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Govt 3391 P.W.D

dt 12-12-1887

3391

12TH DECEMBER 1887, No. 3391 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

LETTER—from

COLONEL J. O. HASTED, R.E.,
Secretary to the Government of Madras,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

In reply to your letter, No. 2048 G., dated 14th October 1887, I am directed to say that this Government has carefully considered the proposals brought forward and desire to make the following remarks.

The truth of the first two points brought out by the note which accompanies your letter the Government readily admit, and a study of the Madras list for past years will show that the Government have, as a rule, exercised their right of selection in filling the administrative grades with a result which has certainly been advantageous to the public service. As regards the third point, I am to say that the expression "the selection being limited between certain periods of service" seems to refer to recent letters of the Government of India which, while laying down the rule that officers will be liable to be called upon to retire if they have not attained the rank of Superintending Engineer at fifty years of age, appear to imply that they will be retired. To this rule this Government do not entirely agree. While allowing that it is well to give the Government the power of retiring an officer not fitted for the duties of Superintending Engineer at the age of fifty, they are of opinion that the rule should not be made absolute, and that the Government, under which the officer is serving, should be left to judge whether it is desirable in the interests of the public service to retain the services of an officer above the age of fifty in the position of Executive Engineer.

The accuracy of the fourth point this Government recognises.

2. The proposals made in the 5th paragraph of your letter do not, I am to say, altogether commend themselves to this Government. As regards the first, the division is on the Madras list, practically made, at all events to this extent, that the Government are fully aware of the names of the officers who can never be appointed Superintending Engineers. Of those left in the first-grade of Executive Engineers, there are unquestionably able men who will be promoted as soon as opportunity occurs, but there are others, regarding whose fitness for the administrative grades there may not be the same certainty, and such men it is desirable to try as Officiating Superintending Engineers before finally deciding on their supersession. There is also, I am to observe, a very serious objection to creating a class of men who know they can never rise to a higher position. So long as the prizes of the service are thought to be within their reach men may be expected to do their best, but when the prospect of promotion ceases, it can only be expected that men will work perfunctorily and with as little trouble to themselves as possible. Of course this evil may exist to some extent in the case of the men now passed over, but it is minimised by adopting the principle of selection without making separate lists; and if only men who are well known in the department and whose superior ability is unquestionable are selected for

a vacancy in the Superintending Engineer grade, those who are superseded will often acknowledge the justice of the appointment.

3. There is also a further objection to dividing the First-grade Executive Engineers into two classes, if there is to be one list of the higher grades for the whole of India. Supposing the selection for Superintending Engineer to be made by seniority from A lists of the different provinces, it must often happen that a conspicuously able man will find a man of moderate ability preferred before him; while, if the selection is not made by seniority, a Local Government would be unable to enforce the claim of its best man, as the Government of India could not possibly form any opinion of the relative merits of the Executive Engineers on the lists of distant provinces, confidential reports not being comparable relatively.

4. The second and third proposals affect this Government only if they accept the invitation of the Governmentof India to join the confederation of other lists under the Government of India, which, I am to say, this Government is not at present prepared to do. There is an Executive Engineer, serving this Government, whose experience has been almost entirely of Military Works and Roads and Buildings; the circles in this Presidency all contain very important Irrigation works, and it is evident that an officer who has had no experience whatever of Irrigation works could not be placed in charge of them. The officer in question acknowledged his unfitness for promotion under these circumstances, and the Government, though unwilling on other grounds to supersede him, felt themselves bound to do so, without, of course, having in contemplation enforced retirement at the age of fifty. If the proposals of the Government of India were accepted, this Government might find themselves compelled to accept as Superintending Engineer an officer who might have been employed, the greater part, if not all, of his service on Military works, and also be entirely ignorant of the language, the character of the works, and the method of execution prevailing in this Presidency, which would be entirely different to what he was accustomed to. It appears to this Government that, if officers of the higher grades are to be transferable throughout India, it is absolutely necessary that, in the earlier years of their service, they should have served an apprenticeship in the Presidency to which they, in later life, are to be transferred. Railway works would form an exception to some extent, the character of such works being the same everywhere, but even in their case a Superintending Engineer who had a previous knowledge of the country and the language spoken would have a great advantage over a stranger.

5. While therefore fully acknowledging the block in promotion and the evils consequent thereon, this Government are of opinion that, for the present at all events, their selection of men for the administrative grades must be made from their own list, and be quite unfettered, and they consider it is probable that, when the rules lately introduced regarding pension begin to affect the senior officers of the department, the flow of promotion may become more regular. If the remedy for the present state of affairs is to be found in amalgamation of the lists, this Government are of opinion that the amalgamation must be made in the junior as well as in the senior grades, but they are not prepared to say that such amalgamation will prove feasible, at all events for some time to come.

I have the honor to be,
Sir,
Your most obedient servant,

Captain, R.E.,
Under Secy. to Govt., P.W.D.

FORT ST. GEORGE,
12th December 1887.

Exd. J. Moses.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of (1887) Madras.

PUBLIC WORKS.

Dated December, 12th.

Recd. *Encl.*

12th Dec. 1887, No. 3391 W.

DECEMBER.

Engineer Establishment.

Reporting on the proposals of the Government of India regarding the promotion of the members of the — to the higher administrative posts of the department.

3391/3

PUBLIC WORKS DEPARTMENT.

Re-organisation of the Public Works Department.

No. 3,675 W.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

SIR,—I am directed to forward, for the information of the Government of India, the accompanying copy of G.O., No. 3,674 W, dated 18th September 1878, introducing certain changes in the organisation of the Public Works Department in this Presidency,—changes which have been found absolutely necessary to secure efficiency and economy in the Department.

2. I am to say that, broadly speaking, the changes that have been introduced have taken the form of a closer assimilation of the system in Madras to that obtaining in the Provinces under the immediate control of the Government of India. The Presidency of Madras has now been divided into five Circles of Supervision and into thirty-nine Executive Divisions, each of which is to be held by a Professional Officer of the Engineer Establishment. To each Executive Division will be further attached a competent Accountant of the 3rd or 4th Grade.

3. As regards the Public Works Secretariat, in deference to the suggestion of the Government of India as expressed in their letter, No. 308 E.G., dated 20th February 1877, no change has yet been introduced. But I am to state that the further two years' experience of the present system, [illegible] with the suggested appointment of Deput[illegible] to aid the Chief Engineer and Secretary, has in no way altered the opinion of His Grace the Governor in Council as to the grave inconvenience to the Government [illegible] from employing the responsible Executive Head of the Public Works Department [illegible] Secretary to Government in his own Department.

4. This Government still earnestly desires to see the change carried out to which they requested sanction in their letter, No. 1,920, dated 28th July 1876, and thus to have the separate and distinct functions of the Chief Engineer and Secretary to Government held by separate Officers. I am, therefore, again to urge upon the attention of the Government of India the arguments adduced in the letter above referred to, and to request the favorable consideration of the application therein submitted, as His Grace the Governor in Council is convinced, that it is only by a practical recognition of the principles which govern the administration in every other Department of Government that the Public Works Department will, without inconvenience, be maintained in an equally efficient state.

5. In the strength of the Engineer Establishment no change is essential, but it would be desirable to substitute two 2nd Grade and four 3rd Grade Assistant

List for [illegible]

Engineers for the present sanctioned number (seven) of 3rd Grade Assistant Engineers. The present sanction of 3rd Grade Assistant Engineers is seldom availed of, the Engineer Establishment being practically recruited either from the officers of the Royal Engineers or from passed students from the Civil Engineering College at Cooper's Hill, both of whom, with rare exceptions, join the Department in a higher Grade than that of 3rd Grade Assistant Engineer. To this slight modification, securing as it does a saving of about Rupees 600 per annum, His Grace the Governor in Council conceives that no objection will probably be raised.

6. In the Subordinate and Petty Establishments no immediate change is proposed; but whatever alterations are eventually carried out will be in the direction of economy. The net result of the changes now introduced, as shown in the Appendices to the Government Order accompanying this letter, will ultimately be a saving in the aggregate cost of the Public Works Establishments of about Rupees 1,15,000 per annum, the whole of which will thus become available for additional works.

7. In considering these reductions, it is to be borne in mind that the exact amount of the saving will be, to some extent, dependent on the decision which may ultimately be arrived at with regard to the maintenance establishment of the Buckingham Canal. The length of navigable mileage open to traffic on this Canal has now reached 250 miles, and the completion of the work at the Kistna Delta will open through-navigation from Cocanada and Rajahmundry to Madras and southward to Sadras, a total length of about 430 miles. It is, therefore, in the opinion of this Government, absolutely necessary to form the whole of the Buckingham Canal into a separate Executive charge.

8. Should it eventually be found that the present Public Works Establishment is insufficient to provide efficiently for this additional charge, the sanction of the Supreme Government for one additional Executive Engineer will have to be applied for. Even in this case, the increase of expenditure will probably be more nominal than real, as it is confidently expected that the increased traffic receipts on the canal will more than cover the increased maintenance charges.

9. On this subject, the Government of India will hereafter be separately addressed. At present I am to say that whatever decision is arrived at with regard to the maintenance establishment of the Buckingham Canal, the changes already carried out in the Public Works Department of this Presidency cannot otherwise but lead to a substantial saving in the aggregate cost of the Public Works Establishment, and as these changes will also, it is expected, result in a great increase of efficiency, they cannot as a whole, His Grace the Governor in Council confidently believes, fail to commend themselves to the Government of India.

