Guidelines for preparation of estimates under Mana Ooru – Mana Badi/ Mana Basti – Mana Badi programme.

Government vide G.O. Ms. No.04 dated:03.02.2022 have approved for implementation of new programmee named as "Mana Ooru – Mana Badi" in Rural areas and "Mana Basti – Mana Badi" in Urban areas for comprehensive development and strengthening of infrastructure facilities in Government and Local body Schools.

The following 12 components are taken up under this programme:

1. Toilets with running water facility
2. Electrification
3. Drinking Water supply
4. Furniture to Students & staff
5. Painting to entire school
6. Major & Minor repairs
7. Green Chalk boards
8. Compound walls
9. Kitchen sheds
10. New Classrooms in place of dilapidated classrooms
11. Dining halls in high Schools.
12. Implementation of Digital Education

Guidelines in respect of each component are proposed as follows:

1. Toilets with running water facility:

a) Water Closets (WCs):

i. Primary, Upper Primary & High Schools – WCs shall be 1:40 students as per standards.

ii. Where as in respect of High Schools for Girls students instead of urinals, WCs shall be preferred for High School students @1:20 students and no urinals shall be provided for Girl's students in High Schools.

iii. Every school shall have one PH toilet compulsory for CwSN students in the school for Boys & Girls or Common.

b) <u>Urinals:</u>

i. Primary, Upper Primary & High schools for boys' urinals shall be provided @1:20 students.

ii. For Girls in Primary & Upper Primary schools, urinals shall be provided @1:20 students each.

iii. For all Toilets & Urinals running water facility shall be provided.

iv. Hand wash basin shall be provided at toilets.

v. Wherever new toilet blocks are constructed, separate septic tank shall be taken up.

vi. All tiles should be made with Child Friendly materials.

vii. Standardized slope shall be maintained for drainage water & running water supply along with inspection chambers.

2. <u>Electrification:</u>

The Electrification component is to provide fans and tube lights in all the class rooms in the school. Unless we do proper robust electrification, we cannot fulfil the primary objective. To suit to these requirements, we need to follow appropriate standards and specifications given under:

a. If there is no electricity for the school, the TRANSCO department should be approached and necessary costs shall be met from the programme.

b. Concealed Conduit Wiring is the most common way of doing wiring in the present days. The same shall be followed.

c. Before laying the PVC pipes in the wall, chasing/chiselling/grooving shall be done in the wall with wall cutters. Avoid manual grooving to avoid damage to the walls.

d. Conduits (Pipes) shall be fixed inside the walls with approved clips to ensure proper routing and wiring.

e. The width of the groove shall be limited as per the number of pipes/conduits.
f. After fixing the pipes, boxes and accessories the groove surface shall be filled with cement mortar and chick mesh wrapped around the pipes.
g. In case of buildings where new RCC slabs/beams are laid, the pipes and boxes shall be provided in the slab portion/beam portion.
h. Surface Conduit Wiring: Wherever concealed wiring is not possible (Example: crossing of RCC columns, Beams, RCC slabs) opt for PVC casing and capping wiring system or surface conduit wiring.
i. The switch boards shall be fixed at appropriate heights and at equal heights from the finished floor in the room.
j. All the class rooms shall be provided with 3 phase connection.
k. Wherever fan hooks are not available in the roof slabs, fan hooks shall be properly welded to the slab reinforcement at equal spacing.
l. Provide number of fans as per actual requirement depending on the room size, including existing fans and in any case not more than 4 nos per classroom.
m. Provide number of tube lights as per actual requirement depending on the room size, including existing tube lights and in any case not more than 4 nos.
n. Street lights shall be provided 1no. near toilet, 1 no. near gate, 2 nos near main building.
o. In High schools, the HM shall identify the room where Smart Boards/Projectors/Kyans are to be installed for the purpose of Implementation of Digital Education. In such room we need to put a separate switch/plug box close to the wall where ever Smart Boards/Projectors/Kyans are to be fixed.
p. For the purpose of electrical pumps, appropriate electrical

arrangements shall be taken up near source and also near sump (in case booster pump is used).

q. All the items procured locally shall be checked and satisfied before being taken to the site:
    - Brand (as notified)
    - Rating
    - Specifications
    - Functioning at Standard conditions
    - Any other defects

r. The SMC shall procure all electrical materials including fans & tube lights in the market duly following the make and specifications and take up the fixing through Electrical Mastery (Electrical).

s. Earthing should be provided either with GI/Copper.

