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REPORT
OF THE
BOMBAY DEVELOPMENT COMMITTEE,
1914.

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MAP SHOWING PUBLIC BUILDINGS OF BOMBAY	<i>To face page xii</i>
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MAP OF BOMBAY SHOWING SOME PROPOSED DEVELOPMENTS	<i>In pocket at end of book.</i>

CORRIGENDUM.

Page 180. At the bottom of the third column of the Statement, for "1,01,586" read "1,13,695," and for "71,327" read "79,619".

REPORT.

CHAPTER I.

INTRODUCTORY.

We, as forming the Committee appointed by Government Resolutions* No. 7440, dated the 16th October 1913, and No. 8005, dated November 7th, 1913, have the honour to submit the following report on the subject of the Development of the Town of Bombay. The second representative nominated by the Bombay Municipal Corporation in accordance with the second paragraph of the latter Resolution was Sir Bhalchandra Krishna.

2. The Committee met informally on November 10th and 14th, 1913, and commenced its formal sittings for the taking of the evidence on the 20th idem. The hearing of witnesses was concluded on the March 17th, 1914.

Appended are copies† of the written statements received by the Committee, mainly in response to its invitation; we append also copies‡ of the oral evidence recorded by us.

3. In reporting on the subject under consideration we have determined as the most convenient method briefly to follow, so far as is possible, the order of headings cited by Government in paragraph 4 of Government Resolution* No. 7440 of October 16th, 1913; but, as will be observed from a perusal of the report, it has been found necessary to interpolate consideration of, and our recommendations on, the wider questions adverted to by Government in paragraph 5 and to take into account considerations of importance which have not been specifically referred to in the Resolution.

CHAPTER II.

MEASURES ADVOCATED BY GOVERNMENT IN 1909 AND PROGRESS MADE.

4. In Government Resolution§ No. 3022 of 14th June 1909 the following measures were noted for immediate adoption, *viz.* :—

(a) The erection of a large number of chawls for the accommodation of the poorer classes in the east, north-east, and central portions of the Island, in the vicinity of the docks, factories, and workshops.

(b) The widening of Abdul Rahman Street.

(c) The linking up of Frere and Reay Roads.

(d) The removal of St. George's Hospital.

(e) The recovery from the Improvement Trust, after negotiation, of their rights of reclamation in Back Bay south of Charni Road.

(f) The drafting and adoption of a Town Planning Act.

The following matters were put down for subsequent treatment, *viz.* :—

(g) The removal of Love Grove Pumping Station from Worli,

and the provision of three broad arterial lines of communication running north and south, to be developed from the following existing thoroughfares, *viz.* :—

(h) Frere and Reay Roads to Sion.

(i) Abdul Rahman Street and Parel Road to Sion.

(j) Chunam Kiln Road and Gilder Street to Bandra Causeway through the Mahim Woods.

* Appendix B.

† Appendix C.

‡ Appendix D.

§ Appendix A.

5. The following decisions also were arrived at by Government in 1909, *viz.* :—

(k) Reclamation in Back Bay is necessary and desirable.

(l) No sufficient grounds exist for the preparation of a scheme of overhead or underground railways outside Port Trust limits.

(m) The B. B. & C. I. Railway will be required in its entirety, *i. e.*, to Colaba Station.

(n) The running of long-distance B. B. & C. I. trains into the Victoria Terminus will not be necessary.

(o) Labourers and factory operatives must be housed close to the docks and factories.

(p) Government was not prepared to take any action in regard to the provision of cheap workmen's trains or tramways.

6. We are asked to report what progress has been made in the execution of this scheme of 1909 and what modifications have actually occurred in that scheme as so far carried out.

(a) Government brought to notice in 1909 the fact that whereas at the time of the formation of the City Improvement Trust it was estimated that a sum of 75 lakhs would be required for erecting sanitary dwellings for the poorer classes during the first ten years of the Trust's existence the sums expended did not exceed 11 lakhs. Since 1909 the Trust has erected new chawls at Imamwada, Nagpada, Agripada, Mandvi and Soparibaug Road containing 1,290 living rooms. There is now a total of 4,251 living rooms provided by the Trust and the total cost of these chawls, including value of land but exclusive of the cost of management and establishment, amounts to about Rs. 34,32,000. In addition there are semi-permanent camps at Phaltan Road and Chowpatty containing 510 rooms in all. The average population of these chawls and camps in 1912-13 was 17,266. In addition to these chawls and camps the Board has sanctioned the erection of chawls at Chinch Bunder and Agripada containing together 708 rooms and semi-permanent camps at Agripada and Soparibaug Road having 241 rooms.

An attempt to secure further facilities for providing accommodation for the poorer classes is the passing of the amendment of the City of Bombay Improvement Act last year. The Trust can now under sections 32B to 32I of the Act materially assist employers of labour to provide housing accommodation for their workmen. (It is impossible as yet to judge what degree of success will attend these measures.)

(b) The widening of Abdul Rahman Street to form part of a main arterial road has been abandoned. It is, however, planned to be widened under the set-back clauses of the Municipal Act to a breadth of 60 feet, and during the last 4 years more than 1½ lakhs has been expended in taking up setbacks. Sydenham Road is being substituted as a main thoroughfare (*vide* (i) below).

(c) Frere and Reay Roads have been connected by a 90-foot road.

(d) No steps have been taken to remove St. George's Hospital.

(e) An agreement has been arrived at between Government and the Improvement Trust by which, when Government reclaims in Back Bay, the Improvement Trust is to share the profits due to the exercise on the part of Government of the rights of reclamation vested in the Trust in accordance with Schedule E of the City of Bombay Improvement Act, and section 61 of the Act was amended last year so that Government might itself carry out reclamation by arrangement with the Trust.

(f) A Town Planning Bill has been introduced and passed its first reading at the March Session of the Legislative Council.

(g) Of the alternatives before the Municipality the idea of removing the Love Grove Pumping Station has been for the present given up by the Municipality, and new and powerful up-to-date engines and pumps of large capacity are being installed. It has been decided to construct a new outfall sewer at Love Grove extending about $\frac{3}{4}$ mile into the sea, the sewer being designed with the intention of removing the nuisance which is now caused in the bay by the sewage being thrown back on the shore.

(h) The Corporation has sanctioned the widening of Reay Road up to 90 feet as far as its junction with Gunpowder Road, and the widening of the further portion up to the Municipal limit northwards is under the consideration of the Corporation. The Port Trust has given an undertaking to extend the widening from their southern limit as far as the north approach of the proposed Victoria Bridge and will await development of trade to widen the rest of the road up to Kalachowki Road. There is no scheme to extend the road further towards Sion. But the Municipality has under consideration the desirability of an extension to join the proposed new cross-road between Sewri New Road and the Eastern Avenue at Currey Road. Also Sewri Old Road is proposed to be widened to 60 feet and a portion of it is to be diverted and the gradient improved up to where it joins Sewri-Koliwada Road. From the south end of Sewri-Koliwada Road the road is proposed partly to be diverted and partly widened up to Bombay Cotton Mill and thence extended northwards through Wadala village until it emerges and joins the Matunga Road at the Salt Customs Office, from which point the existing road is to be widened by the Improvement Trust under Scheme VI.

(i) As is stated under (b) above, the proposed southern portion of this main thoroughfare has been diverted from Abdul Rahman Street to Sydenham Road, which will be a 100-foot road in continuation of Phaltan Road up to the junction of Parel and Sandhurst Roads. Some of the preliminary acquisition work for this road has been completed. The widening of the portion from Sandhurst Road to Lalbagh is under consideration and the question whether the width should be 100 feet or 120 feet is under discussion. Between Lalbagh and Sion the construction of the road is in hand.

(j) The length from Queen's Road to Arthur Road is now known as Lamington Road. The old Chunam Kiln Road has been widened to 80 feet up to Grant Road. From Grant Road to Bellasis Road the width is 80 feet. From Bellasis Road northwards the road is 60 feet wide, and the Municipal Commissioner has suggested a line to widen it to 80 feet up to the toe of the south approach of Arthur Road Bridge. To secure this width a portion of the Byculla Club compound has already been taken up by the Municipality. Then the Improvement Trust is to provide the extra 20 feet up to Jacob's Circle, whence most of the land belongs to the Municipality and the road up to DeLisle Road can without much difficulty be widened to 80 feet. North of this, a 100-foot road has been laid down along DeLisle Road and across Mahim Woods through the tank opposite the Portuguese Church to Lady Jamsetji Causeway and along the latter road to the Mahim Causeway. It is proposed to widen DeLisle Road from Haines Road to the toe of the south approach of the proposed DeLisle Road overbridge and from the toe of the north approach of the DeLisle Road overbridge to the north end of DeLisle Road. It is stated, however, that the authority of the Municipal Commissioner to do this is now under discussion. The sanction of the Corporation has been applied for to lay down a fresh line for widening to 145 feet the portion of DeLisle Road from the toe of the north approach. This latter width is considered necessary in order to accommodate the DeLisle Road overbridge, the proposal to widen which to 80 feet is under consideration, a 40-foot low level road being intended on the west and a 20-foot low level road on the east.

CHAPTER III.

CHANGES AND ADDITIONS, IF ANY, ADVISABLE IN THE LIGHT OF THE EXPERIENCE OF THE PAST FOUR YEARS.

7. We consider that the scheme as outlined by Government in 1909 is calculated to meet the necessities of Bombay for some years to come. It has been suggested that a third causeway should be constructed between the Máhim and Sion Causeways. We consider however that when these two Causeways are widened the needs of the situation will be met.

We shall deal with some matters relating to communications which constitute an addition to the schemes advocated by Government in 1909. But before discussing these and other subsidiary matters, it will be convenient to indicate, for the information of Government, the point of view from which we have approached the question of development in its wider expression.

8. We have aimed, in the method of investigation adopted, at eliciting information under the following main heads:—

- (i) What is the existing natural trend of development in respect of
 - (a) industry;
 - (b) commerce, and the resultant demand for office accommodation;
 - (c) residential accommodation?
- (ii) What are the most pressing needs of Bombay in respect of sanitation, light and air?
- (iii) In regard to the future development of institutions of an educational, scientific, public or medical character, what are the methods which will tend to secure the best results consistently with the general growth of the city?
- (iv) In respect of (i) (a) should any definite policy be enunciated and if so what?
- (v) How can the natural town-planning development under (i) (b) and (c) best be served?
- (vi) What additional means of communications will be necessary as a consequence of (i)?

We shall now discuss these points *seriatim* and communicate our conclusions and recommendations under each head.

CHAPTER IV.

INDUSTRIAL AND COMMERCIAL DEVELOPMENT.

9. At the outset here we desire to place on record our dissent from the generally accepted condemnation of the so-called "haphazard" manner in which factories, etc., have been allowed to grow up in the City of Bombay. Viewing the situation as it exists at present, it is, of course, patent that mills, dyeing works and tanneries have been established in places which, in the light of subsequent growth, are undesirable. It is, however, to be remembered that this subsequent growth is an indirect result of fostering the development of these industries. In the days when the mill industry was in its infancy and when means of communication and transport were inadequate it would not only have been regarded as shortsighted to banish the factory from the Island of Bombay, but such a policy would, not improbably, have strangled, or at all events impeded, the growth of the industry and have retarded indefinitely the development and prosperity of the City. With this made clear, however, it is evident from the map which has been prepared by Mr. Mackison and which is

attached to this report that the mill industry, though spread all over the Island, has tended chiefly to develop in the central portions (Tardeo and Parel) and latterly towards the north of the Island, but usually in close proximity to the G. I. P. Railway, while there are two mills at Kurla in Salsette. With the construction of the Mahim loop, and the initiation of the Harbour Branch of the railway system, it is possible, now that the mill industry has long become firmly and securely established, to consider, with an eye to the future development of the City in other directions, whether the further expansion of industrial enterprise should not be located in particular areas. The majority of the witnesses who were examined on this point suggested that, provided facilities of communication existed, all mills, factories, etc., projected in the future should be erected only in the north-eastern corner of the Island of Bombay or in Eastern Salsette. We examined several witnesses closely on the question whether such a restriction would unduly hamper future industrial development, but it was preponderatingly held that, provided that suitable and adequate railway facilities were made available (which it would be to the interests of the Railways to ensure), the requirement would be no deterrent to industrial enterprise.

10. In considering this matter we have borne in mind other important considerations. On general grounds it is clearly an advantage to have a large industry, such as that of the cotton mills, situated away from the residential area of a large town. Factory employes must live near their work or have easy, rapid and cheap means of access to it; with the result that the neighbourhood of a factory, if situated within a closely populated residential area, is almost certain to be overcrowded. The location of a factory outside the City automatically removes from the densely populated area a proportion of the population. It has been suggested that a decision to require the segregation of future factories in a particular area might lead to difficulties connected with the supply of labour. We consider that this difficulty has been exaggerated. Two mills exist already at Kurla and we have no reason to believe that the labour question presents more difficulties there than in the Island of Bombay. One witness did, indeed, state that there were some difficulties at first in Kurla; but we consider that they are less likely to be acute now than they were then.

In a city situated as Bombay is, with an attractive western frontage and a very uniform direction of air current from the west, it is of obvious importance, so far as possible, not only to preserve the western area for residential purposes, but to avoid the location, along the western belt, of industries or trades of an offensive or defacing character.

Finally the whole of the business and commerce of the City of Bombay is directed towards and along the eastern shore of the Island where are the Harbour, the Docks, the shipping offices, the Harbour Railways, and the export and import yards and wharves, and where the Cotton Green will shortly be established.

On a consideration of the whole aspect of the case, therefore, we agree in the view expressed by witnesses that in future the industrial development of Bombay in its manifestations of mills, factories and works of an offensive character, such as dyeing works and tanneries, tends naturally towards the area in the north-eastern corner of the Island and extending into Salsette. We consider that all offensive trades, whatever the number of employes, and other factories and large industries employing more than a certain number of employes, should be restricted, in future, to that area. What the maximum number should be is, we suggest, a matter for special enquiry.

11. In regard to the natural trend of development of commerce as indicated in the demand for office accommodation (paragraph 8 (i) (a)), we found greater difficulty in coming to a determination. At present the area within which all the larger commercial offices are situated is between Carnac Road in the north and Esplanade Road (Museum) in the south, the more important being situated along Hornby Road and the roads leading off it on the west and in the area to the north of Church Gate Street and Elphinstone Circle. Since the

construction of the large blocks of offices along and to the west side of Hornby Road, there has been a not inconsiderable fall in rent for offices in and to the southward of Church Gate Street and in Elphinstone Circle. This is said to be due in part to the very antiquated accommodation in the older buildings in the narrow streets along and off Apollo Street which caused their vacation as soon as better and more convenient quarters were created. It further appears that the office accommodation in the depreciated areas is not as fully occupied as formerly, though, so far as can be ascertained, this is due to the antiquated nature of the buildings and the inconveniently narrow road communications rather than to the space available having outstripped the demand. The actual trend of migration of offices appears, then, to follow the provision of suitable accommodation in easily accessible localities rather than to centre round any given pivot of business activity. Witnesses competent to express opinions deserving weight have held the view that the tendency will be for office accommodation to be demanded in the north-east area of Fort North, while others, where opinions are entitled to respect, have suggested that business houses would, if they were able to, establish their places of business to the south of the Museum, thus ousting residents from the flats which are at present used as residential quarters.

12. We incline to the conclusion that the trend of development in the demand for business houses and office accommodation will naturally be in the direction of the north-east of the Fort area, and even north of that area altogether. Holding that view it becomes necessary here to advert to the question of providing a thoroughfare between Hornby Road and Ballard Road parallel to and to the northward of Church Gate Street. It may perhaps at first sight appear that this project, which has been warmly advocated by many witnesses, should properly have been discussed under the head of additional communications (paragraph 7 *ante*), but we regard this scheme as being far more intimately associated with the internal convenience and healthfulness of the centre of business activity than with the general development of communications.

13. In view of the conclusions suggested in the preceding paragraphs we regard an Improvement Scheme for Fort North, including a communication from east to west, as very desirable and important for the following reasons:—

(a) There is an increasing demand for office accommodation in this neighbourhood and the demand will be progressive.

(b) Residential accommodation of the kind incidental to office accommodation of this class is also in growing demand.

(c) The north-east portion of the Fort area is highly congested and insanitary.

(d) The construction of an east and west thoroughfare in itself is desirable; but chiefly because it must incidentally subserve the above more important needs.

14. The road itself will be a great convenience, and we are disposed to the belief that the improvement scheme suggested above, if undertaken with foresight and care in reference to prospective values, need not prove very costly. We advise that very early consideration be given to this matter, which we believe will result in a vast improvement in the amenities, convenience, and healthfulness of the whole of the Fort and neighbouring areas. We are disposed to agree with Mr. Mackison that such a scheme is quite feasible.

15. The demand for this road has, however, an important bearing on the question under discussion in this section of the report. It shows that there is a pressing and urgent demand for more office accommodation of the better class; and—what is of greater moment as giving the answer to the question of the natural trend of that demand—it indicates, in our opinion, that the growth of this demand will tend towards the east and north of Hornby Road and Church Gate Street up towards Frere Road, and not, though the contrary opinion is held by such competent observers as Sir Fazulbhoy Currimbhoy and Mr. Edwardes, to the southward of the Crescent.

That this is the correct estimate is, in our view, rendered more probable by the developments in progress northward of the Docks, and will perhaps be further assured if the views expressed and the recommendation which we made in paragraph 10 prove correct and are accepted. In all these circumstances it is with a fair approach to confidence that we estimate that the future trend of demand for business premises, etc., will be northward and eastward of the present hub of activity and that, though it will probably not extend north of Carnac Road, it may ultimately trench upon the frontages of Frere Road.

CHAPTER V.

TREND OF DEVELOPMENT IN RESPECT OF RESIDENTIAL AREAS.

16. The question formulated in paragraph 8 (i) (c) is at the very root of any constructive suggestions for the development of Bombay, and is the one to which we have devoted most anxious attention. So many conditions have to be presupposed and discussed in any general review of probabilities that it has been a matter of peculiar difficulty to formulate a confident and complete reply to the question.

(i) (c) What is the natural trend of development in respect of residential accommodation?

Two propositions have, however, been so consistently stated by witnesses that we feel it is as well to record them, and our own acceptance of them, at the outset of a discussion of this matter.

Firstly.—The whole of the foreshore from the Hornby Vellard northward up to Bandra Creek affords suitable sites for residences of the best class.*

Secondly.—The whole of this area, south of Mahim Bay foreshore, is useless for such a purpose so long as the nuisance due to the defective nature of the arrangements for sewage discharge continues.

Therefore we find it necessary to recommend that—

(i) the improvements at Love Grove now in process of construction by the Municipality should be pushed on as rapidly as possible to completion;

(ii) their results should be closely and critically watched for a period covering one monsoon; and

(iii) if they prove a failure, that is to say, if the nuisance is only mitigated and not so wholly removed as to make the foreshore north and south attractive for residences, the matter should be forthwith referred to an expert Committee for consideration as to the measures then to be taken.

17. If and when this foreshore is, either by the measures in hand or hereafter to be resorted to, made available for residential purposes, we are convinced, on the evidence recorded before us, that the natural tendency of the wealthy classes will be to take up their residences there, and that the process will commence, though it will not develop rapidly, as soon as the nuisance is removed, provided that communications are improved and that the locality is made available and laid out for the purpose on a properly thought out plan. This aspect of the case will be reverted to when dealing with sub-paragraph (v) of paragraph 8.

18. In respect of the less well-to-do classes varying opinions have been expressed by witnesses; but we think that, subject to the existence of improved methods of communication, the balance of the evidence is to the effect that—

(a) the upper middle classes would naturally tend to migrate towards either Salsette (Santa Cruz and Andheri) or to the better blocks of scheme V of the Improvement Trust at Matunga; but perhaps chiefly to the latter until the amenities in Salsette are improved;

* Mr. Mackison expresses doubt as to the suitability of the Worlee shore on account of its rocky formation, but in this view he stands alone.

† The question of traction will be dealt with further on.

(b) the lower middle classes would go to Matunga, and perhaps also to the area landwards of the Mahim Woods area when the latter are developed into a high class residential area ; and

(c) the still poorer classes will spread out from the more crowded areas in the city into the quarters vacated by (b).

When discussing the location, in future, of factories, etc., in the north-east of the island, and their restriction to that area and to Salsette, it was observed that, since the mill employes follow the mills in which they are employed, such restriction will automatically prevent increased congestion in the south as a consequence of the development of industrial enterprise. But, as will be indicated later, we recommend that the provision of quarters for their employes, or a percentage of them, in the neighbourhood of their mills should be made obligatory on employers.

CHAPTER VI.

RELIEF OF CONGESTION.

19. The problem of devising suitable methods for improving the overcrowded slums of Bombay is one of great difficulty and complexity. This is especially so because measures adopted on sanitary grounds may produce unexpected economic consequences. Care must be taken that attempts to effect improvement in one part of the City do not result in aggravating the overcrowding other parts. Such undesirable results might be due either to contraction of available space or to a disparity between wages and rents which might be occasioned by the changes.

20. We will first glance at the history of the course of building operations in general in Bombay. Down to a comparatively late period, the great object was to attract population to the City. Facilities were freely given to people who were permitted to come and build houses in any manner that suited them, and although references are found in instructions issued to them from time to time from the end of the eighteenth century onwards, it does not appear that the different bodies appointed by Government to help in carrying out the Municipal administration of the City actually paid any special regard to measures for securing sanitary building. The result was that in 1864 the City was found to be suffering from a very high rate of mortality, and public feeling was so much aroused that Government brought in a Bill in 1865 through the agency of a private citizen, Mr. Cassels, who was a Member of Council at that time. In the Act of 1865 some building regulations were introduced for the first time, being probably copied from Bengal Acts.

In 1872 a new Act for reorganizing the Municipal administration was passed, and the present constitution was then introduced. This Act was extended by a subsequent Act of 1878. In 1888 the Act was remodelled, Lord Reay being at that time Governor of Bombay. Some building regulations were then included in the Act and larger powers of framing by-laws were given. Building By-Laws under this Act were sanctioned by Government in 1892. These By-Laws were amended in 1897. After this, the necessity for various amendments was discussed, and in 1901 Mr. Harvey made an exhaustive report on the subject. The Municipal Solicitors advised that the suggestions made by Mr. Harvey were such as could not be dealt with by By-laws until the Act had been amended. An amendment of the Act was consequently effected in 1905. In 1906 Government enquired what progress had been made in revising the Building By-laws. By-laws were then drafted and were referred in 1908 to a Committee which reported in the following year. Certain modifications suggested by Government were accepted and the existing By-Laws were passed in 1910.

Meanwhile, on the outbreak of plague the Epidemic Diseases Act was passed in 1897. By a Notification under that Act, dated February 10th, 1897, the Municipal Commissioner was empowered to prohibit by a written order the further use as a dwelling of any residential building which appeared to him to be unfit for human habitation. By the same Notification he was empowered, if he thought that any building thus vacated could not be adapted to the sanitary requirements of a dwelling or was otherwise permanently unfit for human habitation, to demolish the building or any part thereof. When a building or part of a building was thus demolished, the owner was entitled to receive the amount of the then actual market value of the structure, no allowance being made or compensation paid on account of compulsory demolition. By another Notification, dated May 10th, 1898, under the Act, the Commissioner was empowered, when he considered the ventilation of a building to be defective, to require the owner to carry out specified structural or other work for the improvement of the ventilation of the building. If the owner did not comply, the Commissioner could do the work and recover the expense from the owner. In 1900, the Corporation asked that the policy followed in respect of proceedings taken under the Act for the improvement of houses might be reconsidered. Government in reply stated that they were prepared to direct that expenses incurred by the Municipal Commissioner in giving effect to the sanitary alteration of houses under the Act should be defrayed in the same manner as improvement expenses under section 495 of the Municipal Act. In 1903 the Corporation again addressed Government, asking for reconsideration on the ground that the operations under the Epidemic Diseases Act inflicted very severe hardship on the poorer class of house-owners. Correspondence ensued and in 1912 the powers of the Plague Commissioner vested in the Municipal Commissioner, and on Government being satisfied that the conditions prescribed by them had been fulfilled the powers vested in that officer under the Epidemic Diseases Act were revoked. Under that Act, over 14,000 houses were inspected, over 9,000 improvement notices were issued, and over 4,000 certificates were granted after completion of the improvement demanded.

21. In spite of all this there is no doubt that slums exist and there is a risk that, unless careful measures are adopted, they may become worse. Two kinds of slum-owners may be distinguished. The first kind consists of the well-to-do owners of chawls; and the second consists of individual owners, hereditary or otherwise, of single small houses, upon the rent from which they depend for their livelihood. Care should be taken that the application of the rules does not fall too oppressively on the latter class of owners.

22. But that some remedy should be applied there is no doubt. The first measure to be adopted is to encourage migration as much as possible, by developing open land, which still exists largely, for residential purposes. Scheme V of the City Improvement Trust, which contemplates the opening up and laying out of Mátunga as a residential area is well designed to help forward this purpose. Again, Máhim could be usefully developed by a process of town-planning. It is not, in our view, likely that migration would extend further north than Andheri. Overcrowding can also be reduced to some extent, as pointed out in a previous chapter, by requiring the Railway Companies to house their work-people outside the City and other employers of labour to provide housing accommodation as there pointed out for their employés.

Every scheme of development should also make provision for the reservation of land to remain permanently open for recreative purposes. We agree with, and wish to endorse, in connection with this question the following remarks which occur in the Final Report of the Delhi Town Planning Committee: "When dealing with the detailed lay-out of the area intended to be devoted to minor officials, etc., care should be taken to see that ample air space and playing grounds for children are provided in the vicinity of these residences. It is now customary elsewhere in well laid out neighbourhoods where the houses are small in character to provide areas of at least as much as one acre for every 10 acres of gross land developed, and open spaces of this character should invariably be provided in the vicinity."

The second necessity is that the Building By-laws should be further strengthened as much as possible. A Committee of the Corporation has approved of authorizing the Municipality to declare single rooms unfit for human habitation, and with this recommendation we agree. It is found that additions and alterations take place in buildings which, though in consonance with possible interpretations of the Building By-laws, render buildings insanitary. Power should be given to the Municipality to require that there should be no subsequent alterations or additions to buildings which would not have been allowed if the whole building had been reconstructed afresh. Power should also be given to prohibit such subsequent partitioning of rooms as would not be allowed in the first instance when building plans were approved. It is further desirable to have more stringent Building By-laws than at present for the outlying portions of the City. Such a proposal as Mr. Orr's to lay down a $63\frac{1}{2}^{\circ}$ rule is good. It is said that in Calcutta this rule is applied throughout the whole City, but it is not enforced at the side of buildings.

The principle which we should recommend for adoption here is, in brief, that, while, in regard to existing buildings, erected in accordance with the spirit and letter of the by-laws of the time, it is not possible to enforce compliance at present with a $63\frac{1}{2}^{\circ}$ rule, that rule should be applied in the case of all future additions to or alterations of such buildings; and that, in regard to these the test of fitness for human habitation should be applicable to all dwelling houses, the necessity or otherwise of operations thereunder being at the discretion of the Municipality on receipt of reports by their Health Engineering Departments.

23. Even after all this has been carried out a great deal will remain to be done to render the City sanitary, and we cannot help thinking that it is not advisable indefinitely to suspend the process of carrying out Improvement Schemes through the agency of the Improvement Trust. As shown in an earlier chapter, ample progress has been and is being made in the work of providing wide channels of traffic; and it is our opinion that the time has come to consider whether, side by side with the gradual completion of the extension scheme at present in hand, the City Improvement Trust should not also devote itself to undertaking small Improvement Schemes within the City. The Trust has been in existence since 1899, and the burden of improving portions of the City has fallen upon the general ratepayer. Therefore, side by side with the alteration of the by-laws with a view to emphasize the individual responsibility of house-owners for the habitable condition of their dwellings, there should, in our opinion, proceed general schemes for betterment of congested areas through the agency of the City Improvement Trust.

24. Lastly we feel justified in referring to the obligations of millowners and other large employers of labour. Reference has already been made to the tendency of mill-employés to live close to their work. The same is the case with all workshops, such as those of the B. B. & C. I. and G. I. P. Railways, employing numerous hands. At present these operatives do in fact live in close proximity to their work, whether in tenements provided by the employers or in neighbouring portions of the city.

In the case of millhands it is inevitable that the operatives should continue to reside within easy distance of their work. Recognition of this necessity, coupled with a realization of the need for securing that their quarters should be sanitary, has led to an amendment of the City of Bombay Improvement Act by which millowners are enabled to provide chawls, on easy terms, for a proportion of their operatives. Advantage of these new provisions of the law has not yet been taken; and opinion is divided as to how far it is possible to expect that the provisions will be acted upon. Evidence is, however, to the effect that millowners would not suffer by acting upon them; and the view has been expressed that a further step should be taken and that millowners should in future be required by law to provide chawl accommodation for their operatives on the terms which are permitted at present.

It is relevant, also, to this question to cite the view expressed by Major Heppelwhite stated, in reply to a direct question, that he considered that a

demand that the Railway Companies should provide accommodation outside Bombay for the employes of their workshops would be a perfectly reasonable demand. It is of course important to remember that the case of millhands is not entirely analogous. The Railway Companies can convey their employes to and from their work in special workmen's trains free of charge to the employe. The millowners cannot. The principle is, however, the same and we desire to record our opinion that the principle is right. In its application it will mean that all large employers of labour must provide house accommodation for its operatives in localities which can be specified in relation to their employment, *viz.*, either adjacent to the factory or workshop, or within easy reach of it. The effect is that the restriction of future industrial development to certain areas will automatically also carry with it the provision of the necessary house accommodation within those areas. In our opinion legislation should now be undertaken requiring millowners to proceed under the amended Act and we also recommend strongly for the consideration of Government that the necessary steps be taken to require provision of quarters outside the Island of Bombay for the operatives in the railway workshops.

25. To sum up this portion of the report, we desire to record the following hopes :—

(i) That the City Improvement Trust will continue to devote special attention to the provision of sanitary chawl accommodation for the poor evicted from tenements demolished in process of Improvement Schemes.

(ii) That the Municipality will treat as a matter of the greatest urgency the question, now before a Committee, of the revision of its building bye-laws, so as to bring the requirements up to date, and to make them have effect within the limits specified in respect of existing buildings as is done in England.

(iii) That the City Improvement Trust should undertake Improvement Schemes within the congested area of the City.

(iv) That the law be amended so as to require millowners to take advantage of the amended City of Bombay Improvement Act.

(v) That the Railway Companies will be required to provide accommodation for a large proportion of their workshop operatives outside the Island of Bombay.

26. It has been necessary, in this section of the report, for us to dwell at length upon the position of the Municipality. In expressing the hopes formulated in the preceding paragraph, clauses (ii) and (iii), we believe that it is only echoing the aspiration of the Bombay Corporation whose task of bringing the by-laws into conformity with the latest requirements has been one of great complexity and difficulty. It is in no spirit of criticism that the case has been examined. It is only with a view, in the light of opinions recorded, to assist Government and the Municipality with suggestions that we have thought it to be our duty to examine the matter in such detail. The conclusion forced itself upon us that, while our main task was to record and submit suggestions for the development of Bombay, we should be neglecting our clear duty if we left untouched the ancillary and equally vital problem of improving and relieving the congestion of some of the overcrowded areas.

CHAPTER VII.

DEVELOPMENT OF PUBLIC INSTITUTIONS.

27. We now turn to a consideration of plans in regard to the location of certain institutions of a public character whose expansion is necessary. In paragraph 8 (iii) these have been classified as being chiefly of an educational, scientific or medical character, but it is more convenient to consider them all, in the first instance, as institutions of a public or quasi-public character.

