# E-E

# Format for information to SQM for Inspection of PMGSY Work <u>PART I- Work Information (To be filled-up by PIU)</u>

|                    | Work is Ongoing Completed  |  |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|--|
| GENI               | ERAL:  DD MM VV 29.12.2018   |  |  |  |  |  |  |
| 1.1.               | Date of Inspection.  |  |  |  |  |  |  |
| 1.2.               | Name of State Quality Monitor: Er. Sharmanna Prasad  |  |  |  |  |  |  |
| 1.3.               | District: Menger Block: Jetiyabamber   |  |  |  |  |  |  |
| 1.4.               | Name of Road: From L049-L030 Bhalgeri to Bhalgeri Basa                                       |  |  |  |  |  |  |
| 1.5.               | Package No.: BR-22R-   |  |  |  |  |  |  |
| <b>1.6.</b> Total. | Length:Km Flexible Pavement,Km. CC/other Pavement .5.54.m. =                                 |  |  |  |  |  |  |
| 1.7.               | Estimated Cost (As cleared by GOI): Rs. 51.90 Lakh   |  |  |  |  |  |  |
| 1.8.               | Technical Sanction Cost:  Rs. 51-90  Lakh  |  |  |  |  |  |  |
| 1.9.               | The Work is a Case of: New connectivity Up gradation   |  |  |  |  |  |  |
| 1.10.              | Terrain Plain Rolling Hilly  |  |  |  |  |  |  |
| 1.11.              | Date of Start of the Work: 06 07 18  |  |  |  |  |  |  |
| 1.12.              | Stipulated Date of Completion: 65 67 19  |  |  |  |  |  |  |
| 1.13.              | Actual Date of Completion (if work completed):   |  |  |  |  |  |  |
| 2.<br>Progra       | PHYSICAL PROGRESS: (In case of On going works only) Construction amme and Physical Progress: |  |  |  |  |  |  |

| Completed          | Dates for  | Start   | Completion  | Delay in  |  |
|--------------------|------------|---|---|---|--|
| percentage of Item | completion | Date  | Date  | Months  |  |
| 651                | Due        |   |   |   |  |
| 001.               | Actual     |   |   |   |  |
| NIL                | Due        |   |   |   |  |
| 10.                | Actual     |   |   |   |  |
| 1000               | Due        |   |   |   |  |
| 100/               | Actual     |   |   |   |  |
| 1001               | Due        |   |   |   |  |
| 100/.              | Actual     |   |   |   |  |
| NIII               | Due        | la hour   |   |   |  |
| 10.1               | Actual     |   |   |   |  |
| 10001              | Due        |   |   |   |  |
|                    | Actual     |   |   |   |  |
| Logo & Cetizen     | Due        |   |   |   |  |
| enformation        | Actual     |   |   |   |  |
|                    |            | percentage of Item  65%  Due Actual  Due Actual | percentage of Item completion Date    Completion Date | Due   Due   Due   Actual   Actual   Due   Actual |  |

#### 3. **QUALITY CONTROL:**

3.1. Location of Field Laboratory: At Bhalguri

Contractor/PSU 3.2. Quality Control Register Part-I is maintained by:

3.3. Quality Control Register Part-II is maintained by:

4. INSPECTIONS BY NQM, SQM or SENIOR OFFICERS AND ACTION TAKEN:

Inspection by NQMs, SQMs and senior (i.e. SE or CE) departmental officers and action taken statement:

| Date of<br>Visit | Inspected<br>By              | Observations | Action Taken by PIU with Date |
|------------------|------------------------------|--------------|-------------------------------|
| 18.11.18         | P. N<br>Baspaye<br>"N. R. M" | SR1.         | Action laken.<br>by PIU.      |
|                  |                              |              |                               |
|                  |                              |              |                               |
|                  |                              |              |                               |

Name and Signature of the Head of PIU, Date:.....

# Report of State Quality Monitor (SQM) PART II—Observations of SQM for Ongoing/Completed Work

(To be filled-up by SQM, use additional sheets, if required.)

Stage of Work: I II III

## 1. SETTING OUT AND WORKING DRAWING: For all stages of work

| # | Whether Bench marks @ 4 per km established (Y/N) |      | Whether Center Line of<br>Carriage Way accurately<br>established and<br>referenced with Marker<br>Pegs and Chainage<br>Boards (Y/N) | prepared Working Drawing for the work under progress is |
|---|--|------|---|---|
|   | Y  | W my | Y   | Y   |

| Grading: Grade: S SRI U suggestions for improvement: | If this item is graded SRI/U, write clear reasons and |
|--|---|
|  | S   |
|  |   |

## 2. SITE CLEARANCE AND GRUBBING: For Stage I of Work

| # | Grubbing being done<br>as per DPR and<br>Material obtained is<br>being disposed off | available from<br>scarifying existing work | Name the reusable material obtainable from clearance or scarification and indicate approximate quantity and its re-use by the PIU. |
|---|---|--|--|
|   | 7   |  |  |

| Grading: Grade S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement: |
|---|
| `s'   |
|   |

# 3. QUALITY ARRANGEMENTS AND ATTENTION TO QUALITY - For all stages of work

Observations about Field Laboratory:

| # | Whether Field laboratory Established (Y/N) | 1 1 | Whether adequate Equipments as per requirement of work are available and are being used.  (Y/N) |
|---|--|-----|---|
|   | 4  |     | 7   |

Observations about Mandatory Tests - Detail out the quantities of various items of works and list the tests required. (Refer to abstract of QC Register Part-I)

| # | Item of<br>Executed | Work       | Quantity | Name of<br>Test | No. of required | Tests | No. of Tests<br>Conducted by<br>PIU/Contractor |
|---|---------------------|------------|----------|-----------------|-----------------|-------|--|
|   |                     |            |          |                 |                 |       |  |
|   |                     |            |          |                 |                 |       |  |
|   |                     |            |          |                 |                 |       |  |
| - |                     |            |          |                 |                 |       |  |
| - |                     |            |          |                 |                 |       |  |
|   |                     |            |          |                 |                 |       |  |
|   |                     |            |          |                 |                 |       |  |
|   |                     | Jagarian - |          |                 |                 |       |  |
|   |                     |            |          |                 |                 |       |  |
|   |                     |            | Mary Lan |                 |                 |       |  |
|   |                     |            |          |                 |                 |       |  |
|   |                     |            |          | 200             |                 |       |  |
|   |                     |            |          |                 |                 |       |  |

| # | quantities whether all | Whether QC Register Part I maintained as per provisions.  Yes Partly No | Whether QC Register Part II maintained and test results monitored as per provisions.  Yes Partly No |
|---|------------------------|---|---|
|   |                        |   |   |

| Grading: Grade: suggestions for imp | S SRI U If this item is graded SRI/U, write clear reasons and provement: |
|-------------------------------------|--|
|                                     | 's'  |
|                                     |  |
|                                     |  |

4. GEOMETRICS: The SQM should take at-least two measurements in 1 Km length and if it is found that the roadway and carriageway is inadequate SQM may take more observations:

Observations -Road way width, Carriage way and Camber.

| Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way Width<br>(m) | Camber in % | Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way<br>Width (m) | Camber in % |
|------------|-------------------------|------------------------------|-------------|------------|-------------------------|------------------------------|-------------|
| 65°        | 6.0                     | 4.0                          |             |            |                         |                              |             |
|            |                         |                              |             |            |                         |                              |             |
|            |                         |                              |             |            |                         |                              |             |

Observations - Super-elevation and Extra Widening at curves.

| Ref.<br>RD | Super<br>Elevation | Extra Widening provided (Y/N) | Ref. RD | Super<br>Elevation | Extra Widening provided (Y/N) |
|------------|--------------------|-------------------------------|---------|--------------------|-------------------------------|
|            |                    |                               |         |                    |                               |
|            |                    |                               |         |                    |                               |
|            |                    |                               |         |                    |                               |

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         | 3   |
|                         |   |
|                         |   |

## OBSERVATIONS REGARDING THE QUALITY OF ITEMS OF WORK:

#### 5. Earthwork:

Observations —Quality of Material for Embankment/ Sub-grade:

| # | Location (RD)     | On Visual Classification identify the Group Symbol and write | Quality of material is acceptable. (Y/N) |
|---|-------------------|--|--|
|   | 650M              | Sandy Soil   | Y  |
|   | A Village Library |  |  |
|   |                   |  |  |
|   |                   |  |  |
|   |                   |  |  |

| G   | rade:             | S U or improvemen              | If this item is                             | graded U, write                 | clear reasons a   | ind                  |
|-----|-------------------|--------------------------------|---|---------------------------------|---|----------------------|
|     |                   |                                | `s'   |                                 |   |                      |
|     |                   |                                |   | Land Sul                        | b grade Const   | ruction:             |
| )b  |                   |                                |   | kment and Sul                   |   |                      |
| #   | Location (RD)     | MDD kN/m<br>(As per<br>record) | Field Moisture Content                      | Field Density kN/m <sup>3</sup> | Dry Density<br>kN/m <sup>3</sup>  | Compaction adequate. |
|     | 620M              | ·                              |   |                                 |   | Y                    |
|     |                   |                                |   |                                 |   |                      |
|     |                   |                                | H   |                                 |   |                      |
|     |                   |                                |   |                                 |   |                      |
|     |                   |                                |   |                                 |   |                      |
|     | rade: S provement |                                | item is grade                               | d U, write clear                | reasons and su  | ggestions for        |
|     |                   |                                |   |                                 |   |                      |
| )ho | servation -       | Side slones a                  | and profile:                                |                                 |   |                      |
| )bs |                   |                                | and profile:<br>Thether Side atisfactory (Y |                                 | Whether properties at infantistic states of the states of |                      |
|     |                   | on (RD) W                      | hether Side                                 |                                 |   |                      |
|     |                   | on (RD) W                      | hether Side                                 |                                 |   |                      |

# Observations - Earth work in Hilly/Rolling terrain or high Embankments:

| # | Location (RD) | Cut Slopes & Profile, whether appears to be stable. (Y/N) | Adequate slope protection works executed. (Y/N) | Formation is properly dressed and traffic worthy. (Y/N) |
|---|---------------|---|---|---|
|   |               |   |   |   |
|   |               |   |   |   |
|   |               |   |   |   |

# Observations - Longitudinal Gradient in case of road in hilly/rolling terrain:

| Ref. Between RD& RD | Longitudinal<br>Gradient | S/U     | Ref. Between RD& RD | Longitudinal<br>Gradient | S/U |
|---------------------|--------------------------|---------|---------------------|--------------------------|-----|
|                     |                          |         |                     |                          |     |
|                     |                          |         |                     |                          |     |
|                     |                          | L Parth |                     |                          |     |

| Grade: S U If this item is graded U, write clear reasons and suggestions for improvement: |  |
|---|--|
|   |  |
|   |  |

### 6. Sub-Base:

## Observations - Quality of Material and Workmanship:

| # | Location<br>(RD) | Confirms<br>to<br>Grading.<br>(Y/N) | Suitable from plasticity angle. (Y/N) | Whether compaction is adequate.  (Y/N) | Observed<br>Thickness<br>of Layer<br>(in mm) | Prescribed Thickness provided (Y/N) |
|---|------------------|-------------------------------------|---------------------------------------|--|--|-------------------------------------|
|   | 620 W            | Y                                   | Y                                     |  | 200 ma                                       | У                                   |
|   |                  |                                     |                                       |  |  |                                     |
|   |                  |                                     |                                       |  |  |                                     |
|   |                  |                                     |                                       |  |  |                                     |

| Grade: S U for improvement: | If this item is graded U, write clear reasons and suggestions |
|-----------------------------|---|
|                             | 'S'   |
|                             |   |

## 7. Base Course:

Observations- Quality of Material and Workmanship of WBM:

| # | Location (RD) | Thickness<br>of each<br>layer of<br>WBM<br>(mm) | Thickness<br>is<br>adequate.<br>(Y/N) | Aggregate confirms to Grading (Y/N) | Filler material is non-plastic to desired extent. (Y/N) | Volume of<br>filler<br>material<br>percent of<br>course<br>aggregate | Whether adequate compaction is done.  (Y/N) |
|---|---------------|---|---------------------------------------|-------------------------------------|---|--|---|
|   | 620 M         | WILLY   | . Y                                   |                                     |   |  | Y   |
|   |               | 72MM  |                                       |                                     |   |  |   |
|   |               |   |                                       |                                     |   |  |   |
|   |               |   |                                       |                                     |   |  |   |

**Observations** - Surface evenness: Surface evenness in about 200 m critical representative length of completed WBM:

Grade: S U If this item is graded U, write clear reasons and suggestions for improvement:

'S

8. Bituminous Course: Premix Carpet/Surface Dressing/BM/MPM etc including Seal Coat: Observations - Quality of Material and Workmanship of BT Layer (in case of ongoing works):

Observations about level of cleanliness of WBM surface prior to application of bituminous layer. (if work is ongoing observe the surface. If BT layer laid, assess by carefully removing the BT layer.):

**Observations** about Quality of Prime Coat and Tack Coat with respect to quality of material and workmanship - Visual Observation - if work is ongoing:

In case of PMC/RM/MPM/ Seal Coat

| In | case of PMC      | JBM/MPM/S   |  |   |   |
|----|------------------|---|--|---|---|
| #  | Location<br>(RD) | Whether Course Aggregate confirms to grading. (Y/N) | Whether the binder is of approved grade. (Y/N) | Write Mixing Temperature and whether it is in permissible limits. (Y/N) | Write Laying Temperature and whether it is in permissible limits. (Y/N) |
|    |                  | giles esty  | W. C.      |   |   |
|    |                  | pl quientmets                                       |  |   |   |
|    |                  |   |  |   |   |
|    |                  |   |  |   |   |
|    |                  |   |  |   |   |

| 10. | Cross Drainage Works. | Observe                        |
|-----|-----------------------|--------------------------------|
| T#  | DD .                  | Observations - Quality of CDs: |

| # | RD at which               | T          | Camey of CD  |   |          |
|---|---------------------------|------------|--|---|----------|
|   | RD at which CD is located | Type of CD | Whether quality of the material is acceptable. (Y/N) | Whether quality workmanship acceptable. (Y/N) | of<br>is |
|   |                           |            |  |   |          |
|   |                           |            |  | - 1 CHESTON                                   |          |
|   |                           |            |  |   |          |

| Grade: S SRI U suggestions for improvement: | If this item is graded SRI/U, write clear reasons and |
|---|---|
|   |   |

# 11. Side Drains and Catch water Drains: Observations:

|   | # | Reference of RDs where side drain constructed. | RD at which observation made. | Whether general quality of the side drains/ catchwater drains is acceptable. (Y/N) | are integrated to |
|---|---|--|-------------------------------|--|-------------------|
|   |   |  |                               |  |                   |
| - |   |  |                               |  |                   |
| L |   |  |                               |  |                   |

| S SRI U | If this item is graded SRI/U, write clear reasons and ent: |
|---------|--|
|         |  |
|         |  |