10. In conclusion, I am to beg that a very early reply may be given to the proposals put forward by this Government with regard to the appointment of a separate Public Works Secretary, as this measure is considered by this Government as essential to the permanent success of the scheme of re-organisation now introduced.

Ootacamund,
18th September 1878.

I have the honor to be,
Sir,
Your most obedient servant,

Colonel, R.E.,

Secretary to Government, P.W.D.

RE-ORGANISATION OF THE
PUBLIC WORKS DEPARTMENT.

Govt. of (1878) Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA.

Dated September 18th,

Issued

Recd.   Regd.

Letter 18th September 1878, No. 2,075 W.

SEPTEMBER.

Forwarding, for information, copy of G.O. No. [illegible] W. 18th September 1878, [illegible] certain changes in the organization of the Public Works Department in [illegible] Presidency.

3391

P.W. Department

No. 3391 W dated 12th December /87

To
The Secretary to the
Government of India
P.W. Deptt.

Sir,

In reply to your letter No. 2048 G dated 14th October 1887 I am directed to say that this Government has carefully considered the proposals brought forward and desire to make the following remarks.—

The truth of the first two points brought out by the note which accompanies your letter, the Government readily admit, and a study of the Madras List for past years, will shew

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shew that the Government have, as a rule, exercised their right of selection in filling the administrative grades, with a result which has certainly been advantageous to the Public Service. As regards the 3rd point, I am to say that the expression "the selection being limited between certain periods of service" seems to refer to recent letters of the Government of India which, while laying down the rule that officers will be liable to be called upon to retire, if they have not attained the rank of Supdg. Engineer

at 50 years of age, ~~seem~~ appear to ~~infer~~ imply that they will be retired. To this rule this Government do not entirely agree. While allowing that it is well to give the Government the power of retiring an officer not fitted for the duties of Supdg. Engineer at the age of 50, they are of opinion that the rule should not be made absolute, and that the Government, under which the officer is serving, should be left to judge whether it is desirable in the interests of the Public Service to retain the services of an officer above the age of 50 in the position of Executive Engineer.

The accuracy of the 4th point this Government recognises.

2. The proposals made in the 5th para of your letter, do not, I am to say, altogether commend themselves to this Government. As regards the first, the division is on the Madras List, practically made, at all events to this extent, that the Government are fully aware of the names of the Officers who can never be appointed Supdg. Engineers. Of those left in the 1st Grade of Executive Engineers, there are unquestionably able men who will be promoted as soon as opportunity

occurs

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occurs, but there are ~~also~~ ~~some of them~~ others regarding whose fitness for the administrative grades, there may not be the same certainty, and ~~these~~ such men it is desirable to try as Officiating Supdg. Engineers before finally deciding on their supersession. There is also I am to observe a very serious objection to creating a class of men who know they can never rise to a higher position; so long as ~~while~~ the prizes of the service are thought to be within their reach men may be expected to do their best, but when the prospect of promotion ceases, it can only be expected that men will

~~do their~~ work perfunctorily and with as little trouble to themselves as possible. Of course this evil may exist to some extent in the case of the men now passed over, but it is minimised by adopting the principle of selection, without making separate lists, and if only ~~unquestionably able, well~~ men who are well known in the department & whose superior ability is unquestionable ~~men~~ are selected for a vacancy in the Supdg. Engineer Grade, ~~and~~ ~~if~~ those who are superseded will often acknowledge the justice of the appointment.

5- There is also a ~~[illegible]~~ further objection to dividing the 1st grade Executive Engineers into 2 classes, if there is

to

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to be one List of the higher grades for the whole of India. Supposing the selection for Supdg. Engineers, to be made by Seniority from the Lists of the different provinces, it must often happen that a conspicuously able man will find a man of moderate ability preferred before him, ~~and~~ while if the selection is not made by Seniority, a Local Government would be unable to enforce the claims of its best man, as the Government of India could not possibly form any opinion of the relative merits of the Executive Engineers on the lists of distant provinces, confidential reports not being comparable relatively.

6. The 2nd and 3rd proposals affect this Government only if they accept the invitation of the Government of India to join the confederation of other Lists under the Government of India, which I am to say this Government is not at present prepared to do. ~~The chief reason for declining to do so is apparent from the following fact.~~ There is an Executive Engineer, serving this Government

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Government, whose experience has been almost entirely of Military Works and Roads and Buildings, the Circles in this Presidency all contain very important Irrigation Works, and it is evident that an officer who has had no experience whatever of Irrigation Works could not be placed in charge of them. The Officer in question acknowledged his unfitness for promotion under these circumstances and the Government, though unwilling on other grounds to supersede him, felt themselves bound to do so, without

of course, having in contempla-
tion enforced retirement
at the age of 50. If the
proposals of the Government of India were
accepted, this Government
might find themselves
compelled to accept
as Supdg. Engineer,
an Officer who might
have been employed,
the greater part, if not
all, of his service on
Military Works, and
also be entirely ignorant
of the language, the
character of the works,
and the method of
execution, prevailing in this Presidency, which would
be entirely different to
what he was accustomed
to. It appears to this

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of the higher grades a
to be transferable —
throughout India it i
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years of their servic
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of the such works being the
same everywhere, but
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language spoken would

have a great advantage over a stranger.

5. While therefore fully acknowledging the block in promotion and the evils consequent thereon, the Government are of opinion that, for the present, at all events, their selection of men for the administrative grades must be made from their own list, and be quite unfettered, and they consider it is probable that when the rules lately introduced regarding pension begin to affect the Senior Officers of the Department, the flow of promotion may become more regular.

6.

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If the remedy for the present state of affairs is to be found in an amalgamation of the Lists, this Government are of opinion that the amalgamation must be made in the junior as well as in the Senior grades, but they are not prepared to say that such amalgamation will prove feasible at all events for some time to come.

Seen
30/11/87

1/12

Seen
12.12.87

3391/12

Enclosure of Public Works Department letter No. 2048G, of 14th October 1887.

PROSPECTS OF THE ENGINEER ESTABLISHMENT AS REGARDS PROMOTION TO THE HIGHER ADMINISTRATIVE POSTS OF THE DEPARTMENT.

This question has never yet been investigated: the discussions on the re-organisation scheme having been confined to the rate of promotion up to Executive Engineer, 1st grade.

At the same time the question of the possibility of promotion to the higher posts has an important bearing on the whole question, especially on that portion which relates to the number of recruits; for it is clear that of the number of men entering the Department a certain percentage, representing those fit for the highest appointments, should be able to rise to those appointments, otherwise it may fairly be laid to our charge that by overcrowding the Department we are depriving a number of men of the rank and emoluments they have a reasonable right to expect. The question is also of much importance in connection with that of promotion: whether, that is, in selecting men for the higher posts, seniority ought not to a great extent to be set aside in favour of fitness. The results of this investigation will be, I think, to show that year by year a certain number of men must be set aside as fit for the higher posts, while others must be plainly told that they are unfit, and must be left, on attaining the rank of Executive Engineer, 1st grade to take the *quinquennial increments* intended for men finally passed over and to retire as soon as their service entitles them to a moderate pension.

2. In going into the question I have, with the assistance of Mr. Buckley, modified the life tables prepared in 1883, by the light of the experience since gained, and have prepared other tables with the help of these revised tables to show how the steps in the superior grades are likely to run.

For future record it will be well to explain how this has been done.

If we take the tables as prepared in 1883, on General Hannyngton's basis, we get the following rate of disappearance for each year 1883-1886:—

	Establishment at commencement.	Add recruits.	Less Superannuations.	Gross total.	Actual by table.	Deaths.	Deaths per cent. per annum.
1883 . .	1,004	52*	1	1,055	1,039	16	1·6
1884 . .	1,039	30	4	1,065	1,049	16	1·5
1885 . .	1,049	30	6	1,073	1,048	25	2·3
1886 . .	1,048	30	5	1,073	1,054	19	1·8
Total 4 years .	1,004	142	16	1,130	1,054	76	1·8

* The 1883 tables have been so far *corrected as to take the actual number of recruits entering from that year.*

Now the total actual casualties for the period as compared with the tabular have been—

	Tables.	Actual.
Death	76	46
Lateral retirements† .	...	42
Drain to other Departments	...	5
	76	93
Average disappearance per annum . .	19	23
Per cent. . . .	1·8*a*	2·2*b*
Deaths alone . . .	1·8*a*	1·1*b*

† Dismissals, retirements before Superannuation, &c.

a.—On 1,035.
b.—On 1,009.

Thus, though the death-rate is under that of the tables, the total disappearance exceeds it.

It may be noted here that the disappearance rate of Hannyngton's table is exactly 2 per cent.* and he clearly states that this is the death rate taken from the tables of the Uncovenanted Service Pension Fund Office; the actual rate of these tables is 1·93; the death rate of the Carslisle tables for the same period of life is 1·1, and that of Dr. Farr's tables for male lives is 1·3 per cent.

Allowing, then, for the lateral retirements in the above 4 years, the disappearance rate of Hannyngton's tables is increased by ·4 per cent. Taking this into consideration I thought that it would be best to recast the tables by increasing the disappearance by ·5 per cent. on the whole establishment, between the ages of 32 and 55 for the years 1883-1890, and by 1 per cent. in subsequent years, in view of lateral retirements increasing in response to the improved pension rules. I have included the lateral retirements in the ages from 32 onwards because men seldom retire until after 10 years' service.

Table A, which shows the whole Engineer Establishment ranged by ages from 1883 to 1896, has been recast by Mr. Buckley on this basis.

