

Government of Madras

HOME DEPARTMENT (EDUCATION)

G.O. No. 1026, 7th August 1917

Grant-in-Aid Code

Approving the rules framed by the Director of Public Instruction for the designing and construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the —.

N. 1.

ORIGINAL

Government of Madras

HOME DEPARTMENT (EDUCATION)

G.O. No. 1026, 7th August 1917

Grant-in-Aid Code

Approving the rules framed by the Director of Public Instruction for the designing and construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the —.

READ—the following papers :—

I

G.O. No. 1106, Home (Education), dated 4th October 1915.

ABSTRACT.—Communicating with remarks to the Director of Public Instruction a copy of the "Instruction as to the Sanitary and Hygienic requirements to be observed in the designing and construction of school-buildings" issued by the Government of Bombay.

II

Letter—from the Hon'ble Mr. J. H. Stone, M.A., C.I.E., F.R.H.S., Director of Public Instruction.

To—the Secretary to Government, Home (Education) Department.

Dated—Madras, the 27th June 1917.

No.—R.C. 8130/1915.

With reference to G.O. No. 1106, Educational, dated the 4th October 1915, in connexion with the question of framing rules for the designing and construction of school buildings and in continuation of my letter R.C. No. 8130/15, dated the 9th June 1916, stating that it would be preferable to keep all such rules in the Madras Educational Rules, I have the honour to report that on further consideration, I have come to the conclusion as stated in my remarks against rule 33 of the Madras Educational Rules in the draft copy of a revised edition of the Madras Educational Rules submitted for the approval of Government with my letter R.C. No. 4110/16, dated the 27th March 1917, that these rules may more suitably be incorporated in the Grant-in-Aid Code as an appendix to Chapter VIII. I accordingly propose that the enclosed set of rules which I have framed in consultation with the Chief Engineer may be included as Appendix L (A) to the Grant-in-Aid Code.

I also propose for sanction the following modification of rule 51 (ii), Chapter VIII of the Code :—"Grants will not generally be given for a building that fails to meet the requirements specified in Appendix L (A) of the Code.

"Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions :—Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet ; if for more than one pupil a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils".

Order—No. 1026, Home (Education), dated 7th August 1917.

The Government approve the rules framed by the Director of Public Instruction for the designing and construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the Grant-in-Aid Code. The following notification will be published in the *Fort St. George Gazette* :—

NOTIFICATION.

For the existing rule 51 (ii) of the Grant-in-Aid Code substitute the following :—

"(ii) Grants will not generally be given for a school building that fails to meet the requirements specified in Appendix L (A).

"(iii) Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions:—

"Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet; if for more than one pupil, a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils. A space of at least 8 superficial feet and 80 cubic feet per head should be provided in every room used as a dining-room or for any other dwelling purposes other than sleeping."

2. Insert the following as Appendix L (A) to the Code:—

APPENDIX L (A).

CHAPTER VIII—RULE 51.

Instructions as to the sanitary and hygienic requirements to be observed in the designing and construction of school buildings in the Presidency of Madras.

Selection of sites.

In the selection of a site the following points should be weighed against considerations of economy, convenience, proximity to houses of parents, etc.:—

(i) A site should not be selected if its natural position is in a hollow or in the neighbourhood of high trees or houses which prevent the free circulation of air and the access of sunlight to the school buildings. Shady trees are, however, of value in the play-ground provided that they do not unduly reduce the space available for play and are not planted so close to the school buildings as to obstruct the entry of light into the class rooms, or in course of time, to cause damage to the structure.

(ii) Made soil should be avoided and, as far as possible, all soils which are specially retentive of moisture.

(iii) Sufficiency of space is important, and in this connexion the possibility of future extension and the necessity of giving subsequent class rooms the proper orientation should be borne in mind.

(iv) Channels and tanks in the vicinity are a disadvantage.

(v) The presence of rank vegetation, more especially prickly-pear is objectionable.

(vi) The neighbourhood of dusty and noisy roads and of shops or factories should, as far as possible, be avoided.

2. All site plans should show the nature of the surroundings, the height of the neighbouring buildings, the north point and the direction of the prevailing wind.

Orientation of buildings.

3. This will differ for different parts of the Presidency and will depend chiefly on the best way to secure perfilation of air. Subject to this the more buildings are lighted from the north the better.

Floor space.

4. When funds are available, they should be utilized in providing floor space in excess of the following minimum requirements:—

For elementary schools	...	...	...	9½ square feet per pupil.
For secondary schools	...	...	...	11 do.
For training colleges and technical schools	...	...	...	15 do.

Rooms which are intended to be used for practical work, such as laboratories, drawing rooms, workshops, etc., should be carefully designed with a view to the nature of the work and the number of students to be accommodated.

Composition of floors.

5. It is desirable that the floors should be made of a material which will admit of their being washed with water. Stone flagging or something better must be aimed at in rooms where desks or benches can be provided. Where the pupils have to sit on the floor, stone floors, need not be insisted on if objected to. At the same time it must be recognized that from the hygienic point of view they are to be preferred and the objection on the score of their coldness can be met by providing boards or mats. But where this is done, the greatest care must be taken to ensure that the mats are kept scrupulously clean.

Seating arrangements.

6. The general principles which should govern the construction of desks are set forth in Annexure (i). Where dual desks are used, the desks may be arranged most suitably as shown in diagram, Annexure (ii).

7. Forms without backs and desks are objectionable; type designs for desks are issued by the department.

8. Pupils should be seated in rows with the mainlight falling from the left side; they should never face the light. The same remark applies to the teachers.

Windows.

9. Windows serve two purposes:—

- (a) Admission of light.
- (b) Admission of air.

10. They should be placed at regular distances so as to ensure uniformity of light.

11. Window sills should not be more than 4 feet from the ground in rooms in which the scholars are seated at desks. When pupils sit on the floor the sills should come to within 2½' or 3' of the floor level. Windows for subsidiary lighting may have their sills more than 4' from the floor.

12. The window area should not be less than one-fifth of the floor area and wherever possible the principal lighting should be from the north.

Doors.

13. Class rooms should not have to be used as passages from one part of the building to another. They should consequently not open into one another but into passages or verandahs. No class room should have more than two doors and in most cases one is preferable. The door or doors should be at the teacher's end of the room.

Height of class rooms.

14. The minimum height of the room in secondary schools, training colleges and technical schools should be 12' to the tie beam when the room has an open sloping roof and 14' to the under side of the joists where the room has a terraced ceiling. In elementary schools the minimum height should be 10' and 12' respectively.

Ventilation.

15. Unless there are windows reaching to the top of the wall and capable of being opened, ventilators are necessary near the top of the wall. These ventilators should be regularly distributed in the same way as the windows. For each pupil 48 square inches of open ventilator should be provided.

Dimensions and fittings of class rooms.

16. It is important that no school or class room should be more than 24' in width, or otherwise the rows of pupils will be too long to be properly controlled by the teacher. The length of a room must depend on the number of classes to be held in it. In the case of a school divided into a number of class rooms, the dimensions of any room should not exceed 24' x 25', that is, an approximate square. If it is admitted that a square is the best area for teaching purposes, the length of a class room in a one-roomed school should approximate closely to some multiple of the width. Ample wall blackboard space should be provided especially on the wall at the teacher's end of the room which should be unbroken by doors, windows or cupboards. Cupboard recesses in other walls should be provided, also recesses with open shelving. Rails under the cornice for hanging maps, pictures and diagrams are essential. The smallest class room for 40 boys in dual desks should be 21' wide and 23' long. The arrangement of such a room is shown in the enclosed diagram No. C.A. 306 of 1917, Annexure (ii). To accommodate similarly desks of larger dimensions those of the room must be proportionately increased.

Roofs.

17. The roof should, as far as possible, be impervious to heat.

Sanitary arrangements.

18. Latrines should not be placed nearer than 40 feet to any school building. They should be so situated that the prevailing wind will not blow from them in the direction of the school.

19. The type designs of the sanitary department should be consulted when planning latrines.

20. For boys' schools separate urinals and latrines should be provided. Separate accommodation should in all schools be provided for the teaching staff.

21. The number of latrine seats should be on the following scale:—

Under 30 children	...	...	...	...	Girls.	Boys.
50	...	...	...	...	2	1
70	...	...	...	...	3	2
100	...	...	...	...	4	2
150	...	...	...	...	5	3
200	...	...	...	...	6	3
300	...	...	...	...	8	4
500	...	...	...	...	12	5
	...	...	...	...	20	8

22. There should be in addition for boys urinals at the rate of 4 per cent or if separate urinals are not provided the number of latrine seats should be correspondingly increased.

NOTE.—It is not intended that all these clauses should be applied in the case of elementary schools. In preparing plan for elementary school buildings only such points as refer specifically to elementary schools or are applicable to all classes of schools should receive attention.