It may be said that all the main institutions, save the chief Hospital of the city, have grown up within the area bounded on the north by the Carnac Road, Dhobi Talao, and Marine Lines Station, and on the south by the road leading from the Apollo Bunder to the Bandstand. Within this area,* bounded on the east and west by the sea, are comprised the following important buildings.†

- | | |
|--|-------------------------------------|
| (1) The Secretariats. | (13) The Town Hall. |
| (2) The University. | (14) The Municipal Offices. |
| (3) The High Court. | (15) The Victoria Terminus. |
| (4) The General Post Office. | (16) The B. B. & C. I. Ry. Offices. |
| (5) Elphinstone College. | (17) The Police Court. |
| (6) The Museum. | (18) The Police Head-quarters. |
| (7) The Royal Institute of Science. | (19) The Cathedral. |
| (8) The Telegraph Office. | (20) The Anjuman-i-Islam. |
| (9) The Mint. | (21) Elphinstone High School. |
| (10) The Custom House. | (22) The J. J. School of Art. |
| (11) The Government Central Press. | (23) St. Xavier's College. |
| (12) St. George's, the Goculdas Tejpal
and the Cama and Albles Hospitals. | |

Within the area in question there are the open spaces known as the "Maidan", the "Marine Lines Maidan", the "Oval", the "Cooperage" and the "Kennedy Sea Face", but, apart from these, there is no room for the expansion of any of the above institutions. No defined area in any capital could more truly be described as the heart of the city.

28. In paragraph 5 (a) of the Resolution appointing the Committee we have been asked to report whether it is possible to entertain the idea of uprooting long established institutions, such as the University buildings and the Colleges grouped in their neighbourhood, the Secretariat and the High Court, with a view to provide for the City's growing needs and for their own need for expansion. We have questioned nearly every witness upon this point, and, with few exceptions, the answer has been emphatically in the negative. We have elicited the view, which may be said to be universal, and which was expressed in most emphatic and convincing terms, that neither in respect of the chief Government offices, nor in regard to the University buildings and connected institutions, could the idea of removal be seriously contemplated. So emphatic, and so unexpectedly unanimous, has been this view that we do not regard it as necessary to discuss at length the arguments and reasons adduced. In regard to the University we have ascertained‡ that there has grown up a sentiment in connection with the beautiful building facing the Oval which in itself is an asset of no mean value to education if not to civic development. Only necessity of the most convincing character would justify the removal of a University, housed as is the Bombay University, which has succeeded in giving birth to such feeling. As regards the Secretariat buildings the case is widely different, though the arguments against removal to an area out of touch with the centre of the City's life are of almost equal cogency. It has been stated by many witnesses that such removal would be a real inconvenience to the business section of the City, while in its relation to public life the loss would be even more serious.

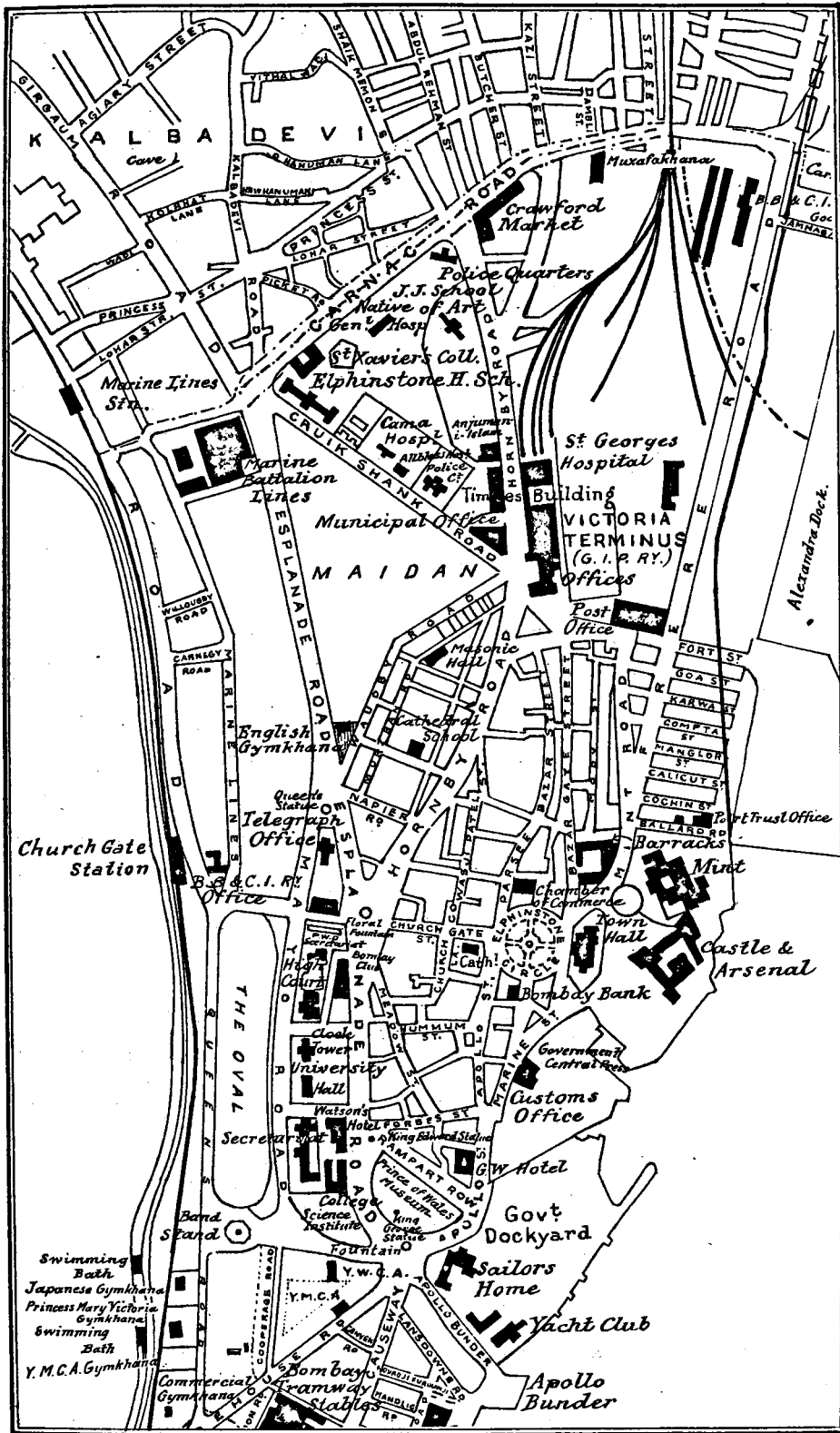
With these conclusions we are in accord, and we desire in the most emphatic manner to report our opinion that it is wholly out of the question to contemplate the removal of these institutions to another part of the Island.

29. It has been stated in paragraph 25 that, apart from the open spaces there detailed, there is no room for the expansion of the institutions some of which have been detailed there; and we therefore questioned several witnesses on the point whether some of those spaces might not be utilized for

* See map facing this page.

† All Military buildings are here left out of account.

‡ See especially the evidence of the Vice-Chancellor.



the expanding needs of some of the public institutions. It was ascertained that the needs of Government comprised *inter alia* the following :—

- (1) A new Legislative Council Hall.
- (2) A new site for St. George's Hospital.
- (3) A site for the College of Commerce.
- (4) A site for a Ladies' College.
- (5) A site for the Elphinstone Middle School.
- (6) A Law School and Hostel.
- (7) An extension for Elphinstone College.
- (8) University expansion needs.
- (9) An extension of the Government Secretariat.

It was pointed out that, apart from the spaces already referred to, the only extensive site available was the Cotton Green at Colaba; and that, though the precise area which would eventually become available there was uncertain, it could not exceed 170,000 square yards.

The evidence recorded may be summarized as follows :—

The Cotton Green site might be suitable for St. George's Hospital which at present occupies about 72,000 square yards. It would be comparatively unsuitable for the purposes of the educational institutions cited, especially of those immediately connected with the University and (though in a less degree) for the head-quarter offices of Government. No witness could suggest any alternative site for educational institutions, though the Hon'ble Mr. Manmohandas Ramji proposed sites on the Sandhurst Road for one or two of these. He, however, withdrew the suggestion after enquiry. Every witness, without exception, was averse from any scheme involving trespass upon the Maidan or Oval. The Cooperage site, and the site occupied by the Wellington Mews, were suggested as perhaps suitable for one or two of the smaller institutions.

30. We have no hesitation in endorsing the unanimous objection taken to the idea of encroaching on the Maidan or Oval, in the case of the latter unless it should in conjunction with the suggestions for reclamation which will follow be found preferable to transfer these open spaces elsewhere in the vicinity. We agree that a portion of the Cotton Green would be suitable for building purposes but do not agree that it would be quite suitable for any of the institutions recited in the preceding paragraph. Moreover, in regard to St. George's Hospital there is a separate proposal which we shall discuss further on. Having regard, further, to the uncertainty as to how much space will be available, ultimately, on the Cotton Green, we regard it as preferable to leave that area entirely out of account, since, in our opinion, the space then set free may perhaps prove more suitable as a residential area than as a site to set apart for public purposes. In such circumstances the only available spaces are—

- (a) The Wellington Mews,
- and (b) The Cooperage,

and these are too small for serious consideration in connection with a comprehensive settlement of the question put by Government.

31. It will thus be seen that, while recognizing that existing public institutions must remain where they are, and that there is urgent need for expansion, we are confronted with the physical fact that there is no room for expansion: and it would thus seem clear that the answer to Government's question (b) in paragraph 5* must be in the affirmative. There is, indeed, only one alternative, namely, for Government to acquire existing buildings or existing sites whether built on or not, other than the Maidan and Oval. We have, however, no hesitation in discarding this alternative. In the first place the cost per yard, within almost any part of the area in discussion, would be

* Appendix B, page 24.

excessive; secondly, the process of acquisition would dislocate business and accentuate congestion within the Fort area; thirdly, it would be essentially a makeshift arrangement unworthy of consideration. We are therefore driven to advise that, for Government's needs as detailed above, Government should reclaim. Having regard to the preponderance of educational buildings in the list already cited, we consider further that reclamation should be undertaken with primary regard to the needs of education. This means *prima facie* that the site to be reclaimed should be conveniently situated with regard to the University, and should take into account certain other considerations some of which will be set forth in the next following paragraph of this report. It may, however, prove convenient if we state here that, after taking into account all the considerations (to be stated hereafter) which point to the conclusion which will duly be set forth, we have estimated that the reclamation undertaken should comprise some 100 acres, the bulk of which will face the Oval, and which shall be so designed as to improve the alignment of the sea frontage of Back Bay from Marine Lines to the southern extremity of the reclaimed site.

32. The recommendation under this head of our report is, thus, that the requirements of Government, in respect of the public institutions named, should be provided for by the reclamation, by Government, of an area, approximately on the site specified in the preceding paragraph, sufficient to meet Government's needs (estimated by us to amount to about 100 acres). Government's reference, however, has been understood to authorize us to advise as regards the precise "location" of the new, or additions to the existing, institutions named. In considering this portion of our task, we have had the great advantage of perusing certain reports* which Sir Alfred Hopkinson has recently submitted to the University, and have also attached considerable weight to the thoughtful evidence given before us by the Vice-Chancellor of the University. We have also taken into account the notorious inadequacy of the existing arrangements for the sessions of the Legislative Council of the Government of Bombay. We have not felt ourselves to be restricted to the specific suggestion of new sites for new buildings, but have conceived that the magnitude of the interests involved in the subjects referred to us have warranted the assumption that we were at liberty to take into our consideration the possibility of effecting a redistribution of the various institutions among buildings existing and projected. It is in virtue of this conception of our function that we now suggest for the consideration of Government certain radical changes.

33. The information placed at our disposal has made it clear that additions to the Secretariat such as would fit it not only to house, with suitable dignity and comfort, the Legislative Council, but also to provide for further needs of Government, cannot be effected *in situ* without trenching further either upon the space intervening between the University on the north and the Elphinstone College and Science Institute on the south, or upon the Oval. It has also been brought home to us that the structures lying between the road to the north of University Gardens, and the Science Institute, if they could all be made available for University and College purposes, would make a group of University buildings as fine as exists anywhere. This University area might comprise—

- (a) the University buildings,
- (b) the site of Watson's Hotel,
- (c) the Secretariat buildings,
- (d) the Elphinstone College, and
- (e) the Royal Institute of Science.

The only intervening structures (which would eventually, perhaps, be absorbed) would be the Army and Navy Stores, and the David Sassoon Mechanics' Institute buildings.

* Appendix F.

If, as we believe to be the case, the present Secretariat would provide scope for—

- (a) The Law School,
- (b) The Collège of Commerce,
- (c) The necessary extension to Elphinstone College, and
- (d) Some of the urgently needed additional space for the Bombay University,

then the suggestion which we desire to formulate is that, instead of contemplating reclamation as a means for providing space for the specific additional institutions and buildings scheduled by Government and detailed above, it would be wise to take stock of the buildings in existence in conjunction with those required, and, on the assumption that space can be provided, as proposed, facing the Oval, to plan out the whole space thus made available west of the present Secretariat on a comprehensive scheme. The great desirability of providing for the needs of the University immediately in the neighbourhood of the present structures; the urgent necessity for additional accommodation for the Secretariat and the Council Hall; the paramount need for expansion of the Elphinstone College, and (in our view) the great advantages that would accrue from the provision of more suitable accommodation than is afforded in the existing Elphinstone College Hostel: these considerations, coupled with the impossibility of arriving at a satisfactory scheme for enlargement of the Secretariat *in situ* without perpetuating and accentuating a most undesirable distribution of the educational institutions connected with the University, not only convince us that reclamation *ad hoc* is a pressing necessity but that the opportunity for visualising the general scheme of locating the various institutions to the best possible advantage should not be lost.

34. The terms of inquiry under this head, devised by us, postulate that recommendations in respect to the location of public institutions should be calculated to secure the best results consistently with the general growth of the City: in other words that any recommendation made should be such as to consult the convenience and amenities of residence and should be calculated to subserve the growth of the City in general. We believe that the scheme formulated secures the best results in regard to educational interests and to the convenience of the public concerned with the Government Departments. We believe, further, that, unless the estimates of the cost of Government's scheme for the reclamation of Back Bay prove to be gravely at fault, the suggested scheme, even though the cost of carrying out a partial one will be relatively higher than that of the whole, will be the most economical way of providing for the necessary expansion. But it will also subserve a further purpose. Although we are disposed to believe that, in present circumstances, the natural trend of development of residential quarters will be towards Worli and Mahim (paragraph 16 *ante*), we have heard a good deal of evidence tending to show that, if reclaimed land were procurable at reasonable rates nearer to the Fort than those areas are, many of the well-to-do class of residents would prefer to build their houses and reside on such areas. Without desiring to express a definite opinion upon this aspect of the question we feel that the reclamation of a small area for their own needs by Government will have the very desirable result of demonstrating the correctness or otherwise of the estimates upon which their wider scheme was based. When that is definitely known it is conceivable that further reclamation for the provision of space for residences might be regarded as practicable and even desirable. The matter is here adverted to because it is a consideration which may well weigh with Government in coming to a decision as to the scheme upon which the reclamation recommended in this report may most suitably be carried into operation.

CHAPTER VIII.

ADDITIONAL COMMUNICATIONS AND METHODS OF TRANSPORT.

35. Headings (iv), (v) and (vi) can be conveniently grouped together for consideration. Our conclusions in regard to industrial, commercial and residential development have been recorded in paragraphs 9 to 18 *ante*. They may be summarized as follows:—

(a) Industrial development to be confined to the north-eastern corner of the Island of Bombay and the eastern side of Salsette.

(b) Office accommodation in business centres will probably expand towards the north-east of the Fort North area.

(c) Subject to the removal of the nuisance at Worli, the expansion of the Bombay residential areas will be along the Mahim and Worli foreshores, into Salsette, and to Matunga (City Improvement Trust Schemes V and VI).

We have (paragraph 9) expressed the view that Railway communications to meet the development of industrial enterprise in the north-east corner of the Island already exist or will shortly be developed in sufficient completeness. In any case, for present purposes, it is assumed that arrangements will be made to secure the necessary development. It does not therefore appear to us necessary further to discuss communications in connection with the policy we advocate in respect of industrial development.

In connection with (b) above, advertence has already been had to the question of developing the area known as Fort North (paragraphs 11—15) and we do not desire here to do more than reiterate our conclusion that this development must come and that it will be a very great improvement. Its advent will be facilitated and accelerated by the revision and bringing up to date of the building bye-laws, and (if necessary and demanded) by legislation to enable the Municipality to deal effectively with the owners of insanitary dwellings.

There remains the question of additional means or improved methods of communication to subserve the development of Worli, Mahim and Salsette generally as residential areas.

36. This subject was incidentally dealt with by Government in 1909; but at that period there was a tendency only to look to Salsette and reclamation for the sites for future development. Consequently, while great stress was (quite rightly) laid upon the urgent need for providing the three north and south arteries, the subsidiary communications escaped the attention they deserved, while the development of methods of transport within the Island was almost overlooked. We have had our attention drawn to the subject by several witnesses and have given the matter our most careful attention. We do not propose to attempt to elaborate in detail our conclusions, but to indicate generally our convictions as to the best lines upon which the local authority should proceed—

(a) towards development of the prospective areas for residences,

(b) to organize communications between those areas and the heart of Bombay City.

In order to avoid misconception we deem it to be desirable, in the forefront of this section of our report, to emphasize the assumption underlying all our conclusions and suggestions in regard to Mahim and Worli, *viz.*, that the nuisance of Love Grove is abated.

37. Taking Salsette first we believe we may assume that the Town Planning Bill, now before the Legislative Council, will take Salsette. final shape and pass into law this year. In regard to detailed development, therefore, we do not venture to make any suggestions. But we consider that it may be of assistance to the local authority under that Bill to know that in our view the time has come when the two Railway systems should be required to arrange for additional communication between them.

In regard to communications between Salsette and Bombay, we believe that, when the B. B. & C. I. Railway is electrified, and (if necessary) quadrupled as far as Grant Road, the needs of residents in Salsette will be satisfied for very many years to come, especially if our recommendations further on in respect of the Mahim area are carried into effect. But it is here, and in connection with the local passenger traffic into Bombay by the B. B. & C. I. Railway, that we can, most conveniently, deal with the important question of the Railway to Colaba.

38. It is probably unnecessary to go, in great detail, into the considerations which led to the conclusion, cited in 1909,* that the B. B. & C. I. Railway and Queen's Road. B. B. & C. I. Railway must continue to run to Colaba; especially since we are at one with that conclusion. If only on the basis of local passenger traffic returns (of which figures are given in Appendix C, pages 177 to 180), we consider that the abolition of the Railway south of Church Gate would be a retrograde measure; but in coming to this conclusion, we have also been actuated by the possibility of further schemes of reclamation towards Colaba. So long as there is any chance of this it would be shortsighted policy to remove the only means of railway communication easily accessible to an area which might develop a large residential population. We place this conclusion in the forefront of our consideration of this question, because, if this conclusion be accepted and acted upon, it disposes of the suggestion made by Major Hepper, in his interesting evidence, that the B. B. & C. I. local traffic should be diverted so as to terminate on the Marine Lines Maidan in an overhead terminus, between the old General Post Office and the B. B. & C. I. Railway Office. This suggestion is disapproved of by us on other grounds. Even as an overhead railway, diverted, south of Marine Lines Station, to the eastwards and aligned along the eastern side of the Marine Lines Maidan, it would, despite any efforts to screen it, be an unsightly encroachment upon one of the most important of the open spaces, an encroachment which all other witnesses examined on the point strongly deprecate. In our view it would be worse than a continuance of the B. B. & C. I. Railway as an overhead line along its present alignment.

Being thus of opinion that Colaba must be retained as the terminal station of the B. B. & C. I. Railway we have carefully deliberated upon the question whether some alleviation of the nuisance to Queen's Road is not possible. We invite a perusal of the evidence of Major Shelley on the point. We have considered the alternatives of (a) an overhead Railway and (b) an underground: and have come to the conclusion that the latter is far preferable. An overhead Railway is not only unsightly, but is noisier than a surface line. Although, from the point of view of the comfort of passengers, there may be advantages in the overhead system, we are not convinced that the discomfort of an underground scheme would be serious, or that, over a journey (between Grant Road and Colaba) of fifteen minutes, the difference to the passengers is of such importance that it should weigh against the comfort and amenities of the far larger number of persons who would benefit by the removal below the surface of the western foreshore railway line.

We accordingly recommend that the B. B. & C. I. Railway be required to sink its line below the surface from south of Grant Road as far as Wodehouse Bridge and cover it in. While it will not be absolutely necessary that the upper surface of the roof of the cutting shall be flush with the ground it should not be of an elevation above ground level which will obstruct the view to passengers along the present Queen's Road. Should it however for any reason be impracticable to sink the line as recommended, it will then be for consideration whether the B. B. & C. I. Railway should not terminate at Church Gate Station.

39. From Colaba, then, to Grant Road the local passenger traffic should be by electrified underground. It was considered whether, with the development

of local traffic on the scale contemplated, it would not be necessary either to terminate long distance traffic at Grant Road or else (as suggested by Major Hepper*) to divert the B. B. & C. I. long distance traffic from Dadar into Victoria Terminus, which should be enlarged for the purpose. Major Shelley is emphatically of opinion that the traffic could not all be handled at Victoria Terminus, even when enlarged as is contemplated. On this technical question we do not feel ourselves called upon to express a definite view; but on general grounds we should regard it as preferable—so long as this is possible without quadrupling between Grant Road and Colaba—to continue to start the long distance B. B. & C. I. traffic at Colaba. Major Shelley is of opinion that this is practicable and preferable.

North of Grant Road we assume that the whole of the local passenger traffic will be electrified up to Borivli or even Palghar; at all events up to the northern limit of Salsette residential development.

40. In paragraph 6 *supra* mention has been made of roads into Mahim woods north of the Love Grove Pumping Station. If Worli becomes a residential area for residents of the wealthy class this will form the chief avenue of communication; and we consider that while the 60-foot road at present contemplated will suffice for the purpose for many years to come, it will eventually require to be supplemented, north of Love Grove, by a road branching off at the northern end of the Vellard to the west and following the foreshore up to Worli village and there joining the existing road. With these two roads the whole Worli area will be adequately served so far as road communication is concerned.

Mahim and Worli.
(a) Roads.

41. A reference to Mr. Mackison's map will show that, in addition to the above main road *via* the Vellard into Mahim Woods, there will be an avenue of approach, 100 feet wide, along DeLisle Road, to the south-eastern corner of Mahim woods. This should, in our opinion, be continued, along the projected red line, to its junction with Lady Jamshedji Road; the whole forming the main eastern avenue through the woods from south to north. On the western side as a continuation of the Worli Road dealt with in the last paragraph it is in contemplation to widen to 60 feet, and where necessary modify and improve the alignment of, the existing road as shown in the map. Already, as also shown in the map, one wide road from east to west, is under construction. There are thus already projected, in the Mahim Woods area, two broad lines of communication from the Bandra Causeway southwards, affording direct and good road connection with the City of Bombay, and one avenue from east to west. The locality may thus be said to be undergoing, though slowly, a process of development on satisfactory lines, so far as they go.

42. This area of the Mahim Woods was, in the first instance, excluded from the operations of the City Improvement Trust in circumstances described in the note (Appendix E) attached to this report. Neither the reasons which at that time led to its exclusion, nor the existing vested interests within the area, can, in our opinion, any longer be held to justify postponing the development on a systematic plan of this attractive locality. Although, already, there are many residences scattered along the foreshore and within the palm woods themselves, they are distributed entirely without system and are, for the most part, devoid of adequate road communication. We are of opinion that it is no longer tolerable that one of the (potentially) most attractive residential areas within the jurisdiction of the Bombay Municipality should be permitted to develop itself haphazard without regard either to the amenities of the Island at large or the convenience and hygiene of the residents. It is recommended that the attention of the Municipality may be directed to this area as one which it is of the greatest

importance to develop early and on sound lines. We understand that already, in connection with the Municipal road schemes, prices have commenced to rise; and that it may be anticipated, with confidence, that before long the development of this area may become an exceedingly costly undertaking. In view of this probability it is perhaps permissible to suggest that the Bombay Town Planning Act should be applied to this area, in order to ensure its economical development.

43. It does not suffice, however, in our opinion, to rely for the development of this area on roads alone. Although, as

(b) Railways. already indicated in the earlier Chapters of this report, it is our view that Mahim Woods (at all events the western half) and Worli will be taken up by the well-to-do classes, many of whom will travel between their homes and the City by road in motor cars, there will be many for whom cheaper means of transit will be essential. These can best be secured, for this area, by a loop line addition to the B. B. & C. I. electric railway system. It has been suggested by competent witnesses that this loop should take off, in the north, from Mahim Station and traverse the Mahim Woods, crossing Lady Jamshedji Road to the westwards and, passing close to the eastwards of Worli village, pass again eastwards of the 60-foot road connecting the Vellard with the woods; thence, continuing between the Vellard and Race course, it should cross Clerk Road, and, skirting the projected Park, join the main line again at Grant Road Station. We consider that this suggestion is a sound one.

44. As regards tramway extension, we find ourselves generally in accord with the projects laid down in the interesting statement* received from Mr. Rimington, Managing Director of the Bombay Electric Supply and Tramways Company, Limited. Mr. Rimington has looked far ahead in making his proposals, some of which could not be carried out for many years to come. They presuppose:—

- (1) the widening of the Elphinstone Bridge,
 - (2) the construction of the DeLisle Road Overbridge,
 - (3) the removal, or at any rate the disuse during the day time, of the Great Indian Peninsula Railway level crossing at Wadi Bunder,
 - (4) the widening of Victoria Road,
 - (5) the widening of the Mahalakshmi, Love Grove, and Worli Roads,
- and
- (6) the widening and strengthening of the Kennedy Bridge.

In addition to the extensions contemplated by Mr. Rimington we wish to point out two other lines which will also need consideration. These are:—

- (i) From the northern end of the DeLisle Road along the projected 100-foot road to the Bandra Causeway.
- (ii) From Sewree Station on the G. I. P. Harbour Branch Railway along the proposed road past Parel Tank, the old Government House, the Parel Tramway Terminus, and over the new Elphinstone Road Bridge to link up with the Bandra Causeway extension.

45. We invite attention to the results of Mr. Rimington's study in England of the possibilities of motor omnibuses, and realize that the conditions under which these vehicles work successfully in London are not completely reproduced in Bombay. At the same time it must be borne in mind that the motor omnibus is a very modern means of locomotion and is in London the subject of constant experiments which may eventually result in such important improvements as to change the aspect of the question of motor omnibuses in Bombay. We think, however, that for the present Mr. Rimington's proposals for tramway extension are, with the additions indicated above, on the whole adequate and are sufficient to meet the needs of the City.

46. The substance of this Chapter may be summarized as follows :—

(a) There should be additional communication between the B. B. & C. I. Railway and the G. I. P. Railway in Bombay.

(b) The electrified B. B. & C. I. Railway from Grant Road to Wodehouse Bridge should be below ground level and covered in.

(c) A road along the Worli foreshore will eventually be necessary.

(d) It is desirable that Mahim should be developed, with the help of town-planning powers.

(e) A loop railway line from Mahim *via* Worli to Grant Road will be needed for the development of the north-western part of the Island.

(f) Some lines are indicated for tramway extension.

CHAPTER IX.

MILITARY AND OTHER AREAS.

47. Though not specifically referred to us for our consideration, there are certain other areas within the City which require notice in any survey of the needs of the Island which pretends to be at all comprehensive. Some of the more important of these are :—

(a) The Cotton Green, to which brief reference has been made in Chapter VII.

(b) The site of St. George's Hospital.

(c) The site occupied by the troops in Marine Lines.

(d) The Kennedy Sea Face, and

(e) The Saluting Battery site.

In regard to the first of these, to be vacated when the operations of the Port Trust are completed, we have already considered and rejected a proposal to utilize it for some of the public institutions. It was also referred to as being a possible site for the St. George's Hospital. For reasons which will appear in the next paragraph this project has also been discarded. One of the difficulties under which we labour in making suggestions of a positive character for the disposal of this area is that it is quite uncertain to what extent it will be available. The demands of the Railway may be greater than is at present anticipated. Again, it must be borne in mind that further Dock extension may become necessary in the course of time, and, although the construction of docks so far south as the Sassoon Basin may be undesirable, we are advised that there are only two other alternative sites for such extension. Indeed, we consider that it may be worth while drawing the attention of Government to the question whether the future area of Dock extension should not form the subject of special investigation now. In such circumstances it would be a short-sighted policy to assume that Dock construction on the eastern shore of Colába is out of the question. We therefore, while holding that the Cotton Green, on a proper development plan, could, under existing circumstances, most fittingly be reserved for a residential area, are disposed to advise that its destiny should not be too hastily decided upon. It will be easier after the Cotton Green has been abandoned and the situation has become clearer and the capacity of the site more determinate, to make useful suggestions for its utilization; and our suggestion is, therefore, that this area should for the present be held in reserve.

48. The necessity for removing St. George's Hospital appears to be a very

(b) St. George's Hospital. urgent one, especially in view of the certainty that the Railway Companies must, within a very short time, require at least a portion of its compound. The question of its location, therefore, though not specifically referred to us, has engaged our attention and has formed the subject of questions to witnesses. The Cotton Green and Gamdevi among

others were suggested. Meanwhile we have received a suggestion* from Major Glen Liston. Viewing the matter purely from the point of view of the development of the City, we should have had no hesitation in recommending Major Glen Liston's proposal that the Hospital be located at Parel to the favourable consideration of Government. Many advantages are indicated by Major Glen Liston, while the drawbacks incidental to location either on the Cotton Green site or in the neighbourhood of Chowpatty or on any of the other sites mentioned are at once apparent. The first named is not much nearer to the Docks than Parel, which will also be as easily accessible when the communications are improved. In the event either of Railway or Dock developments in Colába, a second removal might become necessary. Chowpatty is nearer to the Docks than either. A proportion of the European population who take advantage of the Hospital live in the neighbourhood of mills, and the tendency of this class will be to move northward with the development of the City. At the same time we are advised that if the Hospital is removed to any of the suggested sites, it will be necessary to have an emergency ward near the Docks for the benefit of cases among sailors. The question is however one affecting only a portion of the community and depending upon technical considerations into which we have been unable to enquire exhaustively. We therefore recommend that Government should appoint a strong and representative Committee to go into the question in the light of such of our recommendations as may be approved.

49. We are unable to advise as to exchanges which might be practicable in respect of military lands; but we find ourselves constrained to indicate certain *desiderata* from the point of view of the general public and of town development. In particular we desire to record our sense of the impropriety of the location of the Military Hospital on the Queen's Road opposite Marine Lines Station. The location of this institution there, and of the Marine Lines barracks in their present site, dates from many years back, when this area was not so greatly in demand. We are, of course, unable to judge of the Military considerations governing the case; but we desire to place on record our view of the very great advantage that would accrue to the City if these areas—or at least the western half—could be surrendered to the Civil authority. We are at a disadvantage in making suggestions as to the land that might be made available in exchange, but we desire to point to (a) the St. George's Hospital site, of which a portion, if it is not required in its entirety for railway purposes, might be made available for Military offices and details, and (b) the Cotton Green site, of which it would be safe to reserve a portion.

Valuable sites are in possession of the Military authorities near the Town Hall and near the Crawford Market; but, desirable as these sites are for purposes of City improvement, we are not in a position to discuss the best methods of re-distribution. We believe that the matter is under discussion between His Excellency in Council and the Government of India, and we only desire here to urge that it is a matter which might with advantage be disposed of early in connection with the course of action that may be determined on as a result of this Report.

50. The Kennedy Sea Face belongs to Government. It is utilized, in its northern portion, for Gymkhana Clubs, and is faced by a promenade along its whole length, and a ride inside the promenade. If and when reclamation is undertaken by Government, as recommended in Chapter VII of the Report, the sea-face will be widened considerably from Marine Lines Station southward.

We are of opinion that hitherto but very inadequate advantage has been taken of what is probably one of the finest sea frontages of any city in the world. We are constrained to express our great regret that, owing perhaps to divided counsels as to the best method of utilizing this magnificent promenade, little use should have been made of it. We consider that, whatever decisions come to as to the precise formation and structure of the reclamation, it should be so designed as to include, within its retaining sea wall, the Marine

* Appendix C, p. 132.

drive of at least 80 feet along the whole length of the sea face; and we have no doubt whatever that this view will meet with universal acceptance.