3. It may here be pointed out by the way that a normal table for an establishment of 30 recruits modified on the basis of 1 per cent. on the total strength for lateral retirements, and 2 per cent. for deaths (total disappearance rate 3 per cent.) will stand as follows:—

Age.	Normal. Genl. Hannyngton.	Lateral retirements.	Modified scale.	Age.	Normal. Genl. Hannyngton.	Lateral retirements.	Modified scale.
22	30		30	39	24		22
23	29		29	40	23		21
24	29		29	41	23		21
25	29		29	42	22		20
26	29		29	43	22		18
27	28		28	44	21		17
28	28		28	45	21	2	17
29	28		28	46	21		17
30	28		28	47	20		14
31	27		27	48	19		13
32	27		26	49	19	2	13
33	27	1	26	50	19		12
34	26		25	51	19		11
35	26	1	24	52	17	1	10
36	26		24	53	16		10
37	25		23	54	15		9
38	24		22	55	14		9
...	...	...	...	...	800	7	709

which shows that out of 30 men entering the Department at the age of 22, 21 disappear—7 by lateral retirements, and 14 by death up to the age of 55. This is also the annual rate on the total establishment of about 700. Thus if our hypothesis about lateral retirement is correct, with our present recruitment of 30, we shall eventually reduce the establishment to 700 instead of 800.

4. So much for the whole establishment of all ranks. Then we have to consider the case of the establishment in the superior administrative grades, and what percentage of the whole establishment can be admitted into those grades so as to form a satisfactory and workable establishment. The necessity of this will be seen best by an illustration.

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* This is on a *normal* scale between the ages of 22 and 55. It is because the present scale is not normal, the numbers in the younger ages being high as compared with the older, that the percentage of disappearance is less than 2.

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The total superior administrative establishment numbers eighty, as follows:—

Government of India Secretariat	3	22 Chief Engineers.
Director, North-Western Railway	1	
Chief Engineers, 1st class, India	5	
„ „ Madras and Bombay ...	2	
Other Chief Engineers, India	9	
„ „ Madras and Bombay ...	2	
Superintending Engineers, India	39	58 Superintending Engineers.
„ „ Madras and Bombay ...	10	
*Superior Revenue class I, Management ...	9	
Total ...	80	

Now if we were to suppose that in a normal establishment, such as that in paragraph 3, these 80 appointments were given away on considerations of seniority† alone, we should find, by comparing with the above scale, that they were held entirely by men between the ages of 48 and 55,‡ that is, that no one could be a Superintending Engineer before reaching the age of 48, and that the 22 highest appointments were confined to men between the ages of 53 and 55.

Such an establishment of course would be administratively unworkable; but the more we work on the principle of seniority in preference to selection, the nearer we approach the above mathematical limit, which in practice is an absurdity.

Similarly, if we take our actual establishment as it now stands by ages, and work it on the principle of pure seniority, we should find that the 80 appointments were held by men between the ages of 49 and 55. In practice, however, the principle of selection contending against that of seniority has produced the following result:—

Age.	NUMBERS.		Age.	NUMBERS.	
	Superior.	Executive.		Superior.	Executive.
40	...	18	49	8	12
41	2	29	50	12	8
42	4	36	51	8	5
43	1	29	52	8	1
44	2	8	53	5	4
45	2	28	54	3	2
46	5	20	55	1	1
47	6	21	over	1	...
48	12	9	.	...	...

The above shows that in actual practice the tendency is to distribute the 80 appointments over men between the ages of 40 and 55, in other words, to select certain men who have passed the age of 40 and to reject others as unfit.

5. In the present irregular state of the establishment between the ages of 40 and 50, the selection keeps going on continuously between these ages instead of being confined, as it would be approximately in a typical scale, to the batch of men who in successive years reach the age of 40; a certain number of whom would be taken and the others left. A typical scale for an establishment of 80 between the ages of 40 and 55, which is what we should in practice endeavour to work to, as the opposite pole or mathematical limit to the

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† In a typical scale, seniority in age is equivalent to departmental seniority.

‡ Age.	Nos.
48	13
49	13
50	12
51	11
52	10
53	10
54	9
55	9
	87

*These posts are included because they are manned almost entirely by Engineers.

scale resulting from following the principle of seniority alone, would be something like that shown below. It will be observed that there are 6 disappearances, namely, 3 by death and 3 by lateral retirements, and adding the two superannuations at 55, the scale gives 8 vacancies a year:—

Age.	Scale allowing for deaths only.	Lateral retirements.	Modified scale.	Age.	Scale allowing for deaths only.	Lateral retirements.	Modified scale.
40	8	...	8	48	7	...	5
41	8	...	8	49	7	...	5
42	8	...	8	50	6	1	3
43	8	1	7	51	6	...	3
44	8	...	7	52	6	...	3
45	7	...	6	53	5	...	3
46	7	...	6	54	5	...	3
47	7	1	5	55	5	...	2
							82

The meaning of the above table is that of the men each year reaching the age 40, eight are selected who gradually pass through the grades till they retire. Now, if we turn to the other scale for the whole establishment as in paragraph 3, we see that 21 men out of 30 recruits survive to the age 40: thus to provide a workable establishment, we should have to supersede the principle of pure seniority by that of selection, so far as to select 8 men and finally reject 13 every year. This would be, as I said, the opposite mathematical limit to that resulting from the system of selection by pure seniority.

6. What we want now to investigate is whether, considering the present conditions of the establishment, we shall, in order to secure a workable establishment in the superior grades, have to reject a number of men who might reasonably expect promotion to those grades.

To investigate this I shall first try and ascertain how many men, as a rule, of a certain age are so well fitted for the superior posts, that they might reasonably complain if they could not reach them owing to there being no vacancies. Secondly, having ascertained this number I shall see how many of these selected men for the next ten years or more are likely to miss promotion through want of vacancies.

7. To investigate the first point I can only take the men on the lists of the Government of India. I have no information regarding the men in Madras and Bombay. In selecting the men who may be said to be at the present moment coming forward for promotion to the Superintending Engineer class, it may be assumed that there are for the Government of India list two necessary preliminary qualifications in addition to that of fitness; first, they must not be younger than 40 and not older than 50; second, they must be of the rank of Executive Engineer, 1st grade. As to the first, experience shews that 40 is the earliest age at which a man can now expect to be promoted, and there is no recommendation for promotion on behalf of men over 50; as to the second, I have no hesitation in saying that, considering the number of men between 40 and 50 who are specially eligible, any man who has reached the age of 40 and is still an Executive Engineer, 2nd grade, is so far behind in the race that he must reasonably give up all hopes of promotion beyond Executive Engineer, 1st. I may add that a close scrutiny of the lists would shew that such men have not the necessary qualifications.

8. Proceeding on these principles, and with the aid of the Recommendation rolls, I select 59 men of the Government of India lists as now eligible and having a reasonable claim; and I find the percentage of men so recommended to the total number of the qualifying age, 28 per cent.

3391/14

Arranged by ages the numbers are as follows:—

Age.	No.	Age.	No.
40	7	46	5
41	1	47	2
42	14	48	3
43	10	49	6
44	7	50	2
45	2	above 50	0
	...	Total ...	59

Total No. 40—44	39
44—50	20
Over 50	0

Thus the conclusions to which I am led in the direction of framing a general law under the present conditions of the establishment are, that 28 per cent. of men of the qualifying age are now deserving of promotion in their turn, and that the balance may be set aside as unfit; and that a similar percentage of men may be selected each year as they enter their 40th year; also that $\frac{4}{6}$ths of the men selected are between the ages of 40—44, which indicates that the tendency is to select the younger men.

9. Now it may be of course that 28 per cent. represents the percentage of fitness of the present establishment, and that a much larger percentage will be the rule when the Cooper's Hill men begin to come forward in the prescribed age. To test this I have scrutinized the list of men who are now 35 and will be 40 in the year 1892, that is to say, the men who by the age standard entered the department in 1874 when the full number of Cooper's Hill recruits entered; and I find that 45 per cent. are probable Superintending Engineers; or again, taking the men who entered the service in 1874, I get 48 per cent. as the probable Superintending Engineers.

The above percentage being based on recommendations of men comparatively young is probably too high, and to allow of the rise of standard in selection for the higher posts it will probably suffice to take 40 per cent. as the standard of eligibility from 1892 onwards. In working the tables I have taken 28 per cent. as the eligibility rate in 1887 to 1889, 30 per cent. in 1890, 35 per cent. in 1892 and 40 per cent. thereafter.

10. In arriving at the above general rule, as I said, I have been guided by the Government of India lists alone, and I think it is pretty true of them; but as the main tables are made out for the whole establishment, including Madras and Bombay, I have had to make allowance for them.

On the Bombay list I find that the majority of men in the 3rd grade of Executive Engineers are 40 and over, in the 2nd grade they are older, and in the first they approach 50. Thus, instead of considering the men of the 2nd grade as left behind in the race, as I did in the case of the other lists, I have had to consider them eligible. In the Madras lists also, though not nearly to the same extent, there are men of 40 in the 2nd grade who must be considered eligible. To rectify this I have considered 50 per cent. of the men now between 40—50 on these two lists as eligible for Superintending Engineers instead of only 28 per cent. as on the other lists; but I let the same proportion of men coming forward in the future apply to them as the other lists.

Proceeding on these principles, I get the following age ranks of what I will call class A, *i. e.*, men of the Executive grade eligible for promotion to Superintending Engineers for the combined lists at the present moment :—

Age 40	9
,, 41	3
,, 42	19
,, 43	16
,, 44	8
,, 45	3
,, 46	9
,, 47	4
,, 48	3
,, 49	7
,, 50	2
	83

Class B, as I shall call it, is the balance of men in the Executive grades who are between the ages of 40 and 50 and are finally set aside as unfit for promotion to Superintending Engineer.