No. 1026, HOME (EDUCATION), 7TH AUGUST 1917

ANNEXURE (i)

1. The seat should not be so high as to prevent the child resting its feet upon the floor, or on a footboard, and if the latter, the knees should not be elevated.
2. Assuming a child to be sitting upright in his seat and the arms to be hanging freely down the edge of the desk next the body should be about an inch higher than the level of the elbows in the case of boys, and from $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in the case of girls.
(If the desk be higher than this, there is a tendency for the boy to be twisted and for one shoulder to be raised above the other with the consequent risk of lateral curvature of the spine.)
3. A line dropped from the edge of the desk ought to strike the edge of the seat or a point an inch or two within it.
(This arrangement obliges the child to assume an upright position which is best for the eyes and the spine.)
4. No seat should be without a back, and the top of this should be one inch lower than the edge of the desk in the case of boys, and one inch higher than the edge of the desk in the case of girls. (In schools which are graded, great inequalities will be found in the size of the scholars in each room, to meet which it is desirable to provide three sizes of desks. In schools of mixed ages there should be a large number of sizes).
5. The desk must not be flat. It should slightly incline towards the child.
6. The seat should not be flat, but saddle-shaped. Change of position will be desirable.
7. The desks must be easy of access yet compactly arranged. The angle of vision for the teacher should be not more than 45° .

Height and dimensions.

- (1) The sloping part of the top should be not less than 12 inches in width.
- (2) The inclination should be about 2 inches and the slope should be about 1 in 10.
- (3) The flat portion of the desk with the groove should be from 3 to $3\frac{1}{2}$ inches in width.
- (4) The proper height allows the forearm of the seated child to rest horizontally upon the desk without discomfort—
(a) Youngest children 20" to 25" to the middle of the slope.
(b) Intermediate children 22" to 26" " "
(c) Oldest scholars 30" to 36" " "
The seat should be $16\frac{1}{2}$ inches high.
- (5) The back rail should be not more than 7 inches for younger children and not more than 10 inches for the older ones.
- (6) The minimum space for each child should be 20 inches, 22 inches would be better.
- (7) The width of the gangway should be 18 inches at least.
- (8) The seats should be 8 inches wide.

ANNEXURE (ii)

Diagram C.A. No 306/17 (printed below).

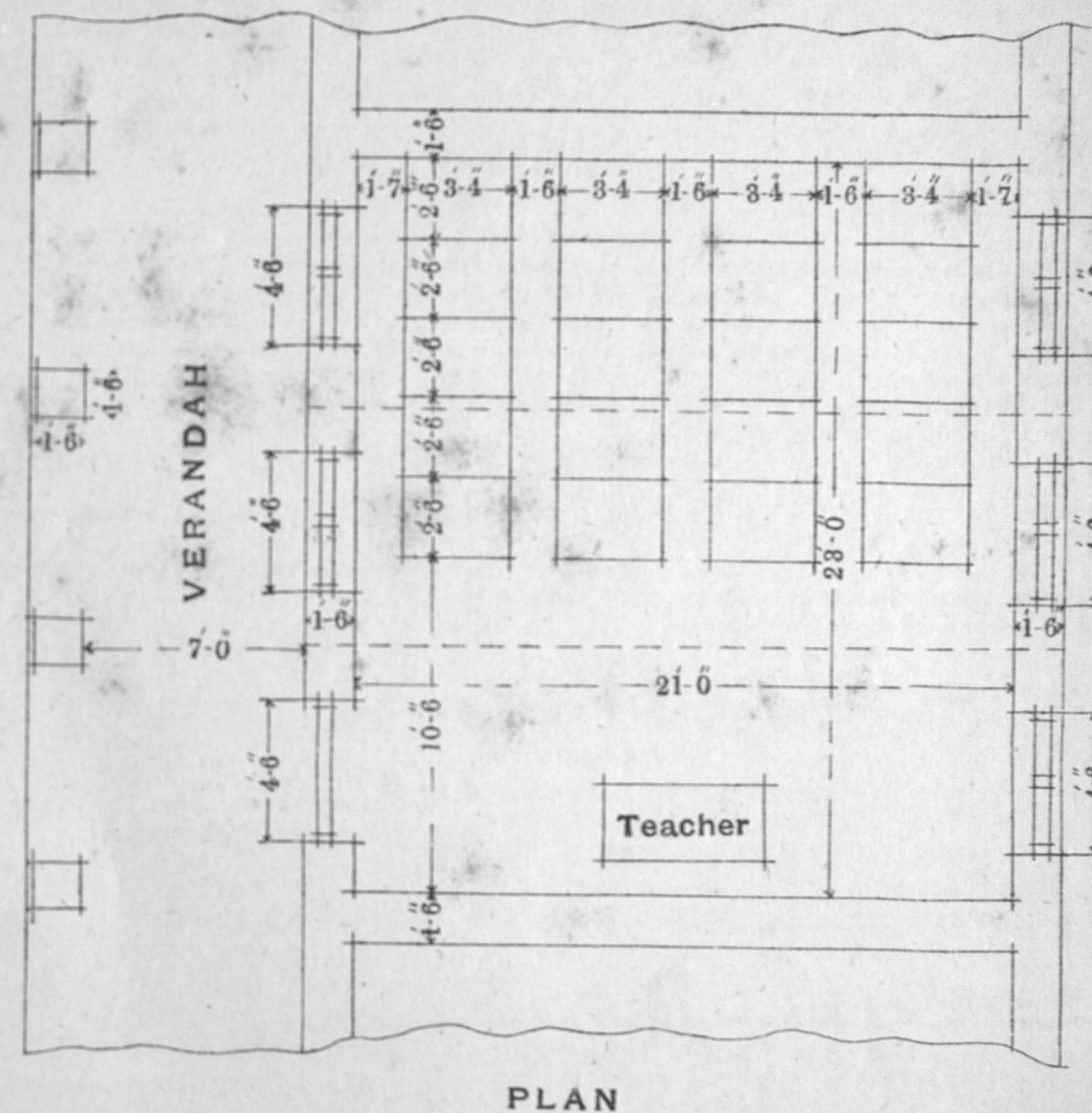
(True Extract)

R. RAMACHANDRA RAO,
Secretary to Government.

To the Director of Public Instruction.
" Superintendent, Government Press, for publication of notification in Gazette.

PLAN OF A CLASS ROOM
Shewing the arrangement of Dual Desks
(To Accommodate 40 Pupils)

Scale 1 Inch = 6 feet



(Signed) W. H. NICHOLLS,
Consulting Architect
to the Government of Madras,
Madras 12-11-1917.

NOTES CONNECTED WITH G.O. No. 1026, HOME (EDUCATION),
DATED 7TH AUGUST 1917

[SUBJECT.—Rules for the designing and construction of school buildings.]

From the Director of Public Instruction, R.C. No. 8130/15, dated
the 27th June 1917.

HOME (EDUCATION) DEPARTMENT.

Please see G.O. No. 1106, Educational, dated the 4th October 1915, with which a copy of the "instructions as to the sanitary and hygienic requirements to be observed in the designing and construction of school buildings" issued by the Government of Bombay was communicated to the Director of Public Instruction. He was requested to submit proposals for incorporating in the Madras Grant-in-aid Code such of the provisions in the Bombay rules as seemed suitable for adoption in this Presidency. The Director now submits for approval a set of rules to be included as Appendix L (A) to the Grant-in-aid Code containing instructions for the designing and construction of school buildings. While the Bombay rules relate to buildings for schools as well as hostels, the Director proposes to issue instructions only in regard to *school* buildings. For hostels he proposes to retain the existing provision in rule 51 (ii) of the Grant-in-aid Code.

2. As regards the draft appendix, it is submitted that the instructions therein mainly follow the rules issued by the Bombay Government. The alterations and omissions made in the Bombay rules are indicated in pencil in the copy of those rules on pages 2 to 7 of G.O. No. 1106, Educational, dated the 4th October 1915. The draft rules submitted by the Director of Public Instruction seem to be generally suitable. The only points that call for notice are dealt with below:—

(i) There are at present no rules governing the designing and construction of buildings for *elementary* schools. Rule 13 of the Madras Educational Rules says that the building should be suitable, should be kept clean and should admit sufficient light and air. The instructions *now* proposed to be issued are to be generally applicable to all grades of institutions including *elementary* schools. But the foot-note to the appendix makes it clear that only such rules as refer specifically to elementary schools or are of general application should receive attention in connexion with those schools. Apparently each case will be dealt with on its own merits.

(ii) The rules in the Grant-in-aid Code now require that a space of at least eight superficial feet and 80 cubic feet per head should be provided in every room used as a class room [Rule 51 (ii) of the Grant-in-aid Code]. Following the Bombay rules, the revised rules lay down the following minimum requirement:—

	Per pupil.
	SQ. FT.
For elementary schools	10
" secondary schools	12
" training colleges and technical schools	15

No minimum cubic space for each pupil is laid down; but there are rules as to the height of rooms.

(iii) Paragraph IX of "Suggestions to managers and teachers of secondary schools" issued by the department contains provision in regard to the designing of desks and seats for pupils. These will presumably be superseded by the rules in annexure (i) to the proposed appendix.

