which shall be paid separately as per MoRTH specification clause 305.  | Cum  | 1650.00  |                             |                   |
| 2.2                    | Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m |      |          |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS  | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| a)                     | All kind of soil  | Cum  | 2080.00  |                             |                   |
| b)                     | Ordinary rock   | Cum  | 285.00   |                             |                   |
| c)                     | Hard rock ( Blasting prohibited)  | Cum  | 500.00   |                             |                   |
| 2.3                    | Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2 as per Technical specifications and as directed by the Engineer-in-charge.                   | Cum  | 2400.00  |                             |                   |
| 2.4                    | Construction of sub-grade and earthen shoulders with approved material available at site with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2 as per Technical specifications and as directed by the Engineer-in-charge. | Cum  | 1075.00  |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 2.5                    | Back filling behind abutments, wing walls, earth retaining walls, and return walls with selected granular material of approved quality including all material, labour, equipment carriage etc. all complete as per drawings and Technical Specifications Clause 305 & 2907.  | Cum  | 180.00   |                             |                   |
| 2.6                    | Loosening, leveling and Compacting original ground supporting subgrade upto a level of 500 mm below the subgrade level, watered, graded and compacted in layers to meet requirement of table 300-2 for subgrade construction complete as per Technical specifications and as directed by the Engineer-in-charge.   | Cum  | 1592.00  |                             |                   |
| 2.7                    | Scarifying existing WBM/GSB to a depth of 50 mm by mechanical means and milling & mixing with exiting sub-base material as directed by the Engineer-in-charge.   | Sqm  | 9188.00  |                             |                   |
| 3.0                    | <b>SUB-BASES AND BASES (NON-BITUMINOUS)</b>  |      |          |                             |                   |
| 3.1                    | Construction of granular sub-base by providing close graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <b><u>mix in place method</u></b> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401<br><br><b>Note:</b><br><b>2000 Cum of graded stone aggregate of size 53mm to 40mm will be supplied by the department at a recovery rate of Rs.1,100/-per Cum as indicated in Schedule 'B'. Balance supply is in the scope of this item</b> |      |          |                             |                   |
|                        | For Grading-I Material<br>53 mm to 9.5 mm @ 50 per cent<br>9.5 mm to 2.36 mm @ 20 per cent<br>2.36 mm below @ 30 per cent  | Cum  | 4276.00  |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 3.2                    | Providing, laying, spreading and compacting graded stone aggregate to <b>wet mix macadam</b> specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.   | Cum  | 1677.00  |                             |                   |
| 4.0                    | <b>BASES AND SURFACE COURSES (BITUMINOUS)</b>  |      |          |                             |                   |
| 4.1                    | Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means as per MoRTH specification Clause 502  | Sqm  | 16763.00 |                             |                   |
| 4.2                    | Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects. | Cum  | 1006.00  |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS  | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 4.3                    | Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 to 0.25kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per MoRTH specificationn clause 503   | Sqm  | 16763.00 |                             |                   |
| 4.4                    | Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects   | Cum  | 671.00   |                             |                   |
| 4.5                    | Providing and laying 50 mm thick mastic asphalt wearing course 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 finegrained hard stone chipping of 13.2 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 is not less than 1000C, protruding 1 mm to 4 mm over mastic surface, all complete as per MoRTH specification clause 515. | Sqm  | 275.00   |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS  | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 4.6                    | Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type B seal coats   | Sqm  | 16763.00 |                             |                   |
| 5.0                    | <b>FOOTPATHS AND KERBS</b>  |      |          |                             |                   |
| 5.1                    | Construction of cement concrete kerb with Precast kerb stone of size of top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, all complete as per MoRTH specification clause 408)<br><br><b>Note:</b><br><b>3500 Nos of Kerb stone having length 50 cm will be supplied by the department at a recovery rate of Rs.133.80/- each as indicated in Schedule 'B'. The remaining kerb stone supply will be in the scope of this item</b> | m    | 4536.00  |                             |                   |
| 5.2                    | Providing and fixing PCC M20 grade precast blocks of size 500 mm X 250 mm X 75 mm is fixing in other side of the footpath complete all as per the direction of Engineer incharge.   | m    | 3686.00  |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS  | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 5.3                    | Providing and laying factory made coloured chamfered edge CementConcrete paver blocks of required strength, thickness & size/shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick mpacted bed of fine sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with jamuna sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand in footpath, parks, lawns, drive ways or light traffic parking etc. complete as per manufacturer's specifications & direction of Engineerin-Charge. 60mm thick C.C. paver block of M-35 grade with approved colour, design & pattern. | Sqm  | 5431.00  |                             |                   |
| 6.0                    | <b>PROTECTION WORK</b>  |      |          |                             |                   |
| 6.1                    | Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally for road work.   |      |          |                             |                   |
| a)                     | All kind of soil  | Cum  | 485.00   |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS  | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| b)                     | Ordinary rock   | Cum  | 16.50    |                             |                   |
| 6.2                    | Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days. | Cum  | 60.00    |                             |                   |
| 6.3                    | Random Rubble Masonry Work in Cement Mortar 1:3 in Foundation complete as per Drawing and Technical Specifications.   | Cum  | 663.00   |                             |                   |
| 6.4                    | Pointing with cement mortar (1:3 ) on RR Masonry works as per Technical Specifications and direction of the Engineer in charge.   | Sqm  | 1190.00  |                             |                   |
| 6.5                    | Plastering with cement mortar (1:4 ) in 20mm thickness on Top of RR Masonry work as per Technical Specifications and direction of the Engineer in charge.   | Sqm  | 192.00   |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS  | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 6.6                    | Providing, fencing and erecting 50 mm dia painted steel pipe railing in 3 rows on precast M20 grade RCC vertical posts 1.8 metres high (1.2 m above GL) with 3 holes 50 mm dia for pipe, fixed 2 metres centre to, complete as per approved drawing   | m    | 150.00   |                             |                   |
| 6.7                    | Brick masonry work in cement mortar 1:3 in structure complete excluding pointing and plastering, as per drawing and Technical Specifications  | Cum  | 13.00    |                             |                   |
| 6.8                    | Plastering with cement mortar (1:3 ) on brick work in structure as per Technical Specifications   | Sqm  | 73.00    |                             |                   |
| 6.9                    | Construction of Median and Island above road level with approved material deposited at site from roadway cutting and excavation for drain and foundation of other structures, spread, graded and compacted as per MoRTH specification clause 407  | Cum  | 74.00    |                             |                   |
| 6.10                   | Construction of RCC railing of M30 Grade, in-situ with 20mm nominal size aggregate, including necessary centering & shuttering but excluding cost of reinforcement, 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 2000mm, leaving adequate space between vertical post for expansion, complete as per approved drawing and MoRTH specification Section 2703, 1500, 1600 & 1700. | m    | 64.00    |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 6.11                   | Providing and laying stone pitching in slopes complete as per drawings and MoRTH specification Section 2500.   | Cum  | 433.20   |                             |                   |
| 6.12                   | Reinforced cement concrete including centering and shuttering but excluding cost of reinforcement all complete as per drawing and MoRTH specification Sections 1500 & 1700-in bridges( foundation/ Sub structure/Super structure), and culverts. |      |          |                             |                   |
| a)                     | M-30 grade (Cement content 420kg/cum)  | Cum  | 114.00   |                             |                   |
| 6.13                   | Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.   | Cum  | 195.00   |                             |                   |