That, however, is a matter which relates to the future; and we desire to urge that something should be done immediately to add to the amenities connected with the Back Bay frontage. We have ascertained that there is already space, along the whole length from Chowpatty to Wodehouse Bridge with the exception of about 50 yards north of Church Gate Station, without infringing on the ride or the footpath, for a 40-foot roadway to be constructed on the landward side of the ride. All that will be necessary, in addition to the actual work of road construction, will be the removal of some of the Railway telegraph posts and a hut. Such a road, only 40 feet wide, would be, of course, only a temporary alleviation, and we think that its use should be restricted, for the present, to horse-drawn vehicles only. We believe that if the Railway Company were required to substitute—for its obsolete gates at Church Gate Station—automatic gates worked from the signal box, so as to minimize the delays incidental to the crossing, then much of the horse-drawn traffic between Colába and Church Gate and Chowpatty would resort to such a road, relieving, *pro tanto*, Queen's Road.

On a 40-foot road it would be necessary to prevent obstruction by stationary carriages except at certain points, such as where the road widens at Marine Lines. These are matters of detail which will doubtless be considered by the proper authorities; but what we are concerned with is to point out that this is an improvement which can be carried out at little cost without waiting for a decision upon such matters as the question of an overbridge at Marine Lines or at Church Gate; and we venture to urge very strongly upon Government the desirability of giving effect to this very small proposal at once.

51. The Saluting Battery site in its present state constitutes a defacing feature of one of the City's most important *places*. We have not proposed that any building should be erected on this site, because it is at present unsettled what part this land will play in any future comprehensive treatment of this district. But there would appear to be no reason why in the meantime this plot should be allowed to continue to be an eyesore. We suggest that the land should forthwith be levelled and planted out as a garden, and that the unsightly railings which now disfigure the site should be replaced by something more artistic.

CHAPTER X.

SALSETTE.

52. Sálsette development is so closely connected with the development of Bombay that we should like to call attention to certain matters affecting Sálsette, since that island will after all be part of the Bombay of the future. Bombay consists for the most part of land reclaimed from the sea, and the process of reclamation, though still in progress, cannot go on for ever. Unless one has no faith in the future expansion of Bombay as the capital of Western India, it will be admitted that there must come a time when sheer lack of space will lead to the rapid growth of the population of Sálsette.

53. The rate of progress of the urban development of the Táluka is indicated by the fact that the total number of new dwelling-houses erected from the years 1908-09 to 1912-13 inclusive within the Municipal districts of Thána, Bándra and Kurla, and the twelve Notified Areas surrounding the other Railway stations is returned as 430.

Development since 1909. In 1909, the Report of Mr. P. J. Mead, I. C. S., on "The Possibilities of Development of Sálsette as a Residential Area" was issued. The urgent necessity of a Town Planning Act was then brought to light, and the general lines on which an Act would be drafted were laid down by Government. Buildings had sprung up in the early days of plague without any orderly plan, means of communication were in an extremely backward condition, and great difficulty

was experienced by would-be settlers in obtaining suitable land for building. A Revenue Officer (known as the Special Officer, Sálsette Building Sites) and an Engineer were specially deputed to the charge of the development work, and these appointments have been maintained ever since. The first work to be undertaken was a contour survey and was finished in 1911. This was followed by a survey of holdings. It was found that the material supplied by the survey records was not accurate enough for the plotting of roads and town-planning schemes. A fresh survey had thus to be made and has been completed for various areas likely to be built on, amounting in all to 4,662 acres. The question of an adequate water-supply has received much attention, and various possible catchment areas have been examined. Schemes have also been submitted to the Sanitary Engineer to Government. A complete drainage scheme for the disposal of sewage has been prepared for Bándra, and various schemes for storm water drainage are ready. In addition to these preliminary operations, original works such as roads, markets and storm-water drains have been constructed out of special grants or loans made by Government which have amounted altogether to Rs. 1,00,000 during the last three years.

54. Major J. L. Marjoribanks, I. M. S., was in 1912 deputed to investigate the malarial conditions prevailing in the Island of Sálsette with a view to his indicating the direction in which and the limits within which residential development should proceed. The investigation was carried out during the latter part of the year 1912, and was concerned with an examination of the vital statistics of Sálsette, the collection and identification of larvæ and adult anopheline mosquitos throughout the island, and a spleen census of children. Major Marjoribanks' report has been recently issued. He condemns Trombay and the northern portion of the island generally as malarious. But the part south of a line drawn from Ghatkopar to Andheri he thinks singularly suitable for development. Other areas regarded favourably by Major Marjoribanks are the village lands of Malavni and the islets of the west coast, which latter constitute "the most ideal of all sites for a garden city."

55. As regards the future of Sálsette, we consider that, to ensure a more rapid development than is taking place at present, the chief requisite is quick communication with Bombay. Except in the case of a few fast trains southwards in the morning and northwards in the evening, it takes 38 minutes to get from Church Gate to Bándra, 54 minutes to Andheri, and 75 minutes to Borivli. Also, for a suburban service, the trains cannot be said to be frequent. Ghátkopar and Thána are even less well served than Bándra and Borivli. The expected electrification of the suburban lines will probably greatly increase the resident population of Sálsette.

56. Next in importance is the question of water supply. The charge made by the Bombay Municipality for the water which they supply is so high that it is necessary to charge Re. 1 per 1,000 gallons for it in Bándra and Andheri and Rs. 1-2-0 in Sánta Cruz and the amount of water which Bombay can spare is inadequate. There will be a great improvement when Sálsette has a cheaper supply, whether from the Bombay Municipality when the Tansa main is duplicated or in accordance with schemes which have been considered by the Sanitary Engineer to Government.

57. There are certain considerations relating to the land which affect the development of Sálsette. In the first place, the 50 years' term for which agreements regarding the assessment on land appropriated to building are concluded is popularly regarded as too short. An extension of the term to 99 years in the case of land which pays a contribution under a town-planning scheme would attract an increased number of residents. It is to town-planning schemes also that we must look for help in respect of the unfavourable manner in which the land is divided up into plots. The agricultural holdings are irregularly shaped and therefore cannot be converted into compounds without considerable waste. Some plots are even altogether too small for building purposes. Yet again, the methods of the Town Planning Bill would facilitate the construction of roads, the lack of which seriously hinders development. The local authorities cannot at present afford to lay out money on such roads, but under the proposed methods they will be able to obtain contributions towards the cost of road

access from owners the value of whose plots is enhanced by the roads. The only other point we should like to bring forward in connection with land questions is the necessity of preventing the repetition in Sálsette of the extravagant rise in land values which has taken place in Bombay. It might be well to prescribe by legislation the maximum proportion of a site which it is permissible to cover with buildings of specified heights, at any rate when values have not already greatly risen.

58. We should like to invite the attention of Government to the fact that people are sometimes reluctant to invest in land in Sálsette because of the lack of legal facilities in connection with mortgages in Sálsette as compared with Bombay. Under section 59 of the Transfer of Property Act a mortgage may be effected in Bombay by delivery of documents of title to immoveable property with intent to create a security thereon. In Sálsette, if the principal money secured is Rs. 100 or more, a registered instrument is necessary. Also, under section 69 of the Act, a mortgagee's power to sell in default of payment of the mortgage-money is valid without the intervention of the Court where the mortgaged property is situated in Bombay. If the property is in Sálsette an order of the Court must (except in certain special circumstances) be obtained before the property can be sold, and complaints are made of the comparative inaccessibility of Thána, and of delay which is said to occur in the Thána Court. We are not in a position to say what judicial considerations may affect the question, but at present the lack of these facilities in Sálsette constitutes an obstacle in the way of development.

59. Finally, the existence of the Slaughter House at Bándra hinders development. It prevents high caste Hindus from taking up suburban residences on the west side of Sálsette. The Bhattias in particular have settled in Ghátkopar instead. The Slaughter House is an unpleasant sight for all who pass it by train. It is undoubtedly a serious obstacle in the way of the growth of Bándra. Many weighty reasons were once adduced in favour of its removal to Vikhroli. While not wishing at this stage definitely to recommend a place condemned, as Vikhroli is, by Major Marjoribanks, we are of opinion that the consideration of the removal of the Slaughter House to the west of the Island should be taken up afresh.

CHAPTER XI.

CO-ORDINATION OF EFFORT.

60. We are asked to advise as to the best means of securing co-ordination and expedition in the carrying out of the measures which will be adopted. We are of opinion that the need of devising some such form of co-ordination is clearly established, and we should like to mention a few illustrations of this necessity.

To begin with, we find that the Government of India in 1904 decided on the acquisition of an extensive area of land at Matunga for the purposes of the G. I. P. Railway without the knowledge of the Municipal Corporation or the Improvement Trust although this decision was likely to control the development of that quarter in a very vital way. Again, the Executive Engineer of the Corporation has been lately at work on planning a widening of the Byculla Bridge while the Improvement Trust has not yet finally decided on the exact boundaries of the road approaching the bridge at either end. Government recently decided to abandon a proposal to spend Rs. 45,000 on acquiring land for a spacious Botanical Garden at Vile Parla on the ground that the cost was too heavy, and though Bombay would of course be greatly interested in such a Garden the Corporation was not consulted.

61. It is not our object, in quoting these instances, to criticize directly any particular actions of the authorities concerned. The intention is to direct attention to the lack of an adequate system of coordination between the various bodies which frame measures affecting the development of Bombay. It will be clear from the instances mentioned how desirable it is that there should exist

some kind of regular symposium between the executives of the Railways, the Corporation, the Improvement Trust, the Port Trust, and Government, so that no one authority could promote or carry out any measures bearing on the development of the City as a whole without the knowledge of the other authorities.

62. We therefore suggest that Government and the five bodies mentioned above should each depute one of its executive officers to a periodical conference which might be held either once or twice a year. These executive officers would at these meetings acquaint each other of all important measures which might be under consideration. The result would be that each of the authorities concerned would be made fully aware through their executive officers of what the other authorities were proposing, and all danger of clashing in the preparation of projects would be averted. The Special Officer, Salsette Building Sites, should also be a member of the conference, in view of the importance of Salsette and Bombay to each other in respect of development.

63. We should like also to invite attention to the need of devoting attention to the æsthetic side of development. There is in Bombay nothing of the nature of a Ministry of Fine Arts, and though the City has the advantage of unrivalled natural beauty, and though the lay out of roads and the construction of public buildings in the Esplanade area evinces a really noble conception on the part of a past generation, there is no certainty that the question of the beauty of the City is receiving systematic consideration. We believe that the periodical conferences of the character proposed in this Chapter will result in greater attention to this aspect of the case, and that mutual consultation regarding the architectural treatment of development will ensue from them as a matter of course.

April 29th, 1914.

(SIGNED) CLAUDE H. HILL.

(„) PHEROZESHAH M. MEHTA.

(„) IBRAHIM RAHIMTOOLA.

(Subject to a minute of dissent.)

(„) F. L. SPROTT.

(„) BHALCHANDRA KRISHNA.

(„) G. WITTET.

(„) B. W. KISSAN.

The Honourable Sir Ibrahim Rahimtoola's Minute of Dissent.

There can be little doubt that the various suggestions which have been made by the Committee, if carried out, would effect great improvements. It remains to be considered however whether the many schemes of communications recommended are either necessary or financially desirable. During recent years practically the whole of the attention of the Improvement Trust has been directed to the making of roads and the improvement of communications. The Municipality has also devoted a great deal of attention to this subject and many schemes are at present under consideration. To give the public an idea of the enormous expenditure incurred during recent years on communications by the two public bodies, it may be mentioned that out of about $3\frac{1}{2}$ crores spent by the Trust $1\frac{3}{4}$ crores have gone towards this object and only $\frac{2}{4}$ crore towards Improvement Schemes. About 65 lacs have been spent on what are called expansion Schemes such as the Gamdevi Scheme. This scheme is estimated to cost I believe about 25 lacs, which sum has had to be provided by the City for

making available building sites for the well-to-do classes and the provision of the Hughes Road. The Trust has under contemplation another scheme, *viz.*; widening of the Parel Road from Sandhurst Road to Lal Baug to a width of 120 feet which is estimated to cost about 80 lacs of rupees more. This expenditure will bring up the total on communications to 2½ crores out of about 4 crores and this figure does not include the cost of Hughes Road and that portion of the Eastern avenue which is comprised in Scheme No.

The Municipality has not been idle in the meantime. During the same period they have incurred a liability of over a crore of rupees towards improvement of communications and have still several schemes under consideration.

As if such a huge expenditure on communications during so short a period was not enough the Committee has recommended some more schemes. A broad road connecting Ballard Pier with Hornby Road has been persistently pressed by the Port Trust for several years. When Government issued their Resolution No. 3022 of 14th June 1909 this question was before them. The programme laid down in this Resolution was declared to be amply sufficient for the next 20 years. In laying down this programme they came deliberately to the conclusion that such a road was not a matter of urgency and cannot be included within works to be undertaken within the next 20 years. Less than five years have elapsed since then and we find that the Committee has thought fit to include this scheme in the programme. The reasons advanced are that the Fort North area requires to be improved sanitarily as an improvement scheme and that sites are required for offices for business firms.

As regards the first reason I should like to invite attention to the fact that during the 25 years for which I examined the mortality returns of the Fort North area, there was not a single year during which the total mortality of that district was *not under the average for the whole city*. Amongst the several areas which Mr. Harvey represented for the carrying out of improvement schemes about seven or eight years ago, there are many which show a mortality of from 25 to 50 per cent. *over the average for the whole city*. Except the Nowroji Hill area, none of these have been taken in hand during all these years. The whole attention has been concentrated on making roads. When such represented areas remain unimproved, is it right that a heap of money should be spent in improving an area which cannot be called relatively insanitary in view of its mortality returns?

After the admittedly insanitary areas in the crowded parts of the city have been improved and the mortality therein appreciably reduced, I would have no objection to spend public funds on the improvement of Fort North. Until that is done and the worst slums are uprooted any expenditure of public money on this area to allow of a fashionable road required by the Port Trust being carried out is wholly unjustifiable.

The second reason does not require any comments. I cannot think that the consideration of providing suitable sites for the offices of business firms should weigh in the slightest degree in the matter of undertaking a scheme, the estimated loss upon which is over a crore of rupees. In view of the remarks made in the report I should like to call attention to the replies which were given to me in cross-examination by the advocates of this road. A mere perusal of such replies will show that there is no case for public expenditure upon it.

Nearly 3 crores of rupees have already been spent on roads and communications by the Trust and the Municipality during recent years, while schemes costing over a crore of rupees are under consideration. As if this was not sufficient expenditure under this one head, several more are recommended, one of which alone, *viz.*, the Ballard Pier and Hornby Road connection, will cost a huge sum. No one can dispute the fact that these improvements are desirable, but the real questions for investigation are (1) whether they are necessary, (2) whether the benefits to be obtained are commensurate with the cost involved and (3) whether available public funds could not be better utilized in carrying out schemes which will have an immediate effect upon the public health of the city.

An important light is thrown on the whole question by the following quotation from the Committee's report. In clause (h) of paragraph 6 it is stated : "The Corporation has sanctioned the widening of Reay Road up to 90 feet as far as its junction with Gunpowder Road and the widening of the further portion up to the Municipal limit Northwards is under the consideration of the Corporation. The Port Trust has given an undertaking to extend the widening from their Southern limit as far as the north approach of the proposed Victoria Bridge and *will await development of trade to widen the rest of the road up to Kalachowki Road.*" As a business body the Port Trust are perfectly justified in adopting this policy before undertaking expenditure. I only wish that other public bodies would adopt this wholesome principle in the expenditure of public funds entrusted to their charge.

With reference to the sanitary improvements in the City which are urgently called for, I agree with the Committee that improvement schemes should be carried out. I also agree that the building bye-laws require revision. In the consideration of this question, I venture to submit that the economic aspect should not be lost sight of. The cost of living in the City has largely risen. Rents have gone up very high. These factors must react on the cost of labour. The prosperity of the City largely depends upon its harbour and its industries. Any undue strain upon them may divert trade and impair the success of our industries. In bearing prominently in mind the great necessity of sanitary surroundings, especially for the poor, the economic results should not be ignored. The City of Bombay already pays 30 lacs of rupees per annum more in the shape of Municipal taxation than Calcutta with approximately the same population. I do not wish to dilate upon this point as I quite realize it is full of difficulties and complexities. I will, therefore, submit for the consideration of Government the desirability of appointing a Committee to consider and report upon the economic effects of the various schemes and measures undertaken and contemplated, and generally to investigate the probable economic results on the future prosperity of this great City.

(Signed) IBRAHIM RAHIMTOOLA.

May 10th, 1914.

APPENDIX A.

*Development of Bombay City and the
improvement of communications in the
Island.*

General Department.
No. 3022.

Bombay Castle,
14th June 1909.

RESOLUTION OF GOVERNMENT.

In letter No. 7382, dated 9th December 1907, the Governor in Council invited the opinion of the numerous important representative bodies in Bombay on the following points bearing on the future development of the City :—

(1) With the object of adding to the areas available for occupation by the wealthy classes, is it desirable—

- (a) to prepare schemes for the construction of residential areas in the north of the Island,
- (b) to effect reclamations in Back Bay, or
- (c) to utilize Trombay,

or to adopt more than one of these remedies simultaneously ?

(2) What are the immediate needs of the City in regard to channels of communication ? Should these be met by the widening of Abdul Rahman Street, and other means aimed at providing broad northern and southern thoroughfares throughout the length of the Island ?

(3) Is it desirable to adapt the Victoria Terminus for the reception of all main passenger traffic into Bombay ?

(4) Can the local railway traffic be brought from Parel into the Victoria Terminus in future, along the existing G. I. P. route from Parel, thus enabling the B. B. & C. I. Railway to be dispensed with from Grant Road onwards, or should the present B. B. & C. I. line be retained for the purposes of local traffic as far as—

- (a) Marine Lines,
- (b) Church Gate,
- (c) Colaba ?

(5) Assuming the existence of free and rapid communication by rail, tramway or otherwise, and the construction of two arterial thoroughfares running north and south, what areas on the Island are specially suited to the housing of—

- (1) the middle classes who visit the Fort daily for employment,
- (2) the labouring classes including the mill-hands and other factory employes ?

(6) What special measures are necessary or desirable, in the nature of the provision of cheap workmen's trains or workmen's tramways, to enable the labouring classes to be cheaply accommodated in the less frequented portions of the Island where land is available on easy terms ? Assuming that cheap fares can be arranged for traffic between certain hours, will the working classes be able to pay these fares and a rent adequate to give a reasonable return on the capital invested in accommodation schemes ?

The Governor in Council has now received and considered very carefully the replies to this communication, an abstract of which has already been made public, and is attached to this Resolution, and has examined the findings of certain expert committees appointed by Government at intervals since 1877 to report on these and kindred questions. It remains to formulate a policy which shall govern the development of the Island for the next twenty years.

2. Three principal suggestions were made by Government for adding to the areas at present available for occupation by the wealthy classes. It has been generally recognized by the various bodies consulted that the desirable position for dwellings intended to be occupied by the wealthy classes is along the western shore of the Island. Two serious obstacles at present prevent the erection of further desirable dwelling houses along the shore line from Mahim through Worli to Mahalaxmi, or further south, fronting Back Bay. The Mahim-Worli location is uninhabitable owing to the nuisance caused by the municipal sewage pumping station at Love Grove. That part of Mahim which is sufficiently distant from Love Grove to suffer little from the nuisance, is too remote from the business quarter of the Island to attract the wealthy classes. The provision of further building sites fronting Back Bay requires reclamation. The right to reclaim in the neighbourhood of Colaba, commencing from the southern approach to Wodehouse Bridge, and running southwards, has been vested by law in the Improvement Trust. That body, owing to the numerous important schemes they have in hand

or under contemplation, will not be in position to undertake further reclamation in this vicinity for many years. Reclamation in Back Bay north of the limits assigned to the Improvement Trust cannot be undertaken without infringing on their existing rights. Thus it may be said that, at the present moment, there is no fresh area immediately available for the use of the wealthier classes.

3. The Governor in Council endorses the opinion of the Corporation that if the existing sewage outfall is removed from Worli the area between Mahalaxmi and Worli would be made available for residential development. In 1877, when approaching the Government of India for a loan for the construction of the Love Grove Station, this Government recognised that the station might prove a nuisance to those living near the pumping station; but the scheme was undertaken to free the harbour and Back Bay from pollution. It was thought that an extension of the drainage scheme might eventually be desirable providing an outfall further north in the direction of Sion. The Committee of 1887, who recommended the development of the Mahalaxmi-Worli foreshore, reported that the sewage outfall should be removed to Kurla as an indispensable part of this scheme. Government understand that the Corporation are now taking measures to render the Love Grove Station less of a nuisance than it is at present. They are of opinion, however, that its continuance in its present position is likely to prevent the construction of suitable quarters for well-to-do residents between Mahalaxmi and Mahim. If this area is to be developed to afford some relief to existing congestion, the early removal of the Love Grove Station is, in the opinion of Government, indispensable. Its removal to Colaba, as proposed by the Corporation in 1892, cannot be permitted. The most suitable site, at first view of the question, appears to be north-east of Sion, provided that arrangements can be made to prevent the pollution of the harbour by sewage. It is clearly desirable that the Corporation should consider the advisability of removing the outfall to the north-east of Bombay without delay.

4. Pending action by the Corporation in the direction indicated in the last paragraph there appears to Government to be only one efficient method of dealing with the existing want of adequate sites for the accommodation of the wealthy classes. This is by means of reclamation in Back Bay. It appears from their replies to the Government reference that both the Corporation and the Improvement Trust are in favour of reclamation in this neighbourhood, provided that the area to be reclaimed is not out of due proportion to present requirements. In dealing with general principles the Governor in Council does not desire to enter on a discussion of such details as the exact area to be reclaimed in Back Bay to meet the requirements of the near future. He is pleased however to decide that reclamation is necessary and desirable, on the ground that nowhere else in the Island can equally suitable accommodation be provided for the wealthy classes. No other measure of equal value presents itself for restricting the steady rise in the cost of housing all classes in Bombay. Any substantial increase in the rents paid by the well-to-do must infallibly reproduce itself in the rents paid by the poorer classes, who are less able to sustain the additional burden. Government have therefore decided to prosecute an adequate scheme for reclamation in Bombay. The Improvement Trust should be addressed concerning the transfer to Government by legislation of their rights in this connection so far as they are involved in the scheme adopted.

5. In view of the generally unfavourable opinions expressed concerning the development of Trombay, Government are not prepared at present to take any steps towards utilizing that area for the housing of wealthy residents of Bombay.

6. On a consideration of the question of road communications in Bombay, the Governor in Council is impressed with the fact that, although the Improvement Trust have provided several admirable channels of communication between the western and eastern sides of the Island, there is still an absolute lack of thoroughfares of reasonable dimensions running north and south. The Island of Bombay is so shaped that free movement north and south opens far larger areas to occupation, by rendering them rapidly accessible, than movement east and west. Adequate recognition has hardly been given to this fact in the construction of new thoroughfares hitherto. The Committee of 1887 recognized the urgent need of connection between the Carnac Road and Parel Road at Pydhonie by placing a broad road along this line first in their recommendations. In reply to the recent Government reference a great variety of opinion has been expressed on this subject. The widening of Abdul Rahman Street is opposed by the Millowners' Association, the Indian Merchants' Chamber, and the Piece-goods Merchants' Association. The Corporation advocate adequate road connection between Parel and Hornby Roads, but they abstain from indicating Abdul Rahman Street as the route to be followed between the two. There is, on the whole, a strong body of opinion in favour of wide north and south lines of communication.

7. The Governor in Council, after careful consideration of the conflicting views expressed, has come to the conclusion that the Island of Bombay, by nature of its length north and south, which greatly exceeds its breadth at the broadest part, cannot be held to contain adequate means of locomotion until it is supplied with an eastern, a central and a western trunk line of roadway. He is, in this connection, in full accord with the views expressed by the Improvement Trust. The immediate needs of the City should be provided for by the following works stated in order of importance:—

- (1) the widening of Abdul Rahman Street,
- (2) a satisfactory connection between Frere and Reay Roads,

- (3) the construction of a broad road from Bandra Causeway to Sankli Street,
- (4) the provision of a road northwards from Sandhurst Road in the line of Chunam Kiln Road (to be widened).

These works will form the basis of the three trunk lines or arterial thoroughfares on which the future system of road communications in Bombay must be based.

8. The Governor in Council has considered the numerous minor proposals for roads that have been put forward by the bodies consulted. These proposals include—

- (1) a broad road from Ballard Pier to Hornby Road,
- (2) the widening of Victoria Road from Mount Street to Parel,
- (3) a road from Sewri village to the new Sewri Road.

These and other subsidiary roads are doubtless desirable, and may in due course be considered. For the present they should be postponed in order that resources may be concentrated on the main essentials of communication, *i. e.*, the trunk lines that have been described above.

9. In their reply on the question of communications within the Island, the Port Trust have entered in some detail upon the discussion of a scheme for an electric railway for the conveyance of suburban passenger traffic. The Governor in Council is of the opinion that any consideration of a scheme of this nature at the present juncture would be premature. It is probable that the Port Trust may shortly find that an electric overhead railway affording access to the trade centres now being provided along the north-east foreshore is necessary in the interest of trade and shipping. Such a line would be built within Port Trust limits and would, when in working order, afford valuable data for the consideration of the question of extending the undertaking to other parts of Bombay. But, in the opinion of the Governor in Council, no sufficient grounds at present exist for the preparation of a scheme of overhead or underground railways outside of Port Trust limits. The proposal must be held to be beyond the scope of the immediate requirements of the Island.

10. Since 1904 this Government has considered at frequent intervals the future of railway communication within the Island, the proposals for the revision of the existing arrangements generally taking the following form :—

- (1) the running of all long distance traffic to and from the Victoria Terminus,
- (2) the abolition of the B. B. & C. I. Railway south of some point beyond Grant Road.

The Governor in Council is of opinion that it is now possible to arrive at a final decision on these questions in view of the determination of Government to effect further reclamations in Back Bay. If this additional area fulfils the purpose with which it is to be created, *i. e.*, the accommodation of the numerous and steadily increasing class of wealthy tenants who desire to find a residence in close proximity to the business quarter of Bombay and to enjoy the amenities offered by the vicinity of a sea frontage open to the prevailing breeze for the greater part of the year, the B. B. & C. I. Railway will be required in its entirety, *i. e.*, to Colaba station, to serve the new quarter of Bombay that will thus come into existence. A line of railway, probably to be electrified in course of time, passing behind such a quarter, will not be open to the objections that now apply to a train service cutting off the south Fort section from the sea. The Governor in Council feels that it is impossible to ignore the inconvenience that would be caused to the travelling public by the removal of the stations south of Grant Road. The average daily traffic from local areas to these stations is given by the Agent, B. B. & C. I. Railway Company, in his report to the Government reference.* The Chamber of Commerce is the only body in favour of the removal of the existing stations, and desire to substitute for the line south of Grant Road a service of electric trams. Government are of opinion that the traffic is too heavy to be adequately dealt with in this fashion and that great hardship would thus be entailed upon the large section of the population which now makes use of the existing railway. The removal of the cotton green from Colaba will doubtless reduce the passenger traffic to that station temporarily; but the reduction will be followed by an increase when the vacant land set free by the removal of the cotton is converted into a residential area.

* Colaba ...	... 5,151
Church Gate...	... 17,869
Marine Lines...	... 9,055
Charni Road...	... 7,591
Total	... 39,666

11. The Governor in Council has thus decided that, while the present aesthetic objections to the retention of the line to Colaba are likely to be greatly modified as reclamation progresses, it is doubtful whether other means of communication which could be provided would offer such facilities as the existing line to Colaba for the handling of suburban traffic, now swollen by the steady development of areas in Salsette. The provision of adequate terminal accommodation for the B. B. & C. I. Railway, which will shortly have to provide for the Sind and Delhi-Bara-Muttra traffic, is a matter of urgency.

12. It follows that the running of the long distance B. B. & C. I. trains into the Victoria Terminus will not be necessary. The new B. B. & C. I. terminus at Colaba will provide more suitable accommodation for the long distance traffic than could be provided, even after a very heavy expenditure, by enlarging the present Victoria Terminus. A central terminus in a crowded part of a great city may give rise to serious traffic difficulties. It seems,

moreover, from a careful perusal of the numerous reports on the future of the G. I. P. terminus, that all the available accommodation in that locality, including the compound of St. George's Hospital, may in course of time be required for the expanding traffic of the G. I. P. Railway, and that the combination of the B. B. & C. I. and G. I. P. long distance traffic in one station, even if enlarged to the fullest possible limits permitted by the area available, would deprive the G. I. P. Railway of a most valuable reserve for the requirements of the future. Any temporary convenience gained by such a measure would ultimately be outweighed by serious embarrassment due to want of adequate space at the Victoria Terminus. In this connection the Governor in Council is pleased to decide that St. George's Hospital should be removed from its present site as soon as a new building in a more suitable locality can be prepared and the existing site and buildings be disposed of.

13. The Governor in Council has perused with interest the various opinions expressed on the subject of the natural areas specially suited to the housing of the middle classes who visit the Fort daily and the labouring classes, including the mill-hands and other factory employes. Government have no intention of issuing any orders confining such classes to any particular area, as seems to have been anticipated in certain quarters. It is desirable, however, to remove the common fallacy that the prosecution of housing schemes in the north of the Island will reduce the demand for accommodation in the vicinity of the Fort. The well-to-do residents of Bombay desire to be housed on the west and south-west portions of the Island, as near the Fort as houses at suitable rents are available. The labourers and factory operatives must be housed close to the docks and factories so long as their hours of work and rate of wages do not permit their travelling any distance to and from the scene of employment. They must thus live on the east and centre of the Island. It follows that the middle class worker who can afford to pay for transit will be forced to the north-west of the Island, and thence into Sálsette. It is important that these tendencies should be kept clearly in view in preparing schemes for the reduction of overcrowding by an increase in house accommodation. With this view the Government have been investigating the condition of Sálsette and will shortly publish a detailed scheme for its development.

14. An important question to which insufficient attention has hitherto been devoted is the construction of chawls for the accommodation of the working classes. At the time of the formation of the City Improvement Trust it was estimated that a sum of 75 lakhs would be required for erecting sanitary dwellings for the poorer classes during the first 10 years of the Trust's existence. The Trust has now been 10 years in existence; but the sums hitherto expended on this object do not exceed 15 lakhs. His Excellency the Governor in Council is of the opinion that more rapid progress is now essential. The street schemes completed by the Board hitherto have resulted in the displacement of considerable numbers of the poorer classes. His Excellency the Governor in Council is not satisfied that the dwellings erected by the Trust for their occupation are nearly adequate to meet the growing demand for such quarters, which has been progressively accentuated by the development of Bombay. It is desirable that a vigorous policy for providing such chawls should be adopted forthwith. The accommodation should be provided in the east, north-east and central portions of the Island, in the vicinity of the docks, factories and workshops. To this the Governor in Council attaches great importance having regard to the moral and physical advantage which good sanitary accommodation will confer upon the working classes, with consequent gain to the general health of Bombay.

15. There is practically a consensus of opinion on the part of all the bodies consulted that no special measures are necessary in regard to the provision of cheap workmen's trains or tramways. It seems that residence in close proximity to their work is an essential for the labouring classes. The Governor in Council is not therefore prepared to take any action on this proposal.

16. Closely connected with the orderly and satisfactory development of Bombay Island is the alignment of streets to be constructed at some future date and the imposing of certain liabilities on landlords, including the necessity of building in conformity with the alignment, the bringing of sites to a certain level, the erection of houses of a suitable type and harmonious architectural design and the limitation of the area actually occupied by buildings to a certain proportion of the whole site area. In England and Germany, Town Planning Acts are in force for securing these objects. Bombay Island and Sálsette afford striking evidence of the evils which have resulted from the absence of such an Act in these areas. The Governor in Council has therefore decided to introduce a Town Planning Act for the Presidency at an early opportunity. The drafting of an enactment of this nature should be taken in hand forthwith.

17. Thus to sum-up, the Governor in Council considers that the following measures should be adopted at once:—

- (1) The erection of a large number of chawls for the accommodation of the poorer classes.
- (2) The widening of Abdul Rahman Street.
- (3) The linking up of Frere and Reay Roads.
- (4) The removal of St. George's Hospital.
- (5) The recovery from the Improvement Trust, after negotiation, of their rights of reclamation in Back Bay, south of Charni Road.
- (6) The drafting and adoption of a Town Planning Act.