3. A draft order approving the rules and directing their publication in the *Fort St. George Gazette* is placed below.

S.K.—17-7-17.

N.K.—17-7-17.

C. RAMANUJA ACHARIVAR—19-7-17.

The Director of Public Instruction does not evidently propose to suggest any changes for hostels. If so, the amended rule 51 should run as indicated in the draft notification below (vide specially the corrections in ink).

2. Considering the detailed nature of the rules, and also the fact that applications for grants for elementary schools are few, I wonder if all reference in Appendix L (A) to elementary schools may not be avoided. In the case of local fund schools, the District Board Engineer may be relied on to see he follows some type designs.

If the Director of Public Instruction considers otherwise, seeing that in several elementary schools, pupils yet sit on floors, are not some rules akin to rules 10 and 11 of the Bombay rules desirable?

3. Last sentence of proposed rule 9 seems to come in more naturally as the last sentence in rule 8.

R. RAMACHANDRA RAO—19-7-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

Grants are sometimes asked for elementary school buildings that for one reason or another are not of the normal rural school type. I left the reference to elementary schools in the rules with such applications in mind. If the dimensions I suggested in a note in connexion with type-designs for elementary schools were adopted, I think there would be no objection.

2. I would also invite a reference to that in connexion with the dimensions of secondary school class rooms.

3. I left out the remarks about mats and the correct attitude for sitting in on the floor as out of place in rules for designing buildings. They would be more appropriate in hints on school management.

J. H. STONE—24-7-17.

Extract of the Director's unofficial note on type-designs for elementary school buildings, No. 130, dated the 24th July 1917.

It is certainly important that there should be no discrepancy between the standard plans and the rules.

2. The latter are adapted from Bombay rules and though the minima laid down cannot be called exactly excessive perhaps it would be best to reduce them to something we can insist on as real minima. For elementary schools $9\frac{1}{2}$ square feet of floor space and 10 feet of height would be enough I think.

3. A similar difficulty occurs to me with reference to the dimensions of rooms for secondary forms. We have for some time been recommending rooms for 40 boys of $22' \times 20'$. This only gives at 12 square feet floor space per pupil accommodation for 36, but in practice the 22×20 rooms answer very well. The extra 2 feet to make 480 feet area in a large building makes a considerable difference in expense. I think the minimum in the rules might be 11 feet.

4. The old rules allowed verandahs to be reckoned in calculating available area but the new do not, so that $9\frac{1}{2}$ square feet under the new rules means a very considerable increase on the old 8 square feet.

J. H. STONE—23-7-17.

HOME (EDUCATION) DEPARTMENT.

Please see the Director's notes above. He considers it desirable to provide in the rules for elementary school buildings also. The note at the end of the draft rules does not, however, make it clear which of the rules apply to such buildings. It may have to be modified in the light of experience.

2. The Director considers that $9\frac{1}{2}$ square feet per pupil and a height of 10 feet for rooms in elementary schools will be sufficient and this view may be accepted. The alterations suggested in pencil in rules 5 and 15 are for approval.

Approved.

R.R.—3-8-17.

8. On reconsideration the Director is of the opinion that in secondary schools, a floor space of 11 square feet per pupil will be sufficient. The sketch enclosed to the Director's letter is of a room providing 12 square feet per pupil. If the minimum is fixed at 11 square feet the sketch will have to be suitably modified.

Yes.

R.R.—3-8-17.

4. In view of the Director's remarks in paragraph 3 of his note on page 2 supra the Government need not insist on the incorporation in the draft rules, of rules Nos. 10 and 11 of the Bombay rules regarding mats and the mode of sitting.

R.R.—3-8-17.

5. The Director has apparently no objection to the adoption of the modifications suggested in paragraphs 1 and 3 of the Secretary's note, dated 19th July 1917.

R.R.—8-8-17.

S.A.—2-8-17.

N.K.—2-8-17.

C. RAMANUJA ACHARIVAR—3-8-17.

Draft for approval.

R. RAMACHANDRA RAO—3-8-17.

P[ENTLAND]—4-8-17.

Issue.

R.R.—4-8-17.

With reference to paragraph 3 of the office-note above, the following draft demi-official is submitted for approval.

Demi-official—from the Hon'ble Diwan Bahadur R. RAMACHANDRA RAO, Secretary to Government, Home (Education) Department.
To—the Hon'ble Mr. J. H. STONE, M.A., F.R.H.S., C.I.E., Director of Public Instruction.
Dated—the 7th August 1917.
No.—2355-A-2.

Orders are separately issuing approving generally the rules for the designing and construction of school buildings forwarded with your official letter, R.C. No. 8130-15, dated the 27th June 1917. The Government have also accepted the suggestion in your u.o. note, No. 130, dated the 24th July 1917, that the minimum floor space per pupil in secondary schools may be fixed at 11 square feet. The adoption of this suggestion necessitates an alteration in the sketch forwarded with your letter referred to above as it requires the provision of a floor space of 12 square feet per pupil. I am to ask you to make suitable modifications in the sketch and to return it to Government at an early date.

The publication in the gazette of the new appendix L (A) of the Grant-in aid Code approved in G.O. No. 1026, Home (Education), dated the 7th August 1917, has been deferred pending return of the sketch which was forwarded to the Director of Public Instruction for revision with demi-official No. 2355-A/2, dated the 7th August 1917. Submitted that the Director may be requested u.o. to kindly expedite the return of the sketch.

S.K.—1-9-17.

N.K.—1-9-17.

C.R.—1-9-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

The sketch will be submitted as soon as it is received from the Chief Engineer.

J. H. STONE—8-9-17.

HOME (EDUCATION) DEPARTMENT.

Submitted that the Director of Public Instruction may be reminded again on the 20th instant.

S.K.—10-9-17.

N.K.—11-9-17.

C. RAMANUJA ACHARIYAR—12-9-17.

Submitted that the Director of Public Instruction may now be requested to kindly expedite the return of the sketch referred to above. He may perhaps be also requested to remind the Chief Engineer.

S.K.—21-9-17.

N.K.—21-9-17.

C.R.—21-9-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

The Public Works Secretariat in Madras promise me a reply next week.

J.H.S.—11-10-17.

HOME (EDUCATION) DEPARTMENT.

Submitted that the Director of Public Instruction may be reminded a fortnight hence if no reply is received in the meanwhile.

T.K.K.—16-10-17.

N.K.—18-10-17.

C.R.—20-10-17.

The sketch has not yet been received. The Director of Public Instruction may be requested u.o. to expedite the sketch.

S.N.P.—5-11-17.

N.K.—5-11-17.

C.R.—6-11-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

The Chief Engineer has suggested certain alterations in the rules and he has now been asked to send a fresh design. My last letter on the subject to him is dated 26th October 1917. The fact is that Mr. Nicholls who takes special interest in school architecture has raised questions that had to be considered.

J.H.S.—10-11-17.

HOME (EDUCATION) DEPARTMENT.

There appears to be no near chance of the sketch being received. It is for orders whether G.O. No. 1026, dated 7th August 1917, may be cancelled and renumbered when ready for issue.

2. Submitted this may lie over till 15th December 1917, and the Director of Public Instruction reminded then if the sketch is not received by that date.

S.N.P.—16-11-17.

N.K.—17-11-17.

Submitted to Secretary for perusal.

C.R.—18-11-17.

Seen.

Why should not G.O. No. 1026 issue without the sketch?

R. RAMACHANDRA RAO—19-11-17.

Attention is requested to paragraph 3 of the office-note on page 3 of Notes to G.O. No. 1026, dated 7th August 1917, and to the portions marked A in the notifications on pages 2 and 3 of the Government Order. It will be seen that the sketch forms a portion of the Government Order. It is for orders whether the portions enclosed within square brackets in the order may be deleted and the Government Order issued without the sketch. Perhaps the Director of Public Instruction may be asked u.o. to say whether he is agreeable to the proposal.

S.N.P.—23-11-17.

N.K.—23-11-17.

The Director of Public Instruction may be requested to state (1) whether the design under consideration will alter the regulations already approved and printed in the notification and (2) whether the portions marked A may be omitted from the notification to enable the immediate issue of the Government Order.

The diagram when finally approved may be printed in the Grant-in-aid Code in its next edition.

C. RAMANUJA ACHARIYAR—28-11-17.

R.R.—29-11-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

An official reply on the subject is being despatched.

J. H. STONE—1-12-17.

Letter—from the Hon'ble Mr. J. H. STONE, M.A., F.R.H.S., C.I.E., Director of Public Instruction.

To—the Secretary to Government, Home (Education) Department.

Dated—the 30th November 1917.

No.—Ref. on Cur. 8130/1915.

In continuation of my letter R.O. No. 8130 of 1915, dated 27th June 1917, and with reference to your demi-official letter No. 2355-A/2, dated 7th August 1917, in connexion with the designing and construction of school buildings, I have the honour to state that the Chief Engineer, Public Works Department, suggests the following modifications in the rules already submitted and that I consider his suggestions may be accepted:—

Clause 4.—May be omitted.