11. What we now want to arrive at is the numbers of these two classes that we shall have to deal with each year; that is how far the probable vacancies in the Administrative Establishment will go in satisfying the reasonable aspirations of the class A men; and what number of men each year should be told that they are unfit for promotion, and, if Executive Engineer, 1st grade, should take the Rs. 50 increment. All this is worked out in tables B and C. Table B, commencing with the present Executive and Administrative Establishment, shows the probable vacancies and the promotions year by year resulting from deaths, lateral retirements and superannuations in the latter Establishment. As previously agreed, I have allowed for 3 deaths and 2 lateral retirements in the Administrative Establishment numbering 80 men up to 1890, and after that for 3 deaths and 3 lateral retirements. At the foot of the table I have shewn the numbers coming forward each year in class A and class B. I have also shown the number of class A men who are likely to go unpromoted beyond the age of 50, that is, finally to lose promotion. These are not numerous, only one or two a year after 1889. These figures have been worked out by a subsidiary table C.

12. It must be observed that in these tables I have had to work as if the promotions to Superintending Engineer class were all made on one list, whereas in fact they are made on several. What the tables show is that, assuming my hypothesis of eligibility to class A to be approximately correct, we have not so great a number of disappointed men to deal with as might be expected, but we have a large number of indifferent men who ought to be told that they are unfit for the higher posts.

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13. The following table shows briefly the results arrived at by working as above explained on a general list :—

Year.	Class A.		Class B.		No. of promotions from class A.	Class A men retiring unpromoted.	Executives over 50 retired.
	Entering in the year.	Total in class.	Entering in the year.	Total in class.			
1	2	3	4	5	6	7	8
1887	83	83	148	148*	7	2	15
1888	11	83	28	152	8	5	8
1889	9	77	24	165	9	3	13
1890	8	71	18	173	11	2	9
1891	14	70	27	180	11	2	14
1892	17	74	25	185	15	1	12
1893	21	78	31	188	10	1	17
1894	13	78	19	201	12	3	1
1895	16	77	25	205	10	1	15
1896	18	82	26	206	10	...	17

Of the 83 men placed in class A in 1887, it will be found that 55 are promoted, 10 die or retire "laterally," and 18 retire at 50 without being promoted.

The irregularity of the numbers in columns 2 and 4 of this table is due to the excessive and irregular recruitment of past years. It will be seen that there is a constant number of between 70 and a little over 80 men in class A, the majority of whom get promoted. An examination of table C will shew that this is effected by selecting men between 40 and 50 to save them from retirement before promotion: this would probably be the tendency in actual practice. The number of class A remains pretty constant up to 1900 when it diminishes.

The mathematical limit or type for the administrative establishment of 80 men is reached, as I stated in para. 5, when the annual selection is confined to 8 men of the age 40 who gradually pass through the grades up to age 55. This typical establishment is illustrated in para. 5. The actual establishment begins to approximate to this type from the year 1903, when the survivors of 30 recruits (the normal number for the typical scale) enter their 40th year. As the table in para. 3 shews the number of men who then enter their 40th year is 21, and according to my hypothesis 40 per cent. of these, or 8 men, are eligible for the higher posts. This is the number which we require to maintain the administrative establishment, so that, if my hypothesis is true, no difficulty should arise from the comparatively small number of higher posts. In 1903, when the number of men entering their 40th year, and consequently of men eligible becomes regular, there will be still a large surplus of older men of class A who have to be worked off.

These will be slowly worked off until by degrees the typical condition is approximated to, of 8 men annually entering class A, and vacating it by promotion to the administrative establishment of 80.

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* Excluding men over 50 after 1887.

14. The exactness of the results worked out above is a good deal impaired by my having had to take the combined lists of India, Madras, and Bombay: I believe that if they were applied to the India list only, and to the Madras and Bombay lists with more accurate knowledge of the *personnel* of those lists, the results would be very trustworthy.

However they are useful as showing generally the problem with which we have to deal.

To summarise, I think that the following points are brought out:—

First.—That as the superior posts are so few in number compared to the total strength, a rigid system of selection as opposed to seniority is necessary in order to prevent a number of first-rate men from having a very real grievance.

Second.—That it is necessary to begin to separate men in good time, that is to say, on reaching their 40th year, into two classes, *viz.*, classes A and B.

Third.—That it is very probable, that under the present system of different lists for promotions to Superintending Engineer, eligible (class A) men will fail to get promotion owing to want of vacancies.

In regard to the first and second points, I think that the several Local Governments who select men for promotion should be made aware of the state of the case confidentially perhaps, and be told to select men of 40 and over for class A with great care. Those class B men who are Executive 1st grade should be told that they are not considered fit for the Superintending Engineer class and must take the increment.

15. In regard to the third point, I have thought it worth while to test the fact by the Bombay list, on which an examination of the ages shows that men seldom get promoted much before the age of 50, the result being that the men in the 1st and 2nd executive grades are nearly all over 40, as well as several of those in the 3rd grade. I at first supposed that this was due to a singularly congested state of the establishment, and that at some period or another it would rapidly disappear, and that promotion would be abnormally accelerated.

The investigation, however, shows that the condition is the normal one of an isolated establishment with a small number of superior posts.

16. The present Bombay establishment numbers about 90, and the superior posts are six; the Bombay Government has recently made proposals which result practically in reducing them to five. Now, with a superior establishment of 80 on a combined list, as I have shown, we get eight men coming in every year, six disappearing by death and lateral retirement, and two by superannuation at the age of 55. If, however, we apply these figures proportionately to an isolated establishment of only six men on the whole, we get fractions of a man, which though arithmetically correct are practically useless. We may get over the difficulty either by combining the fraction for several years until we get a whole man; the meaning of the fractional quantity, which shows ⅓rd of a man, say, coming in each year, being that one man comes every third year; or if it is absolutely necessary that one man should be selected each year, we must go down to some point in the ages when one man taken every year will maintain the establishment of six men.

17. In the Bombay case it will be found that we may either select a man every other year at the age of 43, or we must select a man at the age of 50. In the first case the constant typical establishment will stand as follows:—

Age	Superior Establishment.	Age.	Superior Establishment.	Age.	Superior Establishment.
43	...	47	1	51	1
44	...	48	...	52	...
45	1	49	1	53	1
46	...	50	...	54	...
...	...	...	...	55	1

and then as the man retires at 55, the man of 43 will come in, and the same process will be repeated each year.

In the second case the constant establishment will stand as follows:—

Age	50	1
"	51	1
"	52	1
"	53	1
"	54	1
"	55	1

18. Now the normal Bombay establishment on the whole will stand as below—

Age.	No.	Age.	No.	Age.	No.	Age.	No.
22	4	31	4	40	3	49	2
23	4	32	4	41	2	50	2
24	4	33	4	42	2	51	2
25	4	34	4	43	2	52	2
26	4	35	3	44	2	53	2
27	4	36	3	45	2	54	2
28	4	37	3	46	2	55	1
29	4	38	3	47	2		—
30	4	39	3	48	2		99

and according to our hypothesis as to the number of men eligible, rather less than one man of the two who reach the age of 40 each year should be eligible. That is to say, nearly one man a year at age 40 ought to be selected, while under the first arrangement of taking a man every other year at the age of 43 only one man every second year will be promoted. It very nearly comes to this, therefore, that one class A man finally loses promotion every other year.

Under the second plan of not selecting men till they reach the age of 50, it is necessary for men to run through all the grades in 5 years, and instead of an establishment of men in their prime, we have a constant establishment of men over 50.

19. Taking the Bombay establishment as it now stands, and supposing as before that 40 per cent. are eligible for promotion as they enter the age of 40, and that 50 per cent. of the men now over 40 are eligible, we may go on saving the eligible men from loss of promotion by taking them at the age of 50 for a series of years. Going on this principle up to the year 1900 we find that only 3 men (all in one year, 1894) have to retire without promotion; but in 1899 the superior establishment will stand as below—

Age.	
51	1
52	1
54	3
55	1

and if we continue this principle we shall gradually get the 6 men ranged between the ages of 50 and 55.

20. If I examined the state of the Madras establishment, I should find much the same sort of thing though not quite so bad. It has 8 posts with an establishment of 85.

I come, therefore, to the conclusion that justice cannot be done to the claims of the establishment on these small lists, and that some endeavour should be made to introduce circulation between the Bombay and Madras and the India lists.

On the Government of India establishment, although there are 6 different lists in which men are first selected for the higher appointments, the fact of the Chief Engineers' promotion being on one list equalizes matters considerably, and there is no serious inequality on any of the lists. In fact in the end it comes to this on the India establishment, that there are three main lists which are fairly distinct, namely, the Buildings and Roads, the Irrigation, and the Railway; and the following shows the total *numbers* approximately as compared with the administrative posts on each list :—

Government of India.	Total No.	Superior posts.
Buildings and Roads, including Military Works	375	 24
Irrigation	188	 13
Railway	273	 29
Total India	836	 66
Bombay	91	 6
Madras	86	 8

Now on the three Government of India lists you have such a number of superior posts as affords a workable establishment, selecting one or two men, as the case may be, at a moderate age and a sufficient number of years before retirement. But for Bombay and Madras, as I have shown, you get an unworkable establishment. If the Bombay and Madras posts were distributed between the Buildings and Roads and Irrigation posts for the whole of India, the results would be very much improved for them and in a smaller degree for us. The lists will become more workable as the numbers of the total establishment work down to 700 or 800 men, the largest decrease will be in the Buildings and Roads Branch, in which the percentage of higher appointments is too small at present. The present establishment under the Government of India is workable under the present conditions of different lists for promotion to Superintending Engineer, but I consider that what I have advanced shows that it would be infinitely more workable if there were only three lists recognised for such promotions, namely, the Buildings and Roads, Irrigation, and Railway, and if the promotions to these three lists were arranged on some system of careful selection between the Government of India and Local Governments, instead of the promotion to 3rd class Superintending Engineer being, as at present, on separate provincial lists.