# 12. CC/ Semi-Rigid (SR) Pavements and Associated Pucca Side Drains:

| # | Reference of                         | RD at                    |                 | kness            | General quality of            | General quality of                 |
|---|--------------------------------------|--------------------------|-----------------|------------------|-------------------------------|------------------------------------|
|   | RDs, CC/SR<br>Pavements<br>provided. | which observati on made. | Thickness in mm | Acceptable (Y/N) | material is acceptable. (Y/N) | workmanship<br>acceptable(Y/<br>N) |
| - | 0-20 M                               | 20M                      | 100mm           | , 7              | 7                             | Y                                  |
|   |                                      |                          |                 |                  |                               |                                    |
|   |                                      |                          |                 | +                |                               |                                    |
|   |                                      |                          |                 |                  |                               |                                    |
|   |                                      |                          |                 |                  |                               |                                    |

Comments about adequacy of face/main walls, wings and retaining walls:

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         | S   |
|                         |   |
|                         |   |

#### Road Furniture and Markings 13.

Observations - Item No. 14 a: Quality Road Furniture and Markings: Main Informatory Board Fixed:

Yes No

Citizen Information Board Fixed:

Grade: S improvement:

If this item is graded U, write clear reasons and suggestions for

# Observations - Quality Road Furniture and Markings:

- 13.1.1. Logo Boards Fixed:
- 13.1.2. 200m. Stones fixed:
- 13.1.3. 1 Km. Stone fixed:
- 13.1.4. Guard Stones fixed on Curves:
- 13.1.5. Mandatory and Cautionary Signage

Yes No

Yes No

Yes No Yes No

Yes No

If this item is graded U, write clear reasons and suggestions for Grade: S U improvement:

General Observations of SQM, (including the observations made during the 14. interaction with PIU staff and Contractor's/ Consultant's Engineers):

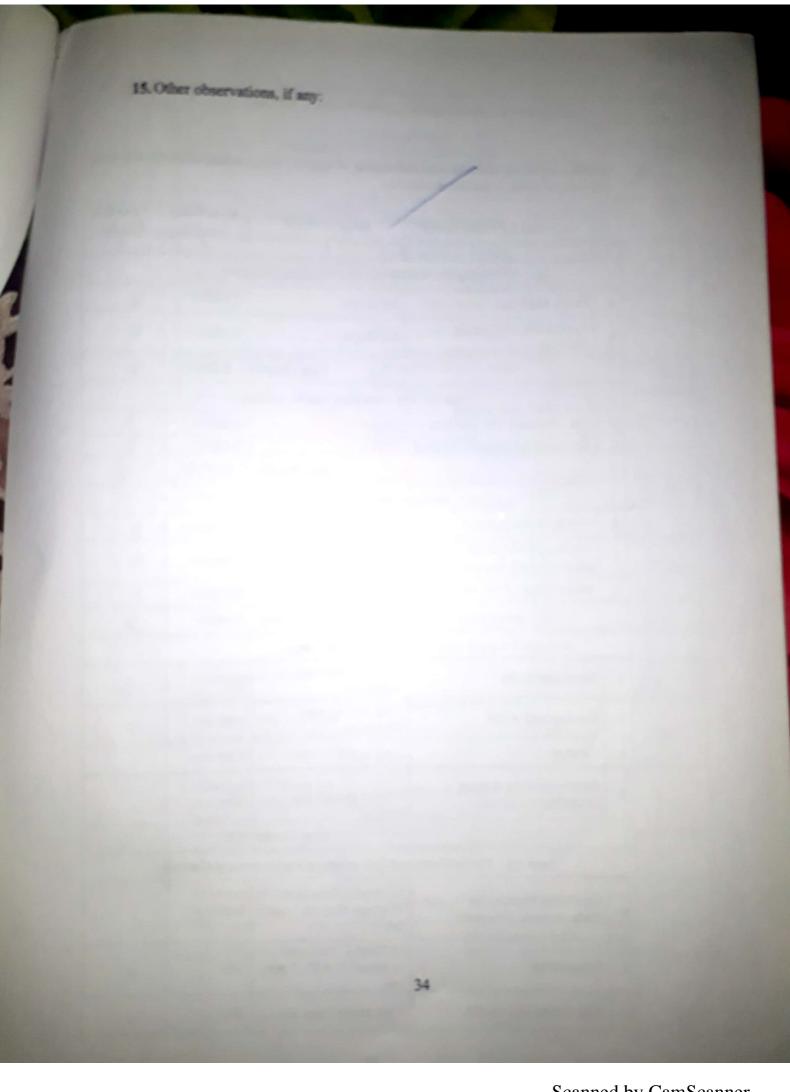
> 14.1. Observations about deficiency in project preparation (Give detailed observations about deficiencies in general and items which have been left but are required as per site conditions):

14.2. Whether the work has been completed/is in progress as per work programme or the delay has occurred. If delay has occurred, whether the liquidated damages have been withhold or recovered:

14.3. Whether the work has been completed within the sanctioned cost, if not, what is the action taken by the PIU (in case of complete works):

14.4. Observations about the action taken by the PIU on the observations of inspecting officers including SQMs and NQMs. (Clearly offer comments about the action taken on the observations of Departmental Officers, State Quality Monitors and National Quality Monitors).

14.5. Comments about difference in observations made by NQMs/SQMs in earlier inspections (the NQM shall study the earlier inspection reports of NQMs / SQMs, if any and offer his clear comments about the differences in observations, if any).



16. Quality Grading of items and sub-items of work: The grading of every sub-item and item of work is given below.

| ш           | Sub Item for Observation   | Stage of Work   | Awardable<br>Grades       | Awarded<br>Grades |
|-------------|--|---|---------------------------|-------------------|
| #           |  | 3   | 4                         | 5                 |
| 1           | Z  | ng Out and Working Draw   | ing                       |                   |
|             |  |   | S/SRI/U                   | S                 |
| a           | Bench Mark and Centre Line  Availability of Working  | All Stages  | S/SRI/U                   | S                 |
| b           | Drawing  | Item Grade  | S/SRI/U                   | S                 |
|             | Itam 2 _ Si  | te Clearance and Grubbin  | g                         |                   |
|             |  |   | S/SRI/U                   | 5                 |
| a           | Site Clearance and Grubbing  | Stage-I<br>Stage-I  | S/SRI/U                   | S                 |
| b           | Re-use of Salvageable Material   | Item Grade  | S/SRI/U                   | S                 |
|             | Item 3   | - Quality Arrangements  |                           |                   |
| •           | Quality Arrangements   | All Stages  | S/SRI/U                   | S                 |
| a<br>b      | Number of Mandatory Tests as per prescribed frequency  | All Stages  | S/SRI/U                   | 5                 |
|             | Maintenance of QC Registers  | All Stages  | S/SRI/U                   | S                 |
| c           | Wallitellance of QC Registers  | Item Grade  | S/SRI/U                   | 2                 |
|             | I  | tem 4 – Geometrics  |                           |                   |
| -           |  | 2 per Km in every   | S/U                       | S                 |
| a           | Road way width   | inspection  |                           |                   |
| a<br>b      | Road way width  Carriageway width  | 2 per Km in every inspection  | S/U                       | _                 |
| b           | Carriageway width  | 2 per Km in every   | S/U<br>S/U                |                   |
|             | Carriageway width  Camber  Super-elevation & Extra   | 2 per Km in every inspection  |                           |                   |
| b<br>c      | Carriageway width  Camber  | 2 per Km in every inspection 2 per km   | S/U<br>S/U                |                   |
| b<br>c      | Carriageway width  Camber  Super-elevation & Extra Widening at Curves  | 2 per Km in every inspection 2 per km 1 curve in each km  Item Grad   | S/U<br>S/U<br>e S/U       | - S               |
| b<br>c      | Carriageway width  Camber  Super-elevation & Extra Widening at Curves  | 2 per Km in every inspection 2 per km 1 curve in each km  | S/U S/U e S/U nkment/ Cut |                   |
| b<br>c<br>d | Carriageway width  Camber  Super-elevation & Extra Widening at Curves  Item 5A - Earth Work  Quality of Material for | 2 per Km in every inspection 2 per km 1 curve in each km  Item Grad and Sub-grade in Emba In Stage-I, 1 per km/ In Stage-II or III, 1 per | S/U S/U e S/U nkment/ Cut |                   |

|     | Item 5B - Earth Wo  | rk in Cutting in Hilly/ Rolli   | ng Terrain |   |
|-----|---|---|------------|---|
| a . | Stability and Workmanship of<br>Cut Slopes  | Stage I and II, at 2 critical locations with maximum height of cutting in each km       | S/U        |   |
| b   | Adequacy of Slope Protection  | All Stages - In general   | S/U        | _ |
| e   | Upon completion of formation cutting, dressing, traffic worthiness                          | At Stage III, at 2 critical locations with maximum height of cutting in each km         | S/U        | _ |
| d   | Longitudinal Gradient   | Stage II/III - 1 critical<br>and fairly representative<br>stretch of 200m in each<br>Km | S/U        |   |
|     |   | Item Grade  | S/U        | _ |
|     |   | Item 6 - Sub-Base   |            |   |
|     | Quality of Material   |   |            |   |
| a   | Grain Size  | In Stage- II or III, 1 per  | S/U        | S |
| b   | Plasticity  | km  | S/U        | 5 |
| c   | Compaction  | In Stage- II or III, 1 per km   | S/U        | 5 |
| d   | Total Thickness of Layer  | 2 per Km  | S/U        | 2 |
|     |   | Item Grade  | S/U        | 2 |
|     | Item 7 - Base (   | Course – Water Bound Ma   | cadam      |   |
| a   | Grain Size of Course<br>Aggregate   | - V C W W 1   | S/U        | S |
| b   | Test for Liquid Limit and<br>Plasticity Index in case fine<br>aggregates are crushable type | In Stage- II or III, 1 per km   | S/U        | S |
| c   | Volumetric Analysis for assessment of compaction of WBM                                     | In Stage- II or III, 1 per km   | S/U        | 5 |
| d   | Surface Evenness using straight edge  | In completed WBM 2 tests per km   | S/U        | 5 |
| e   | Thickness of every layer of WBM.  | 2 per Km  | S/U        | S |
|     |   | Item Grade  | s S/U      | S |

|     | Item 8 - Bituminous Layer – I  | Premix Carpet (PMC)/ Su                | rface Dressin | g (SD)       |
|-----|--|--|---------------|--------------|
| a   | Level of cleanliness of WBM surface prior to application of bituminous layer   | 1 per Km                               | S/U           |              |
| b   | Quality of Prime Coat/ Tack<br>Coat with respect to quality of<br>material and workmanship   | 1 observation on the day of inspection | S/U           | _            |
| c   | Gradation Test for Course Aggregate (if the work in the item is ongoing)/visual observation in case of completed item of work  | 1 test on the day of inspection        | S/U           |              |
| d   | Grade of bitumen and temperature at the time of mixing and laying (if the work in the item is ongoing)   | 1 test on the day of inspection        | S/U           |              |
| e   | Bitumen Extraction Test if PMC is complete   | 1 test per Km                          | S/U           |              |
| f   | Thickness of layer   | 2 per Km                               | S/U           | _            |
| g   | Surface Evenness in case of completed BT work  | 2 per Km                               | S/U           | _            |
|     |  | Item Grade                             | S/U           | _            |
|     | The state of the s | tem 9 – Shoulders                      |               |              |
| a   | Quality of material for shoulders  | In Stage- II or III, 1 test<br>per Km  | S/SRI/U       | _            |
| b   | Degree of compaction   | In Stage- II or III, 1 test per Km     | S/SRI/U       | _            |
| c   | Thickness of layer   | In Stage- II or III, 2 tests per km    | S/SRI/U       | _            |
| Ite | m Grade  | and elegition is                       | S/SRI/U       | _            |
|     | Item 10 - Cross Drainage Works   |  | and Culver    | ts upto 6 m. |
|     |  | span.                                  |               |              |
| a   | Quality of Material – Concrete,<br>Stone/ brick masonry, Hume<br>pipes including size etc.   | All Stages                             | S/SRI/U       |              |
| b   | Quality of Workmanship such as positioning of pipes, wing walls, cushion over H Pipes etc.   | All Stages                             | S/SRI/U       | _            |
|     |  | Item Grade                             | S/SRI/U       | -            |

|   | Item 11 - Side   | Drain and Catch Water D                                    | )rain       |      |
|---|--|--|-------------|------|
| a | General quality of Side Drains/<br>Catch Water Drains and their<br>integration with CDs.                   | All Stages   | S/SRI/U     |      |
|   |  | Item Grade   | S/SRI/U     |      |
|   | Item 12 - CC/ Semi Rigid   | Pavements and Associate                                    | d Pukka Dra | ains |
| a | Quality of Material – Concrete,<br>Stone/ Concrete Block<br>Pavement etc.                                  | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U         | 9    |
| b | Strength of CC in Concrete<br>Pavement/ Concrete Block<br>Pavement   | In Stage- II or III,1 per<br>100 m. Length of<br>Pavement  | S/U         | S    |
| c | Quality of Workmanship – Wearing surface texture, Adequacy of setting of concrete, Joints, Edges etc.      | In Stage- II or III  | S/U         | 's'  |
| d | Thickness of Layer   | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U         | 's'  |
|   |  | Item Grade   | S/U         | S    |
|   | Item 13 - R  | oad Furniture and Markir                                   | ngs         |      |
| a | Citizen Information Board,<br>Main Informatory Board,<br>Quality and whether fixed<br>during construction. | Stage-I  | S/U         | S    |
| b | Logo boards, 200 m stones and Km stones, quality and whether fixed after completion.                       | Stage-III  | S/U         | `s ' |
| c | Whether the information in boards is given in local language.  | Stage-I and III  | S/U         | 's ' |
|   |  | Item Grade   | S/U         | 10   |

17. Overall Grading of Work: The overall grading calculated on the basis of item and sub-item wise grading is given below:

| Item No.    | Sub Item for Observation   | Awarded<br>Grade |
|-------------|--|------------------|
| Item No 1   | Setting Out and Working Drawing  | 9                |
| Item No 2   | Site Clearance and Grubbing  | 5                |
| Item No 3   | Quality Arrangements   | S                |
| Item No 4   | Geometrics   | 5                |
| Item No 5 A | Earth Work and Sub-grade in Embankment/ Cutting                            | 5                |
| Item No 5 B | Earth Work in Cutting in Hilly/ Rolling Terrain                            | 5                |
| Item No 6   | Sub-Base   | 3                |
| Item No 7   | Base Course – Water Bound Macadam  | S                |
| Item No 8   | Bituminous Layer – Premix Carpet (PMC)/ Surface Dressing (SD)              |                  |
| Item No 9   | Shoulders  |                  |
| Item No 10  | Cross Drainage Works – Causeways of all spans and Culverts upto 6 m. span. |                  |
| Item No 11  | Side Drain and Catch Water Drain   |                  |
| Item No 12  | Item No 12 CC/ Semi Rigid Pavements and Associated Pukka Drains            |                  |
| Item No 13  | Road Furniture and Markings  | 2                |
|             | Overall Grading  | 2                |

| Signature: |
|------------|
|------------|

Name:

Date:

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## E-E

# Format for information to SQM for Inspection of PMGSY Work PART I- Work Information (To be filled-up by PIU)

|                | Work is   Ongoing   Completed   |
|----------------|---|
| GENI           | ERAL:   |
| 1.1.           | Date of Inspection: DD MM YY 29.12.2018   |
| 1.2.           | Name of State Quality Monitor: EE to Sharmynna Wasa A                                       |
| 1.3.           | District: Menger Block: Sangrampur  |
| 1.4.           | Name of Road: From LOGS Middle School to Mahader Mushad                                     |
| 1.5.           | Package No.: BR-22 R-117 Barhonia   |
| 1.6.<br>Total. | Length:Km Flexible Pavement, l.:.l.Km. CC/other Pavement .4.3.3m. =                         |
| 1.7.           | Estimated Cost (As cleared by GOI): Rs. 99.07 Lakh  |
| 1.8.           | Technical Sanction Cost: Rs. Lakh   |
| 1.9.           | The Work is a Case of: New connectivity Up gradation  |
| 1.10.          | Terrain Plain Rolling Hilly   |
| 1.11.          | Date of Start of the Work:  |
| 1.12.          | Stipulated Date of Completion: 10 12 19   |
| 1.13.          | Actual Date of Completion (if work completed):  |
| 2.<br>Progra   | PHYSICAL PROGRESS: (In case of On going works only) Construction mme and Physical Progress: |

| Item             | Completed percentage of Item | Dates for completion | Start<br>Date | Completion Date | Delay in<br>Months |
|------------------|------------------------------|----------------------|---------------|-----------------|--------------------|
| Earth Work       | 80%                          | Due                  |               |                 |                    |
|                  | 00%                          | Actual               |               |                 | THE PARTY          |
| CD Works         | 100%                         | Due                  |               |                 |                    |
|                  | /                            | Actual               |               |                 |                    |
| Sub base i/c     | 100%                         | Due                  |               |                 |                    |
| Shoulders        |                              | Actual               |               |                 |                    |
| Base Course (Non | 100%                         | Due                  |               |                 |                    |
| Bitu.)           | 100%                         |                      |               |                 |                    |
| Base /Wearing    | NIL                          | Due                  |               |                 |                    |
| Course(Bitu.)    | MIL                          | Actual               |               |                 |                    |
| CC Pavement      | 100%                         | Due                  |               |                 |                    |
|                  |                              | Actual               |               |                 |                    |
| Signage etc      | Logo & cetizen               | Due                  |               |                 |                    |
|                  | enformatory                  | Actual               |               |                 |                    |

#### 3. **QUALITY CONTROL:**

3.1. Location of Field Laboratory: Barhonia.

Contractor PIU 3.2. Quality Control Register Part-I is maintained by:

3.3. Quality Control Register Part-II is maintained by:

## 4. INSPECTIONS BY NQM, SQM or SENIOR OFFICERS AND ACTION TAKEN:

Inspection by NQMs, SQMs and senior (i.e. SE or CE) departmental officers and action taken statement:

| Date of<br>Visit | Inspected<br>By                 | Observations     | Action Taken by PIU with Date                                    |
|------------------|---------------------------------|------------------|--|
| 28-05-18         | Er. Ujjwal Kunor Sengh S. Q. M" | Satisfactory 'S' |  |
| 25 06 18         | isitiyan Ahma                   |                  | ACTION TO Ken by PIUL<br>Contractor & Compaline Pet<br>Submitted |
| 26 09 18         | Shyed Jamil<br>Bhysx<br>S.B.M   | Salis factory    |  |
|                  |                                 |                  |  |

Name and Signature of the Head of PIU, Date:.....

# Report of State Quality Monitor (SQM) PART II— Observations of SQM for Ongoing/Completed Work

(To be filled-up by SQM, use additional sheets, if required.)

Stage of Work: I II III

## 1. SETTING OUT AND WORKING DRAWING: For all stages of work

| # | Whether Bench marks @ 4 per km established (Y/N) | the Bench | referenced with Marker | prepared Working Drawing for the work |
|---|--|-----------|------------------------|---------------------------------------|
|   | 7  |           | Y                      | Y late to the                         |

Grading: Grade: S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

## 2. SITE CLEARANCE AND GRUBBING: For Stage I of Work

| # | Grubbing being done as per DPR and Material obtained is being disposed off | available from scarifying existing work | Name the reusable material obtainable from clearance or scarification and indicate approximate quantity and its re-use by the PIU. |
|---|--|---|--|
|   | 7  |   |  |

Grading: Grade S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

4. length and hore observed

3. QUALITY ARRANGEMENTS AND ATTENTION TO QUALITY - For all stages of work

Observations about Field Laboratory:

| # | Whether Field laboratory Established (Y/N) | ovoilable | Whether adequate Equipments as per requirement of work are available and are being used.  (Y/N) |
|---|--|-----------|---|
|   | 7  |           | 7   |

Observations about Mandatory Tests - Detail out the quantities of various items of works and list the tests required. (Refer to abstract of QC Register Part-I)

| # | Item of Work<br>Executed | Quantity | Name of<br>Test | No. of Tests<br>required   | No. of Tests<br>Conducted by<br>PIU/Contractor |
|---|--------------------------|----------|-----------------|--|--|
|   |                          |          |                 |  | 6  |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |
|   |                          |          |                 | Marie Land De rai  | Hod A   Wales                                  |
|   |                          |          |                 | ment guist gmi   | der Der Tille                                  |
|   |                          |          |                 |  |  |
| 1 |                          |          |                 | A CONTRACTOR OF THE PARTY OF TH | in additional transfer                         |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |
|   |                          |          |                 |  |  |

| # | quantities whether all | Whether QC Register Part I maintained as per provisions.  Yes Partly No | Whether QC Register Part II maintained and test results monitored as per provisions.  Yes Partly No |
|---|------------------------|---|---|
|   |                        |   |   |

Grading: Grade: S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

4. GEOMETRICS: The SQM should take at-least two measurements in 1 Km length and if it is found that the roadway and carriageway is inadequate SQM may take more observations:

Observations -Road way width, Carriage way and Camber.

| Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way Width<br>(m) | Camber in % | Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way<br>Width (m) | Camber in % |
|------------|-------------------------|------------------------------|-------------|------------|-------------------------|------------------------------|-------------|
| 1035       | 6                       | 3.72                         |             |            |                         |                              |             |
|            | -                       |                              |             |            |                         |                              |             |
|            |                         |                              |             |            |                         |                              |             |

Observations - Super-elevation and Extra Widening at curves.

| Ref.<br>RD | Super<br>Elevation | Extra Widening provided (Y/N) | Ref. RD | Super<br>Elevation | Extra Widening provided (Y/N) |
|------------|--------------------|-------------------------------|---------|--------------------|-------------------------------|
|            |                    | * vytes                       | in Sym  |                    |                               |
|            |                    |                               |         |                    |                               |
|            |                    |                               |         |                    |                               |

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         |   |
|                         |   |
|                         |   |

# OBSERVATIONS REGARDING THE QUALITY OF ITEMS OF WORK:

#### 5. Earthwork:

Observations -Quality of Material for Embankment/ Sub-grade:

| # | Location (RD) | On Visual Classification identify the Group Symbol and write | Quality of material is acceptable. (Y/N) |
|---|---------------|--|--|
|   | 60 M          | Sandy Soil   | Y  |
|   | 100           |  |  |
|   |               |  |  |
|   |               |  |  |
|   |               |  |  |

# Observations - Earth work in Hilly/Rolling terrain or high Embankments:

| # | Location (RD) | Cut Slopes & Profile, whether appears to be stable. (Y/N) | Adequate slope protection works executed. (Y/N) | Formation is properly dressed and traffic worthy. (Y/N) |
|---|---------------|---|---|---|
|   |               |   |   |   |
|   |               |   |   |   |
|   |               |   |   |   |
|   |               |   |   |   |
|   | -             |   |   |   |

## Observations - Longitudinal Gradient in case of road in hilly/rolling terrain:

| Ref. Between RD& RD | Longitudinal<br>Gradient | S/U | Ref. Between RD& RD | Longitudinal<br>Gradient | S/U |
|---------------------|--------------------------|-----|---------------------|--------------------------|-----|
|                     |                          |     |                     |                          |     |
|                     |                          |     |                     |                          |     |
| Section 1995        |                          |     |                     |                          |     |

| Grade: S U improvement: | If this item is | graded U, wr | ite clear reasons a | and suggestions for |
|-------------------------|-----------------|--------------|---------------------|---------------------|
|                         | •               |              |                     |                     |
|                         |                 |              |                     |                     |
|                         |                 |              |                     |                     |

### 6. Sub-Base:

## Observations - Quality of Material and Workmanship:

| # | Location (RD) | Confirms<br>to<br>Grading.<br>(Y/N) | Suitable<br>from<br>plasticity<br>angle.<br>(Y/N) | Whether compaction is adequate. (Y/N) | Observed<br>Thickness<br>of Layer<br>(in mm) | Prescribed Thickness provided (Y/N) |
|---|---------------|-------------------------------------|---|---------------------------------------|--|-------------------------------------|
|   | to 35         | . 4                                 | X   |                                       | 200m   | лУ                                  |
|   | 625 M         |                                     |   |                                       |  |                                     |
|   |               |                                     |   |                                       |  |                                     |
|   |               |                                     |   |                                       |  | · ·                                 |
|   |               |                                     |   |                                       |  | •                                   |

| Grade: S U for improvement: | If this item is graded U, write clear reasons and suggestions  |
|-----------------------------|--|
|                             | C  |
|                             |  |
|                             | Control of the Contro |

### 7. Base Course:

## Observations- Quality of Material and Workmanship of WBM:

| # | Location (RD) | of each | Thickness<br>is<br>adequate.<br>(Y/N) | Aggregate confirms to Grading (Y/N) | Filler material is non-plastic to desired extent. (Y/N) | Volume of filler material percent of course aggregate | Whether adequate compaction is done.  (Y/N) |
|---|---------------|---------|---------------------------------------|-------------------------------------|---|---|---|
|   | 10350         | 20 M    | . 4                                   |                                     |   |   | *   |
|   | 625m          | - WH    |                                       |                                     |   |   | Landa Caraca                                |
|   |               | 32      |                                       |                                     |   |   |   |
|   |               | 2.00    |                                       |                                     |   |   | he dinas                                    |

Observations - Surface evenness: Surface evenness in about 200 m critical representative length of completed WBM:

| Grade: S U If this item is graded U, improvement: | , write clear reasons and suggestions for |
|---|---|
|   |   |
| 5.  |   |
|   |   |
|   |   |
|   |   |

8. Bituminous Course: Premix Carpet/Surface Dressing/ BM/ MPM etc including Seal Coat: Observations - Quality of Material and Workmanship of BT Layer (in case of ongoing works):

Observations about level of cleanliness of WBM surface prior to application of bituminous layer. (if work is ongoing observe the surface. If BT layer laid, assess by carefully removing the BT layer.):

Observations about Quality of Prime Coat and Tack Coat with respect to quality of material and workmanship - Visual Observation - if work is ongoing:

In case of PMC/BM/MPM/ Seal Coat

| 1 | n case of Piv | 1GRIVINIPINI 3   | ear Coat  |   |   |
|---|---------------|--|---|---|---|
| ; | Location (RD) | Whether Course Aggregate confirms to grading. (Y/N)  | Whether the binder is of approved grade.  (Y/N) | Write Mixing Temperature and whether it is in permissible limits. (Y/N) | Write Laying Temperature and whether it is in permissible limits. (Y/N) |
|   |               |  |   |   |   |
|   |               | The Handard  |   |   |   |
|   |               | minimum place  | -/-   |   |   |
|   |               | The same of the sa |   |   |   |
|   |               |  |   |   |   |
|   |               |  |   |   |   |

| # | RD of observation | Thickness<br>of layer in<br>mm | Whether quality of the material is acceptable.  (Y/N) | Whether quality of compaction workmanship is acceptable.(Y/N) | Whether Shoulders<br>being constructed<br>simultaneously<br>with sub-base and<br>base course (Y/N) |
|---|-------------------|--------------------------------|---|---|--|
|   |                   | Was and the second             |   |   |  |
|   |                   | in the second second           |   |   |  |
|   |                   |                                |   |   |  |
|   |                   |                                |   |   |  |

|     | Works.                | Observations   | Quality of CDa. |
|-----|-----------------------|----------------|-----------------|
| 10. | Cross Drainage Works: | Observations - | Quality of CDs. |

| # | RD at which CD is located  | Type of CD                                     | Whether quality of the material is acceptable. (Y/N) | Whether quality of workmanship is acceptable. (Y/N) |
|---|--|--|--|---|
|   |  | 3 No. H.P.C                                    | X  | y   |
|   | \$*f0!   | 2 NO. Blob                                     | 7  | ×   |
|   | The state of the s | ESSENTE LA |  | Alternative and a second                            |
|   | · y and and  |  | ,  |   |

Grade: S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

## 11. Side Drains and Catch water Drains: Observations:

| # | Reference of RDs where side drain constructed. | Whether general quality of the side drains/ catchwater drains is acceptable. (Y/N) | are integrated to |
|---|--|--|-------------------|
|   |  |  |                   |
|   |  |  |                   |
|   |  |  |                   |
|   |  |  |                   |
|   |  |  |                   |

| Grade: S SRI U If this item is graded SRI/U, suggestions for improvement: | , write clear reasons and |
|---|---------------------------|
|   |                           |
|   |                           |
|   |                           |

# 12. CC/ Semi-Rigid (SR) Pavements and Associated Pucca Side Drains:

| # | Reference of                         |                          | Thickness       |                  | General quality of                       | General quality of             |
|---|--------------------------------------|--------------------------|-----------------|------------------|--|--------------------------------|
|   | RDs, CC/SR<br>Pavements<br>provided. | which observati on made. | Thickness in mm | Accéptable (Y/N) | quality of material is acceptable. (Y/N) | workmanship<br>acceptable(Y/N) |
|   | 0-60 M                               | 60 M                     | journ           | Y                | Y  | Y                              |
|   |                                      |                          |                 | Ono tens in      |  |                                |
|   | e Mark Bayres An                     |                          |                 |                  |  |                                |
|   |                                      |                          |                 |                  |  |                                |
|   |                                      |                          |                 |                  |  |                                |

Comments about adequacy of face/main walls, wings and retaining walls:

|       | and the second s |
|-------|--|
| 100 m | and the second s |
|       |  |
|       | the state of the s |
|       |  |
|       |  |
|       |  |

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
| ,                       |   |
|                         |   |
|                         |   |
|                         |   |
|                         |   |

### 13. Road Furniture and Markings

Observations - Item No. 14 a: Quality Road Furniture and Markings:

Main Informatory Board Fixed:

Yes No

Citizen Information Board Fixed:

Grade: S U If this item is graded U, write clear reasons and suggestions for improvement:

S

## Observations - Quality Road Furniture and Markings:

13.1.1. Logo Boards Fixed:

Yes No

13.1.2. 200m. Stones fixed:

Yes No

**13.1.3.** 1 Km. Stone fixed:

Yes No

13.1.4. Guard Stones fixed on Curves:

Yes No

13.1.5. Mandatory and Cautionary Signage

Yes No

Grade: S U If this item is graded U, write clear reasons and suggestions for improvement:

5

14. General Observations of SQM, (including the observations made during the interaction with PIU staff and Contractor's/ Consultant's Engineers):

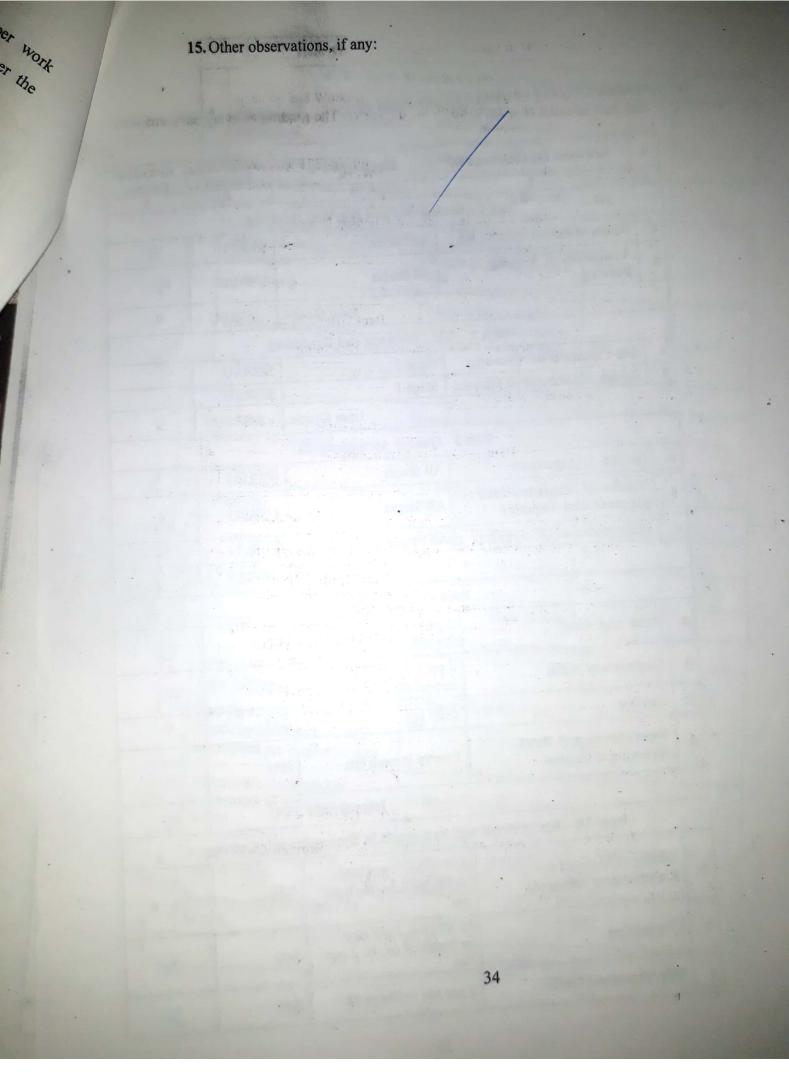
14.1. Observations about deficiency in project preparation (Give detailed observations about deficiencies in general and items which have been left but are required as per site conditions):

14.2. Whether the work has been completed/is in progress as per work programme or the delay has occurred. If delay has occurred, whether the liquidated damages have been withhold or recovered:

14.3. Whether the work has been completed within the sanctioned cost, if not, what is the action taken by the PIU (in case of complete works):

14.4. Observations about the action taken by the PIU on the observations of inspecting officers including SQMs and NQMs. (Clearly offer comments about the action taken on the observations of Departmental Officers, State Quality Monitors and National Quality Monitors).

14.5. Comments about difference in observations made by NQMs/SQMs in earlier inspections (the NQM shall study the earlier inspection reports of NQMs / SQMs, if any and offer his clear comments about the differences in observations, if any).



16. Quality Grading of items and sub-items of work: The grading of every sub-item and item of work is given below.

|             | d item of work is given out  | Stage of Work   | Awardable<br>Grades           | Awarded<br>Grades  |
|-------------|--|---|-------------------------------|--|
| #           | Sub Item for Observation   | 3   | 4                             | 5  |
| 1           | 2  | ng Out and Working Drav   | ving                          |  |
|             |  |   | S/SRI/U                       | S  |
| a           | Bench Mark and Centre Line   | All Stages  |                               |  |
| b           | Availability of Working<br>Drawing   | All Stages  | S/SRI/U                       | S  |
|             |  | Item Grade  | S/SRI/U                       | S  |
|             | Itam 2 – Si  | te Clearance and Grubbin  | g                             |  |
| _           | Site Clearance and Grubbing  | Stage-I   | S/SRI/U                       | S  |
| a<br>b      | Re-use of Salvageable Material   | Stage-I   | S/SRI/U                       | 5  |
| U           | Re-use of Salvageable Material   | Item Grade  | S/SRI/U                       | S  |
|             | Item 3   | - Quality Arrangements  |                               |  |
| a           | Quality Arrangements   | All Stages  | S/SRI/U                       | S  |
| b           | Number of Mandatory Tests as per prescribed frequency  | All Stages  | s/sri/U                       | · S  |
| c           | Maintenance of QC Registers  | All Stages  | S/SRI/U                       | S  |
|             |  | Item Grade  | S/SRI/U                       | 18   |
|             | test, Man Gara   | tem 4 – Geometrics  |                               |  |
| -           |  | 1   |                               | I was a series of the series o |
| a           | Road way width   | 2 per Km in every inspection  | S/U                           | S  |
|             | Road way width  Carriageway width  |   | S/U                           | S  |
| a<br>b<br>c |  | inspection  2 per Km in every   |                               | S  |
| b           | Carriageway width  | inspection  2 per Km in every inspection  | S/U                           | S -  |
| b<br>c      | Carriageway width  Camber  Super-elevation & Extra   | inspection  2 per Km in every inspection  2 per km  | S/U<br>S/U                    | S  |
| b<br>c      | Carriageway width  Camber  Super-elevation & Extra Widening at Curves  | inspection  2 per Km in every inspection  2 per km  1 curve in each km  | S/U S/U S/U                   |  |
| b<br>c      | Carriageway width  Camber  Super-elevation & Extra Widening at Curves  | inspection  2 per Km in every inspection  2 per km  1 curve in each km  | S/U S/U S/U                   |  |
| b<br>c<br>d | Carriageway width  Camber  Super-elevation & Extra Widening at Curves  Item 5A - Earth Work  Quality of Material for | inspection  2 per Km in every inspection  2 per km  1 curve in each km  Item Grade  and Sub-grade in Emban  In Stage-I, 1 per km/ In Stage-II or III, 1 per | S/U S/U S/U S/U kment/ Cuttin |  |

|    | Item 5B - Earth Wor  | rk in Cutting in Hilly/ Rolli   | ing Terrain |       |
|----|--|---|-------------|-------|
| a  | Stability and Workmanship of<br>Cut Slopes   | Stage I and II, at 2 critical locations with maximum height of cutting in each km       | S/U         |       |
| b  | Adequacy of Slope Protection   | All Stages - In general   | S/U         | _     |
| c  | Upon completion of formation cutting, dressing, traffic worthiness   | At Stage III, at 2 critical locations with maximum height of cutting in each km         | S/U         |       |
| d  | Longitudinal Gradient  | Stage II/III - 1 critical<br>and fairly representative<br>stretch of 200m in each<br>Km | S/U         |       |
|    |  | Item Grade  | S/U         |       |
| 10 |  | Item 6 - Sub-Base   |             |       |
| ** | Quality of Material  | V.  |             | 6     |
| a  | Grain Size   | In Stage- II or III, 1 per  | S/U         | S     |
| b  | Plasticity   | km  | S/U         | \$    |
| e  | Compaction   | In Stage- II or III, 1 per km   | S/U         | S     |
| ı  | Total Thickness of Layer   | 2 per Km  | S/U         | 5     |
|    |  | Item Grade  | S/U         | S     |
|    | Item 7 - Base C  | Course - Water Bound Ma   | cadam       |       |
|    | Grain Size of Course<br>Aggregate  |   | S/U         | -'s'  |
|    | Test for Liquid Limit and<br>Plasticity Index in case fine<br>aggregates are crushable type  | In Stage- II or III, 1 per km   | S/U         | i's ' |
|    | Volumetric Analysis for assessment of compaction of WBM  | In Stage- II or III, 1 per km   | S/U         | 's'   |
|    | Surface Evenness using straight edge   | In completed WBM 2 tests per km   | S/U         | 's'   |
| •  | Thickness of every layer of WBM.   | 2 per Km  | S/U         | `s'   |
|    | and the same of th | Item Grade  | S/U         | 's'   |

|     | ingus Laver - P  | remix Carpet (                         |         |               |  |
|-----|--|--|---------|---------------|--|
|     | Item 8 - Bituminous Layer - P  | and the second second                  | S/I     | J             | -  |
| 1   | Level of cleanliness of WBM surface prior to application of bituminous layer   | 1 per Km                               |         | S. Mary J. V. | 3 0  |
| ,   | Quality of Prime Coat/ Tack Coat with respect to quality of material and workmanship   | 1 observation on the day of inspection | S/      | U. are the    |  |
| •   | Gradation Test for Course Aggregate (if the work in the item is ongoing)/visual observation in case of completed item of work  | 1 test on the day of inspection        | S       | /U            |  |
| d   | Grade of bitumen and temperature at the time of mixing and laying (if the work in the item is ongoing)   | 1 test on the day of inspection        | S       | S/U           |  |
| e   | Bitumen Extraction Test if PMC is complete   | 1 test per Km                          | +       | S/U           | 5 E   1  |
| f   | Thickness of layer   | 2 per Km                               |         | S/U           |  |
| g   | Surface Evenness in case of completed BT work  | 2 per Km                               | e (1    | S/U           | The second secon |
| 4 4 | The second secon | Item Grad                              | le      | S/U           | The Table  |
|     | 333.79 7 SERVE   | Item 9 – Shoulders                     | ie la M |               | 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| a   | Quality of material for  | In Stage- II or III, 1 tes             | st .    | S/SRI/U       | The second of th |
| b   | shoulders  Degree of compaction  | In Stage- II or III, 1 ter             |         | S/SRI/U       |  |
| c   | mill and of lover  | In Stage- II or III, 2 te              | sts     | S/SRI/U       | _  |
| _   |  |  |         | S/SRI/U       | _  |
| 1   | tem Grade  Item 10 - Cross Drainage Wo   | orks – Causeways of all sp<br>span.    | pans    | and Culver    | ts upto 6 m.   |
| 2   | Quality of Material – Concre<br>Stone/ brick masonry, Hume<br>pipes including size etc.  | All Stages                             |         | S/SRI/U       | S  |
| -   | Quality of Workmanship su<br>as positioning of pipes, win<br>walls, cushion over H Pipes<br>etc.   | g All Stages                           |         | s/sri/U       | S  |
| 1   |  | Item C                                 | rad     | le S/SRI/U    | 5  |

|    | Item 11 - Side   | Drain and Catch Water D                                    | rain    | •        |
|----|--|--|---------|----------|
| a  | General quality of Side Drains/<br>Catch Water Drains and their<br>integration with CDs.                   | All Stages   | S/SRI/U |          |
|    |  | Item Grade   | S/SRI/U |          |
|    | Item 12 - CC/ Semi Rigid   | Pavements and Associate                                    |         | ns       |
| a  | Quality of Material - Concrete,<br>Stone/ Concrete Block<br>Pavement etc.                                  | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U     | S        |
| b  | Strength of CC in Concrete<br>Pavement/ Concrete Block<br>Pavement   | In Stage- II or III,1 per<br>100 m. Length of<br>Pavement  | S/U     | S        |
| c  | Quality of Workmanship – Wearing surface texture, Adequacy of setting of concrete, Joints, Edges etc.      | In Stage- II or III  | S/U     | 's'      |
| d  | Thickness of Layer   | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U     | s        |
|    |  | Item Grade   | S/U     | 2        |
| Si | Item 13 - Re   | oad Furniture and Markin                                   | ngs     | regist . |
| a  | Citizen Information Board,<br>Main Informatory Board,<br>Quality and whether fixed<br>during construction. | Stage-I  | S/U     | S        |
| b  | Logo boards, 200 m stones and Km stones, quality and whether fixed after completion.                       | Stage-III  | S/U     | S        |
| c  | Whether the information in boards is given in local language.  | Stage-I and III  | S/U     | S        |
|    |  | Item Grade   | S/U     | 5        |

17. Overall Grading of Work: The overall grading calculated on the basis of item and sub-item wise grading is given below:

| Item No.   | Sub Item for Observation   | Awarded<br>Grade |
|--|--|------------------|
| Item No 1  | Setting Out and Working Drawing  | 1000 S 10        |
| Item No 2  | Site Clearance and Grubbing  | S                |
| Item No 3  | Quality Arrangements   | S                |
| Item No 4  | Geometrics   | S                |
| Item No 5 A  | Earth Work and Sub-grade in Embankment/<br>Cutting                         | Å                |
| Item No.5 B  | Earth Work in Cutting in Hilly/Rolling Terrain                             |                  |
| Item No 6  | Sub-Base   |                  |
| Item No 7  | Base Course - Water Bound Macadam  |                  |
| Item No 8  | Bituminous Layer – Premix Carpet (PMC)/ Surface Dressing (SD)              |                  |
| Item No 9  | Shoulders  |                  |
| Item No 10   | Cross Drainage Works – Causeways of all spans and Culverts upto 6 m. span. | 3                |
| Item No 11   | Side Drain and Catch Water Drain   |                  |
| Item No 12   | CC/ Semi Rigid Pavements and Associated<br>Pukka Drains                    | 3                |
| tem No 13  | Road Furniture and Markings  | S                |
| The state of the s | Overall Grading  | ( )              |

| Signature: | 211 208  |
|------------|--|
| Name:      | 29- अधियन्ता   |
| Date:      | कार्यपालक अभियन्ता<br>जामीण कार्य विभाग, कार्य प्रमंडल<br>लाडीसराय |
|            | गामीण काम लिसाय  |

# Format 1-1 Format for information to SQM for Inspection of PMGSY Work PART I— Work Information (To be filled-up by PIU)

|                        | Work is Ongoing Completed  |
|------------------------|--|
| 1.1.<br>1.2.           | Date of Inspection: DD MM YY 28-12-2018  Name of State Quality Monitor: FF FY: Shatrynna prasad                                |
| 1.3.<br>1.4.<br>1.5.   | District: Munger Block: Sangrampur Name of Road: From Lo38 Canal Road to Samada  Package No.:  Beamont 6.20 FM =               |
| 1.6.<br>Total.<br>1.7. | Length:Km Flexible Pavement, S. L. Km. CC/other Pavement 6.20 Km. = 1762Km  Estimated Cost (As cleared by GOI): Rs. 49.67 Lakh |
| 1.8.                   | Technical Sanction Cost: Rs. 49.67 Lakh  |
| 1.9.                   | The Work is a Case of: New connectivity Up gradation   |
| 1.10.                  | Terrain Plain Rolling Hilly  |
| 1.11.                  | Date of Start of the Work:   |
| 1.12.                  | Stipulated Date of Completion: 05 07 19  |
| 1.13.                  | Actual Date of Completion (if work completed):   |
| 2.                     | PHYSICAL PROGRESS: (In case of On going works only) Construction   |

Programme and Physical Progress:

| Item                    | Completed percentage of Item | Dates for completion | Start<br>Date | Completion<br>Date | Delay in<br>Months |
|-------------------------|------------------------------|----------------------|---------------|--------------------|--------------------|
| Earth Work              | 60%                          | Due                  |               |                    |                    |
| Latin Work              | 60%                          | Actual               |               |                    |                    |
| CD Works                |                              | Due                  |               |                    |                    |
| CD WOIKS                | Contraguence.                | Actual               |               |                    |                    |
| Sub base i/c            |                              | Due                  |               |                    |                    |
| Shoulders               |                              | Actual               |               |                    |                    |
| Base Course (Non Bitu.) |                              | Due                  |               |                    |                    |
|                         |                              | Actual               |               |                    |                    |
| Base /Wearing           |                              | Due                  |               |                    |                    |
| Course(Bitu.)           |                              | Actual               |               |                    |                    |
| CC Pavement             |                              | Due                  |               |                    |                    |
| CC ravement             | -                            | Actual               |               |                    |                    |
| Signage etc             |                              | Due                  |               |                    |                    |
| Signage etc             |                              | Actual               |               |                    |                    |

#### 3. QUALITY CONTROL:

- 3.1. Location of Field Laboratory: AT Samda
- 3.2. Quality Control Register Part-I is maintained by: Confuch
- 3.3. Quality Control Register Part-II is maintained by:

# 4. INSPECTIONS BY NQM, SQM or SENIOR OFFICERS AND ACTION TAKEN:

Inspection by NQMs, SQMs and senior (i.e. SE or CE) departmental officers and action taken statement:

| Date of<br>Visit | Inspected<br>By | Observations | Action Taken by PIU with Date |
|------------------|-----------------|--------------|-------------------------------|
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |
|                  |                 |              |                               |

Name and Signature of the Head of PIU, Date:.....