Clause 13.—May read as follows:—"The window area should not be less than one-fifth of the floor area and, wherever possible, the principal lighting should be from the north."

Clause 15.—May read as follows:—"The minimum height of the walls should be 12' from floor to underside of the tie beam."

Clause 17.—For the last two sentences of this rule, substitute the following:—"The smallest class room for 40 boys in dual desks should be 21' wide and 23' long. The arrangement of such a room is shown in the enclosed diagram No. C.A. 306 of 1917, Appendix B. To accommodate similarly desks of larger dimensions, those of the room must be proportionately increased."

2. A fresh sketch showing the arrangement of a class-room in dual desks received from the Chief Engineer is herewith submitted.

HOME (EDUCATION) DEPARTMENT.

The amendments in the draft rules suggested by the Director of Public Instruction in his letter No. 8130, dated 30th November 1917, call for the following remarks:—

(1) Height of class-rooms (Rule 15, renumbered as 14).—The rule as amended by the Director of Public Instruction requires that even in elementary schools the height of the class-room should be at least 12 feet. In his u.o. note No. 130, dated 24th July 1917 (page 2 ante) the Director expressed the opinion that a height of 10 feet was sufficient. This suggestion was adopted in the type-design prepared by the

Public Works Department. It is for consideration whether the minimum should be fixed at 12 feet as now suggested by the Director of Public Instruction. The Director of Public Instruction may be consulted again u.o.

(2) *Dimensions and fittings of class-rooms (Rule 17, renumbered 16).*—The revised sketch forwarded by the Director is of a room 21 feet wide and 23 feet long. The room is intended to accommodate 40 pupils and the floor space per pupil in secondary schools is more than 12 square feet. The minimum entered in rule 5 (renumbered 4) is 11 square feet. Attention is solicited to the Director of Public Instruction's note on page 2 ante and paragraph 3 of the office-note on page 3 ante. It is for consideration whether the minimum in rule 5 (renumbered 4), may also be raised to 12 feet to suit the sketch. The Director of Public Instruction's remarks may perhaps be invited u.o.

2. Attention is solicited to the discussions in the linked file as regards the designing of dormitories. It is presumed that no alteration in the existing rules is necessary.

N.K.—8-12-17.

C. RAMANUJA ACHARIYAR—10-12-17.

R. RAMACHANDRA RAO—11-12-17

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

Rule 16 deals with a special kind of room and furniture which it is not intended to impose on all classes, e.g., the lower forms and classes of secondary schools so that I do not think it really conflicts with rule 4, which lays down an absolute minimum.

Rule 14.—I overlooked this difficulty. I would prefer to go back to the original form of the rule as printed. After all it is only one Consulting Architect against another—and in this case we may as well take no Montagu's rule.

I do not think the minimum requirements for dormitories need be altered nor any reference made to cubicles.

J. H. STONE—12-12-17.

HOME (EDUCATION) DEPARTMENT.

Rule 14 has been restored to the original form. For orders whether the draft as now amended may issue.

N.K.—15-12-17.

C.R.—17-12-17.

R.R.—18-12-17.

P[ENTLAND]—19-12-17.

Issue.

R.R.—20-12-17.

[G.O. No. 1026, Home (Education), dated the 7th August 1917.]

C.No.2355 A, from the Director of Public Instruction, R.C.No.8130/15, dated the 27th June 1917.

ORDER:
P.S.

N^o 1026 87. 8.17

The Government approve the rules framed by the D.P.I. for the designing and construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the Grant-in-Aid Code. The following notification will be published in the Fort St. George Gazette:--

Notification.

I (ii) For the existing rule 51(ii) of the Grant-in-Aid Code substitute the following:--

(ii) "Grants will not generally be given for a ^{school} building that fails to meet the requirements specified in Appendix L(A).

(iii) "Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions:--

"Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet; if for more than one pupil, a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils. = a

(ii)

Space of at least 8 superficial feet & 80 cubic feet per head should be provided in every room used as a dining room or for any other dwelling purposes other than sleeping.

II (ii) Insert the following as Appendix
(A) to the Code.

(Here enter Appendix with annexures
from pages 3 to 8 of current
file)

S.K.
17-7-17.

N.K.
17-7-17.

C.R.
19-7-17.

my 3/8/17

To the D.P.I.

" S.G.P. for publication
of notification in
Gazette.

Desks with spare equis
CR
2.2.18

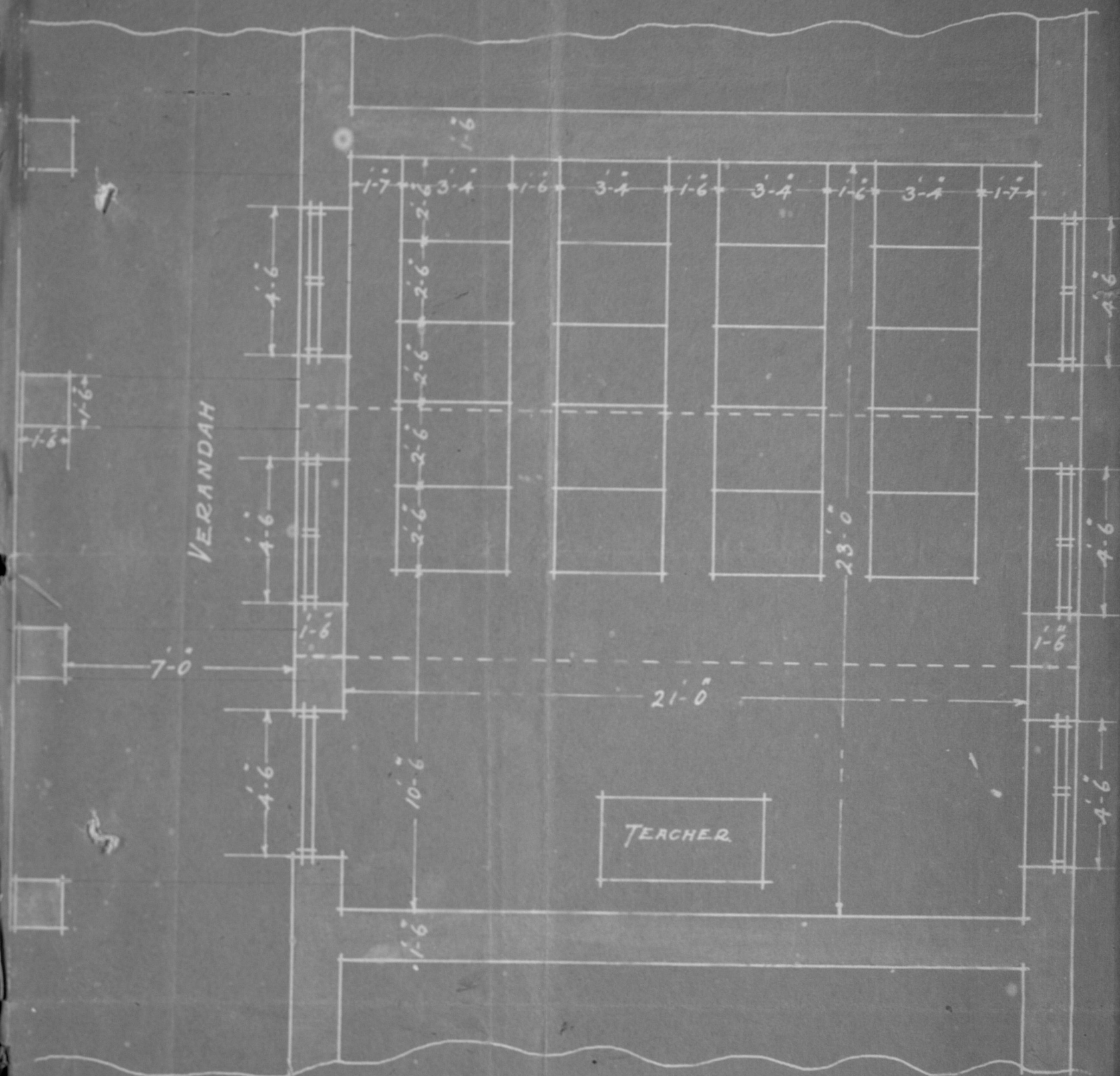
Appendix. A. A

1. The seat should not be so high as to prevent the child resting its feet upon the floor, or on a footboard, and if the latter, the knees should not be elevated.
2. Assuming a child to be sitting upright in his seat and the arms to be hanging freely down the edge of the desk next the body should be about an inch higher than the level of the elbows in the case of boys, and from $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in the case of girls.
3. (If the desk be higher than this, there is a tendency for the boy to be twisted and for one shoulder to be raised above the other with the consequent risk of lateral curvature of the spine.)
A line dropped from the edge of the desk ought to strike the edge of the seat or a point an inch or two within it.
(This arrangement obliges the child to assume an upright position which is best for the eyes and the spine.)
4. No seat should be without a back, and the top of this should be one inch lower than the edge of the desk in the case of boys, and one inch higher than the edge of the desk in the case of girls. (In schools which are graded, great inequalities will be found in the size of the scholars in each room, to meet which it is desirable to provide three sizes of desks. In schools of mixed ages there should be a large number of sizes).
5. The desk must not be flat. It should slightly incline towards the child.
6. The seat should not be flat, but saddleshaped. Change of position will be desirable.
7. The desk must be easy of access yet compactly arranged. The angle of vision for the teacher should be not more than 45° .