8th July 1887.

G. H. D. W.

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TABLE A.

It is unnecessary perhaps to point out that the numbers of men in each age of the actual Establishment of 1887 cannot correspond at all exactly with the several numbers in the column *1887* of this table, which numbers are deduced from the several numbers in the year 1883. In the first place all the recruits in each year are in the table assumed to be 22 years of age, which is far from being actually the case. Secondly, the men do not actually disappear as assumed in the table. In the 3rd place Royal Engineers go in and out of the Establishment in the middle ages as they revert to the Imperial Establishment or Military duty, others supplying their places.

Age.	1883.				1884.			1885.			1886.			1887.			1888.			1889.		
	Establishment.	Coefficient for deaths.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.
22	22	0·96	...	...	52	...	...	30	...	...	30	...	...	30	...	...	30	...	...	30	...	...
23	27	1·0	21	...	21	50	...	50	29	...	29	29	...	29	29	...	29	29	...	29	29	...
24	43	1·0	27	...	27	21	...	21	50	...	50	29	...	29	29	...	29	29	...	29	29	...
25	49	1·0	43	...	43	27	...	27	21	...	21	50	...	50	29	...	29	29	...	29	29	...
26	45	0·96	49	...	49	43	...	43	27	...	27	21	...	21	50	...	50	29	...	29	29	...
27	56	1·0	43	...	43	47	...	47	41	...	41	26	...	26	20	...	20	48	...	48	28	...
28	53	1·0	56	...	56	43	...	43	47	...	47	41	...	41	26	...	26	20	...	20	48	...
29	45	1·0	53	...	53	56	...	56	43	...	43	47	...	47	41	...	41	26	...	26	20	...
30	65	0·96	45	...	45	53	...	53	56	...	56	43	...	43	47	...	47	41	...	41	26	...
31	53	1·0	62	...	62	43	...	43	51	...	51	54	...	54	41	...	41	45	...	45	39	...
32	50	1·0	53	...	53	62	...	62	43	...	43	51	...	51	54	...	54	41	...	41	45	...
33	34	0·96	50	...	50	53	1	52	62	...	62	43	...	43	51	...	51	54	1	53	41	...
34	39	1·0	33	...	33	48	...	48	50	1	49	60	...	60	41	...	41	49	...	49	51	...
35	45	1·0	39	1	38	33	...	33	48	...	48	49	...	49	60	...	60	41	...	1	49	...
36	23	0·96	45	...	45	38	...	38	33	...	33	48	...	48	49	...	49	60	...	60	41	1
37	35	0·96	22	...	22	43	...	43	37	...	37	31	1	30	46	...	46	47	...	47	58	...
38	41	1·00	34	...	34	21	1	20	42	...	42	35	...	35	29	...	29	44	1	43	45	...
39	38	0·96	41	...	41	34	...	34	20	1	19	42	...	42	35	...	35	29	...	29	43	...
40	13	1·0	36	1	35	39	...	39	32	...	32	18	...	18	40	1	39	33	...	33	27	1
41	34	0·95	13	...	13	35	...	35	39	...	39	32	1	31	18	...	18	39	...	39	33	...
42	27	1·0	32	...	32	12	...	12	33	...	33	37	...	37	29	...	29	17	1	16	37	...
43	29	0·95	27	...	27	32	1	31	12	1	11	33	...	33	37	1	36	29	...	29	16	...
44	23	1·0	28	...	28	26	...	26	30	...	30	10	...	10	31	...	31	24	...	34	28	...
45	24	1·0	23	...	23	28	...	28	26	...	28	30	...	30	10	...	10	31	...	31	34	1
46	24	0·95	24	1	23	23	...	23	28	...	28	26	1	25	30	...	30	10	...	10	31	...
47	15	0·95	23	...	23	22	...	22	22	...	22	27	...	27	24	1	23	28	...	28	9	...
48	12	1·0	14	...	14	22	1	21	21	1	20	21	...	21	25	...	25	22	1	21	27	...
49	12	1·0	12	1	11	14	...	14	21	...	21	20	...	20	21	...	21	27	...	25	21	...
50	8	0·99	12	...	12	11	...	11	14	...	14	21	1	20	20	...	20	21	...	21	25	1
51	3	0·94	7	...	7	11	1	10	10	...	10	13	...	13	19	...	19	20	...	20	19	...
52	6	0·93	3	1	2	7	...	7	10	...	10	9	...	9	12	1	11	18	1	17	19	...
53	6	0·93	6	...	6	3	...	3	7	1	6	9	...	9	8	...	8	10	...	10	16	1
54	4	0·93	6	...	6	5	...	5	2	...	2	6	1	5	8	...	8	7	...	7	9	...
55	1	...	4	...	4	5	...	5	5	...	5	2	...	2	4	1	3	7	...	7	6	...
	1,004				1,033			1,035			1,038			1,038			1,038			1,037		

Age.	1890.			1891.			1892.			1893.			1894.			1895.			1896.			1897.
	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.	Surviving establishment.	Lateral retirements.	Establishment.
22	30	30	...	30	30	...	30	30	...	30	30	...	30	30	...	30	30	...	30	30	...	30
23	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29
24	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29
25	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29
26	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29	29	...	29
27	28	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28
28	48	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28
29	20	48	...	48	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28
30	26	20	...	20	48	...	48	28	...	28	28	...	28	28	...	28	28	...	28	28	...	28
31	39	25	...	25	19	...	19	46	...	46	27	...	27	27	...	27	27	...	27	27	...	27
32	45	39	...	39	25	...	25	19	...	19	46	...	46	27	...	27	27	...	27	27	...	27
33	41	45	1	44	39	...	39	25	...	25	19	...	19	46	...	46	27	...	27	27	...	27
34	51	40	...	40	42	1	41	37	...	37	24	1	23	18	1	17	44	...	44	26	...	26
35	49	51	...	51	40	...	40	41	...	41	37	...	37	23	...	23	17	1	16	41	1	43
36	40	49	1	48	51	...	51	40	...	40	41	1	40	27	...	37	23	...	25	16	...	16
37	58	38	...	38	46	1	45	49	1	45	39	...	39	38	...	38	35	1	34	22	1	21
38	45	46	...	56	36	...	36	43	...	43	48	1	47	38	1	37	38	...	38	34	...	34
39	43	45	1	44	56	1	55	36	1	35	43	...	43	47	...	47	37	1	36	38	1	37
40	26	41	...	41	42	...	42	52	...	52	33	1	32	41	...	41	44	...	44	34	...	34
41	33	26	...	26	41	1	40	42	1	41	52	...	52	32	1	31	41	1	40	41	1	43
42	37	31	1	30	25	1	24	38	...	38	39	...	39	49	...	49	29	...	29	38	...	38
43	16	37	...	37	30	...	30	24	1	23	38	...	38	39	...	39	49	...	49	29	1	28
44	28	15	...	15	35	1	34	28	...	28	22	1	24	36	1	35	37	1	36	46	...	46
45	33	28	1	27	15	...	15	34	1	33	28	...	28	21	...	21	35	...	35	36	1	35
46	31	33	...	33	27	...	27	15	...	15	33	...	33	28	...	28	21	...	21	35	...	35
47	9	29	...	29	31	1	30	25	1	24	14	1	13	31	1	30	27	1	26	20	...	20
48	27	8	1	7	28	...	28	24	...	29	23	...	23	12	...	12	28	...	28	25	...	25
49	21	27	...	27	7	1	6	28	1	27	29	1	28	23	1	22	12	1	11	28	...	28
50	24	21	1	20	27	...	27	6	...	6	27	...	27	28	...	28	22	...	22	11	1	10
51	19	22	...	22	19	1	18	25	1	24	5	1	4	25	1	24	26	1	25	21	...	21
52	19	18	1	17	20	...	20	17	...	17	23	1	22	4	...	4	22	...	23	24	1	23
53	15	17	...	17	16	1	15	19	1	18	16	...	16	20	1	19	4	1	3	21	...	21
54	9	14	1	13	16	...	16	14	...	14	17	1	16	15	...	15	18	1	16	2	...	2
55	6	9	1	8	12	...	12	15	1	14	13	...	13	15	1	14	11	...	11	15	1	14
	1,032			1,024			1,013			993			983			969			952			939

The coefficient as in the 2nd column of 1883 is supposed to be applied to the corresponding ages in each successive year, so as to work out the surviving establishment. The lateral retirements are ½ per cent. from 1883 to 1890, and after that they are 1 per cent.

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TABLE B.