## Report of State Quality Monitor (SQM) PART II— Observations of SQM for Ongoing/Completed Work

(To be filled-up by SQM, use additional sheets, if required.)

Stage of Work: I II III

## 1. SETTING OUT AND WORKING DRAWING: For all stages of work

| # | marks @ 4 | the Bench<br>Marks | Whether Center Line of Carriage Way accurately established and referenced with Marker Pegs and Chainage Boards (Y/N) | prepared Working Drawing for the work under progress is |
|---|-----------|--------------------|--|---|
|   | Y         |                    | Y  | Y   |

Grading: Grade: S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

## 2. SITE CLEARANCE AND GRUBBING: For Stage I of Work

| # | Grubbing being done as per DPR and Material obtained is | available from scarifying existing work | Name the reusable material obtainable from clearance or scarification and indicate approximate quantity and its re-use by the PIU. |
|---|---|---|--|
|   | 7   |   |  |

Grading: Grade: S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

3. QUALITY ARRANGEMENTS AND ATTENTION TO QUALITY - For all stages of work

**Observations about Field Laboratory:** 

| # | Whether Field laboratory Established (Y/N) | available              | Whether adequate Equipments as per requirement of work are available and are being used.  (Y/N) |
|---|--|------------------------|---|
|   | Y  | Many personal services | Y   |

Observations about Mandatory Tests - Detail out the quantities of various items of works and list the tests required. (Refer to abstract of QC Register Part-I)

| # | Item of Worl<br>Executed | Quantity    | Name of<br>Test | No. of Tests required | No. of Tests<br>Conducted by<br>PIU/Contractor |
|---|--------------------------|-------------|-----------------|-----------------------|--|
|   |                          |             |                 |                       |  |
|   |                          |             |                 |                       |  |
|   |                          |             |                 |                       |  |
|   |                          |             |                 |                       |  |
|   |                          |             | 200             |                       |  |
|   |                          |             |                 |                       |  |
|   |                          | listation s | w letter Q.     |                       |  |
|   |                          | 10000       | - thisis        | Main Joseph High      |  |
| - |                          |             | Note Lander     |                       |  |
|   |                          |             | 3 5/2 195-1     |                       |  |
|   |                          |             |                 |                       |  |
|   |                          |             |                 |                       |  |

| # | Based on executed quantities whether all mandatory tests conducted.  Yes Partly No | Whether QC Register Part I maintained as per provisions.  Yes Partly No | Whether QC Register Part II maintained and test results monitored as per provisions.  Yes Partly No |
|---|--|---|---|
|   |  |   |   |

| Grading: Grade: suggestions for imp | S SRI U If this item is graded SRI/U, write clear reasons and overment: |
|-------------------------------------|---|
|                                     |   |
|                                     | 5   |
|                                     |   |
|                                     |   |
|                                     |   |
|                                     |   |

4. GEOMETRICS: The SQM should take at-least two measurements in 1 Km length and if it is found that the roadway and carriageway is inadequate SQM may take more observations:

Observations -Road way width, Carriage way and Camber.

| Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way Width<br>(m) | Camber in % | Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way<br>Width (m) | Camber in % |
|------------|-------------------------|------------------------------|-------------|------------|-------------------------|------------------------------|-------------|
| 300<br>M   | 7.5 M                   |                              |             |            |                         |                              |             |
|            |                         |                              |             |            |                         |                              |             |

Observations - Super-elevation and Extra Widening at curves.

| Ref.<br>RD | Super<br>Elevation | Extra Widening provided (Y/N) | Ref. RD | Super<br>Elevation | Extra Widening provided (Y/N) |
|------------|--------------------|-------------------------------|---------|--------------------|-------------------------------|
|            |                    |                               |         |                    |                               |
|            |                    |                               |         |                    |                               |
|            |                    | /                             |         |                    |                               |

| Grade: S U   | If this item is graded U, write clear reasons and suggestions for |
|--------------|---|
| improvement: | , ,   |
|              | 5   |
|              |   |
|              |   |
|              |   |

#### OBSERVATIONS REGARDING THE QUALITY OF ITEMS OF WORK:

#### 5. Earthwork:

Observations - Quality of Material for Embankment/ Sub-grade:

| # | Location (RD) | On Visual Classification identify the Group Symbol and write | Quality of material is acceptable. (Y/N) |
|---|---------------|--|--|
|   | 300M          | Sandy Soil   | Y  |
|   | AR INTERNAL   |  |  |
|   |               |  |  |
|   |               |  |  |
|   |               |  |  |

|   |               |             | Iff   | this item is g | graded U, write                    | clear reasons ar                 |               |
|---|---------------|-------------|-------|----------------|------------------------------------|----------------------------------|---------------|
| -                                       | ade:          | SU          | ent:  |                |                                    |                                  |               |
| 1                                       | ggestions for | r improvem  | Circ. |                |                                    |                                  |               |
|   |               |             |       | (              |                                    |                                  |               |
|   |               |             |       | 3              |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                | kment and Sub                      | grade Constr                     | uction:       |
|   | **            | Warkmans    | hip   | for Emban      | kment and Sub                      | -grade                           |               |
| 1                                       | servation -   | WUIKIIIAIIS | m.P.  |                | 7                                  | gree of Compac                   | tion          |
| T                                       | Location      | MDD kN/     |       | Field          | Des                                | TCC OX                           | Compaction    |
| ı                                       | (RD)          | (As per     |       | Moisture       | Field Density<br>kN/m <sup>3</sup> | Dry Density<br>kN/m <sup>3</sup> | adequate.     |
| ١                                       | (10)          | record)     |       | Content        | kN/m³                              | KIN/III                          | (Y/N)         |
| ı                                       |               |             |       |                |                                    |                                  | 1             |
| Ì                                       | 300 M         |             |       |                |                                    |                                  | 7             |
| ł                                       | 20            |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
| I                                       |               | - Aver Hell |       | 1 1 1 1 1 1 1  |                                    |                                  |               |
| ł                                       |               |             |       |                |                                    |                                  |               |
| -                                       |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
| 1                                       |               |             |       |                |                                    |                                  |               |
|   | rade: S       | U If th     | nis i | tem is grade   | ed U, write clear                  | reasons and su                   | ggestions for |
|   | provement     |             |       |                |                                    |                                  |               |
| 0                                       | provement     | •           |       | 10             |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             |       |                |                                    |                                  |               |
|   |               | C' la alam  |       | nd profile     |                                    |                                  |               |
|   | servation -   | - Side stop |       | nd profile:    |                                    |                                  |               |
| 2                                       | Locat         | ion (RD)    | W     | hether Side    | Slopes                             | Whether pr                       |               |
| _                                       |               |             | Sa    | atisfactory (  | Y/N)                               | Satisfactor                      | y (Y/N)       |
|   |               |             |       |                |                                    |                                  |               |
|   |               |             | -     |                |                                    |                                  |               |
| _                                       |               |             |       |                |                                    |                                  |               |
| _                                       |               |             |       |                |                                    |                                  |               |
| _                                       |               |             |       |                |                                    |                                  |               |
| _                                       |               | ,           | -     |                |                                    |                                  |               |
| 111111111111111111111111111111111111111 |               | ,           |       |                |                                    |                                  |               |

## Observations - Earth work in Hilly/Rolling terrain or high Embankments:

| # | Location (RD) | Cut Slopes & Profile, whether appears to be stable. (Y/N) | Aucquare | Formation is properly dressed and traffic worthy. (Y/N) |
|---|---------------|---|----------|---|
|   |               |   |          |   |
|   |               |   |          |   |
|   |               |   |          |   |

## Observations - Longitudinal Gradient in case of road in hilly/rolling terrain:

| Ref. Between RD& RD | Longitudinal<br>Gradient | S/U | Ref. Between RD& RD | Longitudinal<br>Gradient | S/U |
|---------------------|--------------------------|-----|---------------------|--------------------------|-----|
|                     |                          |     |                     |                          |     |
|                     |                          |     |                     |                          |     |

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         |   |
|                         |   |
|                         |   |

#### 6. Sub-Base:

## Observations - Quality of Material and Workmanship:

| # | Location (RD) | Confirms<br>to<br>Grading.<br>(Y/N) | Suitable from plasticity angle. (Y/N) | Whether compaction is adequate.  (Y/N) | Observed<br>Thickness<br>of Layer<br>(in mm) | Prescribed Thickness provided (Y/N) |
|---|---------------|-------------------------------------|---------------------------------------|--|--|-------------------------------------|
|   | 300 M         | A SALVE                             | *                                     | *                                      | 200mm  | Xm                                  |
|   |               |                                     |                                       |  |  |                                     |
|   |               |                                     |                                       |  |  |                                     |
|   |               |                                     |                                       |  |  |                                     |
|   | ,             |                                     |                                       |  |  |                                     |

| Grade: S U for improvement: | If this item is graded U, write clear reasons and sugges | tions |
|-----------------------------|--|-------|
| 101 mps                     | English States   |       |
|                             |  |       |
|                             |  |       |

#### 7. Base Course:

## Observations- Quality of Material and Workmanship of WBM:

| # | Location (RD) | Thickness<br>of each<br>layer of<br>WBM<br>(mm) | Thickness<br>is<br>adequate.<br>(Y/N) | Aggregate confirms to Grading (Y/N) | Filler material is non-plastic to desired extent. (Y/N) | Volume of filler material percent of course aggregate | Whether adequate compaction is done.  (Y/N) |
|---|---------------|---|---------------------------------------|-------------------------------------|---|---|---|
|   |               |   |                                       |                                     |   |   |   |

Observations - Surface evenness: Surface evenness in about 200 m critical representative length of completed WBM:

porgrub.

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         |   |
|                         |   |
|                         |   |

8. Bituminous Course: Premix Carpet/Surface Dressing/ BM/ MPM etc including Seal Coat: Observations - Quality of Material and Workmanship of BT Layer (in case of ongoing works):

**Observations** about level of cleanliness of WBM surface prior to application of bituminous layer. (if work is ongoing observe the surface. If BT layer laid, assess by carefully removing the BT layer.):

**Observations** about Quality of Prime Coat and Tack Coat with respect to quality of material and workmanship - Visual Observation - if work is ongoing:

In case of PMC/RM/MPM/ Seal Coat

| # | Location (RD) | Whether Course Aggregate confirms to grading. (Y/N) | Whether the binder is of approved grade.  (Y/N) | Write Mixing Temperature and whether it is in permissible limits. (Y/N) | Write Laying Temperature and whether it is in permissible limits. (Y/N) |
|---|---------------|---|---|---|---|
|   |               |   |   |   |   |
|   |               |   |   |   |   |

|      | ade: S U          | If this item                   | is graded U, wi                                      | rite cl    | ear reasons at  | nd suggestions for  |
|------|-------------------|--------------------------------|--|------------|---|---|
|      |                   |                                |  |            |   |   |
| Ob:  | servations - V    | Vorkmanship                    | o of BT layer Pl                                     | MC/B       |   | case of completed   |
| #    | Location (RD)     | Thickness in mm                | whether thick is adequate. (Y                        |            | Whether sur   | rface evenness is able limits. (Y/N)  |
|      |                   |                                |  |            |   |   |
|      |                   |                                |  |            |   |   |
|      | rovement:         | If this its                    | em is graded U,                                      | write      | clear reasons a   | nd suggestions for  |
|      | TEAT IN THE RES   |                                |  |            |   |   |
| ). ( | Observations      | s - Quality of                 | f Shoulders:   |            |   |   |
| #    | RD of observation | Thickness<br>of layer in<br>mm | Whether quality of the material is acceptable. (Y/N) | of<br>worl | cther quality<br>compaction<br>kmanship is<br>eptable.(Y/N) | Whether Shoulde<br>being constructe<br>simultaneously<br>with sub-base as<br>base course (Y/N |
|      |                   |                                |  | /          |   |   |
|      |                   |                                |  | /          |   |   |

| #        | RD at which CD is located               | Type of CD                    | Whether quality of the material is acceptable. (Y/N)           | Whether quality of workmanship is acceptable. (Y/N) |
|----------|---|-------------------------------|--|---|
|          |   |                               |  |   |
|          |   |                               |  |   |
| Jue      | ggestions for impro                     | overnent:                     |  |   |
|          |   |                               |  |   |
|          |   | RD at                         | of the side drains/ catcl<br>water drains                      | h- are integrated t                                 |
|          | Reference of<br>RDs where side<br>drain | RD at which observation       | Whether general quality of the side drains/ catcle             | h- are integrated t                                 |
|          | Reference of<br>RDs where side<br>drain | RD at which observation       | Whether general quality of the side drains/ catch water drains | h- are integrated t                                 |
|          | Reference of<br>RDs where side<br>drain | RD at which observation       | Whether general quality of the side drains/ catch water drains | h- are integrated t                                 |
|          | Reference of<br>RDs where side<br>drain | RD at which observation       | Whether general quality of the side drains/ catch water drains | h- are integrated t                                 |
| #<br>Gra | Reference of<br>RDs where side<br>drain | RD at which observation made. | Whether general quality of the side drains/ catch water drains | h- are integrated to cross drains. (Y/N)            |