3. <u>Drinking water supply:</u>

a. Ensure Mission Bhagiratha connection is provided.

b. Lay HDPE pipe line from gate to existing sump to connect Mission Bhagiratha water connection.

c. Where ever existing sump is not available, new construction will be taken up.

d. Sump of 5000 litres may be constructed up to 100 strength and 10,000 litres sump above 100 strengths.

e. Sumps should be located capacity in the premises away from playground, pathways etc., and of minimum height from above ground.

f. RCC storage tank of 1000 litres capacity on the terrace with all in let & out let connections shall be provided.

g. Pump motor shall be provided for pumping the water from sump to RCC water tank.

h. Battery of taps shall be provided for drinking water purpose (which are connected to RCC water tank protected water connection).

i. 10 to 15 taps shall be provided for drinking water purpose with reference to student strength.

j. Taps should be properly spaced and of appropriate height.

k. Providing platform with sink duly providing dadoding wall tiles with colour Digital Glazed Child Friendly tiles & flooring with anti-skid ceramic tiles and providing waste water disposal system by open drain/ under drainage system with pipelines.

l. Provide fixtures pipelines with CPVC of standard makes and push type NP bib taps of approved make and waste water disposal with required size of SWR pipelines / open drain.

4. <u>Furniture to students & Staff:</u>

a) <u>Dual Desk Furniture:</u>

1. Where ever existing Dual Desk require repair, repairs should be taken up under major & minor repairs.
2. Priority should be given to repair of existing furniture and propose such repairs under Major & Minor repairs.
3. No fresh proposal for furniture should be included in place of repairable furniture.
4. Types of Dual desk two-seater is as follows:
   - Type – I for Classes 1 & 2.
   - Type – II for Classes 3 to 5.
   - Type- III for Classes 6 to 8.
   - Type – IV for Classes 9 & 10.

b) <u>Furniture to computer lab:</u>

1. In each lab room, 15 tables & 15 chairs shall be provided for every high school.
2. In case available furniture can be used with repairs, such repairs should be taken up under major & minor repairs.

c) <u>Furniture to Science lab room:</u>

1. In each lab room, 4 tables & 16 stools shall be provided for every high school.

2. If existing furniture can be used after repairs, repairs to be given priority under major & minor repairs wherever required

d) <u>Furniture to Library room:</u>

1. For each library room, (4) tables & 16 chairs shall be provided for reading purpose in libraries.
2. If existing furniture can be used after repairs, they shall be taken up under major & minor repairs.

e) <u>Head Master Room furniture:</u>

1. For each Head Master room, (1) table & (1) chair shall be provided.
2. If existing furniture can be used after repairs, they shall taken up under major & minor repairs.

f) <u>Staff furniture in Classroom:</u>

1. For each Class room, (1) teacher table & (1) chair shall be provided.
2. If existing furniture can be used after repairs, they shall be taken up under major & minor repairs.
3. Teacher tables & chairs if available and require any repairs, it may be taken up under major & minor repairs. If not available fresh furniture can be proposed.

5. <u>Painting to entire School:</u>

- **<u>Confirming School readiness for painting:</u>** When all repair works are completed, the HM has to confirm readiness of school for painting on the following 5 parameters provided as follows:
  1. Electrification Completed
  2. Repairs to walls and ceilings completed
  3. Repairs to doors, windows, grills completed
  4. Construction of toilets completed in all respects
  5. Cement Patti around the existing black board dismantled and plastered.

However, for painting to start, it would be prudent to give 21 days' curing time after fresh cement plaster is applied.

- **Complete school to be painted:** Once the school is taken up for painting work, the whole school is to be painted.
- Every School pictorial painting by using BaLA concept can be taken up under painting work
- Building as Learning Aid (BaLA) is a concept that improved quality of education by developing the concept on Classroom (Floors, walls, Windows, Doors, Ceiling, Corridors, Outdoor space, Compound wall, Steps & Staircases, Plat form, at play grounds and exterior walls facing entrance and sides visible on all structures.

6. Major & Minor Repairs:

Major & Minor repairs work is one of the important components under Mana Ooru – Mana Badi/Mana Basti-Mana Badi.

- The repairs required shall be carefully identified and estimated to make the school technically sound, functional and look beautiful.
- In-case of new provisions and additions to be made in the approved estimate, generate the "working estimate" as per the actual present requirement and execute the work as per actual requirements.