Age.	1887. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1888. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1889. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1890. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1891. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1892. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.
40	13	0	...	...	30	...	...	...	33	...	...	1	26	...	...	1	41	...	...	1	42	...	...	2
41	23	2	1	1	18	...	...	1	39	...	...	1	32	1	...	2	25	1	...	2	30	1	...	2
42	36	1	...	1	27	2	...	1	15	1	...	1	36	1	...	2	27	3	...	2	21	3	...	2
43	29	4	1	2	34	2	...	2	26	3	...	1	14	2	...	1	34	3	...	2	25	5	1	2
44	8	2	...	1	26	5	...	1	30	4	1	2	24	4	...	1	12	3	...	...	29	5	...	2
45	28	2	...	...	7	3	...	...	25	6	...	...	28	5	...	...	22	6	...	1	12	3	...	1
46	20	5	1	1	28	2	...	2	7	3	...	...	25	6	1	1	28	5	1	1	21	6	1	1
47	21	6	...	1	18	5	...	...	24	4	...	1	6	3	...	...	23	6	1	1	25	5	...	1
48	9	12	...	...	18	7	1	1	16	5	...	1	22	5	1	2	4	3	...	...	22	6	...	2
49	12	8	...	...	9	12	...	...	18	7	...	1	15	6	...	1	21	6	...	1	3	3	...	...
50	8	12	1	...	12	8	...	...	9	12	2	...	16	8	...	...	13	7	1	...	20	7	...	...
51	5	8	...	...	8	11	1	...	12	8	1	...	9	10	1	...	14	8	...	...	12	6	1	...
52	1	8	1	...	3	8	2	...	7	10	...	...	12	7	1	...	8	9	1	...	12	8	1	...
53	4	5	...	...	1	7	...	...	4	6	...	...	5	10	...	...	11	6	1	...	7	8	1	...
54	2	3	...	...	3	5	1	...	...	7	1	...	3	6	1	...	3	10	1	...	11	5	1	...
55	1	2	...	...	...	3	...	...	3	4	...	...	...	6	...	...	3	5	...	...	5	9	...	...
TOTAL ...	231	80	5	7	251	80	5	8	268	80	5	9	273	80	5	11	289	80	6	11	304	80	6	15
Percentage of men aged 40 entering class A.	...				28 per cent.				28 per cent.				30 per cent.				35 per cent.				40 per cent.			
Class A each year ...	83				11				9				8				14				17			
Promotions ...	7				8				9				11				11				15			
Class B each year ...	148				28				24				18				27				25			
No. of class A who retire in each year finally unpromoted.	2				5				3				2				0				1			
Executives over 50 if the 50 years' rule is not applied.	13				15				26				30				39				45			
Total over 50 to be retired each year if 50 years' rule is applied in 1887.	13				8				12				9				14				12			

Age.	1893. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1894. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1895. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	1896. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	NORMAL. Executive Establishment.	Administrative Establishment.	Deaths and retirements in Administrative Establishment.	Promotions.	REMARKS.
40	52	...	...	1	32	...	...	1	41	...	...	1	44	...	...	...	13	8	..	...	
41	39	2	...	1	51	1	1	3	30	1	...	...	39	1	...	...	13	8	...	...	
42	35	3	...	2	36	3	...	3	46	3	...	2	28	1	1	...	12	8	...	...	
43	16	5	...	1	33	5	1	1	34	5	1	2	44	5	1	...	11	7	1*r*	...	*r* means lateral retirement.
44	22	6	1	2	15	6	...	1	30	5	...	1	30	6	...	...	10	7	1*d*	...	*d* means death.
45	26	7	...	...	21	7	...	...	14	7	...	...	29	6	...	...	11	6	...	...	
46	11	4	...	...	26	7	1	1	21	7	1	1	14	7	1	...	11	6	...	...	
47	18	6	1	1	9	4	...	...	23	7	...	1	19	7	1	...	9	5	1*r*	...	
48	23	6	...	1	17	6	...	1	8	4	...	...	20	8	...	...	8	5	...	...	
49	10	8	...	1	21	7	...	1	15	7	...	1	7	4	...	...	8	5	1*d*	...	
50	3	3	...	...	18	9	1	1	20	8	1	1	14	8	1	...	9	3	1*r*	...	
51	17	7	1	...	1	3	...	...	15	9	1	...	17	8	1	...	8	5	...	...	
52	12	5	1	...	16	6	1	...	1	3	...	...	15	8	...	...	7	3	1*d*	...	
53	11	7	1	...	12	4	...	...	11	5	1	...	9	3	...	..	8	2	...	...	
54	7	7	1	...	10	6	1	...	11	4	...	...	12	4	...	...	7	2	...	...	
55	10	4	...	...	7	6	...	...	9	5	1	...	10	4	...	...	7	2	...	...	
TOTAL ...	323	80	6	10	325	80	6	12	332	80	6	10	342	80	6	10	152	80	6	8	
Percentage of men aged 40 entering class A.	40 per cent.				40 per cent.				40 per cent.				40 per cent.				...				
Class A each year ...	21				13				16				18				8				
Promotions ...	10				12				10				10				8				
Class B each year ...	31				16				...				26				13				
No. of class A who retire in each year finally unpromoted.	1				3				1				...				0				
Executives over 50 if the 50 years' rule is not applied.	57				46				50				40				39				
Total over 50 to be retired each year if 50 years' rule is applied in 1887.	17				1				15				17				8				

Explanation of Table B:—

The administrative establishment in 1887 is the actual establishment as now ranged by ages. The Executive Establishment is the difference between this and the whole Establishment of 1887 as shown in Table A.

The death-rate of Administrative Establishment is 3 in 80 (assumed) and the lateral retirement up to 1893 is 2 when it is increased to 3. The number of promotion is given by the deaths and retirements *plus* the superannuations.

Class A in 1887 is the number of men between 40 and 50, considered, as explained in the note, as fit for promotion to Superintending Engineer Class; Class B is the residue of the Executive Establishment.

in future years the men entering Class A are a percentage of the men entering the age 40, *i.e.*, 28 per cent. in 1888-89, 30 per cent. in 1890, and so on.

TABLE C.

Age.	1887.				1888.				1889.				1890.				1891.				1892.				1893.				1894.				1895.				1896.			
	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.	Class A.	Promoted.	Balance.	Casualties.
40	9	1	8	...	11	...	11	...	9	1	8	...	8	...	8	...	14	1	13	1	17	2	15	...	21	1	20	1	13	...	13	...	16	1	15	1	18	1	17	1
41	3	1	2	...	8	1	7	...	11	1	10	...	8	1	7	...	8	1	7	...	12	2	10	...	15	1	14	...	19	3	16	1	13	...	13	...	14	1	13	...
42	19	2	17	1	2	1	1	...	7	1	6	...	10	1	9	...	7	1	6	...	7	1	6	...	10	2	8	...	14	2	12	...	15	2	13	...	13	1	12	1
43	16	1	15	...	16	2	14	...	1	1	...	...	6	2	4	...	9	1	8	...	6	1	5	...	6	1	5	...	8	1	7	...	12	2	10	1	13	2	11	...
44	8	...	8	...	15	1	14	1	14	2	12	...	...	...	...	...	4	1	3	...	8	1	7	...	5	2	3	...	5	1	4	...	7	1	6	...	9	1	8	...
45	3	...	3	...	8	...	8	...	13	...	13	1	12	2	10	...	...	...	...	...	3	1	2	...	7	...	7	1	3	...	3	...	4	...	4	...	6	1	5	...
46	9	1	8	...	3	2	1	...	8	...	8	...	12	1	11	1	10	2	8	...	...	...	...	...	2	...	2	...	6	1	5	1	3	1	2	...	4	1	3	...
47	4	...	4	...	8	...	8	1	1	...	1	...	8	2	6	...	10	2	8	1	8	2	6	1	...	...	...	...	2	1	1	...	4	1	3	...	2	1	1	...
48	3	...	3	...	4	1	3	...	7	2	5	1	1	...	1	...	6	1	5	...	7	2	5	...	5	1	4	...	...	...	...	...	1	1	...	...	3	1	2	...
49	7	1	6	1	3	...	3	...	3	1	2	...	4	2	2	1	1	...	1	...	5	3	2	...	5	1	4	...	4	2	2	...	...	...	...	...	...	...	...	...
50	2	...	2	...	5	...	5	...	3	...	3	...	2	...	2	...	1	1	...	...	1	...	1	...	2	1	1	...	4	1	3	...	2	1	1	...	...	...	...	...
	83	7	75	2	83	8	75	2	77	9	68	2	17	11	60	2	77	11	59	2	74	15	59	1	78	10	68	2	78	12	66	2	77	10	67	2	82	10	72	2
Numbers in class A passing out each year without being promoted.	2				6				3				2				0				1				1				3				1							

This table is intended to show how the men eligible for promotion to Superintending Engineer (Class A) are worked off, that is, how many get promoted and how many have to retire unpromoted.

The number of Class A men for 1887 are obtained by actual inspection of lists as explained in the note; and the numbers entering the class in successive years are taken from Table B.

The total number of promotions agree with Table B, but they are not always similarly arranged, which, however, is not of much consequence.

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TABLE C—Continued to 1904 when the survivors of 30 recruits enter the age of 40.