18. The following developments should follow later :—

- (1) The removal of Love Grove pumping station from Worli.
- (2) The provision of three broad arterial lines of communication running north and south, to be developed from the following existing thoroughfares :—
 - (a) Frere and Reay Roads to Sion.
 - (b) Abdul Rahman Street and Parel Road to Sion.
 - (c) Chunam Kiln Road and Gilder Street to Bandra Causeway through the Mahim Woods.

19. The schemes under consideration by the Improvement Trust, including the east Agripada scheme, which is estimated to involve that body in a loss of over 40 lakhs, should now be reconsidered in order to bring the programme of operations in harmony with the decisions contained in this Resolution. The Governor in Council will be prepared to take such measures in the nature of legislation, and in the direction of furnishing assistance to the Trust's finances as may be calculated to enable them to press forward vigorously those measures which lie within the scope of their operations. In this connection any measures which would tend to secure the co-operation of the mill-owners in providing quarters for their operatives should be taken into consideration at an early date.

20. His Excellency the Governor in Council is aware that in the replies received to the original reference, of which an abstract is appended to this Resolution, a difference of opinion has been expressed regarding the points dealt with in these orders. He believes, however, that a substantial measure of support is forthcoming for each of the decisions now arrived at. He trusts that those bodies who have expressed other views will realize the desirability of waiving their objections to the measures considered necessary by Government in the interest of the future welfare of the city of Bombay.

R. E. ENTHOVEN,
Secretary to Government.

To

The Chairman, City of Bombay Improvement Trust,
The Municipal Commissioner for the City of Bombay,
The Public Works Department,
The Revenue Department,
The Marine Department,
The President, Municipal Corporation, Bombay, }
The Secretary, Chamber of Commerce, }
The Chairman, Millowners' Association, } By letter.
The Chairman, Bombay Port Trust, }
The Agent, G. I. P. Railway Company, }
The Agent, B. B. & C. I. Railway Company, }
The President, Bombay Presidency Association, }
The President, Indian Merchants' Chamber. }

Development of Bombay City and the improvement of Communications in the Island.

Letter from the Secretary to Government, General Department, No. 7382, dated the 9th December 1907, to—

The Chairman, City of Bombay Improvement Trust,
The President, Municipal Corporation,
The Secretary, Chamber of Commerce,
The Chairman, Millowners' Association,
The Chairman, Bombay Port Trust,
The Agents, G. I. P. and B. B. & C. I. Railway Companies,
The President, Bombay Presidency Association, and
The President, Indian Merchants' Chamber.

" I am directed by His Excellency the Governor in Council to address you in connection with the numerous important schemes for the development of Bombay City and the improvement of communications in the Island that are now under consideration.

" 2. I am to refer, in the first place, to the difficulties that have arisen and which are daily forcing themselves more prominently into notice owing to the absence, in the past, of any comprehensive and well considered scheme for the development of Bombay Town and Island.

As illustrations of this grave defect, it may be observed that the railways cut through the main lines of road communication leading out of the Island in such a manner as to very seriously inconvenience all traffic on these thoroughfares. A remedy has recently been suggested for the obstruction thus caused, by the erection of overbridges, at considerable expense. The railways have further been allowed to occupy both the eastern and western portions of Bombay, although concentration on one portion might possibly be desirable not only in the interests of the trade of the Port, but more particularly for the benefit of residential areas. The B. B. & C. I. Railway carries cotton to Colaba, shutting off the Queen's Road from the sea, and necessitating the further transport of these large imports by bullock cart back through the Fort to the Docks. Further, adequate provision for the accommodation of the wealthy classes who require houses, either in the Fort or on Malabar Hill and its vicinity, is no longer available. The result has been a rise of rents in recent years that threatens, if it continue unchecked, to render Bombay as a place of residence more expensive than London, having regard to the nature of the house accommodation provided in the two capitals. Simultaneously a marked increase has occurred in the rent paid by clerks and other members of the less wealthy class, who are now reduced to great straits in their endeavour to house themselves at a reasonable rate within reach of their daily objective. It is impossible at present to admit that the rents paid by either of these classes are such as might reasonably be expected for a town of less than one million inhabitants, occupying an island 11 miles in length. In the opinion of His Excellency the Governor in Council rents have been unduly increased by absence of adequate and suitable channels of communication, and by the resultant pressure on the area available. This general increase in the cost of house accommodation has seriously affected the working classes, who are now called on to pay from 3½ to 5 rupees monthly for a small apartment. As a result, hardship and insanitary overcrowding are inevitable.

"3. These general remarks, it may be admitted, merely summarize matters of common knowledge. In the light of such knowledge, the City Improvement Trust are considering schemes for broad thoroughfares and the development of areas in the north of the Island. The Port Trust, in connection with the new Docks scheme, is concentrating railway traffic on the eastern foreshore. The Bombay Municipality are contemplating special expenditure on the broadening of existing roadways. The Millowners' Association has on numerous occasions discussed schemes for housing the mill-operatives.

"4. It is at this point that His Excellency the Governor in Council considers that special action is required in order to ensure that the efforts of all the great local authorities may be directed towards the best solution of the problems that are arising. I am to remark that the adoption of a settled policy governing the general plan of all development for the next 20 years, appears to Government an urgent necessity if errors that have been patent in the past are not to be repeated. I am briefly to explain what, in the opinion of Government, the nature of the required policy should be.

"5. The development of Bombay involves three main questions of leading importance. These I am now briefly to describe.

"6. It appears in the first place necessary that an attempt should be made to divide the Island into natural areas for the accommodation of the upper, the middle and the lower classes with special reference to occupation. It is not intended to suggest that these three classes can be settled entirely in different compartments. But it is essential that they should, as far as possible, be localized; otherwise the interests of one class will suffer by the intrusion, into areas suitable for them, of residents of another. As an instance, I am to refer to a scheme for the development of the Mahim woods. If the wealthier classes are to be attracted to this neighbourhood from the Fort, with its vicinity, and Malabar Hill, now almost fully occupied, the cost of residences in the locality will become prohibitive for others. A first class residential area being needed to supplement the Fort, with its vicinity, and Malabar Hill, it has now to be decided whether this can be most suitably provided, in the interest of the whole population, by the reclamation of a considerable area from Back Bay, or by the prosecution of schemes for developing such areas as the Mahim woods. Here evidently a well-defined and clearly-thoughtout policy is essential. Similar need exists for defining the residential areas to be allotted to the middle classes of the office clerk type, and to the mass of working men in Bombay.

"7. In the second place, following on the decision of this first question, the channels of communication must be arranged. At present Bombay Island presents the extraordinary anomaly of rice being cultivated and buffaloes grazing within a few miles of land selling at Rs. 150 per square yard, while the bulk of the population is herded together in the south and centre of the town. No measures professing to deal with the housing question in the case of the bulk of the population are likely to prove of any value unless preceded by a broad and well-reasoned scheme of main and subsidiary thoroughfares. Nor can due advantage be taken of the recent acquisition of rapid means of transit on the Bombay Electric Tramways until such a scheme has approached completion. The erection of a few large chawls in one or two selected localities is of little value until the general level of rents for the poorer classes has been brought under control. This control can be asserted by the construction of such thoroughfares.

"8. Thirdly, when the population has been distributed in the fashion suggested and the areas allotted to them rendered available by the construction of adequate roadways, it remains to be decided what method of travelling is most suitable. At present the railways bring the public into the Victoria Terminus and Colaba by lines which converge at Parel. To a comparatively small extent, the City lying between these lines is served by the recently electrified tramways. Given a complete scheme of distribution for the population, and the necessary thoroughfares rendering the City accessible, it is for consideration whether the railway sphere, after the junction of the two lines, cannot most economically be restricted to the existing lines running into the Victoria Terminus, and discharging passengers in the heart of the business centre of Bombay. For the rest, tramways and motor routes may prove suitable and adequate, and the travelling public would tend to distributed itself along the lines of such means of communication as best fitted their economic position.

"9. The Bombay City Improvement Trust have already performed valuable public work by removing certain small insanitary areas, by developing their properties in the Fort and its vicinity, by constructing some east and west thoroughfares, and by one small reclamation. After 10 years of useful activity the Trust are now approaching the inception of certain large schemes, which are likely to engage their full resources for a period of some 20 years.

"10. His Excellency the Governor in Council is anxious that the larger schemes now under contemplation may bear the impress of a reasoned policy of expansion on the lines indicated above. With a view to ensure that this policy may be framed in accordance, so far as may be possible, with the various interests of the Municipality, the Chamber of Commerce, the Millowners' Association and the Port Trust, I am to invite, for His Excellency's consideration, a full expression of

the views of the

Trustees
Corporation
Chamber
Millowners' Association
Trustees

 } on the points summarized below :—
your views

(1) With the object of adding to the areas available for occupation by the wealthy classes, is it desirable—

- (a) to prepare schemes for the construction of residential areas in north of the Island,
- (b) to effect reclamations in Back Bay, or
- (c) to utilize Trombay.

or to adopt more than one of these remedies simultaneously?

(2) What are the immediate needs of the City in regard to channels of communication? Should these be met by the widening of Abdul Rahman Street, and other means aimed at providing broad northern and southern thoroughfares throughout the length of the Island?

(3) Is it desirable to adapt the Victoria Terminus for the reception of all main passenger traffic into Bombay?

(4) Can the local railway traffic be brought from Parel into the Victoria Terminus in future, along the existing G. I. P. route, from Parel, thus enabling the B. B. & C. I. Railway to be dispensed with from Grant Road, onwards, or should the present B. B. & C. I. line be retained for the purposes of local traffic as far as—

- (a) Marine Lines,
- (b) Church Gate,
- (c) Colaba?

(5) Assuming the existence of free and rapid communication by rail, tramway or otherwise, and the construction of two arterial thoroughfares running north and south; what areas on the Island are specially suited to the housing of—

- (1) the middle classes who visit the Fort daily for employment,
- (2) the labouring classes including the mill-hands and other factory employés?

(6) What special measures are necessary or desirable in the nature of the provision of cheap workmen's trains or workmen's tramways to enable the labouring classes to be cheaply accommodated in the less frequented portions of the Island, where land is available on easy terms? Assuming that cheap fares can be arranged for traffic between certain hours, will the working classes be able to pay these fares and a rent adequate to give a reasonable return on the capital invested in accommodation schemes?

His Excellency the Governor in Council would welcome an early expression of the views of the

your Board
the Corporation
your Chamber
your Association
your Board

 } on these points, in order that the policy which may be adopted should, your views
so far as possible, be shaped in accordance with those views."

Summary of the replies received to the Government letter.

1. *With the object of adding to the areas available for occupation by the wealthy classes, is it desirable—*

(a) *to prepare schemes for the construction of residential areas in the north of the Island,*

(b) *to effect reclamations in Back Bay, or*

(c) *to utilize Trombay,*

or to adopt more than one of these remedies simultaneously.

I. (a).

The Chamber of Commerce are of opinion that all the three projects deserve consideration. They however doubt whether the developments in the north of the Island would be very attractive for the wealthier classes. They consider that for the less wealthy classes a large development at Mahim would be popular, if the proposed electric railway could be planned to connect Mahim with the new trade centre at Mazagon and with the centre of the Fort.

2. The Millowners' Association, the Indian Merchants' Chamber, the Bombay Native Piece Goods Merchants' Association, and the Agent, B. B. & C. I. Railway Company, are of opinion that the utilization of the Mahim Woods should be first undertaken, but not on any sectional basis. The Indian Merchants' Chamber remark that the poorer and lower middle classes would prefer to live on the eastern side, so as to be as near as possible to the railway station and the bazar, while the well-to-do and upper classes would naturally prefer the western side. The Agent, B. B. & C. I. Railway, considers that the woods are suitably situated for residential occupation by the middle classes while the area north of the Fort and lying between the G. I. P. Railway and the east coast of the Island seems admirably suited for the accommodation of the labouring classes. He is also of opinion that Government and the large public bodies should undertake the housing of their employes in suitable localities.

3. The City Improvement Trustees are of opinion that a lowering of the present somewhat excessive rents can be expected in Bombay by the development of the areas in the north of the Island. They consider that the extensive areas in Mahim and Dharavi to the west of the G. I. P. Railway line should be developed with the object of providing here a convenient residential district for *all* classes. They fear, however, that the opinion, which is widely held, that the existing system of disposing of the sewage of the City by pumping it into the sea at Love Grove is productive of serious nuisance in these northern areas, may operate to prevent this becoming the popular quarter which its natural position should make it, and it is, in the opinion of the Board, very necessary that an enquiry into this matter should be held. The Trustees believe that it would be quite feasible to utilize the pumping power at Love Grove for raising the sewage into a main gravitation sewer which would convey it out of the Island to the north-east, where it could be disposed of by modern methods. They state that this measure would not only meet the objections which are raised to the existing arrangements, but would also render available a valuable area for high class residences on the western face between Mahalaxmi and Worli.

4. The Municipal Corporation are of opinion that if the existing sewage outfall is removed from Worli, as represented by them to Government in 1892, the areas between Mahalaxmi and Worli, which are beautifully situated and receive the full benefit of the sea-breezes, would be made available for residential development and the natural expansion of the City.

5. The City Improvement Trustees also recommend the removal to the mainland of the tanneries at Dharavi.

6. As an alternative to a costly scheme for Mahim and Dharavi, which would necessitate the acquisition of all the properties comprised therein, the Board suggest that statutory powers may be conferred on the Improvement Trust (or on the Municipality when their by-laws are adequately amended) to make and enforce town extension plans on the lines of the enactments which are in force in Germany with such excellent results. They think that the west central portion of the Island could also be thus dealt with and its future secured against improper and ill-considered development.

7. The land-owners, residents, and rate-payers of the Mahim Woods invite attention to the two representations made by them to Government in 1900 and 1904 on the subject of the then proposed acquisition of the Mahim Woods by the City of Bombay Improvement Trust. They protest against the acquisition of the Mahim Woods on the following grounds:—

(1) That if the Woods are acquired, the owners of palm trees from which toddy is drawn will lose about Rs. 20,10,000 a year, and Government from 12 to 15 lakhs of rupees per annum, on account of tapping licenses. The capitalized value of these palm trees to the owners thereof at 4 per cent. will be Rs. 5,10,00,000, exclusive of the value of land, tenements, and buildings, and to Government roughly about Rs. 3,50,00,000. The

sum total of the capitalized value of these trees, according to the memorialists, is Rs. 8,60,00,000. Besides, Government receive about 3 lakhs a year as license fees from distillers who have their stills in the Government distillery at Dadar.

(2) That Bhandaries, Vadvals, Vapakeries, who with their families number about 30,000 souls, as well as lessees of toddy-yielding trees, toddy spirit distillers, licensees of toddy spirit shops, keepers of pure toddy selling shops, and tree-foot booth keepers, will lose their livelihood.

(3) That about 150,000 persons, who are either the permanent or temporary residents in these Woods, will be rendered houseless.

(4) That the Mahim Woods, if not acquired, would afford shelter to about a lakh of persons who will be displaced by the Matunga, Sion and Naigaum Schemes.

(5) That the owners of the palm groves who will be displaced will be unable to find good homes as before, or as good means of livelihood.

(6) That most of the progenitors of the permanent inhabitants of the Woods were induced by promises given to and covenants entered into with them by Government to settle on the numerous islets which now form the City, and that Government ought not to exile their descendants.

8. The memorialists state that if the reclamation of the Back Bay be put into execution, the Mahim foreshore will suffer considerably; but they are prepared to submit rather to the comparatively small sacrifice that would be entailed on a few by the reclamation that have the lands and properties of all in the Mahim Woods compulsorily acquired, as that would result in greater misery to a much greater number. They suggest that if the reclamation of the Back Bay be not feasible, enquiries may be made whether a large strip of the Mahim Bay between the Worli and Mahim Forts, which is very shallow, could not be reclaimed with advantage at little expense and utilized for building sites. They observe that if this suggestion be favourably entertained, the area reclaimed would be equal in size to the area covered by the Mahim Woods, and that it would thus obviate the necessity of cutting down the woods to provide the accommodation sought.

9. The memorialists further state that there is no necessity for providing more building space for the wealthy. They believe that there is enough space available for the poor and middle classes within the City and within easy reach of the business quarters where these people are employed or work for their living. They are of opinion that the condition of land at Mahim being suitable for its development by private enterprise, the Improvement Trust should under no circumstances be permitted to acquire the same compulsorily to the detriment and ruin of the present owners. They think that the Woods could be made more attractive, and individual efforts and private enterprise could be invited to develop the same, if Government were to call upon the Municipality to carry out their schemes for the widening of the existing streets and the cutting out of the new ones, which have been held in abeyance since the creation of the City Improvement Trust.

10. The Trustees of the Port of Bombay state that the adoption of the Port Trust Scheme for the Harbour Branch Railway and the connected proposals for establishing the cotton and grain and seed and probably other trades in large depôts at Mazagaon will lead to the concentration of the whole of the railway goods traffic into and from the docks to the eastern side of the Island. They observe that the line of road extending from the Mint to the Matunga Leper Asylum, comprising the Frere Road, the Reay Road, and the extension thereof to Sewri (now in progress) and the further extension northwards to the Leper Asylum, which is a project of the future, forms the western boundary of the zone of the City, which must be regarded as wholly appropriated to the requirements of trade. They remark that negotiations are in progress for the transfer to the Board of the portion of this area north of Sewri, while south of Sewri the whole of the area is owned and controlled by the Trustees with the exceptions noted in the margin.

11. With regard to the excepted foreshore properties above referred to, the Trustees state:—

“It has been agreed that the Wadi Bunder Yard, east of the line of the Frere Road, is to be transferred to the Trustees in exchange for other lands, while the two dockyards and the Viegas Patent Slip are held by private companies on lease, and there is no present necessity to disturb their occupation. The Harbour Defences Yard is now of little or no use for military purposes, and has been scheduled by the Military Lands Committee of 1904 for relinquishment by the Military and to be handed over to the Port Trust. It was the original intention of Government that this property should be vested in the Board along with the other foreshore properties. Its transfer was for the time being delayed for special reasons. Part of the premises has already been made over to the

Trustees for the railway line and overbridge, and it is now very urgently necessary that they should obtain possession of the remaining area owing to the pressure on space for the accommodation of Bunder traffic, due to Mody Bay being wholly occupied by the new docks. The Trustees are ready to treat for its acquisition either by purchase or by an exchange of land. The two remaining premises, the Petit Mill and Burning Ground, are serious obstructions to future desirable developments, but no means of acquiring them at present suggest themselves. The site of the Mills is Port Trust property, but has been leased for a long term of years."

12. The Trustees point out that the arrangements already concluded for the new trade depôts and railway connections therewith and with the dock make ample provision for the trade in these respects. The cost, which is very heavy, will be borne entirely by the Trustees, and the Board have undertaken this liability on an understanding with the Railway companies that there shall be no competition. The Trustees therefore are of opinion that no extension of the existing Railway Goods Yard west of the Frere Road should be allowed unless it can be shown to be necessary for the receipt and delivery only of goods which will not use the Mazagon Depôts.

I. (b).

13. The Chamber of Commerce state that if it is decided to effect reclamations at the Colaba end of Back Bay and to remove the railway along the sea-front south of Grant Road, a fine residential crescent could, if the reclamations are well planned out, be built up the sweep of Back Bay.

14. The City Improvement Trustees are of opinion that a lowering of the present somewhat excessive rents can be expected in Bombay by further reclamation, which will make additional areas available in the neighbourhood of the Fort. As far as provision of better class residences is concerned, the Trustees believe that a comparatively small area reclaimed from the sea would meet all requirements, for many years to come, and might effect some lowering of rents by reducing the value of land.

15. The Trustees are against large reclamations in Back Bay. They state that having regard (1) to the fact that the Board have already, under the sanction of Government, embarked on two extensive suburban schemes between Dadar and Sion, (2) to the great desirability of systematically developing the remaining areas of Mahim and Dharavi, and (3) to the fact that there is no immediate need for an extensive reclamation at Colaba, the schemes for the development of the areas in the north of the Island should first be taken in hand, the question of any further reclamation to the west of Colaba being placed in abeyance until its necessity is clearly established.

16. The Municipal Corporation remark that a considerable addition to the available accommodation for the wealthy classes is being made on the Colaba Reclamation of the Improvement Trust, and that there is building land still available for a good class of residences at Chowpatty and at Gamdevi in the Improvement Trust Scheme No. IV. They observe that they look forward to the time when the existing sewage outfall shall be removed from Worli, in which event the magnificent sea-front from Mahalaxmi to Worli would be made available. In these circumstances they are of opinion that any idea of extensive reclamation in Back Bay for this purpose would be at the least premature.

17. The Agent, B. B. & C. I. Railway Company, is in favour of the reclamation of Back Bay. The Indian Merchants' Chamber, the Millowners' Association, and the Bombay Native Piece Goods Merchants' Association are against such a reclamation scheme.

I. (c).

18. The Chamber of Commerce strongly recommend that a scheme for the development of Trombay be taken in hand at once. They urge however that if a Trombay scheme is developed, Government should control the building operations, so that the area may not be spoiled for residential purposes.

19. The Municipal Corporation, the City Improvement Trustees, and the Agent, B. B. & C. I. Railway, are of opinion that the question regarding the development of Trombay need not be considered at present. The Bombay Native Piece Goods Merchants' Association, the Indian Merchants' Chamber, and the Millowners' Association are of opinion that the development of that Island should be left to private enterprise.

II. What are the immediate needs of the City in regard to channels of communication? Should these be met by the widening of Abdul Rahman Street, and other means aimed at providing broad northern and southern thoroughfares throughout the length of the Island?

The Chamber of Commerce are of opinion that the Frere Road should be extended without delay into the Reay Road, and that the Queen's Road would be a much more useful thoroughfare as a main route to the northern parts of the Island if it could be extended in the direction of the Grant Road Station, but that neither of these roads would be so useful as one driven

right through the heart of the native town. They therefore recommend the development of Abdul Rahman Street. The Chamber express a hope that if a scheme of this kind is decided upon, the road will be a broad avenue or thoroughfare of much greater width than any of the new roads which have lately been cut through the Island from west to east, amply sufficient in fact for pedestrian and wheeled traffic and double tram rails.

2. The views of the Agent, B. B. & C. I. Railway Company, with regard to channels of communication are contained in paragraph 8 of his letter No. 2285-W., dated 15th February 1908, which is quoted below :—

“ 3. The enquiries in paragraph 10 (2) of your letter are seemingly limited to road communications, but it is perhaps advisable in discussing the points raised to include lines of railway. North of Back Bay, the Island is about 3 miles across, while south of Victoria Terminus its width varies from about a mile to a little over 100 yards, Colaba Point being about three miles south of this station. The ideal positions of the railways serving the areas to the north of Victoria Terminus would seem to consist in two lines traversing the Island longitudinally, and equally dividing its width, while south of this point, requirements would be met by one line terminating about a mile from Colaba Point. Unfortunately as things now are, the two railways are close to each other between Matunga and Chinchpokli, thus serving the same districts, and forming a serious barrier to road traffic between the east and west side of the City. If the G. I. P. Railway had been aligned so as to pass about a mile to the east of Parel Station, not only the obstruction to vehicular traffic would have been greatly reduced, but the demand for an overhead railway to serve Sewri would never have been raised. With regard to this last project it is difficult to see how it can ever secure sufficient traffic to pay any reasonable dividend on the very large amount of capital which must be expended on its construction, and consequently it does not seem safe to assume it as coming within the sphere of practical politics. The alignment of the B. B. & C. I. Railway south of Grant Road is a second departure from the ideal system of railways indicated above ; but in this case the fault may be remedied in a large measure by reclaiming Back Bay. Reverting to the question of public roads, there is no doubt that wide thoroughfares giving access between the northern and southern portions of the Island are urgently needed. I am not in a position to particularize the routes such thoroughfares should take, but obviously Abdul Rahman Street is one of the first roads which should be widened. It further appears desirable to connect the Island of Bombay with the mainland by a really good road, and so induce the wealthy classes who can afford motors to reside outside the Island.”

3. The Trustees for the Improvement of the City of Bombay state that they recognize that the full value of the projected suburbs in the north of the Island cannot be realized without increased facilities for direct and rapid communication with the business quarters, and that their policy has been to advance this on every possible opportunity. They consider that the immediate needs of the City will be served—

- (1) by a satisfactory connection between the Frere and Reay Roads ;
- (2) by the widening of Abdul Rahman Street ;
- (3) by the construction of the portion of the western artery from Bandra Causeway to the southern limit of the Board's East Agripada Improvement Scheme at Sankli Street, where it will have connection with the central artery at the foot of the southern approach to the Byculla Bridge ; and
- (4) by the provision of a road northwards from Sandhurst Road in the line of Chnnam Kila Road (where widening is urgently required) which will afford a valuable route northwards *via* Gilder Street.

They are also of opinion that eventually the following wide north and south thoroughfares will be necessary :—

- (a) An eastern artery to meet the requirements of the Port, following the Frere and Reay Roads and their extension to Sewri and probably connecting with the central artery south of Mahim Chord Railway line.
- (b) A central artery along what is now the main thoroughfare of the City from Sion Causeway along Vincent, Soparibaug and Parel Roads and Abdul Rahman Street to the Crawford Markets and the Hornby Road.
- (c) A western artery giving clear access to the Bandra Causeway through the Mahim Woods.

4. The Millowners' Association, the Indian Merchants' Chamber and the Bombay Native Piece Goods Merchants' Association are not in favour of widening Abdul Rahman Street, as in their opinion the channels of communication, as at present existing, are ample for the immediate needs of the City. The Millowners' Association, however, recommend the improvement of the Frere Road, which runs straight from south to north, by extending it as far north as may be deemed necessary.

5. The Municipal Corporation suggest (1) the widening of Parel Road and its extension as a wide thoroughfare from Pydhonie to the neighbourhood of Arthur Crawford Market, and (2) a wide thoroughfare running south from the Bandra Causeway through the Mahim Woods and probably bifurcating to debouch upon the Esplanade Road and upon Girgaum. The Corporation remark that they have not the necessary material before them to express a definite opinion as to the precise line which should be followed south of Pydhonie, but they consider that the widened thoroughfare should debouch in the vicinity of either the Paltan or Hornby Road. Similarly, they are not in a position to lay down the precise line of the second or "western" thoroughfare, which, however, in their opinion, should present no difficulty in its more northern length, though the southern portion, which might take a line either through Kamatipura or along Duncan Road, must be difficult to locate and very costly to execute, and will probably require upwards of a generation to complete. The Corporation observe that the Improvement Trusts system of roads in connection with the new Chowpatty overbridge will prove of great value in this connection when Chunam Kiln Road is widened.

6. The Chamber of Commerce are of opinion that a wide approach road between the Ballard Pier and Hornby Road is absolutely necessary, as the present approaches through Elphinstone Circle and Church Gate Street on the south and Fort Street on the north are quite inadequate as connections between the new pier and the business centres of the City. The Port Trustees propose that there should be a wide road east of the present row of buildings connecting the Ballard Road (widened to 80 feet) with Fort Street, which is now 80 feet wide.

7. The Trustees of the Port of Bombay state that, so far as the trade zone is concerned, communications north and south are sufficiently provided for by the roads already made or projected in the Port Trust zone along the east and in the northern limits of the City and by the further schemes the Trustees have in view. These include the widening of the Reay Road by 30 feet (*i. e.*, from 60 to 90 feet, or the same as the Frere Road) from Mazagon to the

* The Municipality have been asked by the Trustees to similarly widen their section of this road between Wadi Bunder and Mazagon.

Kala Chowky,* and the construction of a new road 100 feet wide starting from the point in Mazagon at which the Dockyard Road joins the Reay Road, crossing the Harbour Branch Railway by an overbridge at the Defences Yard and rejoining the main north and south roads near the new timber ponds at Sewri. They think that the only other provision which is apparently desirable in the matter of north and south roads is a connection between the north end of the road forming the western boundary of the trade zone with the central thoroughfare to be made by the Improvement Trust as part of their suburban schemes for the north of the Island. With regard to east and west routes, the Trustees attach great importance to the construction of a short length of a wide street connecting the west end of Ballard Pier with Hornby Road. They observe:—

"The new Sandhurst Road under construction by the Improvement Trust will sufficiently meet other requirements in this respect south of Mazagon. The Trustees are making provision for widening the continuation of this road from the foot of the east approach to Elphinstone Bridge to the Frere Road to 100 feet, and it seems very desirable that the Elphinstone Bridge itself should be widened on the completion of Sandhurst Road. It could no doubt be arranged to divide the cost in the same proportion as the cost of the bridge was originally shared.

"The Victoria Road at Mazagon will become in the future a very important thoroughfare for traffic from the Cotton Depot and present Coal and Firewood Bunders to Byculla and districts to the west. It will cross the new line of railway by a bridge 80 feet in width, and the Trustees are making provision for widening the road within their boundaries, that is, eastward of Mount Road, to 80 feet. It is very desirable that the section between Mount Road and Parel Road should be similarly widened.

"Further north the present Kala Chowki Road sufficiently meets the requirements of the adjacent areas, and the most urgently necessary new line of road to meet immediately prospective developments is a wide road with easy gradients connecting Sewri village with the new Sewri Road at the southwest corner of the cemetery. There is to be a bridge across the railway line a little south of Sewri village, and this will be the direct route between the mills which are located on the new Sewri Road and those in the district around Parel, and the new Cotton Depot and the present Coal Bunder."

8. The Port Trustees point out the defects in the present provision of the means of rapid transit not only between the business offices in the Fort and the trade centres but also throughout the City. They are of opinion that either the urban or suburban traffic should be efficiently provided for, or that elevated or shallow underground lines should be worked electrically and carried along routes that will provide quick communication between outlying areas and the business centres. They think that the undertaking would involve a considerable outlay of capital, but that the welfare and development of the City would be so materially benefited that it would seem justifiable for the public bodies most directly interested to combine to assist such a project by some form of guarantee. They remark—

"As regards the route and alignment to be followed, the Trustees realize that it is of importance that the suggested new line should work in as far as possible with the existing

railway lines. On the understanding that they are adapted to work electrically there would be no apparent difficulty in such a combination. The route which naturally suggests itself is an overhead line starting from, say, Elphinstone Circle or the open space in front of the Custom House adjoining, running parallel to the Frere Road along the Docks and through the trade zone to Sewri, branching thence to the north through the area comprised in the Improvement Trust Scheme V (connecting with the G. I. P. Harbour Branch at the cross road leading to Antop Hill or with the G. I. P. main line north of Matunga Station) to the south side of the Bandra Creek, where it would connect with the B. B. & C. I. Railway. The existing B. B. & C. I. line south of Grant Road to be replaced by an overhead line which would follow the existing line or line of the Queen's Road to a point a little south of the Marine Lines Station, whence it could be carried by a line skirting the Parade Ground to opposite the Victoria Terminus and be continued either *via* Fort Street or along the east side of the Parade Ground and by the new road to be made connecting Hornby Road with the west end of the Ballard Road, to rejoin the line from Elphinstone Circle, thus forming a complete circuit.

"The total length of new line to be thus provided would be approximately 11 miles, and the capital cost for an overhead electrical line throughout, including complete equipment, would probably amount to £ 1,375,000 exclusive of land. On the route suggested, the cost of land would not be a very expensive item, as for the length from Ballard Road to Sewri, say 5 miles, the Port Trustees would be prepared to give a right-of-way free of charge. It appears probable that £ 1½ to 1¾ millions would cover the entire cost of the project.

"Judged by European examples 1¾ millions is not a large sum for a City of the size of Bombay to spend on such a scheme. Hamburg, for instance, with a population of under 800,000, which already possesses a complete tramway system, is now spending over £ 4 millions on a circular railway, partly overhead and partly underground, 17 miles in length, the cost being enhanced by the necessity of acquiring valuable street properties to make way for the line.

"No reliable data are available for an estimate of the probable traffic on the line suggested, but there can be no question that it would be very considerable, and that the scheme is quite feasible financially with the co-operation of the two Railway Companies the Municipality, the Port Trust and Improvement Trust jointly, especially considering how lightly the City is at present taxed, the rates on property aggregating under 15 per cent. as against 19½ per cent. in Calcutta.