The following activities can be taken up under "Major & Minor Repairs" work.

a. Roof leakages:

1. Roof leakages shall be carefully identified along with the reasons for leakage.
2. In-case of cracks in the roof slab, cracks shall be carefully rectified. Visible cracks not giving hollow sounds need to be directly treated. Cut a "V" groove

(10 X 10 mm) on the crack observed and clean the groove (with vacuum cleaner and/or water jet). Seal the grove with a non-shrink repair mortar available with construction chemical companies like Dr.Fixit etc.

3. In-case of damage in the leak proof plastering, it shall be properly rectified. Check soundness of top layer, look for di-bonding signs by knocking it with fingers or with a small stick. If you hear a hollow sound, then you need to remove the entire patch (making hollow sound) and repair it with a repair mortar.
4. Identify the slope of the slab towards rain water spouts and provide proper slopes with leak proof plastering.
5. Rain water spouts shall be properly placed so that every drop of water on the roof is drained off.
6. Provide haunch plastering all-along the corners of roof and parapet joining.
7. Remove the tree branches falling on to the slabs so that the leaf wastage shall not block the rain water spouts.

b. Leakages along the walls:

1. The rain water spouts shall be properly placed in such a way that water from roof do not drain along the walls.
2. In-case water is getting stagnated on the sunshades provide proper slope on the top of the sunshade and ensure water is properly drained.
3. Avoid brick on edge on the cantilever end of the sunshades.

c. Slab damages:

1. In-case of buildings where the roof slab RCC is badly damaged and super structure is technically sound, remove and relay the roof as per recommendations of the concerned Executive Engineer if repairs to roof is not possible.
2. In case the roof is leaking because of bad slopes, the slope should be rebuilt by adding additional thin RCC slab with RCC mesh and using appropriate water proofing admixture.
3. In-case of the buildings with Mangalore tiled roof, remove and relay the damaged tiles, wooden purlins and rafters wherever required.

d. Repairs to roof & Sunshade Ceilings:

1. Find out the reasons for ceiling damages.
2. Chisel the damaged portion remove the loose portion and remove the dust and clean the surface with water.
3. Redo the ceiling plastering with proper care so that this does not look as a separate patch work. Ceiling plastering should be rich enough with CM 1:3 with appropriate admixtures.

e. Damages/cracks in the walls/wall plastering:

1. Cut 'V" groove 1/4 inch all-along the crack portion. Remove the debris and dust inside crack.
2. Apply the cement mortar press inside the crack and finish the plastering.
3. In the crack portions of walls, join the walls with CC blocks covering the joint portions.

f. Flooring damages:

1. Find out the reasons for damages. Damages shall be estimated taking room as unit.
2. In-case the flooring damage, is due to shrinkage of soil, remove the total flooring and the soil below the flooring.
3. Remove the soil and refill with non-cohesive soils and compact the soil properly. And put 100 mm plain concrete (1:4:8) as base concrete and lay final flooring either with new polished shabad stones or removed stone.
4. In-case the flooring damages are due to inferior quality of flooring material or damaged due to poor workmanship or poor handling, remove the flooring to the extent of damaged portion and redo the flooring with selected quality flooring material.
5. In case of very interior tribal pockets where transportation of material is a big issue, go for cement concrete flooring.
6. While doing the flooring repairs in patches try to use the same type of stone/tiles of existing flooring so that the same look is maintained. In case new type of flooring stones/tiles are to be used for different reasons, symmetry and aesthetics are to be taken care in the flooring design.

g. Repairs to doors and windows:

1. Identify the nature of repairs to doors and windows.
2. Do not replace the doors and windows (either wooden or iron) unless they are badly damaged.
3. If the repairs are minor in nature like fixing of

hinges, all drops, tower bolts etc., attend with minor repairs duly replacing with approved materials.

4. The tower bolts of not less than 225 mm length should be used. No MS or Aluminium tower bolts should be used. Either brass or stainless steel or alloy based metallic tower bolts and aldrops should be used.
5. Fix the hinges into the wall portion with cement concrete to a depth not less than 9 inches.
6. If the repairs are major in nature like replacement of damaged doors and windows, replace the damaged doors and windows. Wherever teak is available the doors and windows should be replaced with good teak doors and windows.
7. Where best teak wood doors and windows are Not available, factory-made solid wood polymer composite (WPC) single extruded Door doors and windows shutters should be used.

h. <u>Other items:</u>

1. Fixing of grills to the veranda, construction of ramps to differently abled persons, Renovation of existing toilets with replacing the damaged water closets, wash basins, urinals, toilet flooring, dadooing in the toilets, repairs to damaged taps can also be taken up under "Major & Minor repairs" work.
2. Repairs to the bore well, repairs to the motor, repairs to the existing water tank, water sump, existing septic tank can be taken under this component.
3. Repairs to the existing compound wall, repairs to the existing gate, fixing of new gate with RCC pillars,

repairs to kitchen shed can also be included in the "Major & Minor Repair" work.