Age.	1897.			1898.			1899.			1900.			1901.			1902.			1903.			1904.		
	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.	Class A.	Promoted.	Casualties.
40	13	...	...	14	...	...	13	...	...	8	...	...	5	...	...	14	...	1	8	...	...	8	...	...
41	16	1	1	13	1	...	14	2	...	13	2	...	8	1	...	5	1	...	13	3	...	8	1	...
42	13	1	...	14	1	1	12	1	...	12	2	...	11	2	1	7	2	...	4	1	...	10	1	1
43	11	2	...	12	1	...	12	1	1	11	2	1	10	2	...	8	2	...	5	1	...	3	1	...
44	11	2	1	9	2	...	11	1	...	10	2	...	8	2	...	8	2	...	6	1	1	4	1	...
45	8	1	...	8	2	1	7	1	1	10	2	...	8	1	...	6	1	...	6	2	...	4	1	...
46	5	1	...	7	1	...	5	1	...	5	1	...	8	2	1	7	1	1	5	1	...	4	1	1
47	3	1	...	4	1	...	6	1	...	4	1	...	4	1	...	5	2	...	5	1	1	4	1	...
48	1	...	...	2	1	...	3	1	...	5	1	1	3	1	...	3	1	...	3	1	...	3	1	...
49	2	1	...	1	...	...	1	...	...	2	...	...	3	1	...	2	1	...	2	1	...	2	1	...
50	...	...	...	1	...	...	1	...	...	1	...	...	2	...	...	2	...	...	1	...	...	1	...	...
Total	83	10	2	85	10	2	85	9	2	81	13	2	70	13	2	67	13	2	58	12	2	51	9	2
Unpromoted	...			1			1			1			2			2			1			1		

The above is a continuation of Table C framed to show how the class A men get disposed of in succeeding years. When the establishment is normal, eight men (40 per cent. of the men aged 40) come in each year and are promoted, there being 8 vacancies annually in the administrative establishment of 80. But owing to excess recruitment in the past there is an excess of class A men which is constantly diminishing. Some of these retire annually unpromoted, and some die; but it will take many years to carry off the excess which in 1904 is about 43 and the next year 40.

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No. 2048G.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

GENERAL.

TO

THE GOVERNMENTS OF BENGAL, THE NORTH-WESTERN PROVINCES AND OUDH, AND THE PUNJAB.
THE CHIEF COMMISSIONERS OF CENTRAL PROVINCES, Upper/Lower BURMA, AND ASSAM.
THE RESIDENT AT HYDERABAD.
THE AGENT TO THE GOVERNOR-GENERAL FOR CENTRAL INDIA AND RAJPUTANA.

Simla, October 14, 1887.

SIR,

I am directed to forward, for careful perusal, a note that has been prepared in this office regarding the prospects of promotion of the members of the Engineer Establishment to the higher administrative posts * of the Department.

2. As the note itself is of a somewhat technical nature, it will be well to state clearly the points that are considered to be brought out by it. These are—

First.—That the number of superior posts being small, compared with the strength of the Department, it can be mathematically demonstrated that only a small proportion of officers can eventually obtain promotion beyond the executive grades.

Secondly.—This being the case, it is necessary that a system of rigid selection be put in force, so as to ensure that the best men are selected. Unless this is done, not only will the Department suffer in efficiency, but those men who by their abilities are specially fitted for the superior posts, and who, owing to the small number of appointments, cannot attain them, will have a real cause of grievance against Government for bringing about a state of things injurious to their prospects.

Thirdly.—It is probable that if a system of careful selection be applied, as opposed to that of seniority, the selection being limited between certain periods of service, the great majority of those fitted for the superior appointments of the Department will succeed in obtaining them.

Fourthly.—That the greater the sub-division of lists, the more nearly are the prospects of promotion reduced to the conditions of a lottery.

3. It will doubtless be admitted that comparatively rapid promotion to posts of responsibility is the best means by which men can be trained to hold, with efficiency, the highest appointments in the Department. At the present time the rate at which men of ability are being promoted is being continually retarded, as the upper grades of the executive class become crowded; and it has probably reached a point at which the efficiency of the administrative establishment

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* Superintending Engineers. Chief Engineers. State Railway Superior Revenue Establishments. Posts in the Government of India Secretariat.

is threatened. In other words, men are not promoted to the Superintending Engineer class until they reach the age of 46 to 48 years whereas to secure an efficient establishment they should be promoted at about the age of 40. The following figures bring out clearly the fact of the retardation.

Average age of men promoted to Superintending Engineer.

		Years of age.
Five years	... 1868—1872 ...	... 3[illegible]
"	... 1873—1877 ...	... 40
"	... 1878—1882 ...	... 42¼
"	... 1883—1887 ...	... 45½
In the year	... 1886 ...	... 46¾
"	... 1887 ...	... 47

The ages taken are those of permanent promotion.

The result of this advance in age for promotion is two-fold: first, the men when promoted are actually less fit for the higher posts of the service, than they were at an earlier period; secondly, they use their ability with less force than they could do were a longer period of usefulness before them.

For some time to come no doubt, until the Engineer Establishment reaches a *normal* and healthy condition, a condition, that is, in which the regular recruiting of the last few years begins to tell, it will be necessary to select men considerably over the age of 40 for promotion, in order to save those eminently fitted by their ability for the higher posts from being passed over; but in order to serve the interests of the Department generally, and of the best men in the Department, it is necessary that Local Governments should refrain from recommending men for promotion merely because they are approaching the age of 50 at which, if not promoted previously, they can be made to retire; and they must make up their minds to sacrifice mere mediocrity in order to do justice to proved ability.

By *ability* it should be explained, is meant that faculty which is found in a naturally able man who has had varied experience on works.

4. The above conclusions follow from the first three points enumerated in paragraph 2. In regard to the fourth it is observed that on the Government of India Establishment the promotions to the Superintending Engineer class are now made on six different lists, including the Military Works Department, but that subsequent promotions from the Superintending Engineer class, to the Chief Engineer class, are made more or less on one list. The tendency on the whole, is for the promotions to run on three main lists:—

The Railway list.
" Buildings and Roads.
" Irrigation.

Could the promotions to and within the administrative classes be wholly on these three main lists, there is no doubt that the promotion of the Department generally would be far more even and better distributed than it is at present, when the first promotion to Superintending Engineer class is on separate lists. The hypothetical promotions made in the accompanying note are made on one list, and by this means it is found that few of the selected men eventually lose promotion; but if an isolated list, such as that of Bombay, is taken alone, it appears to be inevitable that a proportion of the men who ought to be promoted, lose promotion altogether, or else that a state of the Establishment, which is bad from an administrative point of view, is produced.

5. These facts merit serious consideration, and the aid of the Local Governments is desirable in order to prevent a state of things that threatens the efficiency of the Department. The following proposals are now put forward for full consideration:—

First.—That Local Governments on the Government of India list, should divide all 1st grade Executive Engineers who are forty years of age and over into two classes to be named—A. and B.—and should forward every year a very full report as to the qualifications of each man in class A.

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Secondly.—That the Government of India, taking the lists of class A. men from the several Provinces, should nominate men in their order for promotion, taking age and all the facts fully into consideration; it would probably be advisable, in every three selections thus made for promotion, to give preference to seniority, provided it is combined with fair ability, in one case; and in the other two, to select wholly by professional merit. The list of men so selected and placed in their order for promotion will form the final class A list from which appointments will be made as in the third proposal.

Thirdly.—Local Governments will then be called upon to appoint to officiating or other vacancies, the men who are next on the Government of India list for promotion, irrespective of the local list to which they belong.

Under the above system it is very likely that a certain number of men placed in class A. by the Local Governments will never obtain promotion; but it is better that this should be so, than that the Administrative Establishment should suffer in efficiency. That the system may work with greater fairness it will be necessary that Local Governments should give greater weight to merit when making promotions to 1st grade Executive Engineer.

Local Governments are requested to give their opinions on the proposal made in this paragraph after careful consideration of the facts brought forward.

The Governments of Madras and Bombay will also be invited, in the interests of the members of their establishments, to join the confederation of other lists with a view to opening a larger number of appointments to their Engineers, and to avoiding the serious block which is inevitable on an isolated list.

6. In connection with the small proportion of men who can ultimately look for promotion to the higher appointments, attention must also be invited to the fact that under Public Works Code, Chapter I, paragraph 10, Executive Engineers, 1st grade, who surrender all claim to promotion to the Superintending Engineer class are entitled to two increments of Rs. 50, after periods of four years' service. Hitherto very few men have elected to take this increment, because they hope on for promotion and decline to include themselves in what may be in some sense considered an inefficient class. It is doubtless unjust that such men should be placed in a position which makes them refuse increased pay (which is really due to them), because they are ignorant of the fact that they have no hope of promotion; and greater weight attaches to this view when it is remembered that all the men who are placed in class B. are or soon will be liable to be retired at the age of 50 years. At the present moment, taking all the 1st grade Executive Engineers who have passed the age of 40, and so, on the age hypothesis, are eligible for promotion, it is believed that about 40 should have taken the increment on the understanding that they will never be promoted. Some few of these are doubtless already drawing the increment but very few compared with the number who might be drawing it. If then, the suggestions made in paragraph 5, that Local Governments should prepare lists of class A. men which should undergo a further process of selection by the Government of India, are finally accepted, it will be possible to inform those men who are not placed in class A., that they can take the increment without any fear of injuring their own prospects.

I have the honor to be,

SIR,

Your most obedient Servant,

G. H. D. WALKER,

Under Secretary.

Document accompanying.
Note referred to.

Govt. do not entirely agree. While ~~[illegible]~~ allowing that it is well to allow the Govt. the power of retiring an officer not fitted for the duties of S.E. at the age of 50, they ~~Govt.~~ are of opinion that the rule should not be made absolute and that the Govt. under which the officer is serving should be left to judge whether it is desirable in the interests of the public service to retain the services of an officer not above the age of 50 in the position of Ex. Engr.

The accuracy of ~~but~~ the 4th point this Govt. ~~[illegible]~~ recognises ~~[illegible]~~.