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| <b>7.0</b>             | <b>SURFACE DRAIN AND OTHER WORK</b>   |       |          |                             |                   |
| 7.1                    | Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days. | Cum   | 85.00    |                             |                   |
| 7.2                    | Providing and laying PCC 1:2:4 in drain and other works complete as per drawing and Technical Specifications  | Cum   | 46.00    |                             |                   |
| 7.3                    | Providing and laying RCC M20 grade in drain and other works complete as per drawing and Technical Specifications  | Cum   | 450.00   |                             |                   |
| 7.4                    | Supplying, fitting and placing HYSD bar reinforcement in structure complete as per drawing and Technical Specifications   | Tonne | 38.00    |                             |                   |
| 7.5                    | Plastering with CM 1:4 mix (one cement and 4 sand) 12mm thick including cost and conveyance and all labour charges etc. complete as per standard specification  | Sqm   | 4942.00  |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| 7.6                    | Construction of RCC M20 grade foundation suitable for 8 mtr octagonal pole along with four numbers of 20mm dia x 750 mm long J bolts for fixing pole and sleeves for loop in- loop out of cable etc complete all as per the approved drawings and direction of the Engineer in charge.   | Each | 37.00    |                             |                   |
| 8.0                    | <b>TRAFFIC SIGNS, MARKINGS &amp; OTHER ROAD APPURTENANCES</b>  |      |          |                             |                   |
| 8.1                    | Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per approved drawing, Technical specification and as per the instruction of the Engineer-in-charge. The finished surface to be level, uniform and free from streaks and holes. |      |          |                             |                   |
| (a)                    | Lane, Centreline, Edge and other marking along strips.   | Sqm  | 585.00   |                             |                   |
| 8.2                    | Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces   | Sqm  | 1104.00  |                             |                   |
| 8.3                    | Painting on concrete surface   |      |          |                             |                   |

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| ITEM NO                | DESCRIPTION OF ITEMS   | UNIT | QUANTITY | RATE<br>(In Figure & Words) | AMOUNT<br>Rs. Ps. |
| a)                     | Providing and applying 2 or more 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. | Sqm  | 236.00   |                             |                   |
| 9.0                    | QUOTE RATE ONLY  |      |          |                             |                   |
| 9.1                    | Deduct for using less cement than the quantity as provided in the item of batch mix concrete/ RMC as arrived as per mix design.  | kg   |          |                             |                   |
|                        | TOTAL  |      |          |                             |                   |
|                        | Rebate if any  |      |          |                             |                   |
|                        | Net Amount   |      |          |                             |                   |
| (Rupees.....)          |  |      |          |                             |                   |

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