"The Trustees, as already explained, attach considerable importance to the complete scheme as a necessary means to the fullest development of the City. It would, in their opinion, solve the problem of what to do with the present railway along the Sea Face, as the urban and suburban traffic would be efficiently provided for. Whatever may be the decision as regards the complete project however, it seems absolutely necessary that the section from Elphinstone Circle to Sewri, with, possibly, a branch to Church Gate Street or Marine Lines should be carried out in time to be ready for the opening of the new goods depôts and cotton green. The Chamber of Commerce, the Millowners' Association, the Bombay Cotton Trades Association and the Bombay Cotton Exchange Company have all laid the greatest stress upon the necessity for the provision of rapid means of transit between the Fort and the proposed trade centres as essential to the complete success of the Trustees' project, and they will feel bound, failing any other agency, to take steps for the construction of this line. The net liability to be incurred on this section, it is estimated, would not exceed Rs. 2 lakhs per annum, which the trade could well afford to pay in return for the great convenience it would be to the transaction of business. Whether the B. B. & C. I. Railway Company, which is chiefly concerned, could be induced to take up the project of the Tramway Company, or a separate private company be entrusted with the concession, is a matter for future consideration, but of its necessity, as a convenience in the interests of the trade of the Port, the Trustees entertain no doubt whatever."

9. The Port Trustees bring to notice certain requirements in connection with the future extension of the Dock accommodation. They ask, for the reasons mentioned in paragraph 19 and 20 of their letter, that no project for any considerable extension of the present dockyard premises be entertained without careful consideration of the views set forth by them.

III.—Is it desirable to adapt the Victoria Terminus for the reception of all main passenger traffic into Bombay?

The Chamber of Commerce, the City Improvement Trustees and the Port Trustees are of opinion that it is desirable to adapt the Victoria Terminus for the reception of all main passenger traffic into Bombay. The Chamber observe that if the present station is not large enough, it could no doubt be added to or a new terminus built for the purpose to the east, but that this change will involve the removal of the European General Hospital to a more suitable locality. They add that, if it is found necessary, long distance trains for the B. B. & C. I. Railway system could also be started from Grant Road, to be connected with main line trains, at Dadar or at any other point that might be convenient.

2. The Port Trustees remark that the dealing of long distance traffic at the Victoria Terminus will be greatly facilitated if the urban and suburban traffic is provided for by an overhead line.

3. The Millowners' Association are not prepared to give any direct answer to the proposal referred to above, as they consider the adaptation of the Victoria Terminus for the purpose mentioned is primarily a question for solution by the two Railways concerned.

4. The Agent, G. I. P. Railway Company, states that it has already been recognized that the present terminal station is inadequate to cope fully with the existing long distance and suburban passengers and goods traffic, and that very considerable extensions will be necessary in the near future to enable the Railway Company to deal satisfactorily with its own traffic.

5. The Indian Merchants' Chamber and the Agent, B. B. & C. I. Railway Company, are not in favour of the proposal. The reasons of the Agent for not accepting the proposal are contained in paragraph 4 of his letter No. 2285-W., dated 15th February 1908, which is quoted below :—

"4. It is difficult to see what advantages will be gained by adapting Victoria Terminus for the accommodation of the long distance passenger traffic into and out of Bombay. The relief afforded to the Colaba route would be infinitesimal, only 12 out of 196 trains per diem being affected, while the congestion consequent on handling a heavy traffic of this description at one station would be productive of great inconvenience to passengers, road traffic, and Railway Administrations. For the accommodation of through traffic between different railway systems, a central station is unquestionably advantageous, but in the case of terminal traffic, distribution among conveniently situated stations is a far more satisfactory arrangement. Colaba and Grant Road Stations undoubtedly serve public requirements better than a single station at Victoria does or can. Colaba is a quarter of a mile nearer to the Yacht Club than is Victoria Terminus, while as regards Malabar Hill, Grant Road has an advantage of about a mile and a half. It must also be remembered that the working of the long distance train service into Victoria Terminus would result in this description of traffic, previously handled at stations south of Dadar, having to be transhipped at that junction. As the bulk of the B. B. & C. I. Railway long distance passengers now use Grant Road and Charni Road Stations, this interruption of through service would be productive of great inconvenience to the Indian travelling public, many of whom would be compelled to incur extra expense in consequence. Dadar would have to be converted into a large passenger transshipping junction, the cost of which would bring no additional earnings to the railway administrations concerned. Heavy extra expenditure would also be necessary at Victoria Terminus, as the B. B. & C. I. Railway would require separate platforms to enable its trains to be started and received at such times as were essential for the maintenance of its up-country connections, and not at such times as were convenient to the G. I. P. Railway."

IV.—Can the local railway traffic be brought from Parel into the Victoria Terminus in future along the existing G. I. P. route from Parel, thus enabling the B. B. & C. I. Railway to be dispensed with from Grant Road onwards, or should the present B. B. & C. I. line be retained for the purposes of local traffic as far as—

- (a) Marine Lines,
- (b) Church Gate,
- (c) Colaba ?

The Chamber of Commerce are of opinion that local traffic should be diverted to the present Victoria Terminus or to an adjacent station and that the B. B. & C. I. Railway should be stopped at Grant Road. They observe—

"This question is one that has been much discussed in the past, but the scheme tentatively put forward by this Chamber in 1904 of an electric railway on the eastern side of the Island with a central station in the Fort will, now that this railway seems likely to become a reality, to a very large extent solve the difficulties which have surrounded this question in the past. If, as is suggested, the electric line branches on the one hand to Trombay and on the other to Mahim, Bandra and surrounding districts, residents in these localities will much prefer to be brought either to the Victoria Terminus or by the electric railway to the central station in the Fort. There is, therefore, no need with a development of this nature to consider the B. B. & C. I. Railway so far as traffic is concerned from the northern parts of the Island and from Salsette. The passenger traffic from Grant Road to stations south and *vice versa* is no doubt of some importance, but, though perhaps not at the same low cost, it could no doubt be largely dealt with by electric tram cars. If the line along the sea-face is removed, there would be ample room for a tramway track along the Queen's Road, widened as it would be into a broad avenue; and the new sea-face road would of course, when made, be left free for carriage and ordinary traffic. My Committee fully recognize that in a comprehensive scheme such as is now necessary some interests must suffer, but the point to be borne in mind, they consider, is the present and future welfare of the community as a whole, and if the electric tram car system can be thoroughly developed, all surplus needs will, by this means, be very effectively served."

2. The Agent, B. B. & C. I. Railway, states :—

"Preliminary to a discussion of the desirability of terminating the B. B. & C. I. Railway short of Colaba, it should be remembered that in his contract with the Railway Administration, the Secretary of State has only reserved the right to resume possession of 'the line south of Church Gate Station of Bombay to Colaba'. The decision to limit resumption to this section was arrived at after full consideration by Government of the questions now at issue, and in regard to which no new factor of importance has, so far as I am aware, been presented. In the accompanying note on the provision of a passenger terminus for the B. B. & C. I. Railway in Bombay, the issues raised in paragraph 10 (4) of your letter have to a large extent been considered, and there is consequently no object in repeating the facts there stated. In this note I think I have shown that the local traffic of the B. B. & C. I. Railway could not be as conveniently carried by the G. I. P. Railway, supplemented by a tramway service, as it is now. It may, however, be well to emphasize the facts that, wherever the railway is terminated, extensive station and yard accommodation must be provided, and that any isolation of Grant Road from the stations south will deprive a very large number of people of all railway facilities.

"The appended statistics for the half year ended 30th June 1907 of the passenger traffic handled at Bombay stations prove conclusively that immense inconvenience would be caused to the travelling public by any interference with the existing facilities provided by the B. B. & C. I. Railway. In studying these statistics the proximity of the stations at Elphinstone Road and Lower Parel to Parel and Curry Road Stations on the G. I. P. Railway admits of the figures for the former two stations being neglected in estimating the effects of diverting the long distance traffic to the G. I. P. Railway route and of closing stations south of Grant Road. At the same time the considerable distances of Grant Road, Charni Road and Colaba Stations from the G. I. P. Railway accentuate the inconvenience which would result from depriving these localities of the railway facilities now enjoyed. An important point disclosed by these statistics is that, although Marine Lines is the nearest B. B. & C. I. Railway Station to Victoria, its local traffic is only about half that of Church Gate. Obviously, therefore, Victoria Terminus would not meet the public need as satisfactorily as Church Gate Station does."

The Agent has given a statement showing the number of passengers who used the stations south of Grant Road during the half year ended 30th June 1907, which gives an idea of the inconvenience which will follow the closing of the station specified.

3. The Municipal Corporation and the City Improvement Trustees consider that it is not desirable to dispense with the B. B. & C. I. Railway line between Grant Road and Church Gate Street Station, having regard to its proved convenience, unless and until it is possible to electrify the line, or an equally efficient and economical substitute be provided. The Improvement Trustees consider that increased railway facilities will be required to cope with the increased traffic that must ensue from the development of the areas in the north of the Island. They are of opinion that the time is approaching when the urban and suburban traffic will have to be dealt with by an entirely different system from the long distance traffic. The Board think that electric railway of the elevated or underground type, which will effectually do away with the smoke nuisance, prevent all interference with cross traffic, and provide a rapid and frequent service at low rates will become necessary in Bombay before many years have passed, and they accordingly suggested that the proposal to bring all local traffic from Parel and stations north of Parel into Victoria Terminus should not be seriously considered. They favour the removal of the B. B. & C. I. Railway line between Church Gate Street, Station and Colaba, considering that with the removal of the cotton trade to the north of Mazagon and of the trooping arrangements to the new Alexandra Dock, the reason for its existence will be at an end.

4. The Millowners' Association, the Indian Merchants' Chamber, and the Bombay Native Piece Goods Merchants' Association are not in favour of concentrating all local passenger traffic at Victoria Terminus.

5. The Agent, G. I. P. Railway Company, states that the question referred to has already in one form or another been minuted and reported on from time to time, and in this connection he refers to the following extracts from his letter No. 16703, dated 4th October 1904, to the Public Works Department, Railway Branch :—

"(ii) Whether through trains for passengers from and to distant stations should run to and from Victoria Terminus, provision being made for carrying travellers by sea to and from the deep-sea pier and possibly disconnecting at Dadar or elsewhere passengers for Grant Road or other stations on the west.

"It is questionable whether the majority of long distance travellers over the B. B. & C. I. Railway would be inconvenienced were their trains to run into and out of Victoria; but I believe it is quite feasible to effect that arrangement of traffic without inconvenience to those desiring to use stations on the B. B. & C. I. south of Dadar. If the Trustees of the Port construct a deep sea pier, and it is freely used by passenger steamers and troop-ships, railway communication with the pier being established, it seems inevitable that certain trains or parts of trains will pass from the B. B. & C. I. Railway on to the G. I. P. Railway at Dadar.

"(iv) Whether in the event of the previous questions being answered in the affirmative, the B. B. & C. I. Railway should stop at Church Gate or be continued to Colaba for suburban traffic.

"I take leave to suggest that the answer to this question cannot be based on those given to the previous ones. As I understand the proposal to abolish the railway terminus at Colaba emanates from different and more reaching considerations—the inability of the authorities to meet, or even contemplate meeting, strong and rapidly increasing interests between, say, Church Gate Street and that part of Colaba which is mainly used for military purposes. It is, I think, a question upon which individual opinions are valueless, and which demands the same treatment as was accorded to the Port Trust proposal to construct a harbour branch line, *i. e.*, a Government Commission.

"I submit that amongst other factors the question whether it would be justifiable to stop the B. B. & C. I. Railway at Church Gate depends, in its proportionate degree, upon the possibility of reducing the use of the line south of that station, upon the strength, after consideration has been applied to the effects of such reduction, of claims for the continuance of the present terminus, and on the weight of argument in favour of removing all railway facilities from Colaba; whether the interests of people residing at Colaba or frequenting that place on business are stronger than those which affect the public at large. I am extremely doubtful on this point.

"(v) Whether, for carrying out such arrangements as are indicated single control of lines south of point of junction would be necessary, or whether they could be effected by co-operation of the two Railway Administrations.

"Whatever the arrangements may be for local or for through traffic, I consider that the existing system under which each Administration exercises control should not be disturbed.

"Earnest, sagacious co-operation, and a just appreciation of the fact that common interests are involved, should suffice.

"(vi) Whether for suburban traffic there will be a substantial need that each Railway Administration should have running powers over the line of the other up to points outside the Island; and if so, to what points; and whether there would be any practical difficulty in carrying out such an arrangement.

"In my opinion public interests have long demanded that suburban passengers should be free to use both lines, and that both railways should have running powers over each other as far as, say, Bandra and Kurla, to be exercised when necessary. The limits of such inter-railway suburban services should, as far as possible, be parallel, *viz.*, Victoria as against Church Gate, Sion as against Mahim, Kurla as against Bandra, and the arrangements between the two railways should be so elastic as to permit of the extension of the services beyond Kurla and Bandra if found necessary. I do not consider that there should be any practical difficulty in arranging this."

V.—Assuming the existence of free and rapid communication by rail, tramway, or otherwise, and the construction of two arterial thoroughfares running north and south, what areas on the Island are specially suited to the housing of—

- (1) *the middle classes who visit the Fort daily for employment?*
- (2) *the labouring classes including the mill hands and other factory employés?*

The Agent, B. B. & C. I. Railway Company, thinks that the middle classes could best be accommodated in the neighbourhood of Mahim. The Chamber of Commerce consider that Mahim and the northern districts will be suitable localities for well-to-do clerks and others of the same class. They doubt very much if it will be possible to locate an area for this class of the community. They are very strongly of opinion that building and laying out of wide roads should be very carefully regulated in the outlying districts. The Indian Merchants' Chamber and the Millowners' Association suggest that the middle classes might suitably be accommodated on the eastern portion of the Mahim Woods. The latter body also thinks that land right up to the west of the B. B. & C. I. Railway can be utilized for the same purpose. The Trustees for the Improvement of the City of Bombay are of opinion that the northern suburbs of Dadar, Mahim, Dharavi and Sion, and also Dhobi Talao, Bhuleshwar, Khetwadi, Girgaum and some part of Mazagon are suitable localities where the middle classes can be conveniently located.

2. The Chamber of Commerce are of opinion that, as in a very few years the new trade depôt at Mazagon will be a very busy district, accommodation should be largely provided for the labouring classes in localities to the north-east of the Island of Bombay. The Agent, B. B. & C. I. Railway Company, thinks that the area north of the Fort and east of the G. I. P. Railway seems suitable for the accommodation of such classes. The Millowners' Association consider that the mill-hands, factory employés and labourers generally could adequately be provided for at Dadar and Matunga and north-east of the Island. The Indian Merchants' Chamber and the Bombay Native Piece Goods Merchants' Association suggest that chawls on the model of those built by the Improvement Trust in Princess Street may be built for the working classes in E, F and G Wards. The latter Association invite attention to the absolute necessity and want of cheap residential quarters for the use and occupation of the working classes, and specially those engaged in the service of native traders, whose monthly wages range from Rs. 10 to Rs. 20 per month. They suggest that a provision similar to that

made for the Mahars, Mahrathas, Konknees, etc., in Scheme No. II and the Koliwada Scheme should also be made for the poor high class Hindus working on low wages, as well as for Mahomedans and Parsis. In the opinion of the City Improvement Trust mill-hands and dock-labourers should be located in the centre and eastern side of the Island, in Maudvi, Omerkhadi, Tarwadi, Byculla, Mazagon, Chinchpokli, Parel and Naigaum, while Kamatipura, Khara Talao and Kumbharwada must also continue to house large numbers of the working classes.

3. The Port Trustees state that it is desirable that the labour required in handling the trade at the docks and bunders and the new trade centres should be accommodated as conveniently near the spot as possible. They contemplate making the necessary provision for the requirements concerning the dock labour at their own expense. They have already provided quarters for some 1,900 men in all, and have now before them proposals for largely increasing the accommodation. They hope also, as opportunity offers, to provide official residences for the officers on the superior staff.

4. With regard to schemes for the extension of the residential area of the City, the Trustees refer to possible reclamations in Mahim Bay. The foreshore vests in the Board and is an asset that they would be glad to realize in view of the many liabilities they are incurring in providing increased and improved accommodation for the trade of the Port.

5. The Corporation consider that the new overcrowded areas of the City will continue to be occupied by the poorer and working classes who at present insist on accommodation contiguous to the scene of their daily labours. Except for the purpose of providing more extensive accommodation for this class in the neighbourhood of mills and large workshops, the main object to be aimed at should, in their opinion, be the removal from the centre of the City of the middle and more well-to-do classes, for whom Improvement Schemes Nos. V and VI and the vacant lands of Mahim and Dharavi will afford suitable and convenient areas. In the opinion of the Corporation the migration of these classes will entail also that of considerable numbers of domestic servants, shopkeepers, labourers and artizans.

6. The Corporation remark that the chief requirements of the City at present are: (1) the removal of insanitary houses; (2) the abatement of over-crowding and the provision of house accommodation; (3) improved communication between the north and south of the Island; and (4) provision of stable accommodation. With regard to (1), the Corporation presume that the Improvement Trust will deal with insanitary areas in the same way as they have dealt with 1st Nagpada, and they urged the desirability of filling up the lowlying portions of the Island. With reference to (2), the Corporation differentiate between the overcrowding of houses on the area and the overcrowding of people in the houses, and believe the former to be the greater evil of the two. They observe that education inducing a desire for a higher standard of comfort and sanitation will gradually reduce overcrowding in houses, and that the time which must elapse before this result can be brought about renders it impossible to deal with this aspect of the question except in the very limited manner attempted by the recent addition of section 379-A (4) to the Municipal Act. They suggest that the attention of the Improvement Trust should therefore be particularly directed towards the lessening of the overcrowding of houses on the available area, and that to prevent a similar overcrowding of areas in the future statutory powers are required to limit the proportion of area of a building plot that may be built over and to prohibit building on a plot of less than a fixed minimum area. Concerning the improvement of communication between the north and south of the Island, the views of the Corporation are embodied in the answers to question No. 2.

7. Regarding the provision of stable accommodation, the Corporation suggest for the immediate future that all milch-cattle stables should be concentrated in suitable localities north of Clerk Road, where their construction and sanitary condition can be carefully supervised. They hope that it may ultimately be found possible to relegate all these stables to places outside the limits of the Island, arrangements being made by the Railways for the regular running of milk trains. For bullocks employed in connection with labour carts the Corporation consider that stable accommodation should be provided towards the east and north of the Island, and that stables for horses must be distributed more or less throughout the City, the requirements of each ward being fixed in consultation with the Commissioner, and a definite area in each ward being selected, to which such stables might be rigidly confined.

VI.—What special measures are necessary or desirable in the nature of the provision of cheap workmen's trains or workmen's tramways to enable the labouring classes to be cheaply accommodated in the less frequented portions of the Island where land is available on easy terms? Assuming that cheap fares can be arranged for traffic between certain hours, will the working classes be able to pay these fares and a rent adequate to give a reasonable return on the capital invested in accommodation schemes?

The Chamber of Commerce, the Millowners' Association, the Indian Merchants' Chamber, the Bombay Native Piece Goods Merchants' Association, the Trustees for the Improvement of the City of Bombay, and the Agent, B. B. & C. I. Railway Company, are of opinion that no special measures appear necessary in regard to the working of cheap workmen's trains or tramways. The Chamber of Commerce, however, think that powers should be reserved in any new traffic arrangements that may be entered into for workmen's trains, as cheap transit to the outlying districts may have an important bearing on the schemes now under consideration.

Schedule showing the proposals made in connection with the question regarding the development of Bombay City and the improvement of communications in the Island.

Proposal.	Supporters of the proposal.	Page of the Summary.
I.		
<i>Provision of residential areas for wealthy classes.</i>		
(a) Construction of residential areas in the north of the Island, involving—		
(1) Development at Mahim and utilization of the Mahim Woods for all classes.	Chamber of Commerce ... Millowner's Association. Indian Merchants' Chamber. Bombay Native Piece-goods Merchants' Association. Agent, B. B. & C. I. Railway.	8
(2) Development of Dharavi for all classes and removal to the mainland of the tanneries at Dharavi.	City Improvement Trust ...	8
(3) Utilization of a valuable area for high class residences on the western face between Mahalaxmi and Worli by effecting a change in the existing system of pumping the sewage into the sea at Love Grove.	City Improvement Trust and Municipal Corporation.	8
Conferment on the Improvement Trust or on the Municipality (when their by-laws are adequately amended) of statutory powers to make and enforce town extension plans on the lines of the enactments in force in Germany, in order to enable them to deal with the most central portion of the Island and to secure it against improper development in future.	City Improvement Trust ...	8
(b) Reclamation in Back Bay ...	Chamber of Commerce (recommending reclamation at the Colaba end of Back Bay and removal of the railway along the sea front south of Grant Road). City Improvement Trust (recommending the reclamation of a comparatively small area). Agent, B. B. & C. I. Railway ...	10 10 10
Reclamation of a large shallow strip of the Mahim Bay between the Worli and Mahim Forts, and its utilization for building sites instead of cutting down the Mahim Woods to provide the accommodation sought.	Land-owners, residents and rate-payers of the Mahim Woods.	9
Reclamation in Mahim Bay ...	Port Trust ...	17
(c) Development of Trombay ...	Chamber of Commerce (stating that Government should control building operations). Bombay Native Piece-goods Merchants' Association. Indian Merchants' Chamber. Mill-owners' Association.	10
	} Stating that development should be left to private enterprise.	

Proposal.	Supporters of the proposal.	Page of the Summary.
II. <i>Channels of communication.</i>		
Widening of Abdul Rahman Street ...	Chamber of Commerce ... Agent, B. B. & C. I. Railway. ... City Improvement Trust ... Municipal Corporation ...	11 11 12 12
Construction of a short length of a wide street connecting the west end of Ballard Pier with Hornby Road.	Port Trust ... Chamber of Commerce ...	12 12
Provision of a wide road east of the present row of buildings connecting the Ballard Road (widened to 80 feet) with Fort Street (which is now 80 feet wide).	Port Trust ...	12
Provision of a central artery along what is now the main thoroughfare of the City from Sion Causeway along Vincent, Soparibag and Parel Roads, and Abdul Rahman Street to the Crawford Market and the Hornby Road.	City Improvement Trust ... Municipal Corporation ...	11 12
Extension of Frere Road into Reay Road ...	Chamber of Commerce ... City Improvement Trust ... Millowners' Association ...	10 11 11
Extension of Queen's Road in the direction of Grant Road Station.	Chamber of Commerce ...	10
Construction of a "really good road" to connect the Island of Bombay with the mainland.	Agent, B. B. & C. I. Railway ...	11
Provision of a western artery giving clear access to the Bandra Causeway through the Mahim Woods.	City Improvement Trust ... Municipal Corporation ...	11 12
Provision of a road northwards from Sandhurst Road in the line of Chunnam Kiln Road (where widening is urgently required), which will afford a valuable route northwards <i>via</i> Gilder Street.	City Improvement Trust ...	11
Provision of an eastern artery to meet the requirements of the Port, following the Frere and Reay Roads and their extension to Sewri and probably connecting with the central artery south of Mahim Chord Railway line.	Do. ...	11
Provision of a connection between the north end of the road forming the western boundary of the trade zone with the central thoroughfare to be made by the Improvement Trust as part of their suburban schemes for the north of the Island.	Port Trust ...	12
Widening of the Elphinstone Bridge on the completion of Sandhurst Road.	Do. ...	12
Widening of the section between Mount Road and Parel.	Do. ...	12
Provision of a wide road with easy gradients connecting Sewri village with the new Sewri Road at the south-west corner of the cemetery.	Do. ...	12
Proposal that elevated or shallow underground lines should be worked electrically and carried along routes that will provide quick communications between outlying areas and the business centres.	Do. ...	12

Proposal.	Supporter of the proposal.	Page of the summary.
III.		
<i>Adaptability of Victoria Terminus for main passenger traffic.</i>		
Desirability of adapting the Victoria Terminus for the reception of all main passenger traffic into Bombay.	Chamber of Commerce Improvement Trust. Port Trust.	... 13
Proposal that, in order to facilitate the dealing of long distance traffic at the Victoria Terminus, urban and suburban traffic should be provided for by an overhead line.	Port Trustees	... 14
IV.		
<i>Arrangements for local passenger traffic.</i>		
Proposal that local traffic should be diverted to the present Victoria Terminus or to an adjacent station and that the B. B. & C. I. Railway should be stopped at Grant Road.	Chamber of Commerce	.. 14
Provision of an electric railway on the eastern side of the Island with a central station in the Fort.	Do.	... 14
Proposal that the passenger traffic from Grant Road to stations south and <i>vice versa</i> should be dealt with by electric tram cars.	Do.	.. 14
Provision of electric railway of the elevated or underground type.	Improvement Trust	.. 15
Proposal that both Railways (G. I. P. and B. B. & C. I.) should have running powers over each other as far as Bandra and Kurla to be exercised when necessary.	Agent, G. I. P. Railway	.. 16
V.		
<i>Housing of middle and labouring classes.</i>		
(1) Accommodation for the middle classes—		
(a) in the neighbourhood of Mahim ...	Agent, B. B. & C. I. Railway	.. 16
(b) in Mahim and the northern districts ...	Chamber of Commerce	.. 16
(c) on the eastern portion of the Mahim Woods.	Indian Merchants' Chamber and Mill-owners' Association	.. 16
(d) in the northern suburbs of Dadar, Mahim, Dharavi and Sion; and also Dhobi Talao, Bhuleshvar, Khetwadi, Girgaum and some part of Mazagaon.	Improvement Trust	... 16
(e) in places comprised in the Improvement Schemes Nos. V and VI and the vacant lands of Mahim and Dharavi.	Municipal Corporation	.. 17
(2) Accommodation for the labouring classes—		
(a) in localities to the north-east of the Island of Bombay.	Chamber of Commerce	. 16
(b) area north of the Fort and east of the G. I. P. Railway.	Agent, B. B. & C. I. Railway	.. 16
(c) at Dadar and Matunga and north-east of the Island.	Mill-owners' Association	.. 16
(d) in chawls to be built in E, F and G Wards of the City on the model of those built by the Improvement Trust in Princess Street.	Indian Merchants' Chamber Bombay Native Piece-goods Merchants' Association.	.. 16 ...

Proposal.	Supporter of the proposal.	Page of the Summary.
(e) (mill-hands and dock-labourers) in the centre and eastern side of the Island, in Mandvi, Omerkhadi, Khara Talao, and Kumbharwada; (working classes) in Kamatipura, Khara Talao and Kumbharwada.	Improvement Trust ...	17
Proposal that provision similar to that made for the Mahars, Marathas, Konkauees, etc., in Scheme No. II and the Koliwada Scheme should also be made for poor high caste Hindus working on low wages, as well as for Mahomedans and Parsis.	Bombay Native Piece-goods Merchants' Association.	17
Desirability of filling up low-lying portions of the Island.	Bombay Municipal Corporation ...	17
Suggestion that the attention of the Improvement Trust should be particularly directed towards lessening the over-crowding of houses on the available area.	Do. ...	17
Proposal that in future all milch-cattle stables should be concentrated in suitable localities north of Clerk Road where their construction and sanitary condition can be carefully supervised.	Do. ...	17
VI.		
<i>Provision of workmen's trains.</i>		
Suggestion that powers should be reserved in any new traffic arrangements that may be entered into for workmen's trains, as cheap transit to the outlying districts may have an important bearing on the schemes now under consideration.	Chamber of Commerce ...	17

APPENDIX B.

Town Planning.—

Development of the Town and Island of Bombay.

No. 7440.

GENERAL DEPARTMENT.

Bombay Castle, 16th October 1913.

RESOLUTION OF GOVERNMENT.

In December 1907 Lord Sydenham's Government, recognizing the absence of any comprehensive and well-considered scheme for the development of Bombay and the serious difficulties to which this deficiency was giving rise, instituted an enquiry, by means of a letter of reference addressed to the several public bodies, railway companies, and commercial associations concerned, into certain important questions relating to this matter. The principal points raised in the reference thus made were the reservation of special areas in the Island of Bombay for the accommodation, in the manner best suited to their respective requirements, of different classes of the community, the provision of the main arterial channels of communication necessary for the service of such areas, and the adaptation of existing railway communications so as to harmonize with these schemes of expansion and development. After a consideration of the opinions which the enquiry had elicited, that Government proceeded in due course to formulate a policy designed to govern the development of the Island and the organization of its communications for the next twenty years. The lines of this policy were laid down in Government Resolution No. 3022, dated the 14th June 1909.

2. More than four years have elapsed since the general scheme defined by the above orders was planned, and in the opinion of the Governor in Council the time has now come for taking stock of the progress made in its execution, for reviewing the present situation in regard to the development of the City, and for considering what steps it is desirable to take in order to ensure the continued and consistent advance of this development on the best possible lines. It is not intended that there should be any radical revision of, or sudden deviation from, the lines of 1909, which were settled after the most careful deliberation and with due provision, so far as was possible, of future requirements, and which must be recognized as being in accordance with sound and well-considered principles; but the necessity is felt of ascertaining whether the changes and developments which have occurred within the last four years call for any modification of the conclusions then formed as to the relative urgency of the several projects or as to the method of their interworking. It seems desirable to consider also whether the operations and prospective needs of the railway companies, of the Port Trust, and of newly developing interests and industries have not, or are not likely to, set up novel conditions to which these projects must be adapted, or to meet which fresh projects require to be designed. Finally it appears essential that means should be devised whereby all future operations connected with the development of the City shall be subjected to periodical and systematic review both with reference to the above-named considerations and in order to secure their due co-ordination.

3. The Governor in Council considers that the objects which he has in view will best be secured by reference to a committee which shall be authorized to take the evidence of witnesses competent to represent the diverse interests which are concerned in the development of Bombay. He proposes accordingly to appoint a committee constituted as follows:—

- (1) A representative of the Bombay Corporation.
- (2) Do. Bombay City Improvement Trust
- (3) Do. Bombay Port Trust.
- (4) The Consulting Architect to Government.
- (5) The Special Officer, Salsette Building Sites, who will officiate as Secretary to the Committee.

The above committee, when finally appointed, will be presided over by the Honourable Mr. Claude Hill, C.S.I., C.I.E., I.C.S., and will have power to co-opt the Executive Engineer, Presidency, when his services are required by them.

4. The following are the several points which will be referred to the committee for consideration and report:—

- (i) the progress already made in the execution of the scheme formulated in the orders of 1909;

(ii) the modifications, if any, which have actually occurred in that scheme as so far carried out;

(iii) whether any and, if so, what further modifications are advisable in view of the changes and developments which have taken place within the last four years;

(iv) what measures should now be taken for systematic further development, the particular measures recommended being set forth under specific heads, and more especially with reference to the following:—

(a) the provision of sites for Government institutions;

(b) similar provision for public institutions in which Government are interested, such as the appendages to the University and its colleges and several much needed institutions which are in contemplation;

(c) the provision of areas suitably located to meet the increasing demand for residential quarters for the different grades of society;

(d) the allotment or reservation of sufficient space to allow for the expansion of existing industries, such as the mill industry, and for the coming into being of possible new industries, in order that these, when developed, may not grow up at random in areas which it may be necessary or desirable to reserve for other purposes in future;

(e) the reservation of open spaces for purposes of recreation and health;

(f) the provision of suitable means of communication both by road and by rail with any areas which may be provided as above.

(v) any other measures which it may be desirable to indicate, not necessarily for immediate adoption, but as being calculated ultimately to be called for in pursuance of a consistent policy of development.

5. In addition to the above points the Governor in Council desires that the committee should express definite opinions on the following specific questions:—

(a) In order to provide for the indefinite growing needs of the City in the matter of expansion is it possible to entertain the idea of uprooting long established institutions, such as the University buildings and the colleges grouped in their neighbourhood, the Secretariat and the High Court, the removal of which to another part of the Island would afford considerable room for expansion besides solving the difficult problem of their own need for extension?

(b) If the committee consider that such an expedient is inadmissible, then is it in their opinion necessary, in order to provide for the absolutely needful extension of these institutions to reiterate the view that recourse must be had to reclamation?