# 12. CC/ Semi-Rigid (SR) Pavements and Associated Pucca Side Drains:

| # | Reference of RDs, CC/SR Pavements provided. | RD at | Thicl | Acceptable (Y/N) | General quality of material is acceptable. (Y/N) | General quality of workmanship acceptable(Y/ N) |
|---|---|-------|-------|------------------|--|---|
|   |   |       |       |                  |  |   |

Comments about adequacy of face/main walls, wings and retaining walls:

|   | / |  |  |
|---|---|--|--|
|   |   |  |  |
| / |   |  |  |
|   |   |  |  |

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         |   |
|                         |   |
|                         |   |
|                         |   |

| 13. | Road | Furniture | and | Markings |
|-----|------|-----------|-----|----------|
|-----|------|-----------|-----|----------|

Observations - Item No. 14 a: Quality Road Furniture and Markings:

Main Informatory Board Fixed:

Citizen Information Board Fixed:

Grade: S U If this item is graded U, write clear reasons and suggestions for improvement:

#### Observations - Quality Road Furniture and Markings:

13.1.1. Logo Boards Fixed:

Yes No

13.1.2. 200m. Stones fixed:

Yes No

13.1.3. 1 Km. Stone fixed:

Yes No

13.1.4. Guard Stones fixed on Curves:

Yes No

13.1.5. Mandatory and Cautionary Signage

Yes No

Grade: S U If this item is graded U, write clear reasons and suggestions for improvement:

General Observations of SQM, (including the observations made during the 14. interaction with PIU staff and Contractor's/ Consultant's Engineers):

> 14.1. Observations about deficiency in project preparation (Give detailed observations about deficiencies in general and items which have been left but are required as per site conditions):

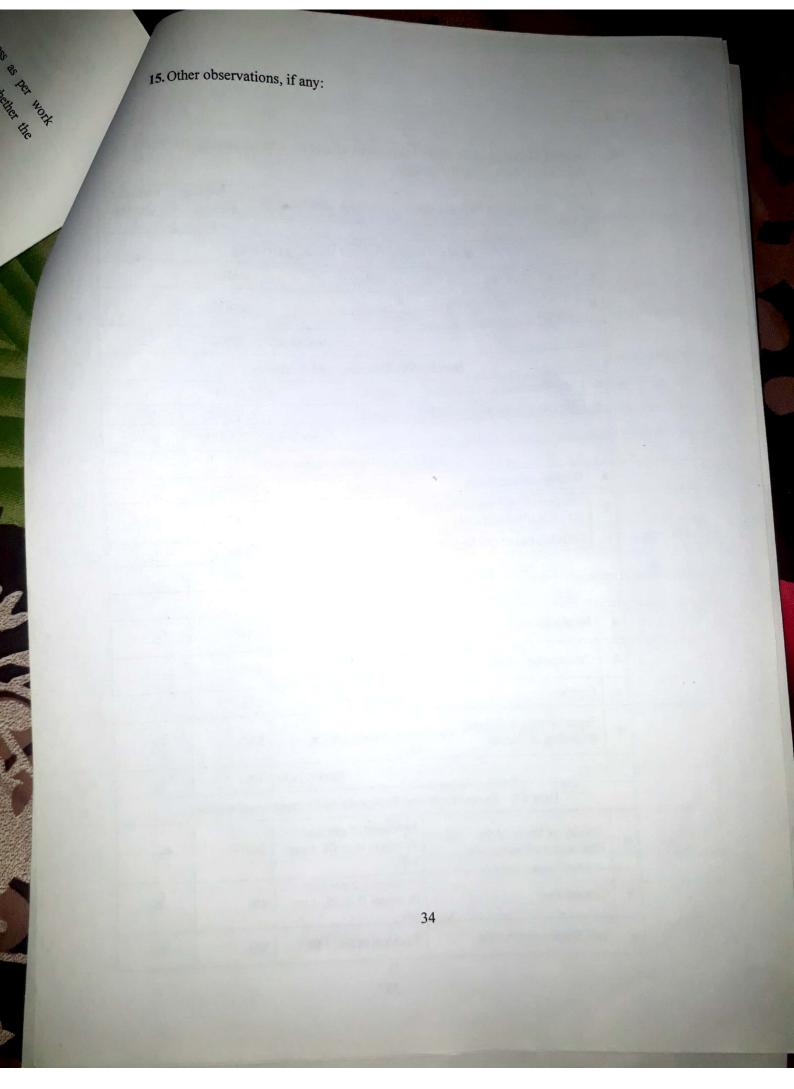
> > Earthware in bookens.

14.2. Whether the work has been completed/is in progress as per work programme or the delay has occurred. If delay has occurred, whether the liquidated damages have been withhold or recovered:

14.3. Whether the work has been completed within the sanctioned cost, if not, what is the action taken by the PIU (in case of complete works):

14.4. Observations about the action taken by the PIU on the observations of inspecting officers including SQMs and NQMs. (Clearly offer comments about the action taken on the observations of Departmental Officers, State Quality Monitors and National Quality Monitors).

14.5. Comments about difference in observations made by NQMs/SQMs in earlier inspections (the NQM shall study the earlier inspection reports of NQMs / SQMs, if any and offer his clear comments about the differences in observations, if any).



16. Quality Grading of items and sub-items of work: The grading of every sub-item and item of work is given below.

|        | Sub Item for Observation                              | Stage of Work  | Awardable<br>Grades | Awarded<br>Grades |
|--------|---|--|---------------------|-------------------|
| #      | 2   | 3  | 4                   | 5                 |
| 1      | Item 1 – Settin                                       | g Out and Working Draw                                   | ving                |                   |
|        | Bench Mark and Centre Line                            | All Stages   | S/SRI/U             | S                 |
| a<br>b | Availability of Working                               | All Stages   | S/SRI/U             | 3                 |
|        | Drawing   | Item Grade   | S/SRI/U             | S                 |
|        | Itam 2 Si   | te Clearance and Grubbir                                 | ng                  |                   |
|        |   | Stage-I  | S/SRI/U             | 5                 |
| a      | C/CDI/II  |  | 5                   |                   |
| b      | Re-use of Salvageable Material                        | Item Grade   | S/SRI/U             | 5                 |
|        | Item 3  | - Quality Arrangements                                   |                     |                   |
|        | Quality Arrangements                                  | All Stages   | S/SRI/U             | S                 |
| a<br>b | Number of Mandatory Tests as per prescribed frequency | All Stages   | S/SRI/U             | S                 |
|        | Maintenance of QC Registers                           | All Stages   | S/SRI/U             | 5                 |
| c      | iviantenance of QC 1185                               | Item Grade   | s/SRI/U             | S                 |
|        | I   | tem 4 – Geometrics                                       |                     |                   |
| a      | Road way width  | 2 per Km in every inspection                             | S/U                 | 3                 |
| b      | Carriageway width                                     | 2 per Km in every inspection                             | S/U                 | _                 |
| c      | Camber  | 2 per km   | S/U                 | -                 |
| d      | Super-elevation & Extra<br>Widening at Curves         | 1 curve in each km                                       | S/U                 | _                 |
|        |   | Item Gra   | de S/U              | 5                 |
|        | Item 5A - Earth Work                                  | and Sub-grade in Emb                                     | ankment/ Cu         | itting            |
| a      | Quality of Material for                               | In Stage-I, 1 per km/<br>In Stage- II or III, 1 pe       |                     | S                 |
|        | Embankment/ Sub-grade                                 | km   |                     |                   |
| b      | Compaction  | In Stage-I, 2 per km/<br>In Stage- II or III, 2 pe<br>km | er S/U              | 5                 |
|        | Side Slopes and Profile                               | 2 per km in Stage III                                    | S/U                 | 'S                |

every sub-jien

|   | Item 5B - Earth Wo  | ork in Cutting in Hilly/ Roll   |       |     |
|---|---|---|-------|-----|
| a | Stability and Workmanship of<br>Cut Slopes  | Stage I and II, at 2 critical locations with maximum height of cutting in each km       | S/U   | _   |
| b | Adequacy of Slope Protection  | All Stages - In general   | S/U   | _   |
| c | Upon completion of formation cutting, dressing, traffic worthiness                          | At Stage III, at 2 critical locations with maximum height of cutting in each km         | S/U   | -   |
| i | Longitudinal Gradient   | Stage II/III - 1 critical<br>and fairly representative<br>stretch of 200m in each<br>Km | S/U   | -   |
|   |   | Item Grade  | S/U   | -   |
|   |   | Item 6 - Sub-Base   |       |     |
|   | Quality of Material   |   |       |     |
| a | Grain Size  | In Stage- II or III, 1 per  | S/U   | -   |
| b | Plasticity  | km  | S/U   | _   |
| c | Compaction  | In Stage- II or III, 1 per km   | S/U   | -   |
| d | Total Thickness of Layer  | 2 per Km  | S/U   | S W |
|   |   | Item Grade  | S/U   | By  |
|   | Item 7 - Base C   | Course – Water Bound Mac  | cadam |     |
| ı | Grain Size of Course<br>Aggregate   |   | S/U   | _   |
|   | Test for Liquid Limit and<br>Plasticity Index in case fine<br>aggregates are crushable type | In Stage- II or III, 1 per km   | S/U   |     |
|   | Volumetric Analysis for assessment of compaction of WBM                                     | In Stage- II or III, 1 per km   | S/U   | -   |
|   | Surface Evenness using straight edge  | In completed WBM 2 tests per km   | S/U   | -   |
|   | Thickness of every layer of WBM.  | 2 per Km  | S/U   |     |
|   |   | Item Grade  | S/U   |     |

|     | Item 8 - Bituminous Layer – I  | Premix Carpet (PMC)/ Sur               | face Dressing | g (SD)       |
|-----|--|--|---------------|--------------|
| a   | Level of cleanliness of WBM surface prior to application of bituminous layer   | 1 per Km                               | S/U           |              |
| b   | Quality of Prime Coat/ Tack Coat with respect to quality of material and workmanship   | 1 observation on the day of inspection | S/U           |              |
| c   | Gradation Test for Course Aggregate (if the work in the item is ongoing)/visual observation in case of completed item of work  | 1 test on the day of inspection        | S/U           |              |
| d   | Grade of bitumen and temperature at the time of mixing and laying (if the work in the item is ongoing)   | 1 test on the day of inspection        | S/U           |              |
| e   | Bitumen Extraction Test if PMC is complete   | 1 test per Km                          | S/U           |              |
| f   | Thickness of layer   | 2 per Km                               | S/U           |              |
| g   | Surface Evenness in case of completed BT work  | 2 per Km                               | S/U           |              |
|     | A STATE OF S | Item Grade                             | S/U           |              |
|     | I make the second of the secon | tem 9 – Shoulders                      |               |              |
| a   | Quality of material for shoulders  | In Stage- II or III, 1 test<br>per Km  | S/SRI/U       |              |
| b   | Degree of compaction   | In Stage- II or III, 1 test<br>per Km  | S/SRI/U       |              |
| c   | Thickness of layer   | In Stage- II or III, 2 tests per km    | S/SRI/U       |              |
| Ite | m Grade  | of the same of the same of             | S/SRI/U       |              |
|     | Item 10 - Cross Drainage Work  | s – Causeways of all span<br>span.     | s and Culver  | ts upto 6 m. |
| a   | Quality of Material – Concrete,<br>Stone/ brick masonry, Hume<br>pipes including size etc.   | All Stages                             | S/SRI/U       | )            |
| b   | Quality of Workmanship such<br>as positioning of pipes, wing<br>walls, cushion over H Pipes<br>etc.  | All Stages                             | S/SRI/U       |              |
|     |  | Item Grad                              | e S/SRI/U     |              |

|   | Item 11 - Side   | Drain and Catch Water D                                    | rain           |     |
|---|--|--|----------------|-----|
| a | General quality of Side Drains/<br>Catch Water Drains and their<br>integration with CDs.                   | All Stages   | S/SRI/U        |     |
|   |  | Item Grade   | S/SRI/U        | ,   |
|   | Item 12 - CC/ Semi Rigid   | Pavements and Associate                                    | d Pukka Drains |     |
| a | Quality of Material – Concrete,<br>Stone/ Concrete Block<br>Pavement etc.                                  | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U            |     |
| b | Strength of CC in Concrete Pavement/ Concrete Block Pavement   | In Stage- II or III,1 per<br>100 m. Length of<br>Pavement  | S/U            | -   |
| c | Quality of Workmanship – Wearing surface texture, Adequacy of setting of concrete, Joints, Edges etc.      | In Stage- II or III  | S/U            |     |
| d | Thickness of Layer   | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U            |     |
|   |  | Item Grade   | S/U            |     |
|   | Item 13 - R  | oad Furniture and Marki                                    | ngs            |     |
| a | Citizen Information Board,<br>Main Informatory Board,<br>Quality and whether fixed<br>during construction. | Stage-I  | S/U            | S   |
| b | Logo boards, 200 m stones and Km stones, quality and whether fixed after completion.                       | Stage-III  | S/U            | 's/ |
| c | Whether the information in boards is given in local language.  | Stage-I and III  | S/U            | 's  |
|   |  | Item Grade   | e S/U          | 1'0 |

Overall Grading of Work: The overall grading calculated on the basis of item and sub-item wise grading is given below: 17.

| Item No.  | Sub Item for Observation                                       | Awarded<br>Grade |  |  |  |
|---|--|------------------|--|--|--|
| Item No 1 Setting Out and Working Drawing                     |  | S                |  |  |  |
| Item No 2   | Site Clearance and Grubbing                                    | 9                |  |  |  |
| Item No 3   | Quality Arrangements   | S                |  |  |  |
| Item No 4   | Geometrics   |                  |  |  |  |
| Item No 5 A   | Earth Work and Sub-grade in Embankment/ Cutting                | 5                |  |  |  |
| Item No 5 B   | Earth Work in Cutting in Hilly/ Rolling Terrain                | = ~              |  |  |  |
| Item No 6   | Sub-Base   | 5 %              |  |  |  |
| Item No 7   | em No 7 Base Course – Water Bound Macadam                      |                  |  |  |  |
| Bituminous Layer – Premix Carpet (PMC)/ Surface Dressing (SD) |  |                  |  |  |  |
| Item No 9 Shoulders   |  |                  |  |  |  |
| Item No 10  | Cross Drainage Works - Causeways of all                        |                  |  |  |  |
| Item No 11  | Side Drain and Catch Water Drain                               | -                |  |  |  |
| Item No 12  | tem No 12 CC/ Semi Rigid Pavements and Associated Pukka Drains |                  |  |  |  |
| Item No 13  | Road Furniture and Markings                                    | S                |  |  |  |
|   | Overall Grading  | S                |  |  |  |

Name:

212 2.218 29.12.218 कार्यपालक अधियन्ता कार्यपालक अधियन्ता कार्यपालक अधियन्ता कार्यपालक अधियन्ता Date: .....