Height and Dimensions.

- (1) The sloping part of the top should be not less than 12 inches in width.
- (2) The inclination should be about 2 inches and the slope should be about 1 in 10.
- (3) The flat portion of the desk with the groove should be from 4 to 6 inches in width.
- (4) The proper height allows the forearm of the seated child horizontally upon the desk without discomfort.
 - (a) Youngest children. 20" to 25" to the middle of the slope
 - (b) Intermediate children 22" to 26" to the middle of the slope
 - (c) Oldest scholars. 30" to 36" to the middle of the slope
 The seat should be $16\frac{1}{2}$ inches high.
- (5) The back rail should be not more than 7 inches for younger children and not more than 10 inches for the older ones.
- (6) The minimum space for each child should be 20 inches, 22 inches would be better.
- (7) The width of the gangway should be 18 inches at least.
- (8) The seats should be 8 inches wide.

PLAN OF A CLASS ROOM
SHEWING THE ARRANGEMENT OF DUAL DESKS
(TO ACCOMMODATE 40 PUPILS)
SCALE 1" = 4' 6"



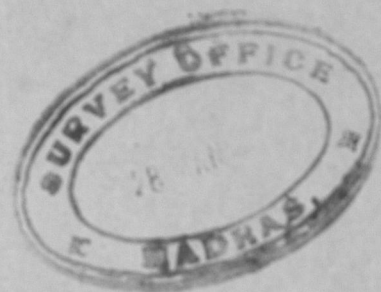
PLAN

A.C.A.

W. Nicholls
CONSULTING ARCHITECT
TO THE GOVERNMENT OF MADRAS
MADRAS 12-XI-1917



C.A. 306
1917



1026
7-8-16

2734

Pay for approval of 80 parts

3/11/17



G.O. No. 1026, 7th August 1917

Grant-in-Aid Code

Approving the rules framed by the Director of Public Instruction for the designing and construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the —.

Read—the following paper : —

Letter—from the Hon'ble Mr. J. H. Stone, M.A., C.I.E., F.R.H.S., Director of Public Instruction.

To—the Secretary to Government, Home (Education) Department.

Dated—Madras, the 27th June 1917.

No.—R.C. 8130/1915.

With reference to G.O. Mis. No. 1106, Educational, dated the 4th October 1915, in connexion with the question of framing rules for the designing and construction of school buildings and in continuation of my letter R.C. No. 8130/15, dated the 9th June 1916, stating that it would be preferable to keep all such rules in the Madras Educational Rules, I have the honour to report that on further consideration, I have come to the conclusion as stated in my remarks against rule 33 of the Madras Educational Rules in the draft copy of a revised edition of the Madras Educational Rules submitted for the approval of Government with my letter R.C. No. 4110/16, dated the 27th March 1917, that these rules may more suitably be incorporated in the Grant-in-Aid Code as an appendix to Chapter VIII. I accordingly propose that the enclosed set of rules which I have framed in consultation with the Chief Engineer may be included as Appendix L (A) to the Grant-in-Aid Code.

I also propose for sanction the following modification of rule 51 (ii), Chapter VIII of the Code : — "Grants will not generally be given for a building that fails to meet the requirements specified in Appendix L (A) of the Code.

"Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions : — Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet ; if for more than one pupil a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils".

Please say if 80. no. 1106 Edn. date 4/10/15 shall be quoted here as before. m. I

G.O. 1106 Home (Edn) of the 4th Oct 1915.
Abstract—Communicating with remarks to the D.P. & a copy of the "Instruction as to the Sanitary and Hygienic requirements to be observed in the designing and construction of school-buildings" issued by the Govt of Bombay.

Pres
yes. please quote 80. no. 1106 of 4-10-15 as para no I
the abstract of the same is given above
phased the answer to your query on p 5 supra.

P. 1-18

2500
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1400
1100

G.O. No. 1026, 7th August 1917

Grant-in-Aid Code

Approved by the Government of Madras on 7th August 1917.

This is the following paper:—

1. The Government of Madras, in exercise of the powers conferred on them by the Madras Education Code, 1908, do hereby approve the following rules for the construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the Grant-in-Aid Code. The following notification will be published in the Fort St. George Gazette:—

2. For the existing rule 51 (ii) of the Grant-in-Aid Code substitute the following:—

"(ii) Grants will not generally be given for a school building that fails to meet the requirements specified in Appendix L (A)."

"(iii) Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions:—

"Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet; if for more than one pupil, a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils. A space of at least 8 superficial feet and 80 cubic feet per head should be provided in every room used as a dining-room or for any other dwelling purposes other than sleeping."

3. Insert the following as Appendix L (A) to the Code:—

Appendix L (A)

Minimum dimensions of school buildings

1. The Government of Madras, in exercise of the powers conferred on them by the Madras Education Code, 1908, do hereby approve the following rules for the construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the Grant-in-Aid Code. The following notification will be published in the Fort St. George Gazette:—

2. For the existing rule 51 (ii) of the Grant-in-Aid Code substitute the following:—

"(ii) Grants will not generally be given for a school building that fails to meet the requirements specified in Appendix L (A)."

"(iii) Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions:—

"Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet; if for more than one pupil, a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils. A space of at least 8 superficial feet and 80 cubic feet per head should be provided in every room used as a dining-room or for any other dwelling purposes other than sleeping."

3. Insert the following as Appendix L (A) to the Code:—

Appendix L (A)

Minimum dimensions of school buildings

2

No. 1026, HOME (EDUCATION), 7TH AUGUST 1917

Order—No. 1026, Home (Education), dated the 7th August 1917.

The Government approve the rules framed by the Director of Public Instruction for the designing and construction of school buildings and the consequent alteration suggested in rule 51 (ii) of the Grant-in-Aid Code. The following notification will be published in the Fort St. George Gazette:—

NOTIFICATION.

For the existing rule 51 (ii) of the Grant-in-Aid Code substitute the following:—

"(ii) Grants will not generally be given for a school building that fails to meet the requirements specified in Appendix L (A)."

"(iii) Rooms in hostel buildings for the construction of which a grant is sought must be of not less than the following dimensions:—

"Dormitories must be large enough to allow, if for a single pupil, 80 superficial feet and 900 cubic feet; if for more than one pupil, a proportionately diminishing space down to 30 superficial feet and 400 cubic feet per head for ten or more pupils. A space of at least 8 superficial feet and 80 cubic feet per head should be provided in every room used as a dining-room or for any other dwelling purposes other than sleeping."

2. Insert the following as Appendix L (A) to the Code:—

APPENDIX L (A).

CHAPTER VIII—RULE 61.

*Instructions as to the sanitary and hygienic requirements to be observed in the designing and construction of school buildings in the Presidency of Madras.**Selection of sites.*

In the selection of a site the following points should be weighed against considerations of economy, convenience, proximity to houses of parents, etc. :—

(i) A site should not be selected if its natural position is in a hollow or in the neighbourhood of high trees or houses which prevent the free circulation of air and the access of sunlight to the school buildings. Shady trees are, however, of value in the play-ground provided that they do not unduly reduce the space available for play and are not planted so close to the school buildings as to obstruct the entry of light into the class rooms, or in course of time, to cause damage to the structure.

(ii) Made soil should be avoided and, as far as possible, all soils which are specially retentive of moisture.

(iii) Sufficiency of space is important, and in this connexion the possibility of future extension and the necessity of giving subsequent class rooms the proper orientation should be borne in mind.

(iv) Channels and tanks in the vicinity are a disadvantage.

(v) The presence of rank vegetation, more especially prickly-pear is objectionable.

(vi) The neighbourhood of dusty and noisy roads and of shops or factories should, as far as possible, be avoided.

2. All site plans should show the nature of the surroundings, the height of the neighbouring buildings, the north point and the direction of the prevailing wind.

Orientation of buildings.

3. This will differ for different parts of the Presidency and will depend chiefly on the best way to secure perfilation of air. Subject to this the more buildings are lighted from the north the better.

Floor space.

4. When funds are available, they should be utilized in providing floor space in excess of the following minimum requirements :—

For elementary schools	...	...	...	9½ square feet per pupil.
For secondary schools	...	...	...	11 do.
For training colleges and technical schools	...	...	...	15 do.

Rooms which are intended to be used for practical work, such as laboratories, drawing rooms, workshops, etc., should be carefully designed with a view to the nature of the work and the number of students to be accommodated.