(c) If such is the opinion of the committee, then would they recommend reclamation by a single scheme of considerable size to be carried out in sections, or by a scheme of one small section at first to be followed by additions as required?

6. Finally, the committee should advise as to the best means of securing co-ordination and expedition in the carrying out of the measures which, after considering the recommendations presented in their report, Government may resolve on adopting.

7. The Governor in Council is pleased to authorize the Committee to call for information from Government officers, and to take the statements of such individuals and public bodies and associations or their representatives as they may consider competent, and as may be willing, to give evidence which would be of service to the committee in the conduct of their enquiry.

J. L. RIEU,

Secretary to Government.

To

The Hon'ble Mr. C. H. A. Hill, C.S.I., C.I.E., I.C.S., Member of Council,
 The Municipal Commissioner for the City of Bombay,
 The Chairman, City of Bombay Improvement Trust,
 The Chairman, Bombay Port Trust,
 The Special Officer Salsette Building Sites,
 The Director of Public Instruction,
 The Consulting Architect to Government,
 The Public Works Department,
 The Revenue Department,
 The Legal Department,
 The Judicial Department,
 The Marine Department,
 The Educational Department,
 The President, Municipal Corporation, Bombay (by letter),
 The Non-Official Members of the Legislative Council,
 The Registered Libraries in Bombay City,
 The Separate Department (for the reading room for the Members of the Legislative Council),
 The Editors, Tables and Editors of Newspapers in Bombay City.

Town Planning.—

Development of the Town and Island of Bombay.

No. 8005.

GENERAL DEPARTMENT.

Bombay Castle, 7th November 1913.

RESOLUTION OF GOVERNMENT.

With reference to paragraph 3 of Government Resolution No. 7440, dated the 16th October 1913, the Governor in Council is pleased to appoint the following Committee to consider the question of the development of the Town and Island of Bombay:—

The Hon'ble Mr. Claude Hill, C.S.I., C.I.E., I.C.S., *Chairman.*

The Hon'ble Sir P. M. Mehta, K.C.I.E.

The Hon'ble Sir Ibrahim Rahimtulla, Knight, C.I.E.

The Hon'ble Mr. F. L. Sprott.

Mr. G. Wittet.

Mr. B. W. Kissan, I.C.S., who will also officiate as Secretary to the Committee.

} *Members.*

2. The President, Municipal Corporation, Bombay, should be informed that in view of the recommendation made in paragraph 2 of his letter No. 4226, dated the 21st October 1913, which is accepted, the Governor in Council will be glad if the Corporation will nominate a second representative on the Committee.

3. The Committee which will assemble at the Council Hall, Secretariat, will have the power to co-opt the Executive Engineer, Presidency, when his services are required by them.

J. L. RIEU,

Secretary to Government.

To

The Hon'ble Mr. C. H. A. Hill, C.S.I., C.I.E., I.C.S., Member of Council,

The Municipal Commissioner for the City of Bombay,

The Chairman, City of Bombay Improvement Trust,

The Chairman, Bombay Port Trust,

The Collector of Bombay,

The Executive Engineer, Presidency,

The Special Officer, Salsette Building Sites,

The Director of Public Instruction,

The Consulting Architect to Government,

The Public Works Department,

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WRITTEN STATEMENTS.

No. 22447, dated 25th October 1913.

From

P. R. CADELL, Esqr., C.I.E., I.C.S.,
Municipal Commissioner for the City of Bombay;

To

THE SECRETARY, BOMBAY TOWN DEVELOPMENT COMMITTEE.

As desired by you I beg to submit the following note on the subjects to be dealt with by the Committee appointed under Government Resolution No. 7440 of 16th October 1913. In doing so I shall avoid as far as possible going into details which can better be ascertained from the Municipal Executive Engineer.

2. In considering the development of the Island it is necessary first to examine the means of communication. As regards railways there is not much to be said. The Government in 1909 decided that the B. B. & C. I. Railway must continue to run up to Colaba; and as regards the wisdom of this decision I do not think there can be any doubt. The undertaking by the G. I. P. Railway of an overhead electric railway should prove of the greatest assistance in providing communication with the north of the Island and possibly with Salsette. I think that the G. I. P. Railway should be encouraged to develop the passenger traffic along the Mahim Chord line to Mahim and Bandra, and for this reason it is desirable to assist the B. B. & C. I. Railway in their project of separate communication between their line and the Harbour and Docks. If the B. B. & C. I. Railway have this separate communication it will leave the Mahim Chord in the hands of the G. I. P. Railway and will allow of greater facilities of passenger traffic. It is of course presumed that electric traction will shortly be used for all passenger trains.

3. As regards roads a good deal has been done since 1909 and a good deal more has been approved while a large amount is yet in the stage of contemplation. It is necessary to examine the road system in some detail in order to recommend definite proposals for the Committee. It is of course recognised that the cardinal roads in Bombay must run from north to south and the road system may be divided into east and west portions, the dividing line being the two railways combined from the point at Parel at which they approach each other. Dealing first with the east of the Island, Frere Road has been linked up with Reay Road and the Port Trust have agreed to widen Reay Road to 90 feet as far as the over-bridge at Victoria Road. They desire to postpone the widening north from Victoria overbridge to Kalachowki Road until the traffic demands it. There is no great objection to a short postponement; but in my opinion it would be as well for the Trust to undertake this widening as soon as they can provide funds for it. From Kalachowki northwards the line of road has not been finally prescribed, but there would be no difficulty in making a uniform 60 feet road from Kalachowki as far as Sewri. The Port Trustees are already making a part of this line and only a small connecting link will remain to be made. From Sewri northwards the Municipality are widening to 60 feet and are making a new line to the east of Vadala village joining Matunga Road at the Preventing Station. From this point the Improvement Trust are widening the road to 60 feet up to Sion Road or Kings Way. The easternmost line of communication is thus almost secured. I do not think it will be necessary to have more than a 60 feet road from Kalachowki Road for many years; little therefore requires to be done in this direction. The next north and south road is that proceeding from the Crawford Market northwards. The Improvement Trust have already prescribed the lines on which they propose to make their new Sydenham Street, and it will rest with them to widen Parel Road till it reaches their new Kings Way. At the same time the Municipality are proceeding with the widening of Abdul Rehman Street to 60 feet. All that is, therefore, possible is being done in this direction.

4. As regards the east and west roads in the eastern section there is obvious necessity for a road from Ballard Pier to the Hornby Road. Such a road would ultimately go far towards paying for itself on account of the great value of the frontages upon it. The Municipal Executive are doing their best to provide a line for such a road; but it will be an initially expensive undertaking and must await until the Improvement Trust are able to deal with portions at least of Fort North. The next east and west road is the Musjid Bunder Road which the Municipality are improving by set-back at great cost. The Improvement Trust are shortly completing their Sandhurst Road through to the Elphinstone Bridge, and this will greatly relieve the present congestion of traffic. Further north of this the Municipality are doing all that is necessary and possible for the widening of Nesbit Lane, Dockyard Road, Love Lane, Rose Cottage Lane and Victoria Road. All these will be cross roads of much importance and they are being adequately dealt with. In the area to the north a new 80 feet cross road is being made from Sewri through Golanji Hill to Sofari Bag Road and Kings Way. This will be adequate for the northern part of the

Sewri-Mazagon Reclamation; but there is no doubt that a further 80 feet cross road will be required for the area south of this. The line of this road will be from Jakeria Bunder at the south end to the new Sewri Road up to Curry Road. The Executive Engineer has prepared plans for this road; but its line has not yet been laid down, and I think that the Committee should recommend the desirability of it. With this exception adequate steps are being taken in the eastern portion, and I think all that the Committee has to do is to advise expedition in the widening of the north end of Reay Road. As regards the western portion of the Island there is a great want of a broad road to correspond roughly with the Kings Way on the other side. It is not now possible to carry this road right through the crowded parts of the City up to Bhuleshwar and Kalbadevi as was originally intended; but there will be no great difficulty in bringing a broad road to join the Kings Way at the Byculla Bridge. This road will bring the stream of traffic into Parel Road, but a large portion of the traffic will be taken off before this point by Arthur Road leading through Lamington Road to Girgaum and Queen's Road, while it is also intended to widen Clare Road which will carry traffic to the centre of the town. The broad thoroughfare will be provided by widening the DeLisle Road to 100 feet and by carrying this road through the Mahim Woods in the manner recently proposed by me to the Corporation on plans prepared by Mr. Mackison. It will constitute the main artery for traffic between Salsette and the City and easy access to the east of the Island will be given by the overbridges which have been and are being constructed culminating with the Dadar Overbridge which has now been agreed to by all the parties concerned. Another north and south road will be required towards the west, and this is being provided in Mr. Mackison's and my proposals. This would run from Tardeo along Hornby Vellard and the present Worli Road over the Storm Water Channel to the Mahim Woods where it is easy to provide a good alignment into Mahim Bazar Road ending at the Bandra Causeway. The Tuli Pipe Line which was always intended to carry a road will constitute a third road not running truly north and south till it reaches Dadar, but giving facilities for a large area. In addition, a coast road would not only be a great amenity, but also open up a large area very suitable for bungalows. I have every hope that the steps now to be taken will remove the nuisance at Love Grove; but until this is done it is not necessary to speculate upon the construction of the road. When, however, it becomes possible this road should take off at the Vellard and be carried along to Worli and thence round the shore of Mahim Bay. As regards east and west roads a new road will be required parallel with and north of Fergusson Road leading from DeLisle Road to the Worli Road. In the Mahim area two cross roads have already been sanctioned by the Corporation—one in the Dadar Kumbharwada locality and the other from the Matunga Station to the Mahim Bazar Road. Other cross roads are however much required in this neighbourhood and are proposed in Mr. Mackison's scheme. It will be seen from this that a good deal requires to be done in the Mahim area; and there is some danger lest the measures which are generally admitted to be necessary should be delayed owing to the question whether they should be carried out by the Municipality or by the Improvement Trust. I do not think it is possible for the Improvement Trust to take up the whole of the Mahim scheme; nor do I think it desirable that they should do so. But they can assist in the widening of the roads, and I think that they should do so as far as possible by taking the roads up as deferred street schemes. It is desirable that they should be given power when taking up deferred street schemes not merely to widen existing roads, but also to lay down and make new lengths of roads improving the alignment of existing roads. The only other road which requires to be mentioned is one along the Kennedy Sea Face. If the Reclamation is made it will become a necessity. But even without that, I believe it could be constructed without great difficulty without encroaching upon the Ride and the overbridge at Marine Lines could then be made at once. This would be a very popular road and would relieve the traffic on Queen's Road.

5. In addition, however, to the improvement and construction of the roads mentioned their maintenance is a subject of great importance. Most of the roads in Bombay were made without any foundation and they thus prove quite unequal to the heavy traffic which they have now to carry. In addition, the general speeding up of traffic and especially the increased use of motor cars demand better surface for the roads, and it cannot be doubted that these demands will constitute an increasing cause of expenditure to the Municipality. I would suggest, for the consideration of the Committee, whether, supposing that Government desire to assist in the matter of communications, they should not be prepared to make a grant to the Municipality out of the proceeds received from the duty on petrol or kerosine oil or from any other source for the maintenance of the main roads of communication. It might in that case be possible to constitute some body similar to the Road Board in England which would be concerned solely with the maintenance of such main roads and with making suggestions for the convenience of traffic.

6. The roads having been considered the next point is the means of traction along them for the ordinary population. The extension of the tramway system is very desirable. But the Tramway Company are naturally chary of making an extension from which profit is not really or immediately discernible. The roads on which the extension of the tramway system is immediately desirable are first along Sandhurst Road down to the Docks which has already been agreed to by the Tramway Company, secondly from Frere Road as far as Victoria Road if not to Kalachowki Road, and thirdly along DeLisle Road and when

the continuation is made as far as the Bandra Causeway, while there must also be communication from Parel Road over the Victoria Road overbridge to the new Cotton Green Reclamation. The Tramway Company will not make all these extensions willingly and I am of opinion that they should be called upon to do so and to consider the possibility of using the trackless trolley or railless electric system which appears to offer great advantages over the fixed track system in developing new areas. It would of course be possible to introduce a system of motor buses, but I do not think that these can ever in the long run compete in cheapness and in carrying power with vehicles run on rails, and they would also be dangerous in many of the Bombay streets. In less crowded parts of the Island, however, where the Tramway Company are unable or unwilling to extend their system I think such motor omnibuses might be possible and should be kept as a weapon in reserve. I shall thoroughly go into this subject when I visit England, but I think the Committee might bear this point in mind in making their recommendations.

7. As regards the allotment of different areas for different classes of society or industries I do not think it is possible to lay this down with any great degree of exactness. To do so would mean delay in development and I think that private persons should be allowed to choose the ground that suits them best for the purpose which they have in mind. Subject to this general reservation I would make the following suggestions.

Mahim should be kept for residential purpose and should be allowed to be developed by the people subject to greater power being taken for the construction of roads to which I shall refer later. The area south of this, formerly known as Mingut Mandli lying between Haines Road, DeLisle Road and Worli Road, should be devoted to the industrial purposes. It is low lying at present, but it can easily be raised sufficiently to accommodate mills and chawls for the classes working there should be placed in the same neighbourhood. The area along the Worli Shore should be kept for residences. As I have said, its development depends largely on the success which will attend the attempts to remove the present nuisance at Love Grove. Personally I am very hopeful about these attempts and the development of this area should then be both cheap and easy. Industrial enterprises which are liable to be in any way objectionable to those living in their immediate vicinity or to be potentially injurious to health should be placed in the north and east of the Island immediately to the east of the Improvement Trust's Estates V and VI where the large chemical works have recently been placed. This neighbourhood with its easy access from the sea appears a very suitable area for such undertakings.

8. I am only concerned with Salsette on the point whether it can be relied upon to remove the pressure of population in Bombay. An increasing number of well-to-do people will doubtless have residences more or less occasional in Salsette, but I do not personally think there is any prospect of any large migration of population especially of the poorer classes unless it is possible to provide them with railway fares by electric railway at an extremely cheap rate. I think therefore that the Committee's recommendations will be of greater value in the immediate future with reference to Bombay.

9. The question now, however, has to be considered whether, presuming all the areas above referred to to be developed, there is still need of obtaining additional land by reclamation. Reclamation is possible in several places—first of all in Back Bay. I consider that reclamation at this point would be of the greatest advantage to the City. It must be remembered that it is a great advantage to many to live near the centre of business, and also near the Clubs and Hotels which will always be in this neighbourhood. It must further be remembered that the centre of business for the ever increasing number of offices and leading shops, while it has tended northward, cannot go further north than the General Post Office. It tends therefore to spread westwards and southwards and actually to turn many houses or floors formerly used for residence into business premises. The pressure therefore on the accommodation in the Fort is becoming constantly greater. I do not think that any large city situated in similar circumstances in which it is possible to add a large area of ground close to the heart of the city would hesitate to reclaim, and I think that any idea that such a reclamation will affect either the health or the material prosperity of any portion of the Fort, is altogether unfounded. If, however, reclamation is determined on I think it should be in considerable portions. To reclaim any small exclusive areas of land appears to me to be much more expensive, and to be much liable to be dangerous to health since there would be constant disturbances in the areas adjoining the most recent reclamation. I would, however, venture to suggest that the figures so far published as regards the cost of reclamation should be further examined. So far as I can judge they appear to depend too largely on the estimates of one man. Reclamation is also easy and possible in the Mahim Bay, but I do not think that this need be undertaken till Mahim itself is developed. There are also proposals for reclamation in the Mahim River between the Mahim and Sion Causeways and I think that private efforts in this direction should be encouraged. Both these, however, and reclamation on the east of the Island North of the present Port Trust limits would be for trading and industrial purposes.

10. As regards the moving of the existing Government buildings and schools from the Fort to the north of the Island I do not think it would be possible to move any of the principal Government offices since they are situated near the business part of the city; and

it is necessary that business men, and also persons visiting the city from outside, should have ready access to them. Educational institutions, however, would, in my opinion, be far better placed in the north of the Island and I think the erection of the College of Science in its present position was a sad mistake.

11. I consider the provision of open spaces and recreation grounds as one of the most pressing needs of the city. The small area available near the Fort has been recently encroached upon by the erection of the College of Science and in other ways. It may of course be said to be impossible to hope for recreation grounds so near the business quarters of the city. These recreation grounds have, however, existed in the past, and if they can be continued they are beyond doubt of enormous advantage to the city. If therefore they can be provided as part of the reclamation in Back Bay this constitutes a strong argument in favour of that reclamation being carried out. I have great hopes that it will be possible to reclaim within a few years the whole of the space near the Vellard now known as the Storm Water Reservoir and turn it into an excellent recreation ground, and I think the time has almost come for the Improvement Trust now to create a public park on the area south of Clerk Road originally reclaimed by the Municipality at considerable cost which was handed over to the Trust for that purpose. An area, however, is much required in the north of the Island, and I would draw the Committee's attention to the proposals contained in my letter to the Corporation regarding the development of Mahim. Large as the area proposed seems to be it will not prove to be greater than is required.

12. As regards the changes in legislation that are required the first is the application of some at least of the principles of the Town Planning Bill. I doubt whether it will be desirable to apply these provisions in full to Mahim, which is the only part of the Island to which they could be applicable; but I think it is extremely desirable that owners of properties should be required to give up land for roads and also that they should be called upon to contribute to the cost of the roads either by contribution or by revaluation, for short period, of properties fronting upon or otherwise benefited by such roads. Some such power is necessary because section 291 of the Municipal Act is extremely defective. Under section 291 (a) the Commissioner must, if he lays out a road, also make it and the co-operation of the owner of the land provided in section 291 (b) is entirely voluntary on his part and is not of much use in practice. A cognate matter is the revision of the Municipal Building Bye-laws. Full recommendations have been submitted on this point by me to the Corporation. But in this connection I would only refer to the necessity of requiring proper access for buildings and to the height of every part of the building being regulated by that access.

13. I have not referred in this note to water and drainage questions because they are municipal matters and are in my opinion being adequately dealt with by the Corporation. I would, however, remark that the whole of the Mahim area is badly in want of both water and conservancy arrangements and it is impossible to get on with these until lines of the roads are definitely laid down. It is therefore of the highest importance that these lines should be put down as soon as possible and that the agency by which they are to be constructed should be determined.

14. To sum up, then, I think the points which require the Committee's attention are—

- (1) An opinion as to the roads that are required and the manner in which they are to be constructed, especially as regards the Mahim area.
- (2) The improvement of effective electric service on the railways, particularly on the overhead railway from the Victoria Terminus.
- (3) The extension of the Tramway System.
- (4) Reclamation where it appears possible, particularly in Back Bay.
- (5) Provision of open spaces, especially near the Fort and in Mahim.
- (6) The adoption of provisions of the Town Planning Act, whereby the co-operation of the owners of land in the making of roads could be ensured.
- (7) The improvement of the Municipal Building Bye-laws so as to prevent, so far as is possible, the erection of buildings without proper means of access.

I have the honour to be,

Sir,

Your most obedient Servant,

P. R. CADELL,
Municipal Commissioner.

No. 24868 of 31st October 1913.

To
THE MUNICIPAL COMMISSIONER.

Sir,

With reference to your No. 21894, dated the 23rd instant, requesting my views on the Development of the Town and Island of Bombay, I have the honour to state that they have been fully set out in the following of my letters, copies of which are attached for ready reference:—

- (1) No. 20799 of 4th February 1908.
- (2) No. 218 of 2nd April 1910.
- (3) No. 3232 of 25th April 1913.*

2. I shall be glad to appear as a witness before the Committee appointed by Government.

I have, etc.,

(Signed) J. A. TURNER,
Executive Health Officer.

No. 20799 of 4th February 1908.

To
THE MUNICIPAL COMMISSIONER.

Sir,

With reference to your No. 29326 of 14th December 1907, forwarding copy of letter No. 7382 of 9th December 1907 from the Bombay Government regarding the development of Bombay, I have the honour to forward herewith a report embodying my views on the proposals contained in the letter.

I have, etc.,

(Signed) J. A. TURNER,
Executive Health Officer.

The letter from His Excellency the Governor of Bombay deals mainly with suggestions to provide more sites for residential areas for the well-to-do as well as the labouring classes. To provide better facilities for transit and channels of communications and for this purpose to draw up a settled policy to prevent the errors of the past being repeated. This effects the health of the City directly and indirectly by reducing overcrowding in areas, reducing rents and giving facilities for communication and transit.

But no scheme for improving any City, more especially Bombay, can be complete unless it deals more intimately with the conditions existing. Schemes carried out on the lines suggested by His Excellency's letter will develop the City by widening the streets, improving communications and enlarging its area and naturally increasing its prosperity and population. This will mean greater demand for water. Better and more extensive drainage and more modern sanitary methods for the disposal of refuse and waste materials, public baths, recreation ground and amusements for the people are part and parcel of any modern Municipal Administration and scope for those should not be overlooked.

Any system for the improvement of Bombay must include a consideration as to how to dispose of its sewage and refuse and in the future extension of the City northwards. The whole of the sewage at present is discharged into the sea at Love Grove Pumping Station. It is proposed to increase the pumping power, deepen the well and make detritus chambers and enlarge the area included in the pumping station at a cost of Rs. 9 to 10 lakhs, to deal with 90 millions of gallons of sewage daily in the monsoon and 55 to 60 millions daily in the dry weather. This does not include the extension to the north of the City or about one-fourth of the whole Island.

The sewage outfall is in the centre of the western foreshore and to the windward of the whole City.

The sewage arrives at Love Grove in such a condition that even the fish cannot eat it. The population of Bombay is about 10,00,000 and rapidly increasing. The tendency is to extend in a northerly direction. The system of sewers, however, are all laid with a fall to Love Grove.

* This is Dr. Turner's printed note on the 'Committee on Mr. Orr's proposal to deal with insanitary houses and areas'; and is not re-printed in this Appendix.

There is a foreshore from Mahalaxmi Temple to Mahim Causeway of 5 miles facing west, practically unbuilt upon, valueless for building purposes at present.

There are about 200 acres of land to the east of Hornby Vellard suitable for easy reclamation if the outfall and the sewage was removed, which would form a magnificent City, park, recreation ground, or for building.

The refuse loading siding at Mahalaxmi could gradually be done away with by providing incinerators or sidings and depôt to destroy or remove the refuse direct from where it is collected in the City.

The question of the sewage outfall is an old and much talked of one. Some say that the outfall should have been at Colaba, but in spite of the favourable tides at Colaba Point it is doubtful whether, had the sewage been discharged into the sea at Colaba Point, Back Bay, Colaba and the harbour would not have felt the same inconvenience that the Hornby Vellard, Cumballa Hill and Malabar Hill and Mahalaxmi and the western foreshore suffer from now.

We are face to face with a deficient water supply and deficient sewage system. The extension of the City is certain. The question of the water supply and sewage system is before the Corporation. A constant supply of water upto 40 gallons per head per day is necessary. The rapid increase in the number of water closets in the City as modern sanitation is pushed forward. A large volume of sewage from the several parts of the City and from those which will soon be sewerred and built upon and connected with sewer means the increase in the sewage discharged at Love Grove and less chance of having the outfall removed in the future.

Is it too late to consider a better outfall and by using the present Shone system and the existing pumps at Love Grove to lift the sewage at different places at a lesser height into a main sewer and so convey it to Deonar and there to treat it in septic tanks and filter beds and utilise the effluent on the reclaimed land by growing crops and discharging it into the sea north of Trombay? This is an engineering question, but glancing at the map of Bombay in the report of the Port Trust, the site of Love Grove in the centre of the Island, its relation to the rest of the City will strike any observer of the unsuitability of the site for the discharge of all the present and all the future sewage of the Island of Bombay. The artificial height to which the sewage has to be forced by the Shone system and afterwards to gravitate to a well before it can be lifted into the sea is surely not sound engineering. The fault is not of today; but would it not be wiser to pause and consider whether the outfall at Deonar is not the proper one before drawing up any scheme for the extension of the City and before embarking on an outlay of Rs. 10,00,000 on new pumps which will not deal with the whole Island? The direction of the new sewers in the north of the Island is surely away from the centre of the City rather than towards it.

In formulating a scheme for the development of the City, the existing system of sewage disposal and water supply should be considered. Ten lakhs of rupees or £66,000 seems a large sum to invest in pumps to discharge sewage into the sea at an unsuitable spot, but it is a small amount if properly spent to sewer the City and dispose of its sewage where it will not only be no nuisance but a source of profit, the land reclaimed being utilized by growing crops which is known to be a source of much revenue to the City.

My suggestions then are :—

Remove the outfall at the Love Grove to Deonar and render the area of 5 miles of western foreshore and the land behind it fit for magnificent building area.

Utilise the existing pumps and more if necessary at different parts of the Island for lifting the sewage into a high level main.

Fill in the land east of Hornby Vellard to Worli Hill on the west, from Clerk Road on the south to Haines Road on the north, and the B. B. & C. I. Railway on the east.

Utilise both the railway lines for hauling the refuse from the City direct.

Erect incinerators to destroy part of the refuse.

Fill in the land north of Ferguson Road on both sides of the railway line north of the Island and get rid of this fever-producing area.

Abolish the B. B. & C. I. Railway from Grant Road to Colaba.

If this is done, there would be enough land for the upper, middle and labouring classes without any further reclamation of Back Bay for 30 years.

Make a wide road from Colaba along the seashore to Chowpatty.

Utilise the existing land occupied by the railway and Kennedy Sea Face for good houses and recreation ground like any other sea-side City in the world.

Use Queen's Road for electric tram from Church Gate to Cumballa Hill *via* Girgaum.

Abolish the disused and overcrowded cemeteries on Queen's Road.

By removing the outfall at Love Grove and with an improved sewage system to remove the sewage from the City direct. The land thus made available utilized for building and reducing the congested areas and widening the streets. The improved facilities for communica-

tion would induce enterprise and by competition compel owners of property to improve the style of building along sides of the lines of traffic, better houses and shops would be erected and not only the sanitary condition of the City improved but Bombay would become the most beautiful City in the East.

1st February 1908.

(Signed) J. A. TURNER,
Executive Health Officer.

No. 218 of 2nd April 1910.

To

THE MUNICIPAL COMMISSIONER.

Sir,

With reference to your No. 36709 of 14th February 1910, forwarding copy of the Government Resolution No. 79, General Department, regarding the Bombay Town Planning Bill, for remarks, I have the honour to state that the adoption of a Town Planning Scheme has for its object the laying out of any land which is, or may become in the course of development, or appears, likely to be used for building purposes with the general object of securing proper sanitary conditions, amenity, and convenience in connection with the laying out and use of the land and of any neighbouring lands.

Bombay, in the past, has been suffering from the absence of any control in its development. This is quite a different question from the improvement of overcrowded areas, of the unhealthy condition of the narrow, tortuous lanes and gullies for which the City Improvement Trust was created in 1898 after the City had been decimated with plague.

A Town Planning Scheme aims at developing a City and suburbs so that greater facilities will be given for local enterprise and private capital, but maintaining a control over the disposition of the streets, sewers and sanitary arrangements, bringing into prominence such parts as are now of little value and enhancing the value of the rest—providing sites for building purposes which otherwise remain useless, providing open spaces and wide streets and better facilities for communication.

The Town Planning Bill now proposed should be welcomed by the Municipality and the inhabitants as one of the greatest boons the City could desire.

In all cities where such schemes have been adopted the Controlling Authority is the Local Government, and the Local Authority the Municipality, and in Bombay it is essential that this should be the position.

That there is great need for such an Act for the suburbs of Bombay cannot be denied, but for the present, I am of opinion that this should only go as far as defining building sites, setting out roads of communication so as to facilitate communication from the suburbs to the Metropolis which must soon absorb parts of Salsette—providing drainage and water supply when funds are available and which is necessary for an increasing suburb.

Mr. Mead in his report deals with 15 villages containing about 1,000 buildings scattered on the west side of the Island of Salsette adjoining the railway stations from Borivli to Bombay. For the present there does not appear as if any large development is likely to take place sufficient to make an extensive scheme urgent, but these areas should be notified and lines of streets marked out with a view to future development into building sites. None of these villages at present could permanently stand the burden of water supply, proper drainage and lighting and the laying of streets, but Mr. Mead has fully dealt with Salsette.

In Bombay, however, this is very different. There is land ready for development which is rapidly being built upon, and which, if properly laid out, would provide accommodation for a rapidly increasing population for years to come.

Those sections of the Bombay Municipal Act which empower the Corporation to regulate development of the City appear not to have been used in the past and that part of the north of the Island which is not occupied by railways has become a jumbled mass of badly built houses without any proper system of roads and drainage; in some parts, almost inaccessible in some months of the year, separated by a few feet from each other just sufficient to satisfy the defective bye-laws.

But let us look to the sections of the Act and see if they are as powerless as we have been led to think.

Section 291 gives the Corporation power to make new streets and section 296 to acquire land and buildings and dispose of them. Section 348 gives power to lay out streets and define regular building lines, but this has not been done.

In 1902 Counsel's opinion was taken on the power of the Corporation under these sections, and that opinion was decidedly in favour of the Corporation. No action was taken on representations made by the Health Department to use the section and define building sites and lay out streets, sewers, etc.

The Corporation urged that the Improvement Trust was taking up this work and upon that body the future development of the undeveloped parts of the Island as well as the crowded parts was thrust.

We now know how great that burden was and how the Trust have been unable to cope with it.

Whether the powers given to the Municipality by the Municipal Act were sufficient or not, or whether it was their duty to enforce them, rightly or wrongly, they have not been enforced, with the result that at the present time the development of Bombay is a hopeless tangle. The adoption of a Town Planning Scheme is the solution of the difficulty.

The Improvement Trust have more than they can do; and even if that body were unable to do it, the Municipality is the right body to carry on the future development of the City, and the only additional powers they require are:—

1. That a Town Planning Scheme be adopted and applied to Bombay;
2. That they shall be constituted the Local Authority under that Act;
3. That in section 3 of the proposed Act the word *shall* should be substituted for the word *may*.

As for the necessity of immediate adoption of such an Act I will quote only a few examples.

In that part of the City of Bombay known as A Ward the immediate necessity of deciding on the future development of Upper and Middle Colaba and Fort North is urgent. This, it may be urged, is the duty of the Improvement Trust. In 1903 the Health Department represented to the Commissioner who reported to the Improvement Trust a number of areas which required improving, but if that body is unable to undertake the work, why should such development be delayed? Passing from A Ward, leaving D Ward, Malabar Hill, Cumballa Hill as parts of the City which require more supervision but with less urgency, we come to Mahalaxmi. A line drawn across the Island from the bottom of Cumballa Hill on the west through Clarke Road to Tank Bunder Cemetery on the east, will practically cut the Island in half. On the north of this, an area of say 11 square miles, there are cotton mills and factories, bullock stables and milch cattle stables, Railway Workshops, burial grounds and burning ghats, swamps, toddy trees, roads, quarry holes, and scattered dwellings and vacant land. The population to an acre is 20 compared with 200 on the southern parts of the Island. There are 2 lines of railings running north and south, east and west.

Look for a moment at the buildings in progress in F and G Wards from Purbhadevi Road and north of Purbhadevi Road to Mahim Station—undrained, unpaved, unlit, inaccessible even to the scavenging or cesspool cart in many months of the year. Visit Matunga and Dadar villages, Dharavi and Sion, and consider what they will be like in a few years if left to the mercy of the little builders.

The main sewage system goes as far as Purbhadevi Road on the west and Parel Tram Terminus and Sewri Cemetery on the east and even at this part is not able to cope with the sewage that it receives. The result is that every house north of this part is undrained and the sewage and the night-soil removed by hand labour, and as the means of access to the houses and cesspits are of the most primitive order the result is far from satisfactory. Define the building sites, lay out streets, drain, pave and light them at the expense of the owner, and the north of the Island will become a healthy suburb; open up communications, and the numerous railway stations and extensions of the Tramway will soon help to develop the land and recoup the land-owners for the tax which they have to pay.

The onus of deciding as to the amount of tax and who should pay it should be on the Local Authority subject to the Controlling Authority with an arbitrator.