## E-E

# Format for information to SQM for Inspection of PMGSY Work PART I— Work Information (To be filled-up by PIU)

|        | Work is Ongoing   Completed                                      |
|--------|--|
| GEN    | TD 17  |
| 1.1.   | Date of Inspection: DD MM YY 28-12-2018                          |
| 1.2.   | Name of State Quality Monitor E Ex. Shatraghna Prabad            |
| 1.3.   | District: Menger Block: Kharagbur                                |
| 1.4.   | Name of Road: From L083-L048 Fasiyabad to Mardanchak             |
| 1.5.   | Package No.: BR-228-148 Auxgarthan                               |
| 1.6.   | Length:Km Flexible Pavement 1:27 Km. CC/other Pavementm. =       |
| Total. | 1.972Km  |
| 1.7.   | Estimated Cost (As cleared by GOI): Rs. 109.98 Lakh              |
| 1.8.   | Technical Sanction Cost: Rs. 109.98 Lakh                         |
| 1.9.   | The Work is a Case of: New connectivity Up gradation             |
| 1.10.  | Terrain Plain Rolling Hilly                                      |
| 1.11.  | Date of Start of the Work:                                       |
| 1.12.  | Stipulated Date of Completion: 05 07 19                          |
| 1.13.  | Actual Date of Completion (if work completed):                   |
| 2.     | PHYSICAL PROGRESS: (In case of On going works only) Construction |

| 2. PHYSICAL PROGRESS: (In case of On going works of | only) Construction |
|---|--------------------|
| Programme and Physical Progress:                    |                    |
|   |                    |

| Item             | Completed                    | Dates for  | Start  | Completion | Delay in |
|------------------|------------------------------|------------|--------|------------|----------|
|                  | percentage of Item           | completion | Date   | Date       | Months   |
| Earth Work       | 65%                          | Due        |        |            |          |
|                  | 69/.                         | Actual     |        |            |          |
| CD Works         | 100%                         | Due        | FEINE  |            |          |
|                  | 10.1                         | Actual     |        |            |          |
| Sub base i/c     | 100%                         | Due        |        |            |          |
| Shoulders        |                              | Actual     |        |            |          |
| Base Course (Non | NIL                          | Due        |        |            |          |
| Bitu.)           | MIL                          |            |        |            |          |
| Base /Wearing    | NIL                          | Due        |        |            |          |
| Course(Bitu.)    | 1112                         | Actual     |        |            |          |
| CC Pavement      | NIL                          | Due        |        |            |          |
|                  |                              | Actual     |        |            |          |
| Signage etc      | dego l'cilizen enform. koars | Due        |        |            |          |
|                  | enform board                 | Actual     | l lait |            |          |

#### 3. **QUALITY CONTROL:**

3.1. Location of Field Laboratory: At Mardanchak

3.1. Location of Field Laboratory: At Mardanchak

3.2. Quality Control Register Part-I is maintained by: Contractor PIU

3.3. Quality Control Register Part-II is maintained by:

## 4. INSPECTIONS BY NQM, SQM or SENIOR OFFICERS AND ACTION

TAKEN:

Inspection by NQMs, SQMs and senior (i.e. SE or CE) departmental officers and action taken statement:

| Inspected<br>By | Observations | Action Taken by PIU with Date |
|-----------------|--------------|-------------------------------|
| Q8.             | Salistactory |                               |
| Vajpaye         | (ς)          |                               |
| "N. Q.M"        |              |                               |
|                 |              |                               |
|                 |              |                               |
|                 | · · · · · ·  |                               |
|                 |              |                               |
|                 |              |                               |
|                 |              |                               |
|                 |              |                               |
|                 |              |                               |
|                 | Ву           | By Qy.                        |

Name and Signature of the Head of PIU, Date:.....

## Report of State Quality Monitor (SQM) PART II— Observations of SQM for Ongoing/Completed Work

(To be filled-up by SQM, use additional sheets, if required.)

Stage of Work: I II III

#### 1. SETTING OUT AND WORKING DRAWING: For all stages of work

| # | Whether Bench marks @ 4 per km established (Y/N) | the Bench<br>Marks | referenced with Marker | prepared Working Drawing for the work |
|---|--|--------------------|------------------------|---------------------------------------|
|   | Y  | \$                 | Y                      | Y                                     |

Grading: Grade: S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

#### 2. SITE CLEARANCE AND GRUBBING: For Stage I of Work

| # | as per DPR and Material obtained is | available from scarifying existing work | Name the reusable material obtainable from clearance or scarification and indicate approximate quantity and its re-use by the PIU. |
|---|-------------------------------------|---|--|
|   | Y                                   |   |  |

Grading: Grade S SRI U If this item is graded SRI/U, write clear reasons and suggestions for improvement:

## 3. QUALITY ARRANGEMENTS AND ATTENTION TO QUALITY - For all stages of work

Observations about Field Laboratory:

| # | Whether Field laboratory Established (Y/N) | List the equipments available. | Whether adequate Equipments as per requirement of work are available and are being used.  (Y/N) |
|---|--|--------------------------------|---|
|   | Y  |                                | Y   |

Observations about Mandatory Tests - Detail out the quantities of various items of works and list the tests required. (Refer to abstract of QC Register Part-I)

| # | Item of Work<br>Executed   | Quantity                  | Name of<br>Test                                    | No.<br>requir | of Tests   | No. of Tests<br>Conducted by<br>PIU/Contractor |
|---|--|---------------------------|--|---------------|------------|--|
|   |  |                           |  |               |            |  |
|   |  |                           |  |               |            |  |
|   |  |                           | 17   |               |            |  |
|   |  |                           |  |               |            |  |
| # | Based on exect quantities whether mandatory to conducted.  Yes Partly No | all I main<br>ests provis | her QC Registerntained as per sions.  Yes Partly N |               | II maintai |  |
|   |  |                           |  |               |            |  |

| Grading: Grade: suggestions for imp | S SRI U | If this item is graded SRI/U, write clear reasons and |
|-------------------------------------|---------|---|
|                                     |         | S   |
|                                     |         |   |
|                                     |         |   |

4. GEOMETRICS: The SQM should take at-least two measurements in 1 Km length and if it is found that the roadway and carriageway is inadequate SQM may take more observations:

### Observations -Road way width, Carriage way and Camber.

| Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way Width<br>(m) | Camber in % | Ref.<br>RD | Roadway<br>Width<br>(m) | Carriage<br>way<br>Width (m) | Camber in % |
|------------|-------------------------|------------------------------|-------------|------------|-------------------------|------------------------------|-------------|
| (00 M      | 4.10                    | 7-70W                        |             |            |                         |                              |             |
|            |                         |                              |             |            |                         |                              |             |
|            |                         |                              |             |            |                         |                              |             |

#### Observations - Super-elevation and Extra Widening at curves.

| Ref.<br>RD | Super<br>Elevation | Extra Widening provided (Y/N) | Ref. RD | Super<br>Elevation | Extra Widening provided (Y/N) |
|------------|--------------------|-------------------------------|---------|--------------------|-------------------------------|
|            | T-PHILE            |                               |         | /                  |                               |
|            |                    |                               |         |                    |                               |
|            |                    |                               |         |                    |                               |

| Grade: S U If this item is graded U, write clear reasons and suggestions for improvement: |
|---|
| 'S'   |
|   |

### OBSERVATIONS REGARDING THE QUALITY OF ITEMS OF WORK:

#### 5. Earthwork:

## Observations -Quality of Material for Embankment/ Sub-grade:

| #   | Location (RD) | On Visual Classification identify the Group Symbol and write | Quality of material is acceptable. (Y/N) |
|-----|---------------|--|--|
| 100 | 100M          | Sandy Soil   | y  |
|     |               |  |  |
|     |               |  |  |
|     |               |  |  |
|     |               |  |  |

| Grad      |          | S U I           |   | graded U, write                 | Clear reasons a                  |                            |
|-----------|----------|-----------------|---|---------------------------------|----------------------------------|----------------------------|
|           |          |                 | S                                       |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 | de Constr                        | nction:                    |
| bser      | vation – | Workmanshi      | p for Emban                             | kment and Sub                   | -grade Consti                    | uction                     |
| Lo        | ocation  | MDD kN/m        | Field                                   | Deg                             | gree of Compac                   | tion                       |
|           | (RD)     | (As per record) | Moisture<br>Content                     | Field Density kN/m <sup>3</sup> | Dry Density<br>kN/m <sup>3</sup> | Compaction adequate. (Y/N) |
|           | MOO      |                 |   |                                 |                                  | 4                          |
| \         | 000      |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
| Grad      |          |                 | item is grade                           | ed U, write clear               | reasons and sug                  | gestions for               |
| impro     | ovement  |                 | \                                       | 1                               |                                  |                            |
|           |          |                 | S                                       |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
|           |          |                 |   |                                 |                                  |                            |
| bser      | vation – | Side slopes a   | and profile:                            |                                 |                                  |                            |
|           |          | Side slopes     |   | Slopes                          | Whether pro                      | file is                    |
| bser<br># |          | ion (RD) V      | and profile: Whether Side atisfactory ( |                                 | Whether pro                      | file is (Y/N)              |
|           |          | ion (RD) V      | Vhether Side                            |                                 | Whether pro<br>Satisfactory      | file is (Y/N)              |
|           |          | ion (RD) V      | Vhether Side                            |                                 | Whether pro<br>Satisfactory      | file is (Y/N)              |
|           |          | ion (RD) V      | Vhether Side                            |                                 | Whether pro<br>Satisfactory      | file is<br>(Y/N)           |
|           |          | ion (RD) V      | Vhether Side                            |                                 | Whether pro<br>Satisfactory      | file is<br>(Y/N)           |

| Observations | - Earth work in | Hilly/Rolling ter | rrain or high Emb | ankments. |
|--------------|-----------------|-------------------|-------------------|-----------|
|--------------|-----------------|-------------------|-------------------|-----------|

| # | Location (RD) | Cut Slopes & Profile, whether appears to be stable. (Y/N) | protection works | Formation is properly dressed and traffic worthy. (Y/N) |
|---|---------------|---|------------------|---|
|   |               |   |                  |   |
|   |               |   |                  |   |

## Observations - Longitudinal Gradient in case of road in hilly/rolling terrain:

| Ref. Between RD& RD | Longitudinal<br>Gradient | S/U | Ref. Between RD& RD | Longitudinal Gradient | S/U |
|---------------------|--------------------------|-----|---------------------|-----------------------|-----|
|                     |                          |     |                     |                       |     |
|                     |                          |     |                     |                       |     |
|                     | de sagno a               |     |                     |                       |     |

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         |   |
|                         |   |

#### 6. Sub-Base:

## Observations - Quality of Material and Workmanship:

| # | Location (RD) | Confirms<br>to<br>Grading.<br>(Y/N) | Suitable from plasticity angle. (Y/N) | Whether compaction is adequate. (Y/N) | Observed Thickness of Layer (in mm) | Prescribed Thickness provided (Y/N) |
|---|---------------|-------------------------------------|---------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
|   | 100W          |                                     | Y                                     | À                                     | 200 MM                              | Y                                   |
|   |               |                                     |                                       |                                       |                                     |                                     |
|   |               |                                     |                                       |                                       |                                     |                                     |
|   |               |                                     |                                       |                                       |                                     |                                     |

| Grade: S U for improvement: | If this item is graded U, write clear reasons and suggestions |
|-----------------------------|---|
|                             | 'S'   |
|                             |   |
|                             |   |

#### 7. Base Course:

## Observations- Quality of Material and Workmanship of WBM:

| # | Location (RD) | Thickness<br>of each<br>layer of<br>WBM<br>(mm) | is | Aggregate confirms to Grading (Y/N) | Filler material is non-plastic to desired extent.  (Y/N) | Volume of filler material percent of course aggregate | Whether adequate compaction is done.  (Y/N) |
|---|---------------|---|----|-------------------------------------|--|---|---|
|   |               |   | 1  |                                     |  |   |   |

Observations - Surface evenness: Surface evenness in about 200 m critical representative length of completed WBM:

| Grade: S U improvement: | If this item is graded U, write clear reasons and suggestions for |
|-------------------------|---|
|                         |   |
|                         |   |
|                         |   |
|                         |   |

8. Bituminous Course: Premix Carpet/Surface Dressing/ BM/ MPM etc including Seal Coat: Observations - Quality of Material and Workmanship of BT Layer (in case of ongoing works):

Observations about level of cleanliness of WBM surface prior to application of bituminous layer. (if work is ongoing observe the surface. If BT layer laid, assess by carefully removing the BT layer.):

**Observations** about Quality of Prime Coat and Tack Coat with respect to quality of material and workmanship - Visual Observation - if work is ongoing:

In case of PMC/BM/MPM/ Seal Coat

| # | Location (RD) | Whether Course Aggregate confirms to grading. (Y/N) | Whether the binder is of approved grade.  (Y/N) | Write Mixing Temperature and whether it is in permissible limits. (Y/N) | Write Laying Temperature and whether it is in permissible limits. (Y/N) |
|---|---------------|---|---|---|---|
|   |               | giban total   |   | 5450 ES   170   | mmis. (1714)  |
|   |               | A type and  |   |   |   |
|   |               |   |   |   |   |

|       | RD at which                                    | Type of CD                      | Whather 1'   |   |
|-------|--|---------------------------------|--|---|
| #     | CD is located                                  | Type of CD                      | Whether quality of the material is acceptable. (Y/N)                         | Whether quality of workmanship is acceptable. (Y/N) |
|       |  |                                 |  |   |
|       |  |                                 |  |   |
|       |  |                                 |  |   |
|       |  |                                 |  |   |
| sug   | gestions for impre                             | ovement:                        | nis item is graded SRI/U   | Tousons and   |
|       |  |                                 |  |   |
|       | Reference of RDs where side                    | f RD at                         | of the side drains/ cat  | ch- are integrated to                               |
|       | Reference of                                   | f RD at                         | Whether general quant<br>of the side drains/ cat                             | ch- are integrated to                               |
|       | Reference of<br>RDs where side<br>drain        | f RD at which observation       | Whether general qua<br>of the side drains/ cat<br>water drains               | ch- are integrated to                               |
|       | Reference of<br>RDs where side<br>drain        | f RD at which observation       | Whether general qua<br>of the side drains/ cat<br>water drains               | ch- are integrated to                               |
|       | Reference of<br>RDs where side<br>drain        | f RD at which observation       | Whether general qua<br>of the side drains/ cat<br>water drains               | ch- are integrated to                               |
|       | Reference of<br>RDs where side<br>drain        | f RD at which observation       | Whether general qua<br>of the side drains/ cat<br>water drains               | ch- are integrated to                               |
|       | Reference of<br>RDs where side<br>drain        | f RD at which observation       | Whether general qua<br>of the side drains/ cat<br>water drains               | ch- are integrated to                               |
| # Gra | Reference of<br>RDs where side<br>drain        | f RD at which observation made. | Whether general quant of the side drains/ cat water drains acceptable. (Y/N) | ch- are integrated to                               |
| # Gra | Reference of RDs where side drain constructed. | f RD at which observation made. | Whether general quant of the side drains/ cat water drains acceptable. (Y/N) | is cross drains. (Y/N)                              |
| ‡ Gra | Reference of RDs where side drain constructed. | f RD at which observation made. | Whether general quant of the side drains/ cat water drains acceptable. (Y/N) | is cross drains. (Y/N)                              |

## 12. CC/ Semi-Rigid (SR) Pavements and Associated Pucca Side Drains:

| # | Reference of                         | RD at                    | Thic            | kness            | General quality of             | quality of                         |
|---|--------------------------------------|--------------------------|-----------------|------------------|--------------------------------|------------------------------------|
|   | RDs, CC/SR<br>Pavements<br>provided. | which observati on made. | Thickness in mm | Acceptable (Y/N) | material is acceptable.  (Y/N) | workmanship<br>acceptable(Y/<br>N) |
|   |                                      |                          |                 |                  |                                |                                    |
|   |                                      |                          |                 |                  | REMARKS OF                     |                                    |
|   |                                      |                          |                 | 1                |                                |                                    |
|   |                                      |                          |                 |                  |                                |                                    |
|   |                                      |                          |                 |                  |                                |                                    |

## Comments about adequacy of face/main walls, wings and retaining walls:

| Long Control of the Control of the Control |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |

| Grade: | If this item is graded U, write clear rea | ssons and suggestions for |
|--------|---|---------------------------|
|        |   |                           |
|        |   |                           |
|        |   |                           |

## 13. Road Furniture and Markings

Observations - Item No. 14 a: Quality Road Furniture and Markings:

Main Informatory Board Fixed:

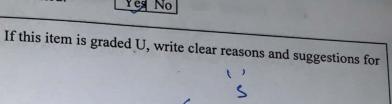
Yes No.