Composition of floors.

5. It is desirable that the floors should be made of a material which will admit of their being washed with water. Stone flagging or something better must be aimed at in rooms where desks or benches can be provided. Where the pupils have to sit on the floor, stone floors, need not be insisted on if objected to. At the same time it must be recognized that from the hygienic point of view they are to be preferred and the objection on the score of their coldness can be met by providing boards or mats. But where this is done, the greatest care must be taken to ensure that the mats are kept scrupulously clean.

Seating arrangements.

6. The general principles which should govern the construction of desks are set forth in Annexure (i). Where dual desks are used, the desks may be arranged most suitably as shown in diagram, Annexure (ii).

7. Forms without backs and desks are objectionable; type designs for desks are issued by the department.

8. Pupils should be seated in rows with the mainlight falling from the left side; they should never face the light. The same remark applies to the teachers.

Windows.

9. Windows serve two purposes :—

(a) Admission of light.

(b) Admission of air.

10. They should be placed at regular distances so as to ensure uniformity of light.

11. Window sills should not be more than 4 feet from the ground in rooms in which the scholars are seated at desks. When pupils sit on the floor the sills should come to within $2\frac{1}{2}'$ or $3'$ of the floor level. Windows for subsidiary lighting may have their sills more than 4' from the floor.

12. The window area should not be less than one-fifth of the floor area and wherever possible the principal lighting should be from the north.

Doors.

13. Class rooms should not have to be used as passages from one part of the building to another. They should consequently not open into one another but into passages or verandahs. No class room should have more than two doors and in most cases one is preferable. The door or doors should be at the teacher's end of the room.

Height of class rooms.

14. The minimum height of the room in secondary schools, training colleges and technical schools should be 12' to the tie beam when the room has an open sloping roof and 14' to the under side of the joists where the room has a terraced ceiling. In elementary schools the minimum height should be 10' and 12' respectively.

Ventilation.

15. Unless there are windows reaching to the top of the wall and capable of being opened, ventilators are necessary near the top of the wall. These ventilators should be regularly distributed in the same way as the windows. For each pupil 48 square inches of open ventilator should be provided.

Dimensions and fittings of class rooms.

16. It is important that no school or class room should be more than 24' in width, or otherwise the rows of pupils will be too long to be properly controlled by the teacher. The length of a room must depend on the number of classes to be held in it. In the case of a school divided into a number of class rooms, the dimensions of any room should not exceed $24' \times 25'$, that is, an approximate square. If it is admitted that a square is the best area for teaching purposes, the length of a class room in a one-roomed school should approximate closely to some multiple of the width. Ample wall blackboard space should be provided especially on the wall at the teacher's end of the room which should be unbroken by doors, windows or cupboards. Cupboard recesses in other walls should be provided, also recesses with open shelving. Rails under the cornice for hanging maps, pictures and diagrams are essential. The smallest class room for 40 boys in dual desks should be 21' wide and 23' long. The arrangement of such a room is shown in the enclosed diagram No. C.A. 306 of 1917, Annexure ii. To accommodate similarly desks of larger dimensions those of the room must be proportionately increased.

Roofs.

17. The roof should, as far as possible, be impervious to heat.

Sanitary arrangements.

18. Latrines should not be placed nearer than 40 feet to any school building. They should be so situated that the prevailing wind will not blow from them in the direction of the school.

19. The type designs of the sanitary department should be consulted when planning latrines.

20. For boys' schools separate urinals and latrines should be provided. Separate accommodation should in all schools be provided for the teaching staff.

21. The number of latrine seats should be on the following scale.—

	Girls.	Boys.
Under 30 children	2	1
" 50 "	3	2
" 70 "	4	2
" 100 "	5	3
" 150 "	6	3
" 200 "	8	4
" 300 "	12	5
" 500 "	20	8

22. There should be in addition for boys urinals at the rate of 4 per cent or if separate urinals are not provided the number of latrine seats should be correspondingly increased.

NOTE.—It is not intended that all these clauses should be applied in the case of elementary schools. In preparing plans for elementary school buildings only such points as refer specifically to elementary schools or are applicable to all classes of schools should receive attention.

ANNEXURE (i)

1. The seat should not be so high as to prevent the child resting its feet upon the floor, or on a footboard, and if the latter, the knees should not be elevated.

2. Assuming a child to be sitting upright in his seat and the arms to be hanging freely down the edge of the desk next the body should be about an inch higher than the level of the elbows in the case of boys, and from $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in the case of girls.

(If the desk be higher than this, there is a tendency for the boy to be twisted and for one shoulder to be raised above the other with the consequent risk of lateral curvature of the spine).

3. A line dropped from the edge of the desk ought to strike the edge of the seat or a point an inch or two within it.

(This arrangement obliges the child to assume an upright position which is best for the eyes and the spine).

4. No seat should be without a back, and the top of this should be one inch lower than the edge of the desk in the case of boys, and one inch higher than the edge of the desk in the case of girls. (In schools which are graded, great inequalities will be found in the size of the scholars in each room, to meet which it is desirable to provide three sizes of desks. In schools of mixed ages there should be a large number of sizes).
5. The desk must not be flat. It should slightly incline towards the child.
6. The seat should not be flat, but saddle-shaped. Change of position will be desirable.
7. The desks must be easy of access yet compactly arranged. The angle of vision for the teacher should be not more than 45°.

Height and dimensions.

- (1) The sloping part of the top should be not less than 12 inches in width.
- (2) The inclination should be about 2 inches and the slope should be about 1 in 10.
- (3) The flat portion of the desk with the groove should be from 3 to 3½ inches in width.
- (4) The proper height allows the forearm of the seated child to rest horizontally upon the desk without discomfort—
 - (a) Youngest children 20" to 25" to the middle of the slope.
 - (b) Intermediate children 22" to 26" " "
 - (c) Oldest scholars 30" to 36" " "
 The seat should be 16½ inches high.
- (5) The back rail should be not more than 7 inches for younger children and not more than 10 inches for the older ones.
- (6) The minimum space for each child should be 20 inches, 22 inches would be better.
- (7) The width of the gangway should be 18 inches at least.
- (8) The seats should be 8 inches wide.

ANNEXURE (ii)
Diagram C.A. No 306/17.
(True Extract)

R. RAMACHANDRA RAO, *Printed here*
Secretary to Government. *will do.*

To the Director of Public Instruction.
Superintendent, Government Press, for publication of notification in Gazette.

(Printed below)

Press
The diagram may be printed at the place indicated above.

Press
Please add on "printed below" at the place indicated. The diagram may then be printed below the Secretary's signature or in another sheet whichever is convenient.

Rao
4.1.18

5/18

11. Windows should not be more than 4 feet from the ground in rooms in which the children are seated at desks. When pupils sit on the floor, the windows should be at least 3 feet from the ground. Windows for secondary lighting may have their sills more than 4 feet from the ground.

12. The windows need not be less than one-fifth of the floor area and wherever possible the principal lighting should be from the north.

13. Classrooms should not have to be reached by a passage from the part of the building to which they are attached. If the building is of two stories, the entrance should be at the ground level, and the stairs should be outside the building.

14. The minimum height of the room should be 10 feet. The room should be so arranged that the sun should not shine directly on the desks at any time of the day.

15. The room should be so arranged that the sun should not shine directly on the desks at any time of the day.

16. The room should be so arranged that the sun should not shine directly on the desks at any time of the day.

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25. The room should be so arranged that the sun should not shine directly on the desks at any time of the day.

26. The room should be so arranged that the sun should not shine directly on the desks at any time of the day.

27. The room should be so arranged that the sun should not shine directly on the desks at any time of the day.

NOTES CONNECTED WITH G.O. No. 1026, HOME (EDUCATION),
DATED 7TH AUGUST 1917

[SUBJECT.—Rules for the designing and construction of school buildings.]

From the Director of Public Instruction, R.C. No. 8130/15, dated
the 27th June 1917.

HOME (EDUCATION) DEPARTMENT.

Please see G.O. No. 1106, Educational, dated the 4th October 1915, with which a copy of the "instructions as to the sanitary and hygienic requirements to be observed in the designing and construction of school buildings" issued by the Government of Bombay was communicated to the Director of Public Instruction. He was requested to submit proposals for incorporating in the Madras Grant-in-aid Code such of the provisions in the Bombay rules as seemed suitable for adoption in this Presidency. The Director now submits for approval a set of rules to be included as Appendix L (A) to the Grant-in-aid Code containing instructions for the designing and construction of school buildings. While the Bombay rules relate to buildings for schools as well as hostels, the Director proposes to issue instructions only in regard to school buildings. For hostels he proposes to retain the existing provision in rule 51 (ii) of the Grant-in-aid Code.