4. Renovation of existing toilets with Replacement/ Laying of tiles & Roof slab / Roof sheet along with running water connection, taps Sanitary & Water supply connections etc., can be included in the Major & Minor Repair" works.
5. Whether septic tank is available or not to be seen. If not available propose septic tank in major & minor repairs for existing toilets.
6. Wherever existing toilets are without roof & tiles separate roof shall be provided under major & minor repairs component.
7. Construction of meeting stage, Flag post, repairs to the kitchen shed, platform around the trees inside school premises can also be taken up.
8. Dismantling and disposing off the debris of the dilapidated buildings can also be included in the "Major & Minor Repairs" work.
9. The classrooms taken up under RMSA/SSA/any other funds which were stopped after basement level/unfinished stage shall be taken up on priority basis on actual need of the school.

Repair works shall not be like a routine repair work. The repairs are not predefined. Repairs vary from school to school. The HM & SMCs with the support of the technical team shall make use of this work to improve the standards and durability and functionality of the building so that the life span of the building is enhanced considerably.

Hence all the Executive Engineers, Deputy Executive Engineers and Assistant Engineers of the implementing agencies

shall give special attention on "Major & Minor Repairs" work and improve the infrastructure facilities of the school duly following the said guidelines.

7. <u>Green Chalk Boards:</u>

a. All black board in classrooms shall be replaced with Green Chalk Boards in all classrooms of school. If any class is running in corridor, green chalk board may also be provided in such corridor.
b. The sizes of the green chalk board in schools: For Primary & upper primary school size of green chalk board is 2400 mm x 1200 mm and for High Schools size of Green Chalk board is 3000 mm x 1200 mm.
c. Repairs required for existing green chalk boards may be taken up under Major & Minor repairs.

8. <u>Compound Walls:</u>

a. New Compound wall construction & raising of compound wall can be taken up under compound wall component.
b. Wherever existing compound wall is in dilapidated stage, the reconstruction can be taken up under this component.
c. Wherever repairs required, repairs works can be taken-up under Major & Minor repairs component.
d. Execution of compound walls in rural areas should be taken up by MGNREGS and whereas in urban area compound walls should be taken up through regular source of budget.

9. <u>Kitchen Sheds:</u>

a. In every school above 20 enrolment, Kitchen shed shall be proposed under Kitchen shed component.
b. If any existing Kitchen shed requires repairs, repairs should be taken up under Major & Minor Repairs.

c. If any schools are covered under centralized Mid-day Meal program Kitchen shed shall be proposed.
d. Kitchen sheds in rural areas shall be taken up under MGNREGS and in urban area kitchen shed shall be taken up under Mana Basti – Mana Badi program.

10. <u>New Classrooms in place of Dilapidated Classrooms:</u>

a. New Classrooms should be proposed only in place of dilapidated classrooms.
b. Rooms that are in dilapidated condition but can be repaired, should be repaired under Major & Minor repairs.
c. Priority should be given to repairs of dilapidated rooms.
d. If there is no damage to the roof, dilapidated room should be repaired and no proposal for ACR should be considered.
e. New Classrooms shall be proposed basing on the existing classrooms and enrolment i.e., the indicative Student Class Room Ratio would be 30:1 (for Primary), 35:1 (for Upper Primary) and 40:1(for Secondary to Senior Secondary).
f. Wherever the existing school block has columns and beams construction of new classrooms in the first floor or second floor should be taken up. The land is precious and open land is needed for various school activities.
g. In case of block having only load bearing walls (no columns and beams), new classrooms should be taken up only on first floor depending on the Dy.EE/EE decision based on the soundness of existing structure. If needed, the load testing may be done by Quality Control or local structural engineer.
h. Hence, the policy is G+2 should be preferred wherever feasible and possible. Appropriate staircase arrangements shall be taken up.

11. Dining halls in High Schools:

a. Dining halls shall be taken up in High Schools only.
b. Dining halls should be proposed based on the availability of the land in school for construction.
c. Dining Halls should be proposed based on the availability of enrolment.
d. Providing Hand wash with battery of taps & utensils platform with all water supply connections & drainage system shall be provided for Dining halls.
e. High Ventilation shall be provided in the Dining halls.
f. Windows proposed to provide with MS grills & Mosquito proof mesh of size.
g. In Dining halls, dinning tables & benches shall be proposed.