Citizen Information Board Fixed:

U

Grade: S

improvement:



Observations - Quality Road Furniture and Markings:

- 13.1.1. Logo Boards Fixed:
- 13.1.2. 200m. Stones fixed:
- 13.1.3. 1 Km. Stone fixed:
- 13.1.4. Guard Stones fixed on Curves:
- 13.1.5. Mandatory and Cautionary Signage

|     | 1  |
|-----|----|
| Yes | No |
| Yes | No |

Yes No

Yes No

Grade: S U If this item is graded U, write clear reasons and suggestions for improvement:

14. General Observations of SQM, (including the observations made during the interaction with PIU staff and Contractor's/ Consultant's Engineers):

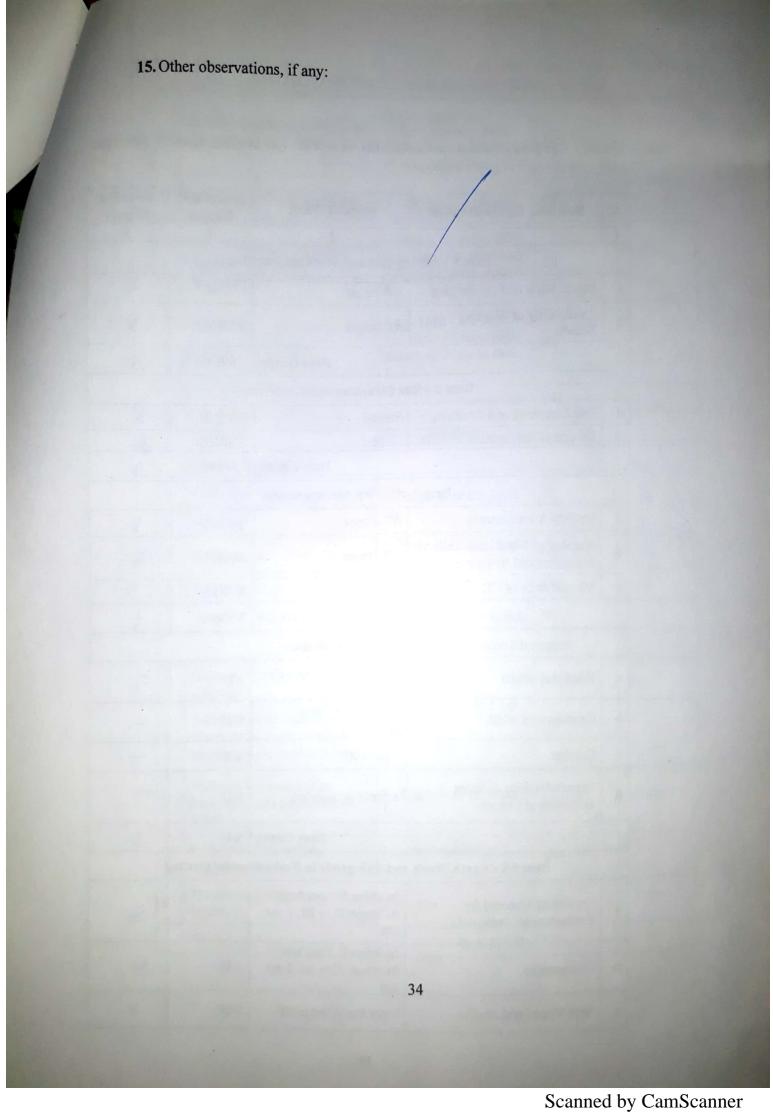
14.1. Observations about deficiency in project preparation (Give detailed observations about deficiencies in general and items which have been left but are required as per site conditions):

14.2. Whether the work has been completed/is in progress as per work programme or the delay has occurred. If delay has occurred, whether the liquidated damages have been withhold or recovered:

14.3. Whether the work has been completed within the sanctioned cost, if not, what is the action taken by the PIU (in case of complete works):

14.4. Observations about the action taken by the PIU on the observations of inspecting officers including SQMs and NQMs. (Clearly offer comments about the action taken on the observations of Departmental Officers, State Quality Monitors and National Quality Monitors).

14.5. Comments about difference in observations made by NQMs/SQMs in earlier inspections (the NQM shall study the earlier inspection reports of NQMs / SQMs, if any and offer his clear comments about the differences in observations, if any).



16. Quality Grading of items and sub-items of work: The grading of every sub-item and item of work is given below.

| # | Sub Item for Observation                              | Stage of Work   | Awardable<br>Grades | Awarded<br>Grades |
|---|---|---|---------------------|-------------------|
| 1 | 2   | 3   | 4                   | 5                 |
|   | Item 1 – Setti  | ng Out and Working Drav                                   | ving                |                   |
| a | Bench Mark and Centre Line                            | All Stages  | S/SRI/U             | 3                 |
| b | Availability of Working<br>Drawing                    | All Stages  | S/SRI/U             | 5                 |
|   |   | Item Grade  | S/SRI/U             | S                 |
|   | Item 2 – Si   | te Clearance and Grubbin                                  | g                   |                   |
| a | Site Clearance and Grubbing                           | Stage-I   | S/SRI/U             | 5                 |
| b | Re-use of Salvageable Material                        | Stage-I   | S/SRI/U             | S                 |
|   |   | Item Grade  | S/SRI/U             | 5                 |
|   | Item 3  | - Quality Arrangements                                    |                     |                   |
| a | Quality Arrangements                                  | All Stages  | S/SRI/U             | 5                 |
| b | Number of Mandatory Tests as per prescribed frequency | All Stages  | S/SRI/U             | S                 |
| c | Maintenance of QC Registers                           | All Stages  | S/SRI/U             | S                 |
|   |   | Item Grade  | S/SRI/U             | S                 |
|   | It  | em 4 – Geometrics   |                     |                   |
| a | Road way width  | 2 per Km in every inspection                              | S/U                 | S                 |
| b | Carriageway width                                     | 2 per Km in every inspection                              | S/U                 | -                 |
| 2 | Camber  | 2 per km  | S/U                 | -                 |
| i | Super-elevation & Extra<br>Widening at Curves         | 1 curve in each km  | S/U                 | -                 |
|   |   | Item Grade  | S/U                 | S                 |
|   | Item 5A - Earth Work                                  | and Sub-grade in Emban                                    | kment/ Cuttin       | ng                |
|   | Quality of Material for<br>Embankment/ Sub-grade      | In Stage-I, 1 per km/<br>In Stage- II or III, 1 per<br>km | S/U                 | S                 |
| , | Compaction  | In Stage-I, 2 per km/<br>In Stage- II or III, 2 per<br>km | S/U                 | 5                 |
|   | Side Slopes and Profile                               | 2 per km in Stage III                                     | S/U                 | 's'               |

| - | Hem 5B - Earth W  | ork in Cutting in Hilly/ Rol  |                  |     |
|---|---|---|------------------|-----|
| a | Stability and Workmanship of Cut Slopes   | Stage I and II, at 2 critical locations with maximum height of cutting in each km | ling Terrain S/U |     |
| b | Adequacy of Slope Protection  | All Stages - In general   | S/U              |     |
| c | Upon completion of formation cutting, dressing, traffic worthiness                          | At Stage III, at 2 critical locations with maximum height of cutting in each km   | S/U              |     |
| d | Longitudinal Gradient   | Stage II/III - 1 critical and fairly representative stretch of 200m in each Km    | S/U              | -   |
|   |   | Item Grade  | S/U              |     |
|   |   | Item 6 - Sub-Base   |                  |     |
|   | Quality of Material   |   |                  |     |
| a | Grain Size  | In Stage- II or III, 1 per  | S/U              | S   |
| b | Plasticity  | km  | S/U              | S   |
| c | Compaction  | In Stage- II or III, 1 per km   | S/U              | S   |
| d | Total Thickness of Layer  | 2 per Km  | S/U              | S   |
|   |   | Item Grade  | S/U              | 's' |
|   | Item 7 - Base C   | ourse – Water Bound Ma  | cadam            |     |
|   | Grain Size of Course<br>Aggregate   |   | S/U              |     |
| ) | Test for Liquid Limit and<br>Plasticity Index in case fine<br>aggregates are crushable type | In Stage- II or III, 1 per<br>km  | S/U              |     |
|   | Volumetric Analysis for assessment of compaction of WBM                                     | In Stage- II or III, 1 per km   | S/U              | -   |
|   | Surface Evenness using straight edge  | In completed WBM 2 tests per km   | S/U              | -   |
|   | Thickness of every layer of WBM.  | 2 per Km  | S/U              | -   |
|   | 2   | Item Grade  | S/U              | -   |

sub-item

|     | Item 8 - Bituminous Layer – P   | remix Carpet (PMC)/ Sui                | Tace Dress.  |              |
|-----|---|--|--------------|--------------|
|     | Level of cleanliness of WBM surface prior to application of bituminous layer  | 1 per Km                               | S/U          |              |
| b   | Quality of Prime Coat/ Tack<br>Coat with respect to quality of<br>material and workmanship  | 1 observation on the day of inspection | S/U          | _            |
| c   | Gradation Test for Course<br>Aggregate (if the work in the<br>item is ongoing)/visual<br>observation in case of<br>completed item of work | 1 test on the day of inspection        | S/U          |              |
| d   | Grade of bitumen and temperature at the time of mixing and laying (if the work in the item is ongoing)                                    | 1 test on the day of inspection        | S/U          | _            |
| e   | Bitumen Extraction Test if PMC is complete  | 1 test per Km                          | S/U          | _            |
| f   | Thickness of layer  | 2 per Km                               | S/U          |              |
| g   | Surface Evenness in case of completed BT work   | 2 per Km                               | S/U          | _            |
|     |   | Item Grade                             | S/U          | _            |
|     | Findson Wangdon a Co. V.  | tem 9 – Shoulders                      |              |              |
| a   | Quality of material for shoulders   | In Stage- II or III, 1 test<br>per Km  | S/SRI/U      | -            |
| b   | Degree of compaction  | In Stage- II or III, 1 test<br>per Km  | S/SRI/U      | _            |
| c   | Thickness of layer  | In Stage- II or III, 2 tests per km    | S/SRI/U      |              |
| Ite | em Grade  |  | S/SRI/U      |              |
|     | Item 10 - Cross Drainage Work   | s – Causeways of all span<br>span.     | s and Culver | ts upto 6 m. |
| 2   | Quality of Material – Concrete,<br>Stone/ brick masonry, Hume<br>pipes including size etc.  |  | S/SRI/U      | S            |
| b   | Quality of Workmanship such<br>as positioning of pipes, wing<br>walls, cushion over H Pipes<br>etc.                                       | All Stages                             | S/SRI/U      | S            |
|     |   | Item Grad                              | e S/SRI/U    | `s'          |

|   | Item 11 - Sid  |  |             |     |
|---|--|--|-------------|-----|
|   | General quality of Side Drains/  | e Drain and Catch Water I                                  | ) main      |     |
| a | Catch Water Drains and their integration with CDs.   | All Stages   | S/SRI/U     | /   |
|   | Item 12 - CC/ Somi Pr  | Item Grade   | S/SRI/U     |     |
|   | Quality of Maria   | Item Grade   | d Pukka Dra | ins |
| a | Pavement etc.  | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U         | ,   |
| b | Strength of CC in Concrete<br>Pavement/ Concrete Block<br>Pavement   | In Stage- II or III,1 per<br>100 m. Length of<br>Pavement  | S/U         |     |
| c | Quality of Workmanship –<br>Wearing surface texture,<br>Adequacy of setting of<br>concrete, Joints, Edges etc. | In Stage- II or III  | S/U         | /   |
| d | Thickness of Layer   | In Stage- II or III, 1 per<br>100 m. Length of<br>Pavement | S/U         | 1   |
|   |  | Item Grade   | S/U         |     |
|   | Item 13 - Ro   | oad Furniture and Markin                                   | igs         |     |
| 1 | Citizen Information Board,<br>Main Informatory Board,<br>Quality and whether fixed<br>during construction.     | Stage-I  | S/U         | 'S' |
| ) | Logo boards, 200 m stones and Km stones, quality and whether fixed after completion.                           | Stage-III  | S/U         | 's' |
|   | Whether the information in boards is given in local language.  | Stage-I and III  | S/U         | `s' |
|   |  | Item Grade   | S/U         | 's' |
|   |  |  | 3.0         | >   |

Overall Grading of Work: The overall grading calculated on the basis of item and sub-item wise grading is given below: 17.

| Item No.    | Sub Item for Observation   | Awarded<br>Grade |
|-------------|--|------------------|
| Item No 1   | Setting Out and Working Drawing  | S                |
| Item No 2   | Site Clearance and Grubbing  | `\$              |
| Item No 3   | Quality Arrangements   | S                |
| Item No 4   | Geometrics   | `\$              |
| Item No 5 A | Earth Work and Sub-grade in Embankment/ Cutting                            | `s               |
| Item No 5 B | Earth Work in Cutting in Hilly/Rolling Terrain                             |                  |
| Item No 6   | Sub-Base   | `S               |
| Item No 7   | Base Course – Water Bound Macadam  | -                |
| Item No 8   | Rituminous Laver – Premix Carpet (PMC)/                                    |                  |
| Item No 9   | Shoulders  | _                |
| Item No 10  | Cross Drainage Works – Causeways of all spans and Culverts upto 6 m. span. | _                |
| Item No 11  | Side Drain and Catch Water Drain   |                  |
| Item No 12  | CC/ Semi Rigid Pavements and Associated Pukka Drains                       |                  |
| Item No 13  | Road Furniture and Markings  | `s'              |
|             | Overall Grading  | 's'              |

| Signature: | 24 |
|------------|----|

Name:
Date: कार्यपालक अभियन्ता
प्राचीण कार्य विभाग, कार्य प्रमङल