2. As regards the draft appendix, it is submitted that the instructions therein mainly follow the rules issued by the Bombay Government. The alterations and omissions made in the Bombay rules are indicated in pencil in the copy of those rules on pages 2 to 7 of G.O. No. 1106, Educational, dated the 4th October 1915. The draft rules submitted by the Director of Public Instruction seem to be generally suitable. The only points that call for notice are dealt with below:—

(i) There are at present no rules governing the designing and construction of buildings for elementary schools. Rule 13 of the Madras Educational Rules says that the building should be suitable, should be kept clean and should admit sufficient light and air. The instructions now proposed to be issued are to be generally applicable to all grades of institutions including elementary schools. But the foot-note to the appendix makes it clear that only such rules as refer specifically to elementary schools or are of general application should receive attention in connexion with those schools. Apparently each case will be dealt with on its own merits.

(ii) The rules in the Grant-in-aid Code now require that a space of at least eight superficial feet and 80 cubic feet per head should be provided in every room used as a class room [Rule 51 (ii) of the Grant-in-aid Code]. Following the Bombay rules, the revised rules lay down the following minimum requirement:—

	Per pupil.
	SQ. FT.
For elementary schools	10
" secondary schools	12
" training colleges and technical schools	15

No. 1026, HOME (EDUCATION),
DATED 7TH AUGUST 1917

The most suitable place for a school building is one which is well situated in relation to the town and country, and is not too far from the town. It should be well lighted and well ventilated, and should be free from all sources of pollution. The building should be of a suitable size, and should be well adapted for the purpose for which it is intended. The building should be well adapted for the purpose for which it is intended.

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J. H. STONE—23-7-17.

2. The Director considers that $9\frac{1}{2}$ square feet per pupil and a height of 10 feet for rooms in elementary schools will be sufficient and this view may be accepted. The alterations suggested in pencil in rules 5 and 15 are for approval.

Approved.
R.R.—3-8-17.

R.R.—3-8-17.

Yes.

R.R.—3-8-17.

R.R. 7 8-17.

R.R.—8-8-17.

N.K.—2-8-17.

Draft for approval.

P[ENTLAND]—4-8-17.

R.R.—4-8-17.

Demi-official—from the Hon'ble Diwan Bahadur R. RAMACHANDRA RAO,
Secretary to Government, Home (Education) Department.
To—the Hon'ble Mr. J. H. STONE, M.A., F.R.H.S., C.I.E., Director of Public
Instruction.

are separately issuing approving generally the rules for the designing and of school buildings forwarded with your official letter, R.C. No. 8130-15, dated the 1917. The Government have also accepted the suggestion in your u.o. note, dated the 24th July 1917, that the minimum floor space per pupil in secondary be fixed at 11 square feet. The adoption of this suggestion necessitates an in the sketch forwarded with your letter referred to above as it requires the a floor space of 12 square feet per pupil. I am to ask you to make suitable s in the sketch and to return it to Government at an early date.

4 NOTES TO G.O. No. 1026, HOME (EDUCATION), 7TH AUGUST 1917

The publication in the gazette of the new appendix L (A) of the Grant-in-aid Code approved in G.O. No. 1026, Home (Education), dated the 7th August 1917, has been deferred pending return of the sketch which was forwarded to the Director of Public Instruction for revision with demi-official No. 2355-A/2, dated the 7th August 1917. Submitted that the Director may be requested u.o. to kindly expedite the return of the sketch.

S.K.—1-9-17.

N.K.—1-9-17.

C. RAMANUJA ACHARIYAR—1-9-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

The sketch will be submitted as soon as it is received from the Chief Engineer.

J. H. STONE—8-9-17.

HOME (EDUCATION) DEPARTMENT.

Submitted that the Director of Public Instruction may be reminded again on the 20th instant.

S.K.—10-9-17.

N.K.—11-9-17.

C.R.—12-9-17.

Submitted that the Director of Public Instruction may now be requested to kindly expedite the return of the sketch referred to above. He may perhaps be also requested to remind the Chief Engineer.

S.K.—21-9-17.

N.K.—21-9-17.

C.R.—21-9-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

The Public Works Secretariat in Madras promise me a reply next week.

J.H.S.—11-10-17.

HOME (EDUCATION) DEPARTMENT.

Submitted that the Director of Public Instruction may be reminded a fortnight hence if no reply is received in the meanwhile.

T.K.K.—16-10-17.

N.K.—18-10-17.

C.R.—20-10-17.

The sketch has not yet been received. The Director of Public Instruction may be requested u.o. to expedite the sketch.

S.N.P.—5-11-17.

N.K.—5-11-17.

C.R.—6-11-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

The Chief Engineer has suggested certain alterations in the rules and he has now been asked to send a fresh design. My last letter on the subject to him is dated 26th October 1917. The fact is that Mr. Nicholls who takes special interest in school architecture has raised questions that had to be considered.

J.H.S.—10-11-17.

HOME (EDUCATION) DEPARTMENT.

There appears to be no near chance of the sketch being received. It is for orders whether G.O. No. 1026, dated 7th August 1917, may be cancelled and renumbered when ready for issue.

2. Submitted this may lie over till 15th December 1917, and the Director of Public Instruction reminded then if the sketch is not received by that date.

S.N.P.—16-11-17.

N.K.—17-11-17.

Submitted to Secretary for perusal.

C.R.—18-11-17.

Seen.

Why should not G.O. No. 1026 issue without the sketch?

R. RAMACHANDRA RAO—19-11-17.

Attention is requested to paragraph 3 of the office-note on page 3 of Notes to G.O. No. 1026, dated 7th August 1917 and to the portions marked **A** in the notifications on pages 2 and 3 of the Government Order. It will be seen that the sketch forms a portion of the Government Order. It is for orders whether the portions enclosed within square brackets in the order may be deleted and the Government Order issued without the sketch. Perhaps the Director of Public Instruction may be asked u.o. to say whether he is agreeable to the proposal.

S.N.P.—23-11-17.

N.K.—23-11-17.

The Director of Public Instruction may be requested to state (1) whether the design under consideration will alter the regulations already approved and printed in the notification and (2) whether the portions marked **A** may be omitted from the notification to enable the immediate issue of the Government Order.

The diagram when finally approved may be printed in the Grant-in-aid Code in its next edition.

C. RAMANUJA ACHARIYAR—23-11-17.

R. RAMACHANDRA RAO—29-11-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

An official reply on the subject is being despatched.

J. H. STONE—1-12-17.

Letter—from the Hon'ble Mr. J. H. STONE, M.A., F.R.H.S., C.I.E., Director of Public Instruction.

To—the Secretary to Government, Home (Education) Department.

Dated—the 30th November 1917.

No.—Ref. on Cur. 8130/1915.

In continuation of my letter R.O. No. 8130 of 1915, dated 27th June 1917, and with reference to your demi-official letter No. 2355-A/2, dated 7th August 1917, in connexion with the designing and construction of school buildings, I have the honour to state that the Chief Engineer, Public Works Department, suggests the following modifications in the rules already submitted and that I consider his suggestions may be accepted:—

Clause 4.—May be omitted.

Clause 13.—May read as follows:—"The window area should not be less than one-fifth of the floor area and, wherever possible, the principal lighting should be from the north."

Clause 15.—May read as follows:—"The minimum height of the walls should be 12' from floor to underside of the tie beam."

Clause 17.—For the last two sentences of this rule, substitute the following:—"The smallest class room for 40 boys in dual desks should be 21' wide and 23' long. The arrangement of such a room is shown in the enclosed diagram No. C.A. 306 of 1917, Appendix B. To accommodate similarly desks of larger dimensions, those of the room must be proportionately increased."

2. A fresh sketch showing the arrangement of a class-room in dual desks received from the Chief Engineer is herewith submitted.

HOME (EDUCATION) DEPARTMENT.

The amendments in the draft rules suggested by the Director of Public Instruction in his letter No. 8130, dated 30th November 1917, call for the following remarks:—

(1) *Height of class-rooms (Rule 15, renumbered as 14).*—The rule as amended by the Director of Public Instruction requires that even in elementary schools the height of the class-room should be at least 12 feet. In his u.o. note No. 130, dated 24th July 1917 (page 2 ante) the Director expressed the opinion that a height of 10 feet was sufficient. This suggestion was adopted in the type-design prepared by the Public Works Department. It is for consideration whether the minimum should be fixed at 12 feet as now suggested by the Director of Public Instruction. The Director of Public Instruction may be consulted again u.o.

(2) *Dimensions and fittings of class-rooms (Rule 17, renumbered 16).*—The revised sketch forwarded by the Director is of a room 21 feet wide and 23 feet long. The room is intended to accommodate 40 pupils and the floor space per pupil in secondary schools is more than 12 square feet. The minimum entered in rule 5 (renumbered 4) is 11 square feet. Attention is solicited to the Director of Public Instruction's note on page 2 ante and paragraph 3 of the office-note on page 3 ante. It is

6 NOTES TO G.O. No. 1026, HOME (EDUCATION), 7TH AUGUST 1917
for consideration whether the minimum in rule 5 (renumbered 4), may also be raised to 12 feet to suit the sketch. The Director of Public Instruction's remarks may perhaps be invited u.o.