That the whole of it should come out of the immediate landlord is impossible, that he will benefit is undisputed, but the City and Presidency through the railways, labour, market, shipping and commerce generally are all indirectly benefited by the increased facilities of communication. The large roads for communication must be paid for out of the general Presidency rates. The railways, mills and factories must subscribe their quota and the land-owners themselves a proportion on the enhancement of the value of the frontage.

The Corporation of Bombay, being the Local Authority, will necessarily be too unwieldy a body to work this section of the Act, and Town Planning Committee of the Corporation vested with powers to employ officers and certain experts should be evolved. The Committee with the advice of the officers will report to the Corporation on the development of the Island subject to the sanction of the Controlling body with respect to finance, taxes and distribution of land.

The Committee should consist of the Municipal Commissioner, the Executive Engineer, the Health Officer, and 3 members of the Corporation, one being an Engineer or an Architect, a land-holder, a mill-owner. They should meet once a week and submit weekly or fortnightly reports to the Corporation.

There should be a paid staff who shall be instructed to draw up at once schemes for developing the north of the Island only so far as laying out streets, sewers and water pipes, filling in and reclaiming land.

All valuation of land, taxes, etc., shall be subject to the confirmation of the Controlling Authority. The first great principle is to decide on the future system of streets, sewers and open spaces.

Take for example that area known as Dagar, Kumbharwada, bounded on the south by Elphinstone Road, on the east by the B. B. & C. I. Railway as far as Dadar Station, on the north by a line drawn from Dadar Station *via* Portuguese Church Road to the sea and on the west by the sea—an area of 472 acres or 228,555 square yards. The land is already being built upon without any definition of streets, sewers or drains, and is almost inaccessible by day of a vehicle and impassable in the rains and at night.

Before allowing any building the sites should be set out—streets defined and a large 100-foot road carried through from south to north and streets pegged out west to east. Elphinstone Station and Dadar Station would be easily accessible from any part of the area.

The area should be notified and a plan exhibited in the office of the Local Authority and 14 days' notice for objections given.

I have, etc.,

(Signed) J. A. TURNER,

Executive Health Officer.

WRITTEN STATEMENT OF W. R. PHILPOT-BROOKES, ESQUIRE, ENGINEER, SALSETTE
BUILDING SITES, RECEIVED WITH HIS NO. 840 OF NOVEMBER 3RD, 1913.

The following are my views, on the several points referred to in paragraphs 4 and 5 of Government Resolution No. 7440, dated the 16th October 1913:—

Para. 4 (iv) (a)—The Back Bay Reclamation Scheme when completed should provide the necessary sites for Government Institutions.

Para. 4 (iv) (b)—I see no reasons why Public Institutions in which Government are interested in such as the Appendages to the University and its Colleges, etc., should not be situated around the large proposed Park in the Mahim Scheme. This site when the Main Thoroughfares are constructed will become easy of access. It would be quiet and away from the noise of the City and open to the prevailing breeze for the greater part of the year.

Para. 4 (iv) (c)—The Improvement Trust Schemes for opening up the north-east portion of the Island of Bombay and the Mahim Scheme ought to meet the increasing demands for the residential quarters for the different grades of Society.

Para. 4 (iv) (d)—The Improvement Trust in their Schemes appear to have set aside a sufficient area for new Industries, etc.

Para. 4 (iv) (e)—If the open spaces shown on the Bombay Municipal Scheme for the proposed development of the Main District are adhered to, I consider that there will be sufficient open spaces for this portion of the Island. The large proposed park is excellently situated and ought to prove a great boon to the public. In the Improvement Trust Schemes there appears to be sufficient allowance for open spaces and small parks, but now that all classes of people in Bombay have taken to Cricket, Hockey, and other forms of English Sports, a large maidan should be provided in the north-east portion of the Island.

Roads.

Electric Trams.v. Motor Buses.

Para. 4 (iv) (f)—I am of the opinion that the future method of transport will be by Motor Buses rather than by Electric trams. This has proved to be the case in the City of London, and the many other large cities. In fact in London, Electric trams (as will be seen from the dividend paid last year) cannot compete with the Motor Buses, and I should not be at all surprised if in the near future they are taken off the road altogether. If it is accepted that Motor Buses will supersede the Electric trams it will then not be necessary to construct the Main Roads 150 feet wide, a 100 feet road would suffice. This alone being a great saving.

Trackless Trams.

The trackless tram no doubt has a great future before it, but it is only economical for opening up out-lying Districts where a 10 minutes service would suffice. If a more frequent service is required, I believe, I am right in stating that it would be more economical to lay down a proper track.

Rail.

It is absolutely essential that before it will be possible to develop the northern portion of the Island of Bombay or the Island of Salsette, that a quick and sufficient service of Local Trains must be provided for. The most economical method of making this possible is by electrifying the B. B. & C. I. Railway as far as Borivli or at least Andheri, and the G. I. P. Railway as far as Thana. I have not the slightest doubt that the whole solution of the high rent question would be a good service of quick trains, for instance a 15 minutes service from Andheri completing the journey between Andheri and Churchgate within the half hour.

Main Thoroughfares.

Para. 4 (v)—The three new proposed Main Thoroughfares which are shown on the Improvement Trust Schemes and the Municipal Scheme for Mahim running north and south should be constructed as soon as possible. Until wide Main Roads are constructed so as to permit quick traffic, the northern portion of the Island of Bombay will not develop. I am certain that if there was a good Main Thoroughfare right through Bombay to the Bandra Causeway, it would greatly facilitate the development of Salsette. I have heard many persons who own motor cars, say that if there was a good Main Road through Mahim they would reside at Andheri.

Para. 5 (a)—No. I should say that it was not possible to entertain the idea of uprooting long established Institutions such as the Secretariat, High Court, the University Buildings and the College.

Para. 5 (b)—Yes. I consider that it is essential that to allow for the absolutely needful extension of the Institutions mentioned in the last paragraph and for providing a suitable site for a new residence for the Governor of Bombay and his staff, bungalows for Government Officers, St. George's Hospital, suitable sites for the accommodation of the wealthy classes, open spaces, and for a sea front worthy of the City of Bombay, that recourse must be had to reclamation.

Para. 5 (c)—I should most strongly recommend reclamation by a single scheme of considerable size. Such a scheme would be most economical.

W. R. PHILPOT-BROOKES, A.M.I.C.E., A.K.C., C.E.,
Engineer-in-Charge, Salsette Building Sites.

WRITTEN STATEMENT OF THE HONOURABLE MR. J. P. ORR, C.S.I., I. C. S., CHAIRMAN, BOMBAY IMPROVEMENT TRUST, RECEIVED WITH HIS NO. 6797 OF NOVEMBER 5TH, 1913.

Government Resolution, paragraph 4.

(i) and (ii) On these points I have already reported to Government, and I presume the note they have prepared will be placed at the disposal of the Committee.

(iii) So far as the Improvement Trust are concerned no modifications in the original scheme seem to be required in view of the changes in development which have taken place within the last four years.

(iv)

(a) and (b) In my opinion reclamation in Back Bay should now be undertaken in order to provide sites for Government institutions and public institutions in which Government are interested ;

(c) I think the Back Bay Reclamation is also required to meet the increasing demand for residential quarters for the upper grades of society. I think that the residential areas now being developed by the Trust in the north and centre of the Island together with those on private estates hitherto left undeveloped in these same localities should suffice to meet the demand for residential quarters for the middle grades of society. The lower grades will, I believe, ultimately be adequately provided for in chawls erected by millowners near their mills and in rooms vacated by the middle classes ;

(d) I think the low-lying land in the north-east of the Island near the Harbour Branch Railway is the best locality in which to provide buildings for the expansion of existing industries, but I do not see that any measure can now be taken to reserve

sufficient space in these localities, except that the Municipal Commissioner might perhaps refuse under section 390 of the Municipal Act to permit the establishment of new factories elsewhere;

(e) In my opinion the reservation of open spaces for purposes of health must take precedence over the reservation of open spaces for purposes of recreation. I still hold the views set out in my note of 16th July 1913 of which a copy is appended. In my opinion, the first thing to do in Bombay is to provide a sufficiency of open space around *each individual house* in the congested areas. Only after this has been done and new residential areas have been provided for the original population of the congested areas should land in or near these congested areas be devoted to purposes of recreation. Where land is very costly in consequence of its being in great demand for trade or residential purposes I would not reserve it for purposes of recreation, especially, if it is high-lying land like the Umakhadi Jail site well suited for residences. Only if it is low-lying land notoriously unhealthy like land in Kāmātipura or land like the flats which has been filled up with refuse in recent years would I exclude it from the residential area and devote it to purposes of recreation. It will be impossible according to this view to provide *large* recreation grounds (and they are not of much use if they are not large) within a mile of the congested centre of Bombay. But as roads and other facilities for travelling are improved, the people will I hope get accustomed to going to some distance from their homes for purposes of recreation and then the proposed 150 acres of recreation ground on the Back Bay Reclamation in the south of the Island, the reclaimed areas on the flats in the centre of the Island and recreation grounds to be provided by the Municipality in Máhim and by the Improvement Trust in Mátunga in their Dádar-Sion-Mátunga Estate should be a sufficient addition to the present public recreation grounds.

(f) I think it important that the overhead railway into Victoria Terminus and the acquisition of land for the ultimate broadening of Parel Road and DeLisle Road and for the extension of DeLisle Road to Lady Jamssetji Causeway and the quadrupling of the G. I. P. Railway so as to provide a more efficient local service should be pressed on.

(v) I have no new development measures to suggest, but I hold it to be of the utmost importance that the Municipality should forthwith adopt and consistently and steadily enforce the policy of *checking insanitary development* by amending their bye-laws on the lines indicated in my note entitled "How to check the growth of Insanitary Conditions in Bombay". I would particularly draw the attention of the Committee to the necessity of prohibiting the extension upwards or outwards of buildings which are not provided with adequate open air space around them and the erection of buildings on land which may hereafter be required for roads and to the necessity of amending the Municipal bye-laws so that there may be no new buildings with inadequate open air space around them.

Government Resolution, paragraph 5.

(a) and (b) I do not think that the idea of uprooting the University Buildings, the Secretariat and the High Court can be entertained; but I think the Elphinstone College will ultimately have to go to make room for the extension of the Secretariat, and in that case, as, I understand, the Elphinstone College must be somewhere near the new Science Institute. I do not know how a suitable site could be found for it except by reclamation in Back Bay. To the north of the residential area proposed in this Reclamation might be removed all the educational institutions in the Fort, the sites of which are required for purposes of trade and commerce, if, as in the case of the Elphinstone College, there is any objection to removing them to the north of the Island.

(c) I do not think it would be found economical in the long run to work out a reclamation scheme in Back Bay section by section from the existing shore outwards. I think the soundest scheme would be to put the costly sea-wall as far out as it would ever need to be and then, if necessary, work by sections.

Government Resolution, paragraph 6.

I think the various bodies concerned in the development of Bombay can be trusted to work with all the necessary co-ordination and expedition provided that they are fully consulted when the situation and the progress of development are reviewed which, I think, should be every fifth year.

Note referred to above, in (iv) (e).

1. In allocating land for open spaces in any quarter of a town, preference should, in my opinion, always be given, particularly in or near congested areas, to the provision of open spaces outside the individual houses in order to provide adequate access for light and air to every room in every house. This done, open spaces may, if necessary, be provided in order to secure adequate perfilation of air through the quarter. Such spaces will generally be utilized as roads so that facilities for traffic as well as ventilation may be secured by the one process. After this recreation grounds may be thought of, and even where land is of high value, there can be no objection to utilizing odd corners or ill-shaped plots, which are of little use as build-

ing sites, for gardens, play-grounds for children or resting places for old people near their homes: but one must think twice before allotting for large recreation grounds, parks, etc., land which has a high value for residential or trade purposes. It is better to put such valuable land to its most remunerative use and utilise the proceeds towards purchasing land for recreation grounds where there is little demand for residences or business quarters and consequently land is cheap. It is not right, in my opinion, to attempt to provide every man with a recreation ground close to his house at considerable expense to the public purse.

2. Applying these principles to the Nowroji Hill Estate, we find that the development plan shows more than 25 per cent. of the total area of 1.7 lakhs of square yards is devoted to roads and service passages, while 1.15 lakhs of square yards are included in plots to be leased. The Trust's Building Regulations will ensure that something approaching one-third of each of the building plots is left clear of buildings, so that every room may receive ample light and air from outside. The general perfation of air through the estate is secured by the roads provided in the estate itself, the open space over the railway just outside it on the East and North, and Sandhurst Road serving as a funnel for access of breeze from Back Bay on the West.

No. L.R./7303 of 1913.

Bombay Collector's Office, 5th November 1913.

From

E. L. SALE, ESQUIRE, I. C. S.,
Collector of Bombay;

To

THE SPECIAL OFFICER,
Salsette Building Sites, Bándra.

Sir,

I have the honour to submit my views on some of the subjects to be considered by the Committee appointed under Government Resolution No. 7440, General Department, as requested in your letter of 22nd October 1913.

2. The first two points to be considered by the Committee are questions of fact on which no views of mine are necessary.

3. *Point (iii).*—The development of the west side of Máhim, which has been held in abeyance, should in my opinion be considered. For this development a system of roads running east and west to afford easy access to the B. B. & C. I. Railway Line is necessary as well as a broad road connecting Gilder Street with Bándra Causeway. A commencement has been made by the Municipality by the construction of a road between the Lady Jamsetji Road and Máhim Station. This has had at once an appreciable effect on the value of property in the vicinity of the road.

The construction of a road connecting Ballard Road with Hornby Road in the Fort Ward is in my opinion desirable. Church Gate Street now carries far more traffic than the amount with which it is really capable of dealing. A street commencing somewhere near the junction of Gunbow Street and Hornby Road and running east to connect with Ballard Road would not only provide a direct road from Hornby Road to the Ballard Pier but would also open up a congested portion of the Fort Ward. If it be decided not to carry out any reclamation on a large scale in the Back Bay, I would urge that the foreshore between Church Gate and Charni Road Stations should be properly protected by a permanent sea-wall and that a Marine Drive should be constructed along the sea-face from Charni Road Level Crossing to Wodehouse Bridge.

It is true that the last proposal cannot be supported by any anticipated enhancement in the value of property or development of surrounding areas but from aesthetic reasons it must be admitted that a City with such a splendid Marine scene should do something to enable its inhabitants and its visitors to enjoy the view which nature has provided under more advantageous conditions than those at present available.

4. *Provision of Sites for Government and public institutions*—No doubt some attempt ought to be made to look ahead and obtain a reservation of sites in various parts of the Island for Government and other public institutions. Very little appears to have been done hitherto in this direction: otherwise one would not see so many public offices and institutions housed in unsuitable rented buildings or cramped for space in the buildings provided for their respective purposes.

One of the first steps to be taken in this case seems to be to provide sites for those offices and institutions which are now located in Government buildings which need extension or in hired buildings.

New needs arise so quickly and Government Departments are now-a-days multiplying so rapidly that any accurate forecast of the space required for reservation in any particular period is impossible but a certain percentage of the favourable locality in any newly developed area of the City should in my opinion be automatically reserved by Government for such purposes. The cost of such areas would in such a case be met by Government, who in the long run would be the gainers since they would pay a lower price than would have had to be paid had they eventually to acquire sites after the full development of the locality.

5. *Points IV (c), (d), (e) & (f).*—All seem to be parts with IV (a) of the problem of the most suitable form of development of those areas in the Island of Bombay which are still comparatively clear of buildings.

At present section 348 of the City of Bombay Municipal Act gives the Municipal Commissioner some power to control the erection of buildings in such localities and section 390 gives him the power to prohibit the establishment of a factory in any quarter where it seems undesirable. More general powers are however required. The constitution of some authority is necessary to settle upon a definite scheme of development of such localities as Máhim, Sion and Dhárávi and ultimately probably the salt lands to the north-west of the Island and part of the creek between Bombay and Salsette Islands. If such a scheme were to be settled by anticipating the wants of the Island and allotting spheres for residential and industrial purposes and suitable sites for recreation and public buildings, it could only be carried into effect by one of two methods, either by acquisition on the lines adopted by the Improvement Trust or by a Town-Planning Bill restricting landowners from developing their properties in any way or utilizing them for any purpose other than provided for in the sanctioned scheme.

6. I am opposed to the removal of such important institutions as the High Court and the Secretariat from their present positions which are eminently suitable. If the need for expansion is great, this should be effected by acquisition of private buildings or utilization of adjoining Government buildings or their sites. The Elphinstone College is already much pressed for room and perhaps its removal to a new commodious site would not be opposed by those most interested in the welfare of the College. If further space after such extension is still needed for the public institutions referred to or for open spaces for recreation, it will be necessary to carry out a reclamation scheme. The extent of such a reclamation scheme should in my opinion depend on the area likely to be required in the next fifty years for the purposes referred to above and for residential buildings. I am of opinion that it would be better to wait and observe the effect of the transference of the cotton exchange and other businesses to the north of the Prince's Dock and the opening of the New Docks before framing any scheme for reclamation.

These changes may result in a set-back in the value of land in some parts of the Fort which might be followed by the substitution of residential flats for business quarters.

When it is finally decided to carry out a reclamation scheme, I am of opinion that the area reclaimed should be sufficient to meet the requirements for the next fifty years. This method will be more economical than the gradual reclamation of small areas.

I have the honour to be,
Sir,
Your most obedient servant,
E. L. SALE,
Collector of Bombay.

SIR MANGALDAS HOUSE, GIRGAON:
Bombay, 5th November 1913.

From

TRIBHOVANDAS MANGALDAS NATHOQBHOY, Esq., J. P.;

To

THE SPECIAL OFFICER,
Salsette Building Sites, Bandra.

Sir,

With reference to your letter of 22nd October 1913, inviting my views regarding the development of the Town and Island of Bombay, I have the honour to forward the same, and to state that I shall be glad to give evidence before the Committee.

I have had no plans and particulars of past operations and before any definite scheme is settled I shall be pleased to take part in the discussion and state my views definitely on the various points.

I have the honour to be,

Sir,

Your most obedient servant,

TRIBHOVANDAS MANGALDAS NATHOOBHOY.

Mr. Tribhovandas Mangaldas Nathoobhoy's views on the question of the development of the Town and Island of Bombay.

Paragraph 4—(i) to (iii). The scheme formulated in the order of 1909 recognises that the desirable position for dwellings intended to be occupied by the wealthy classes is along the Western shore of the Island. I would add that the shore line fronting Back Bay will also be suitable for buildings for Government Offices. The provision of building sites on the Mahim-Worli strip necessitates the removal of the Love Grove Pumping Station from its present position to the North-East of Bombay and the opening up of the area by means of cheap and easy communication, *i.e.*, by running a Tramway line from Tardeo and Elphinstone Road Station right up to the Mahim woods. A portion of the Mahim range and the rest of the Island will be suitable for the labourers and Factory hands who must be housed close to the Factories and Docks as their present scale of wages and hours of work cannot permit their travelling any distance to and from the scene of employment. Even the reclamation of Back Bay will not allow the Mahim foreshore to suffer. Both the building areas are required—the Back Bay foreshore for the well-to-do and the Officials and the Mahim area for the labouring and middle class population. The development of tramway need not be considered at present. I agree that the development of that Island should be left to private enterprise. The Mahim unoccupied area and the Northern districts are really suitable localities for well-to-do clerks and others of the same class. The bulk of the labouring population will have to be accommodated in the area East of the G. I. P. Railway as the new trade depôt at Mazagaon will be a very busy district.

It appears to me that an attempt should be made to divide the Island into natural areas for the accommodation of the upper, the middle and the lower classes with special reference to occupation. They can be localized more or less. The upper classes would prefer the Back Bay, the middle classes would like to be localized in the Mahim woods and the Northern Districts and the labouring classes should be accommodated near their place of work. There are large tracks of low-lying ground in the North of the Island at Elphinstone Road, Dadar, Parel, Worli, etc., which are not far from the Mills and if these could be filled up and drained they will be ideal places for accommodating the working classes.

Apart from the working classes there is a large population of poorer classes of people such as domestic servants, peons, hamals, who need cheap dwelling places, and the Improvement Trust would do well to give this question of providing accommodations for these persons in the different Wards of the City by getting plots to capitalists at special concession rates to construct cheap sanitary dwellings or they could themselves construct chawls which would surely give a fairly good return. The Improvement Trust has done something in this direction by the construction of corrugated Iron Chawls, etc., and in some places permanent dwelling, but there is much yet to be done for this class of people. It is also a question of consideration why large employers of labours should not be called upon to provide accommodation for their employés. Say a law may be passed if necessary making it incumbent on employers of more than certain number of adults in any factory or workshop to provide accommodation for all their employés. In case the owner has not the means, provision may be made to provide him with finances at low rate of interests either by Government or by any Co-operative Bank or Syndicate. My information is that the Bombay Municipality recognising the necessity for this from an economical and moral point of view has been year after years providing cheap dwelling for their Baigaries and Halalkhores, at very moderate cost to the Municipality. A provision of this kind will bring labour under control, and will nearly avert strikes, etc. There is a cry now for increased wages all over and if this is conceded they might waste their money in drinks, etc., while if they are provided with dwellings it will be a saving in rent which will practically serve the purpose of increase in wages and might doubly benefit them in health by sanitary accommodation. As a rate-payer, I consider that this is a move in the right direction and the employers of labours would do well to follow the example of our Municipality. At any rate a serious consideration of this question is a matter of great necessity and trust that the Committee now sitting will be pleased to consider it from all standpoints and arrive at solution of this much talked of problem.

General Remarks.—Large pieces of grounds should be set apart in each of these areas for sports and recreation. Plots for offices, etc., may also be set apart in the same way, and some

plots which can be specially set apart be given free to those charitably disposed gentlemen who are prepared to erect buildings for charitable purposes approved by Government without any distinction of caste or creed wherever the new scheme is taken in hand. The Government have been already encouraging charities in this way either by giving the grounds free or contributing their share for such charities. So people buying these plots will have further inducements by these charities in their vicinity to take advantage of.

In Salsette Districts besides these kinds of open grounds large plots be set apart for various kinds of industries and buffalo stables. There is a very great difficulty at present in getting sanction even for smaller kinds of industries which require special licenses and which is centered in one authority. It is for them entirely to approve or disapprove the plots chosen by the owner where his trade could be profitably carried on and over which there is no appeal for redress. One officer may be specially so appointed who can over-ride those decisions if he thought proper. People are led to believe that if they had influence they could get this permission. When certain plots are allowed for such industries where permission could be obtained and certain areas disallowed, then there will be no such grumbling. People would know where to buy such plots for such industries and where not. Some years ago Resolution was passed by the Municipality that no buffalo stables could be allowed within certain areas and existing stables also would be transferred beyond Sat Rasta where they could be located. Even after this Resolution and in spite of several people having erected stables to suit their requirements, some were allowed to remain where they were in spite of this Resolution, for whatever reasons it may be so.

Therefore special attention is drawn to this fact that before any Resolutions are passed, full consideration should be given to them and, having once passed them, it ought not to be in the power of any authority high or low to go beyond that Resolution; so also before any Act is passed all those who are interested ought to have their full say and should not work as hardship upon them.

WRITTEN STATEMENT OF M. M. S. GUEBAY, Esq., I. C. S.

I must preface my remarks by observing that my views are essentially those of a layman who claims no expert or special knowledge of the subject, and also has had no access to documents or sources of information other than those available to the man in the street. I therefore approach the subject with great diffidence, and only from the general point of view.

2. I am not in a position to discuss the first two points specified in paragraph 4 of Government Resolution, General Department, No. 7440 of the 19th October 1913. As regards the third point, such modifications of the general lines laid down in 1909 as I have to suggest will appear from the remarks which I have to offer on the fourth point, but the grounds on which these modifications are suggested do not arise from the developments that have taken place within the last four years.

3. As regards the fourth point, I consider that (a), (b) and (c) must be considered as hanging together and I believe that special measures are required in respect of the necessary provision of areas for the purposes specified under these heads. These measures will be discussed in paragraph 6.

4. It is in regard to (c) that I am not altogether in agreement with much that has been stated in paragraph 13 of Government Resolution, General Department, No. 3022 of 14th June 1909. I do not entirely agree with the statement that the prosecution of housing schemes in the north of the Island will not reduce the demand for accommodation in the vicinity of the Fort. So far as the wealthier European classes are concerned the difficulty of finding accommodation is largely due to the fact that, in their case, the demand is seasonal, to a large extent; and I doubt whether any housing scheme will protect these classes against insecurity of tenure or exorbitant rates. In the case of the middle class Europeans, who are more permanently resident in the City, the tendency which, I admit now exists among them, of crowding in the vicinity of the Fort is largely the result of the absence (1) of satisfactory communications into and out of Bombay and (2) of certain amenities which are obtainable in the Fort. In the case of the Indian community the causes which are responsible for the selection of particular residential localities are more obscure. But even now there are visible traces of the growth of a tendency towards the acceptance of ideas and standards similar to those observable among other communities. Without wishing to insist duly on the experience of European cities, and while fully recognising the special attraction which surround residence in the Fort, I believe that we shall look forward to a time when the tendency to seek for residential accommodation at some distance from the scene of employment will come into full play. In so far therefore as the decision in favour of the reclamation scheme involves the acceptance of the principle that the demand for accommodation near the Fort is a permanent demand, I disagree with it. On the contrary I believe that a systematic and well ordered development of the north of the Island and of Salsette must react on the demand for accommodation in the Fort. No such development is possible until and unless the road communications into and out of Bombay are improved and brought to and kept in a state of efficiency. This brings me to the last point in paragraph 4. If, as appears to be not impracticable, a scheme can be devised to

mitigate the nuisance caused by the Love Grove Station, I would suggest the prosecution of a scheme which would, besides providing a road along the sea-front connecting with Bandra, also make provision for a residential area along the seashore between Worli and Mahim.

5. For the expansion of existing industries and the location of new industries I consider that the Eastern foreshore of the Island is the most suitable area. That area will be connected by the Port Trust Railway with the Docks and the two Railways. It is not suited for residential purposes and is the natural locality for the location of industries.

6. The prosecution of special measures to provide for the purposes specified in (a), (b) and (c) of paragraph 3 stands as a separate question and I believe that a moderate scheme of reclamation in Back Bay will be required to enable Government to make available the necessary areas for the institutions, etc., mentioned. It is in my view impossible to contemplate seriously the removal of the High Court, Secretariat, etc., as suggested in paragraph 5 (a) and consequently the reply to the questions put in paragraphs 5 (b) and (c) is that a reclamation is necessary in view of the need for meeting the growing requirements of the institutions, etc., mentioned. In a moderate scheme of reclamation no doubt it will be possible to allot an area in areas for residential purposes and for business purposes. But this moderate scheme will differ from the more ambitious project which has been suggested to the public in that it does not commit Government to the financial risks inseparable from a scheme of which the authors themselves do not, I understand, anticipate the completion within this generation. No financial details have been placed before the public: and it is therefore not possible to criticise the prospects of the scheme except in a general way: but I personally find considerable difficulty in persuading myself that Government would be correct in embarking on an immense project, the financial success of which is dependent on such problematical factor as the correctness of the empirical estimate of the cost of reclamation.

M. M. S. GUBBAY.

5th November 1913.

13, ESPLANADE ROAD:
Bombay, 6th November 1913.

To

B. W. KISSAN Esqr., I. C. S.,
Special Officer, Salsette Building Sites, and Secretary to
the Committee under Government Resolution No. 7440.

Sir,

In reply to your letter of the 22nd October 1913, inviting my views on the questions submitted by Government for elucidation to the Committee, constituted under Government Resolution, General Department, No. 7440, dated the 16th October 1913, and, as specified in paragraph 4 of the Resolution, I have the honour to submit as under a memorandum of my views:—

Point 1.—The schemes formulated in the orders of 1909 are broadly summed up as under in Government Resolution, General Department, No. 3022 of the 14th June 1909 and comprise—

(i) The erection of a large number of chawls for the accommodation of the poor.

(i) As regards the accommodation of the poor, the Improvement Trust has built some chawls in different localities, but these, in my opinion, are scarcely sufficient. Some of the mill-owners were willing to undertake the construction of chawls in the vicinity of their respective mills and asked the Trust to do the work, for them, they undertaking to pay interest at 4 per cent. on the capitalised value and to return the amount of initial outlay in 28 years, but, as at the time the Improvement Trust Act was not in operation, it was not possible for the Trust to do so. Now the Act is in force and the Trust is willing to do so, but the cost has doubled and made the project prohibitive and impracticable. I still hope some mills will, as an experimental measure, build chawls and, if the prices of materials decline, they will be able to do so on a larger scale.

(ii) The widening of Abdul Rehman Street.

(iii) The linking up of Frere and Reay Roads.

(iv) The removal of St. George's Hospital.

(v) The recovery from the Improvement Trust, after negotiation, of their rights of reclamation in the Back Bay, south of Charni Road, and

(vi) The drafting and adoption of a Town Planning Act.

Point 2.—The modifications, if any, which have actually occurred in that scheme as so far carried out.

Point 3.—Whether any and, if so, what further modifications are advisable in view of the changes and developments which have taken place within the last four years.

Point 4.—What measures should now be taken for systematic further development, the particular measures recommended being set forth under specific heads, and more especially with reference to the following:—

(a) the provision of sites for Government institutions;

(b) similar provision for public institutions in which Government are interested, such as the appendages to the University and its Colleges and several much needed institutions which are in contemplation;

(c) the provision of areas suitably located to meet the increasing demand for residential quarters for the different grades of society;

(ii) The formulation and final sanctioning of the Eastern Avenue Scheme of the Improvement Trust has been accomplished. Sheikh Memon Street, instead of Abdul Rehman Street, has been taken and this will greatly facilitate through communication between the Northern and other parts of the Island. The Trust scheme is well in hand.

(iii) The linking up of Frere and Reay Roads has already been accomplished.

(iv) The removal of St. George's Hospital, which I consider essential in view of the rapid expansion of traffic on the G. I. P. Railway, is entirely in the hands of Government and can only be effected by the Government providing a suitable site and building on the removal of the Cotton Green at Colába or anywhere else where Government may deem it fit and necessary.

(v) This also is a question for Government and much ground could be cleared by a pronouncement from Government on the extent to which negotiations have proceeded. I believe the period of expiry of the Trust's right is fast drawing nigh and there is little or no hope of the Trust exercising it through want of funds; at the same time I hear that Government have acquired the right.

(vi) I concur with the Government and consider a Town Planning Act a great desideratum; but the Bill has not yet been before the public and I can express no opinion on it.

Point 2.—The only modification which has so far actually occurred is, as stated by me above, in the transference of the original Eastern Avenue Scheme from Abdul Rehman Street to Sheikh Memon Street.

Point 3.—I can think of no modification for the moment.

Point 4 (a) and (b).—The question of the provision of sites for Government institutions, and public institutions in which Government are interested such as the appendages to the University and its colleges, is one which in my opinion can only be solved by a scheme of reclamation. Any effort on the part of Government to acquire existing sites—very few, if any, do exist—would at once lead to the dislocation of the present occupants of them with the result that they would in turn, perhaps, dislocate another section of the population, in all probability, poorer than themselves and thus bring about a further rise in rentals, which are already in some cases oppressive, and the everlasting problem of accommodating the middle classes would become more complex than ever.