2. The proposals made in the last para of your letter do not I am ~~to say~~ altogether commend themselves to this Govt. As regards the 1st the division is, as the [illegible] has practically made, ~~[illegible]~~ as the words stand, that the Govt. are fully aware of the names of the officers who can never be appointed S.E. Of those left in the 1st grade of Exec. Engrs. there are unquestionably able men who will be promoted as soon as opportunity occurs, but there are also some able men ~~[illegible]~~ deserving though [illegible]

places where administrative ability is needed there may not be the same & these men it is desirable to try as opportunity S.E. before finally deciding whether dispensation. There is also I am however a very serious objection to creating a class of men who know they can never rise to higher position. While the prizes of the Service are thought to be within their reach, men may be expected to do their best, but when the prospect of promotion ceases it can only be expected that men will do their work perfunctorily & with as little trouble ~~[illegible]~~ themselves as possible. Of course this evil may exist in the case of the men now passed over, but it is minimised by adopting the principle of selection without making separate lists, & if only unquestionably able men are selected for the vacancy in the S.E. grade many of those who are superseded will often acknowledge the justice of the appointment.

As the 2^d^ & 3^d^ proposals affect this grd. only if they accept the view taken of the S of S

3. There is also a further objection to dividing the 1st grade Exec: Engrs into 2 classes, if there is but one List of the higher grades for the whole of India. ~~The G of I cannot possibly form any opinion of the relative merits of the Exec: Engrs on the lists of distinct provinces & the Local Govt~~

Supposing the selection for S.E. be made by selecting from the 4 lists of the different provinces it must often happen that a conspicuously able man will see a man of moderate ability preferred before him - and if the selection is not made by leaving the Local Govt would be unable to enforce the claim of ~~their~~ its best man, as the G of I could not possibly form any opinion of the relative merits of the Ex. Engrs on the lists of distinct provinces - Confidential reports

Not being ~~quite~~ comparable relatively -

to give the superintendence of other depts. under the Govt. of India, which I am sorry, this Govt. is not at present prepared to do - The chief reason for declining to do so is apparent from the following fact. The S.E. is an Exec. Engr. serving this Govt. whose experience has been ~~[illegible]~~ almost entirely of Military works and Roads & Buildings; the Canals in this Presidency are certain very important Irrigation works and it is evident that an officer who has had no experience whatever of irrigation works could not be placed in charge of them. The officer in question acknowledged his unfitness for such duties under these circumstances & the Govt. though unwilling on other ~~accounts~~ grounds to supersede him, felt themselves bound to do so, without, of course, having in contemplation enforced retirement at the age of 50 - If the proposals of the G of I were accepted this Govt. might find themselves compelled to accept as S.E. an officer who might have been employed the greater part, if not all, of his service, on military works, and also be entirely ignorant of the language, the character of the works & the method of ~~[illegible]~~ execution which would be entirely different ~~that~~ what he has been accustomed to. It appears to this Govt. that if officers of the higher grades are to be transferable throughout India, it is absolutely necessary that in the earlier years of their service they should have served an apprenticeship in the Presidency to which they in later life are to be transferred. Railway works would form an exception to some extent, the character of the works being the same everywhere, but even in their case a S.E. who had a previous knowledge of the country & the language spoken would have a great advantage over a stranger.

58. While therefore fully acknowledging the defects which in amalgamation & the evils anticipated therein, this Govt. are of opinion that public interests, on the whole, their selection

of men for the administrative grades must be made from the one list, and be put afterwards, but they are disposed to think that the way it ~~will~~ may be possible to place all officers of the P.W.D. Imperial Service on one list, whilst when once a steady system of recruiting the junior ranks has been established with that to which the present irregularities in promotion, inevitable with such separate Establts, and others which they would attribute to exchanges between the junior officers in different Provinces and they consider it is probable that when the ~~existing~~ lately introduced rules of pension early pension begin to affect the senior officers of the Dept., the flow of promotion may become more regular. As the remedy for the present state of affairs is the first in amalgamation of the lists, this Govt. are of opinion that the amalgamation must be made in the junior as well as in the senior grades, but they are not hopeful and as of

But such amalgamation will
never be possible, at all events for
some time to come.

Joe
29/11/67.

3341

No 877

Previous service and ages of present Staff in Madras on attaining Administrative grades.

Names	Previous Service	Age on attaining rank of Supg. Eng. III Class		Supg. Eng. II Class		Supg. Eng. I Class		Chief Eng. II Class		Chief Eng. I Class	
	Y. M.	Yrs	Mth	Yrs	Mth	Yrs	Mth	Yrs	Mth	Yrs	Mth
l. J. O. Hasted R.E.	20-1	41 -	7	43 -	3	45 -	3	48 -	9	51 -	2
l. H. R. Mead R.E.	20-9	42 -	6	46 -	9	50 -	·	50 -	11		
ol. J. Beatty R.E.	22-5	44 -	2	44 -	2	45 -	4				
r J. W. Rundall	26-2	43 -	8	46 -	2	49 -	1				
t Col. H. M. Vibart R.E.	22-7	45 -	1	47 -	1						
Col. J. Pennycuick R.E.	23-5	45 -	·	46 -	2						
Col. C. Bowen R.E.	21-9	47 -	2								
r P. J. Walsh	21-1	48 -	11								

umber 8 as against
total establishment
f 86.

Ages of present Executive Engineers 1. & 2d grades

1st Grade Names	Age	2d Grade Names	Age
	Yrs Mths		Yrs m
ol. H. Smalley R.E.	49 - 2	Mr. C. J. Peters	39 - 7
Col. W. H. Burton R.E.	51 - 11	Mr. J. W. Martin	40 - 9
Col. Ross Thompson R.E.	49 - 3	Mr. J. D. Grant	39 - 3
Lt. Col. A. J. Fraser R.E.	48 - 3	Major C. H. M. Kensington R.E.	40 - 9
Lt. Col. S. C. Clarke R.E.	46 - 8	Mr. W. Hughes	40 - ·
ajor A. R. E. Drake Brockman R.E.	46 - 2	Mr. J. C. Larminie	41 - 4
Major A. C. Smith R.E.	45 - 5	Mr. J. M. Bell	39 - 5
Major D. MacNeil Campbell R.E.	41 - 10	Major A. W. Smart R.E.	39 - 1
Mr. J. Hannan	41 - 11	Captn. C. C. Rawson R.E.	38 - 10
Mr G. D. Wybrow	43 - 4	Captn. A. R. J. Dorward R.E.	39 - 4
		Mr. J. Grimes	49 - 4

P. W. DEPARTMENT.

READ the following :—

C. No. 8717

FOR ORDERS.

The Govt. of India propose by a system of selection – described in the above papers to ensure promotion to the Administrative Grades of the Department (Suptg. Engrs and Chief Engrs) of men comparatively young in years, so that there may be some guarantee of a high order of efficiency. The age considered suitable for promotion to the rank of Suptg. Engr. is 40 years, as against 46 to 48 years, the age at which officers now generally attain the rank.

In connection with the scheme, the Govt. of India propose the amalgamation with their own list of the Madras and Bombay lists, with the view to opening a larger number of appointments to Engineers of the Madras and Bombay Presidencies, and avoiding the serious block which is inevitable on an isolated list."

One objection to this proposal would be that patronage now exercised by the local Govt. would to some extent be withdrawn, and placed in the hands of the Govt. of India. That Govt. have within recent years taken away the patronage in the Accounts and Railway Branches; and the present scheme is a move in the direction of absorbing that of the Works Establishments also.

The following statement shows the percentage of "superior posts" to the total number on ~~[illegible]~~ (a) the Govt. of India list, (b) Bombay List, and (c) Madras list.

	Total No.	Superior posts	percentage
(a) Govt of India	886 -	66 -	7.8.
(b) " Bombay	91 -	6 -	6.5.
(c) " Madras	86 -	8 -	9.3.

It will be seen from this, that while India has 7.8 of "superior posts" & Bombay 6.5, Madras

has

has 9.3; and, although on a larger list the chances of promotion would be generally greater, the advantage to Madras of a confederation of lists would be doubtful.

The attached statement shews the ages at which present Madras Officers attained the rank of Supdg. Engr. and higher ranks, as well as the present ages of all Executive Engineers I and II Grades.

So far as the present establishment is concerned there is no system of selection which would enable Executive Engineers I grade to attain the rank of Supdg. Engineer before the age of 40, and there are perhaps ~~none~~ no officers in the second grade also who could hope to rise to Supdg. Engr. by that age.

It is submitted that all that is needed or practicable is now attained by the system in force in Madras, which is that of seniority tempered by selection. The system proposed by the Govt. of India would, moreover, be rather inconvenient to work. A number of officers would have to be told that the Govt. considered them unfit for promotion, and this would inevitably lead to much unpleasantness, and tend to impair their efficiency.

Another great objection, & perhaps the most important, is that Ex Engrs from other parts of India would be wanting in ~~[illegible]~~ experience of Irrigation as carried on in this Presidency, & consequently it would be difficult to arrange the appointments to S.E. in the Irrigation Branch – The same argument applies, but with much less force, to the Buildings & Roads Branch. The value of local experience, must also be carefully considered, as S.E. are administrative officers, with in this Presy very large charges. 4.11.07

FOR ORDERS.

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Promotion on the Engineer Establishment

Govt. of [illegible] 1887, Madras
PUBLIC WORKS.

urgent
13/12/87

Dated

Recd. Regd.

— 12th Dec 1887, No. 3391 W

Engineer Establishment

Reporting on the proposals of the Govt of India regarding the promotion of the members of the Engg Department to the higher administrative posts of the Dept.

#º 50/2

H 17/12 AP 12/12