2. Attention is solicited to the discussions in the linked ~~1~~ as regards the designing of dormitories. It is presumed that no alteration in the existing rules is necessary.

[The Superintendent, Government Press, has asked for the early return of the proofs below as the Proceedings volume for August is being delayed.]
N.K.—8-12-17.

C. RAMANUJA ACHARIYAR—10-12-17.
R. RAMACHANDRA RAO—11-12-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

Rule 16 deals with a special kind of room and furniture which it is not intended to impose on all classes, e.g., the lower forms and classes of secondary schools so that I do not think it really conflicts with rule 4, which lays down an absolute minimum.

Rule 14.—I overlooked this difficulty. I would prefer to go back to the original form of the rule as printed. After all it is only one Consulting Architect against another—and in this case we may as well take no Montagu's rule.

I do not think the minimum requirements for dormitories need be altered nor any reference made to cubicles.

J. H. STONE—12-12-17.

HOME (EDUCATION) DEPARTMENT.

Rule 14 has been restored to the original form. For orders whether the draft as now amended may issue.

N.K.—15-12-17.

C.R.—17-12-17.

R.R.—18-12-17.

P[ENTLAND]—19-12-17.

Issue.

R.R.—20-12-17.

[G.O. No. 1026, Home (Education), dated the 7th August 1917.]

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Please see
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NOTES CONNECTED WITH G.O. No. 1026, HOME (EDUCATION),
DATED 7TH AUGUST 1917

[SUBJECT.—Rules for the designing and construction of school buildings.]

From the Director of Public Instruction, R.C. No. 8130/15, dated
the 27th June 1917.

HOME (EDUCATION) DEPARTMENT.

Please see G.O. No. 1106, Educational, dated the 4th October 1915, with which a copy of the "instructions as to the sanitary and hygienic requirements to be observed in the designing and construction of school buildings" issued by the Government of Bombay was communicated to the Director of Public Instruction. He was requested to submit proposals for incorporating in the Madras Grant-in-aid Code such of the provisions in the Bombay rules as seemed suitable for adoption in this Presidency. The Director now submits for approval a set of rules to be included as Appendix to the Grant-in-aid Code containing instructions for the designing and construction of school buildings. While the Bombay rules relate to buildings for schools as well as hostels, the Director proposes to issue instructions only in regard to school buildings. For hostels he proposes to retain the existing provision in rule 51 (ii) of the Grant-in-aid Code.

2. As regards the draft appendix, it is submitted that the instructions therein mainly follow the rules issued by the Bombay Government. The alterations and omissions made in the Bombay rules are indicated in pencil in the copy of those rules on pages 2 to 7 of G.O. No. 1106, Educational, dated the 4th October 1915. The draft rules submitted by the Director of Public Instruction seem to be generally suitable. The only points that call for notice are dealt with below:—

(i) There are at present no rules governing the designing and construction of buildings for elementary schools. Rule 13 of the Madras Educational Rules says that the building should be suitable, should be kept clean and should admit sufficient light and air. The instructions now proposed to be issued are to be generally applicable to all grades of institutions including elementary schools. But the foot-note to the appendix makes it clear that only such rules as refer specifically to elementary schools or are of general application should receive attention in connection with those schools. Apparently each case will be dealt with on its own merits.

(ii) The rules in the Grant-in-aid Code now require that a space of at least eight superficial feet and 80 cubic feet per head should be provided in every room used as a class room [Rule 51 (ii) of the Grant-in-aid Code]. Following the Bombay rules, the revised rules lay down the following minimum requirement:—

	Per pupil.
	SQ. FT.
For elementary schools	10
" secondary schools	12
" training colleges and technical schools	15

No minimum cubic space for each pupil is laid down; but there are rules as to the height of rooms.

(iii) Paragraph IX of "suggestions to managers and teachers of secondary schools" issued by the department contains provision in regard to the designing of desks and seats for pupils. These will presumably be superseded by the rules in the annexure (i) to the proposed appendix.

3. A draft order approving the rules and directing their publication in the *Fort St. George Gazette* is placed below.

S.K.—17-7-17.

N.K.—17-7-17.

C. RAMANUJA ACHARIYAR—19-7-17.

The Director of Public Instruction does not evidently propose to suggest any changes for hostels. If so, the amended rule 51 should run as indicated in the draft notification below (vide specially the corrections in ink).

2. Considering the detailed nature of the rules, and also the fact that applications for grants for elementary schools are few, I wonder if all reference in Appendix L (A) to elementary schools may not be avoided. In the case of local fund schools, the District Board Engineer may be relied on to see he follows some type designs.

If the Director of Public Instruction considers otherwise, seeing that in several elementary schools, pupils yet sit on floors, are not some rules akin to rules 10 and 11 of the Bombay rules desirable?

3. Last sentence of proposed rule 9 seems to come in more naturally as the last sentence in rule 8.

R. RAMACHANDRA RAO—19-7-17.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

Grants are sometimes asked for elementary school buildings that for one reason or another are not of the normal rural school type. I left the reference to elementary schools in the rules with such applications in mind. If the dimensions I suggested in a note in connection with type-designs for elementary schools were adopted, I think there would be no objection.

2. I would also invite a reference to that in connection with the dimensions of secondary school class rooms.

3. I left out the remarks about mats and the correct attitude for sitting in on the floor as out of place in rules for designing buildings. They would be more appropriate in hints on school management.

J. H. STONE—24-7-17.

Extract of the Director's unofficial note on type-designs for elementary school buildings, No. 130, dated the 24th July 1917.

It is certainly important that there should be no discrepancy between the standard plans and the rules.

2. The latter are adapted from Bombay rules and though the minima laid down cannot be called exactly excessive perhaps it would be best to reduce them to something we can insist on as real minima. For elementary schools $9\frac{1}{2}$ square feet of floor space and 10 feet of height would be enough I think.

3. A similar difficulty occurs to me with reference to the dimensions of rooms for secondary forms. We have for some time been recommending rooms for 40 boys of $22' \times 20'$. This only gives at 12 square feet floor space per pupil accommodation for 36, but in practice the 22×20 rooms answer very well. The extra 2 feet to make 480 feet area in a large building makes a considerable difference in expense. I think the minimum in the rules might be 11 feet.

4. The old rules allowed verandahs to be reckoned in calculating available area but the new do not, so that $9\frac{1}{2}$ square feet under the new rules means a very considerable increase on the old 8 square feet.

J. H. STONE—23-7-17.

HOME (EDUCATION) DEPARTMENT.

Please see the Director's notes on page 2. He considers it desirable to provide in the rules for elementary school buildings also. The note at the end of the draft rules does not, however, make it clear which of the rules apply to such buildings. It may have to be modified in the light of experience.

2. The Director considers that $9\frac{1}{2}$ square feet per pupil and a height of 10 feet for rooms in elementary schools will be sufficient and this view may be accepted. The alterations suggested in pencil in rules 5 and 15 are for approval.

Approved.

R.R.—3-8-17.

3. On reconsideration the Director is of the opinion that in secondary schools, a floor space of 11 square feet per pupil will be sufficient. The sketch on page 3

Yes.

R.R.—3-8-17.

current file is of a room providing 12 square feet per pupil. If the minimum is fixed at 11 square feet the sketch will have to be suitably modified.

4. In view of the Director's remarks in paragraph 3 of his note on page 2 the Government need not insist on the incorporation in the draft rules, of rules

R.R.—3-8-17.

Nos. 10 and 11 of the Bombay rules regarding mats and the mode of sitting.

5. The Director has apparently no objection to the adoption of the modifications suggested in paragraphs 1 and 3 of the

R.R.—8-8-17.

Secretary's note, dated 19th July 1917.

S.A.—2-8-17.

N.K.—2-8-17.

C. RAMANUJA ACHARIYAR—3-8-17.

Draft for approval.

R. RAMACHANDRA RAO—3-8-17.

P[ENTLAND]—4-8-17.

Issue.

R.R.—4-8-17.

With reference to paragraph 3 of the office note on page supra, the following draft demi-official is submitted for approval.

Demi-official—from the Hon'ble Diwan Bahadur R. RAMACHANDRA RAO, Secretary to Government, Home (Education) Department.

To—the Hon'ble Mr. J. H. STONE, M.A., F.R.H.S., C.I.E.

Dated—the 7th August 1917.

No.—2355-A-2.

Orders are separately issuing approving generally the rules for the designing and construction of school buildings forwarded with your official letter, R.O. No. 8130-15, dated the 27th June 1917. The Government have also accepted the suggestion in your u.o. note, No. 130, dated the 24th July 1917, that the minimum floor space per pupil in secondary schools may be fixed at 11 square feet. The adoption of this suggestion necessitates an alteration in the sketch forwarded with your letter referred to above as it requires the provision of a floor space of 12 square feet per pupil. I am to ask you to make suitable modifications in the sketch and to return it to Government at an early date.

[G.O. No. 1026, Home (Education), dated 7th August 1917.]

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enclosed to the Director's letter

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