(c) The "provision of areas suitably located to meet the increasing demand for residential quarters for the different grades of society" can also only be accomplished by creation of sites by reclamation. As a member of the Committee, appointed under Government Resolution, Public Works

Department, No. C. W.—10328, I have strongly supported the recommendations of the Committee and I am firmly of opinion that the sooner the larger of the two schemes is undertaken the better and less expensive it will be. Experience from buildings on the Improvement Trust's Colaba reclamation and Sandhurst Road Estates and the Port Trust's Wellington Lines and Apollo reclamation estates leads one strongly in favour of this scheme. There is little or no doubt in my mind that good values will be realised for the reclaimed plots. I should like, in this connection, to draw special attention to the very good values realised by the Improvement Trust on the Colaba reclamation which worked out at an average of Rs. 45 per square yard, and also to the fact that the percentage of vacant flats on this and the other estates named by me is now infinitesimal in comparison with past years. I feel certain that at least half this amount per square yard should also be realised for the plots on the proposed reclamation as they would in some respects be even better situated than the existing reclamation plots. I would like here to state that I base all my calculations and anticipations on the figures furnished in the Government estimates which I accept as fundamentally correct. This gives one some idea of the demand created by the supply. Wealthy Indians are daily realising in larger numbers the advantages of living in healthy localities and are migrating from their abodes in the native town. They have practically displaced the Europeans from Malabar Hill and Cumballa Hill, and now that they lack accommodation there they are taking up flats on the reclamation and the Cooperage; at the same time the European population is on the increase, and will need more accommodation. Then again with the rapid advancement of the City it is highly essential that it should be brought in a line in respect of its parks and public places, with the cities of similar calibre in Europe. If the reclamation scheme comes into existence people who will live on it, and people then living in the Fort and on Colaba Reclamation and elsewhere in the vicinity will require parks and recreation grounds. At the moment the only available open spaces are the two Maidans at Marine Lines, which are already overcrowded, the oval, which has been taken up for football and cricket, and the Cooperage, which is a mere patch scarcely sufficient for the present demands on its capacity; while the Kennedy Sea Face has mostly been taken up by gymkhanas.

Consequently recreation grounds and parks will be quite essential. I find that in the original Government scheme which was for 978 acres Government allotted 40 acres for Government House, 170 acres for recreation grounds and gardens, 100 acres for military purposes, and the rest for roads and streets and building purposes. In the scheme of 671 acres considered by the Committee under Government Resolution, Public Works Department, No. 10328, the distribution, I take it, would be on somewhat the same basis; but

this can only be if Government pay for Government House, and make some arrangement by which, if they do not succeed in realising the profits they anticipate from the building plots, the recreation grounds and parks might be provided by mutual arrangements between Government and the public bodies. In this connection I would also like to bring to the notice of Government that there are many wards, such as Mandvi and Bhuleshwar, which sadly lack recreation grounds. Mandvi Ward is notorious for its insanitary state, and an open space for recreation is a *sine qua non*. When Government closes down the Dongri Jail I trust they will not miss the opportunity of converting and keeping the grounds, or at least a very large part of them, as a recreation ground for the people of the ward. I would point out also that various potential recreation grounds in the heart of the town are now wholly wasted. For example Northbrook Gardens is at present unnecessarily used as a health camp. If cleared and levelled it would constitute a valuable "lung" and play-ground. The same may be said of other Municipal gardens—excepting of course Victoria Gardens—which, though small in area, would at any rate be better than the street as play-grounds for children. It is useless to maintain them any longer as travesties of gardens.

It has been suggested that in place of the reclamation the Mahim woods should be opened out and building plots provided in that direction. I am in favour of opening up the woods and providing open spaces which would prove useful to the inhabitants of the whole Northern part of the island, and the making suitable roads in place of the present wilderness of narrow and muddy lanes and also providing wide arterial thoroughfares which would link up this part of the island with the rest. This would also provide more building sites which could be utilised by the middle and lower classes. I divide the middle class into three sub-classes—the upper middle, the middle proper, and the lower middle—and of these I think it will only be the latter two who would avail themselves of the facility of living in the suburbs, and that only with most speedy and cheap modes of transit at their disposal. I am firmly convinced that in very rare exceptions, immensely few, if any at all, of the richer classes would ever use this part of the island for residential purposes, notwithstanding the facilities, of quick locomotion by motor-cars which they may possess. Moreover, Government realise a revenue of from 12 to 15 lakhs on account of tapping licenses, and three lakhs from distillers who have their stills in the Government Distillery at Dadar, while the owners of palm trees stand to lose about 20 lakhs a year. On these grounds a comprehensive scheme of taking up the whole area becomes prohibitive. I can hardly believe that a scheme for the development of Mahim woods in place of the Western Foreshore reclamation will prove in the least bit acceptable to the class of people for whom mainly the latter is

(d) the allotment or reservation of sufficient space to allow for the expansion of existing industries, such as the mill industry, and for the coming into being of possible new industries, in order that these, when developed, may not grow up at random in areas which it may be necessary or desirable to reserve for other purposes in future;

(e) the reservation of open spaces for purposes of recreation and health;

(f) the provision of suitable means of communication both by road and by rail with any areas which may be provided as above.

intended. I think, however, that while land is cheap in this locality opportunity might be taken to provide some open spaces and parks. Before carrying out finally the scheme, I hope Government will make careful inquiries and satisfy themselves that it is not likely to injure the Mahim Foreshore as a small reclamation did some 40 years ago through the erosion of the foreshore by the sea.

(d) I think it most regrettable and short-sighted that in the past mills, founderies and other factories have been allowed to spring up in a haphazard manner all over the Island without consideration for the surroundings, and the first possible opportunity should be taken to mark down a large area, capable of fullest expansion with the growing needs of the industries, in the Northern part of the Island for existing industries and for the coming into being of possible new industries. This is essential both from the point of view of public health, and in order that any new industries, when developed, may not grow up in areas which it may be found necessary or advisable to reserve for other purposes in the future. When I suggest this I do not mean that the industries should be placed out of the Island, as then they would be faced with the difficulties of transport. The North-East portion of the Island is in my opinion very good on account of the facility of the Port Trust Railway, and the Docks, etc.

(e) I can only repeat here what I have said in reply to (c). As the younger generations begin to realise the benefits of physical culture, and out-door life, the demand for recreation grounds is bound to grow and the only way in which it will be possible to bring about a physical regeneration of the people is by providing recreation grounds and facilities, and thereby encouraging them to indulge in physical exercise. Schools and Colleges as well as Private Clubs already experience great difficulty in getting any sort of playgrounds. That difficulty increases every year and if Indian Girls were to imitate their European Sisters and take to outdoor games (as they are beginning to do at the Princess Mary Gymkhana) they would find it very hard to get grounds even for a tennis court.

(f) The lack of adequate means of communication by road and by rail is one of the drawbacks of the City. Both the railway and tramway accommodation are wholly out of portion to the population and its needs, and with an increasing population and consequent increase in traffic, I am afraid it would hardly be feasible to extend either of the existing modes of transit, to cope with the full demand without danger, and detriment to the public. The proposals of the Municipal Commissioner for the new trunk roads from Mahim to Bombay come just in the nick of time. The three roads he proposes are:—

(i) Starting from the Worli sluices joining the Mahim Bazar Road, and ultimately ending in Lady Jamsetji Road.

(ii) Beginning from DeLisle Road, and going as far as Bandora Causeway.— Along this road tram lines could be run as it will prove the means of communication from Byculla Bridge to Bandora Causeway,—and

(iii) Running along the Toolsi Pipe Line as far as Máhim station and from there joining the Máhim-Sion Road. I would suggest that tramway being extended right to the end of King's Way, and the service being considerably accelerated. Other solutions which occur to me are the provision of under-ground tube railways and an efficient system of motor buses such as exist in Europe, but the former is a question for the decision of engineers who are said to object to the idea being carried out here owing to the probability of floods in the monsoon. The latter will be brought into operation by private enterprise as population grows in these parts, and it may be noted that the motor bus has already appeared in the East, namely, at Rangoon.

Point 5.—In addition to the above points the Governor in Council desires that the Committee should express definite opinions on the following specific questions:—

(a) In order to provide for the indefinite growing needs of the City in the matter of expansion, is it possible to entertain the idea of uprooting long established institutions, such as the University buildings and the colleges grouped in their neighbourhood, the Secretariat and the High Court, the removal of which to another part of the island would afford considerable room for expansion besides solving a difficult problem of their own need for extension?

(b) If the Committee consider that such an expedient is inadmissible, then is it in their opinion necessary, in order to provide for the absolutely needful extension of these institutions, to reiterate the view that recourse must be had to reclamation?

(c) If such is the opinion of the Committee, then would they recommend reclamation by a single scheme of considerable size to be carried out in sections, or by a scheme of one small section at first to be followed by additions as required?

Point 5.—With reference to question (a) in paragraph 5 regarding the uprooting of existing institutions, I am not in favour of it on account of the large sums expended on them and as they are landmarks associated with the old traditions and memories. Moreover, situated as at present, they are most central. The removal of the Cotton Green from Colaba will afford immediate temporary relief although a good portion of the land thus becoming available will be required by the B. B. & C. I. Railway, and St. George's Hospital, if removed there.

(b) Yes.

(c) I think the bigger reclamation Scheme will be most suitable as it will cost less, and with the recreation ground it will provide, will prove an asset to the city. Moreover, it is quite essential for Government purposes in so much as it will provide space for new public buildings, such as the College of Commerce, a Council Hall, which with the advancement of Indians must needs be required. If, however, the burden of providing the recreation grounds and of the construction of Government House makes it prohibitive for the Government to carry it through, then the smaller one might be undertaken for the present but I fear that the cost of reclaiming bit by bit will be exorbitant.

I have the honour to be,

Sir,

Your most obedient servant,

FAZULBHOY CURRIMBHOY.

WRITTEN STATEMENT OF MORESHWAR CHINTAMAN JAYLE, ESQUIRE, RECEIVED WITH HIS
LETTER OF NOVEMBER 6TH, 1913.

Paragraph 4 of Government Resolution No. 7440, dated 16th October 1913.

The number of chawls constructed for the accommodation of the working classes is quite inadequate to meet the growing demand for such quarters. Considerable numbers of the poorer classes have been deprived of the area in which they lived, by the street schemes completed by the Board hitherto. To provide them with sanitary dwellings is very essential to the general health of Bombay. It is desirable, therefore, that a vigorous policy for providing such chawls should be adopted forthwith.

(2) The proposal to widen the Abdul Rehman Street is given up.

(3) The linking up of Frere and Reay Roads has been already completed.

(4) St. George's Hospital is not removed. This hospital should be removed from its present site as soon as a new building in a more suitable locality can be prepared and the existing site and buildings be disposed of. No time should be lost to find out such suitable locality.

(5) The recovery from the Improvement Trust of their rights of reclamation in Back Bay is not effected.

(6) I am of opinion that the Town and Island of Bombay should be exempted from the operation of the Town Planning Act. It is quite unnecessary in view of the fact that we have already the Improvement Trust. The existence of too many public bodies with the same object in view is, in my opinion, likely to hamper the work of improvement rather than facilitate it. Even now we find that when there is any scheme for the development of the Town before the Corporation, that body shirks off its responsibility and asks the Improvement Trust to undertake the scheme; the Trust on its side insists upon the scheme being carried out by the Municipality. The existence of three different bodies to effect the same object will cause great inconvenience to the public and even harassment in some cases. I therefore think that the working of town extension plans and the development of the northern part of the Island should be entrusted to the Municipality. The scheme proposed by Mr. Cadell and Mr. Mackison is an excellent one and I believe that the Máhim woods will be most attractive to all classes of the public when they are developed according to this scheme. It is a model scheme and should be taken as a basis by the Municipality when it has to deal with the most central portion of the Island. I believe that this proposal will most satisfactorily secure the Town of Bombay against improper development in future. The Corporation should be given those facilities which are at present enjoyed by the Improvement Trust. They should be allowed to contract loans on long terms (sixty years). Some bye-laws of the Municipal Act should be so amended as to give the Corporation statutory powers to control building operations.

ii. I have no information on this point and so I can give no opinion on it.

iii. I have nothing to suggest on this point.

iv. (1) Provision of residential areas for wealthy classes.

(a) I suggest the Reclamation of Máhim Bay and Máhim Creek. The land so reclaimed will be a very large area for the accommodation of the wealthy classes.

(b) Some portion of Dhárávi when it is properly developed.

(c) The areas between Mahá laxmi and Worli, which are beautifully situated and receive the full benefit of the sea-breezes.

(d) West central portion of the Island when properly developed.

(e) Some sites at Chowpáty and Gámdevi.

(f) Salsette: It has miles of western sea-frontage. Government should not delay to frame a detailed scheme for its development. Salsette should be exempted from building laws. The Island should be provided with good roads and proper means of communication.

(g) I am in favour of the development of Trombay. I think the scheme should not be deferred. Government should control building operations but the work of development should be left to private enterprise.

(h) For the improvement of sanitation in the North of the Island—

(1) Tanneries should be removed from Dhárávi,

(2) Licenses for the manufacture of bricks at Sion and Dhárávi should be discontinued.

(3) The trenches running up along the railway lines from north to south should be filled up without delay.

(4) Tanks which are the property of the Municipality should be filled up.

(5) Measures should be adopted to prevent the Mills and Distillery to let off the water on private lands. The water so accumulated is a source of great nuisance.

(6) Drainage works should be undertaken without further delay.

(i) For the development of the Maháloxmi-Worli foreshore the removal of the Love Grove Station is indispensable. The City Improvement Trust are of opinion that it would be quite feasible to utilise the pumping power at Love Grove for raising the sewage into a main gravitation sewer which would convey it out of the Island to the north-east, where it could be disposed of by modern methods. But I believe its complete removal is an indispensable part of this scheme.

(j) No new industrial works (factories, mills, &c.) should be allowed to be worked in the Northern part of the Island.

(k) I am against any reclamations in Bombay. Government think that reclamation is necessary on the ground that nowhere else in the Island can equally suitable accommodation be provided for the wealthy classes. They think it is a common fallacy that the prosecution of housing schemes in the North of the Island will reduce the demand for accommodation in the vicinity of the Fort, because the well-to-do residents of Bombay desire to be housed on the west and south-west portions of the Island, as near the Fort as houses at suitable rents are available. I think Government are aware that the fashionable quarters of the Island (Wálkeshwar, Maháloxmi, Chowpátý, Colába) are all occupied mostly by wealthy classes. Ghátkoper has become a colony of rich Bhatia merchants. This will show that wealthy men—men of business—have no aversion to living away from the business centre. The Improvement Trust are against large reclamations in Back Bay. They state that having regard (1) to the fact that the Board have already embarked on two extensive suburban schemes between Dadar and Sion, (2) to the great desirability of systematically developing the remaining areas of Máhim and Dhárávi, and (3) to the fact that there is no immediate need for an extensive reclamation at Colába, the schemes for the development of the areas in the north of the Island should first be taken in hand, the question of any further reclamation to the west of Colába being placed in abeyance until its necessity is clearly established. The Municipal Corporation remark that a considerable addition to the available accommodation for the wealthy classes is being made on the Colába Reclamation of the Improvement Trust and that there is building land still available for a good class of residences at Chowpátý and at Gámdevi in the Improvement Trust Scheme No. IV. They observe that they look forward to the time when the existing sewage outfall shall be removed from Worli, in which event the magnificent sea front from Maháloxmi to Worli would be made available. In these circumstances that they are of opinion that any idea of extensive reclamation in Back Bay for this purpose would be at the least premature. I think these views, if rightly interpreted, clearly show that there is in fact no necessity for any reclamation. The Indian Merchants' Chamber, the Millowners' Association and the Bombay Native Piece-goods Merchants' Association are against such a reclamation scheme.

As a resident of Máhim I am against this scheme of reclamation in that the Máhim foreshore will suffer considerably. Government are aware that the result of the Back Bay reclamation in the early sixties of the last century was that a large strip of land was swamped away by the sea on the Máhim Coast and vanished. Again as the area to be reclaimed is to be very small reclamation will not be a paying concern taking the heavy costs into consideration. This scheme is looked upon with great disfavour by those who reside in the centre of the town. The Improvement Trust have constructed spacious roads running from west to east to allow fresh sea-breezes into the heart of the town. So the Trust recognize the importance of the seashore being as near as possible to the thickly populated area. What is luxury to the rich is necessity to the middle class. In case the Máhim foreshore suffers the Government shall have to pay heavy damages to those whose properties will be washed away. To protect the Máhim foreshore against the inroads of the sea will also entail heavy expenses. I think the City will not get a good exchange for the money Government will spend in reclaiming Back Bay, in protecting the Máhim foreshore and in paying damages to those whose properties will suffer in spite of such protection. For the reasons stated above I am quite against this scheme of reclamation.

(1) I am of opinion that the work of developing the Máhim woods should be undertaken by the Municipality and not by the Improvement Trust. The Trust owing to the many important schemes they have in hand or under contemplation will not be in a position to undertake this scheme of the Development of Mahim for many years. The Trust, however, are of opinion that a lowering of the present somewhat excessive rents can be expected in Bombay by the development of the areas in the North of the Island. They consider that the extensive areas in Máhim and Dhárávi should be developed with the object of providing here a convenient residential district for all classes. This view of the Trust clearly shows that this scheme must be undertaken at once. If the Trust are asked to undertake this scheme they will not be able to do so without acquiring all the properties comprised therein. So the scheme will be a very costly one. Besides the landowners, residents and rate-payers of the Máhim woods are

strongly against the wholesale acquisition of the Máhim woods by the Trust. They have stated their grounds and I feel sure that they will not be overlooked. The Government themselves were satisfied with their grounds and have twice conveyed their assurance to the residents of Máhim that their woods will not be acquired by the Trust. The Municipality up to now has done nothing for Máhim and I feel sure that they will not grudge to undertake this scheme of developing Máhim woods as planned by Mr. Cadell and Mr. Mackison. The primary duties of any good Municipality are to provide the City with (1) excellent roads, (2) ample supply of pure water, (3) perfect system of drainage, (4) good lights, (5) parks and recreation grounds. The Municipality has done nothing for Máhim. So the Municipality is bound to discharge its primary duties as far as Máhim is concerned.

(2) *Channels of Communication.*

(a) I support the view of the Government that the Island should be supplied with an eastern, a central and a western trunk line of roadway. So I am in favour of—

- (1) a broad road from Bándra Causeway through Máhim woods to Sánkli Street;
- (2) the widening of Máhim Bazár Road through Worli;
- (3) the scheme suggested by Mr. Cadell and Mr. Mackison;
- (4) widening of Shaikh Memon Street as approved by Government.

The construction of these roads should be undertaken without delay. The construction of many new roads and widening of existing roads as suggested by various influential bodies should be undertaken later on.

(3) *Adaptability of Victoria Terminus for main passenger traffic.*

I am not in favour of this plan.

(4) *Arrangements for local passenger traffic.*

The present B. B. & C. I. line should be retained for the purposes of local traffic as far as Church Gate. The proposal to provide the City with an electric Railway should not be accepted for the present. It shall be carried out better when the scheme of development is completed. The Island should be connected with Mainland by a good road.

(5) *Housing of Middle and Labouring Classes.*

(a) Accommodation for the Middle Classes—

- (1) Dádar, East Worli, Middle Máhim, Elphinstone Road and Parel and Sion.
- (2) Dhobi Taláo, Bhuleshwar, Khetwádi, Girgaum.
- (3) In places comprised in the Improvement Schemes Nos. V and VI as suggested by the Corporation.
- (4) Northern suburbs of Dhárávi.

(b) Accommodation for the Labouring Classes—

- (1) in localities to the North-East of the Island;
- (2) in Upper Máhim and in some parts of Dhárávi.

I am in favour of the plans suggested by the Corporation, the Improvement Trust, by the Indian Merchants' Chamber and by the Bombay Native Piece-goods Merchants' Association.

(6) *Provision of workmen's trains.*

I think the suggestion of the Chamber of Commerce is good.

IV (a) In Salsette and on the land reclaimed in Máhim Bay.

(b) In Salsette, especially at Santa Cruz.

(c) Reclamation in Máhim Bay; Development of the Máhim Woods; Development of Dhárávi, Trombay and Salsette.

(d) Areas should be reserved on the eastern side of the town for the expansion of industries.

(e) In each ward some acres of land should be reserved by the Corporation and the Trust for the purposes of recreation and health. Mr. Cadell has advised the same in his scheme for the development of Máhim.

(f) Electric Railways, electric trams and a net-work of good roads.

Paragraph 5 of Government Resolution No. 7440, dated 16th October 1913.

- (a) I think it is not possible.
 (b) Reclamation in Back Bay is not necessary. The object is best gained by reclaiming Máhim Bay and Creek.
 (c) I am against reclamation.

Paragraph 6 of Government Resolution No. 7440, dated 16th October 1913.

I should like to suggest that the Municipal Commissioner and the Municipal Engineer should be on the Committee.

MORESHVAR CHINTAMAN JAVLE.

No. $\frac{G-14}{27}$ /9838, dated 6th November 1913.

To

THE SPECIAL OFFICER,
 Salsette Building Sites, Bombay Castle.

*Note on the Development of the B. B. & C. I. Railway on the
 Local Section since 1902.*

(A) 1. The extension of Colaba Station and the laying out of the new Station Yard with the Rebuilding and new Alignment of the Wodehouse Bridge would affect any fresh projects, in that part of Bombay.

To carry out the extension of the Station Building, an area of 2½ acres has been taken up on the South-East of the existing Station.

It is proposed that the Station Yard and Sidings should be remodelled by the inclusion of most of the existing G. I. P. and B. B. & C. I. Cotton Yards, after the removal of this trade to Sewree Reclamation.

The Rebuilding of the Wodehouse Bridge entails the Reclamation of the portion of the foreshore from a point slightly North of the Wodehouse Bridge to Cuffe Parade in order to accommodate the road owing to its present location becoming part of the new Yard.

In this connection the following figures for the last ten years will give some idea of the necessity for the extension of the Colaba Station Yard :—

*Statement shewing the growth of Passenger Traffic on the Colaba-Bandra
 Section during the past 11 years.*

Years.	Number of passengers carried.	
1902 ...	1,42,10,326	} <i>i. e., an increase of 59.04 per cent. in ten years from 1902 to 1912.</i>
1903 ...	1,51,38,168	
1904 ...	1,61,07,998	
1905 ...	1,74,42,889	
1906 ...	1,82,47,476	
1907 ...	2,03,33,602	
1908 ...	2,11,77,026	
1909 ...	2,23,22,643	
1910 ...	2,19,73,515	
1911 ...	2,31,57,476	
1912 ...	2,26,00,048	

*Statement shewing the number of Trains (Local, Through and G. I. P. Goods)
dealt with at Colaba during 1902 to 1912, both inclusive.*

	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Down ...	51	51	54	56	56	60	64	69	64	68	69
Up ...	51	51	54	56	56	60	64	69	64	68	69
Total ...	102	102	108	112	112	120	128	138	128	136	138

This statement does not include Shunting Trains, Troop Specials, Light Engines or Special Goods Trains to and from Colaba.

The increase in the number of trains run is not proportionate to the increase in the number of passengers actually carried, but this is explained by the fact that the actual composition and carrying capacity of the trains now running has been increased. The minimum load in 1902 was 12, whereas now the composition is 16 and is frequently increased to 20 when necessary.

A small plan* shewing proposals is attached.

2. As regards the Electrification and Quadrupling of the line, the former affects the district between Bandra and Grant Road and the latter between Borivli and Grant Road, but almost all the land required for this purpose has been acquired.

3. There is under consideration a short link connecting the B. B. & C. I. Railway Main Line at Mahim with the Port Trust Siding at Wadala; this link is necessary owing to the removal of the Cotton Trade to Sewree and to the Port Trust Scheme for Sorting Sidings at Wadala, an independent line is necessary in order to avoid delays which would occur at a Junction with the Harbour Branch. The proposed line will run parallel to the G. I. P. Railway Link and through the area being laid out by the City Improvement Trust North of the Junction between the Harbour Branch and the G. I. P. Link to Mahim.

(B). The B. B. & C. I. Railway is well served by Road Communication at the more important Goods Stations Carnac Bridge and Grant Road, though the space inside those Station Yards is much too small for the Traffic to be dealt with.

At Colaba Station the approach by the Colaba Causeway is very confined leading to Congestion at the approach to the Station.

R. WHATELY,

Superintending Engineer, Construction.

Document accompanying—

One Plan.

WRITTEN STATEMENT OF CASSAMALLY JAIRAZSHOY PEERBHAY, ESQUIRE, RECEIVED WITH HIS
LETTER OF NOVEMBER 6TH, 1913.

In reference to paragraph 4 (a) and (b), I would submit that it would be desirable to shift the Elphinstone College and its hostels from their present buildings to new buildings which might be erected for the purpose in the Suburbs on any suitable site between Bandra and Andheri. It has been repeatedly pointed out that the work of the Elphinstone College cannot be satisfactorily carried on in the midst of the noise created by the traffic on Esplanade Road and by the Electric Tram Cars. Moreover, there is no further space in the present building to meet the growing future requirements of the institution. If the provision of a large play-ground is considered to be an essential part of a College equipped on modern lines, it is impossible to supply such play-ground except by removing the College to the Suburbs. I may also point out that the hostels which are attached at present to the Elphinstone College are with the exception of the Telang-wing, so situated as to render them unfit for habitation by the College students. The transfer of the College to the Suburbs might provide for the students healthy residential quarters considered in our days to be an indispensable adjunct of College life. The site thus selected in the Suburbs for the location of the Elphinstone College might also be utilized for institutions like the Victoria Jubilee Technical Institute and even the University might be shifted to the same locality, thus realising the ideal alike pointed at by the Curzon University Commission and by the Dacca University Commission, of a University with a number of affiliated institutions all centered in one spot. The buildings at present occupied by the Elphinstone College and other buildings of a similar nature will thus be left available for

* Not printed.

meeting the future demands of Government for more space for their own institutions. Thus there will be more room for the increasing needs of the Secretariat, the Record Office, the High Court and so on. In view of the desirability of such a step it is greatly to be regretted that Government should have only recently undertaken to erect new institutions like the Science College and the Science Library, as well as the Cowasji Jehangir Hall on the site of the Elphinstone College play-ground.

With reference to paragraph 4 (c) and (f), I may observe in the first place, as regards the wealthy classes, that the provision of areas suitably located to meet their wants, is a problem of increasing complexity in Bombay. The removal of the cotton green from Colaba in the near future will render available a fairly large area for building purposes and the area thus made available will be sufficiently close to the business part of the city to attract a portion of this class. The suggested removal of the Love Grove Pumping Station from its present location will throw open in the future a very large frontage of building land all along the Western shore between Worli and Mahim; this will be amply sufficient to meet the needs of some three or four generations. It would appear, however, that with a limited area of well-situated building land in a city like Bombay, the time is fast coming on when even the wealthier classes will have to reconcile themselves to living in flats to secure the advantage of proximity to the business centre.

More important however than this appears to be the need for encouraging the middle classes to live in the suburbs of Bombay. The steady rise in house rents involves a burden on the income of these classes which they find themselves unable to meet and the only way out of the difficulty lies in the development of residential life outside the limits of the city. Under present circumstances, it seems unlikely that a large number of this class will feel inclined to dwell in the suburbs. Increased rapidity of communication is absolutely necessary if suburban life is to be made popular. I would suggest as others have suggested already, that all the local trains on the B. B. & C. I. line might be made to run as far as Andheri at least, if not so far as Borivli. I am not in a position to know as yet what are the specific recommendations made by the officer appointed for that purpose, for the development of Salsette. But I would venture to make the following suggestions:—The opening up of a Railway line running West to South-east and linking up the Andheri and Kurla stations might render available for building purposes, vast tracts of land sufficiently close to the city. It has been also frequently pointed out—and rightly so—that it is necessary for the proper development of suburban life in the future, that Government should make regulations fixing the minimum area for Cottages and Bungalows, for the proper alignment of such cottages and bungalows and for securing a uniform system of structure. The indiscriminate and insanitary methods, in which houses and bungalows have been built in the close vicinity of Railway stations as at Santa Cruz, point to the urgent necessity for such regulations. Another suggestion that I would make is in reference to a site like the Juvem Island fronting the western shore to the north of Bandora. At present there is no regular communication in the shape of a well-built public road connecting this Island with the Gorbunder Road, as there is between Versova and Andheri; the result is that one of the healthiest tracts of land in the vicinity of Bombay lies unutilised for residential purposes. The cost of building such a road would not be very heavy, and Government might well undertake the cost in view of the advantages it would secure. Moreover, if properly constructed dams were built at both the ends of the island preventing the sea water from running in, another immense area of land might be rendered available for building purposes.

If such measures are adopted, there is no doubt that a great impetus might be given to residential life in the Suburbs. Even ten years ago, the late Mr. J. N. Tata endeavoured to plant a regular colony of middle-class people in Bandora by building cottages, providing a market and laying out these cottages on a well-planned system. Even now the Trustees of the N. J. Wadia Charity Funds are thinking of planting a similar colony of middle-class Parsees near Andheri by building houses, providing a Dispensary, a School, and other conveniences. In view of these facts it will not be unreasonable to assume that a growing number of middle-class people will be found willing to live in the Suburbs if only they get speedier means of reaching the city than exist at present.

With regard to the poorer classes, it is indeed regrettable that while the work of destroying insanitary dwellings has been carried on so energetically by the Improvement Trust, the work of building chawls for the poorer classes should have lagged behind. Though it was contemplated in the beginning that about 75 lacs would be required for erecting sanitary dwellings for the poor, only 15 lacs have been actually spent for the purpose. And it is very doubtful if the poorer classes have been provided by the Improvement Trust with tenements that are in any way superior from a sanitary point of view to those which the Trust have actually destroyed. More chawls are wanted and if the Improvement Trust find that it is not profitable for them to build these chawls, they may surely give encouragement to Mill Owners to build such chawls by giving them the necessary land at nominal rents and even by undertaking a part of the cost of the buildings.

CASSAMALLY JAIRAZBHOY PEERBHOY.

WEST FIELD, WARDEN ROAD :

Bombay, 6th November 1913.

From

SIR JUGMOHANDAS VURJEEVUNDAS, Kt.,
Bombay;

To

B. W. KISSAN, Esquire, I. C. S.,
Special Officer in charge, Salsette Building Sites, Bandra.

Sir,

As informed in my letter to you of the 5th instant, I have the honour to write to you on the several questions raised in the Government Resolution No. 7440 of the 16th October 1913 as follows :—

Re paragraph 4—

(i) I should like to consider in serial order the measures in this connection, mentioned in Government Resolution No. 3022 of 14th June 1909.

(1) There has hardly been any provision made for the requirements of the situation. I may point out that this was the main intention of bringing the Trust into being, but in spite of this it could arrange for the accommodation of only about 18,000 people.

(2) Government is aware that the scheme was taken in hand in spite of the protest from the majority of the public.

(3) The scheme is now nearing its completion.

(4) I regret I have no information to give on this point.

(5) The Trust has not sufficient funds in hand to take up the scheme in hand. Moreover, the period for the expiry of its rights in the same is drawing near. I therefore see no necessity for the Government to recover from the Improvement Trust their rights of Reclamation in Back Bay South of Charni Road.

(6) The public is not informed on this point.

(ii) So far as I am aware I do not know of any modifications having occurred in the scheme so far carried out.

(iii) I am not in a position to suggest any modification.

(iv) (a) The needs of the Government in this direction are not known. They are also not described in the letter from the Government.

(b) The same as for (a).

(c) I do not think that any other area in the vicinity of the city could be more suited to relieve the town of its congested situation with its increasing rents for the accommodation of all classes of people than the large area lying between Dadar and Mahim called the Mahim Woods. This vast plot should be mapped out for the purpose of providing residential quarters. If this proposal is adopted and the woods cleared, I am of opinion that there will come forth purchasers to purchase plots to build the houses suitable to general requirements.

Naturally the Eastern part, the price for which would be cheaper, will be acquired to build cheap dwelling-houses which would provide for the lower class of people, and the other part as well as that near the sea will provide for sites for the buildings of the well-to-do and the wealthy people.

The scheme of clearing the Mahim Woods should be taken up in hands and the distribution of plots should not be on sectional basis, *i. e.*, not in favour of one particular class or classes. It is a well-known fact that at present the middle classes are in greater want of suitable dwellings at reasonable rates in the suburban locality, than either the poor or the wealthy. It is expected that the poor people will find suitable quarters for them in the town as the number of middle class people now in the town will be reduced. When therefore the woods are cleared it is quite natural that the well-to-do people will try to occupy that place. Again, it is always found that the labouring classes prefer to stay in the vicinity of the factories or other places of their employment, so I do not think that they would prefer to occupy the place that could be allotted to them in the Mahim Woods. It is however most essential and more suitable if poor-houses on the model of those built by the Improvement Trust are built in E, F and G Wards, for these localities are both convenient and suitable to the social and religious purposes of the poor owing to the proximity of the places usually

visited by them. I may here suggest that mill-owners also should be induced to build chawls for their employees near the factories.

The Development of Salsette should also be undertaken as it would provide for the upper middle class. It is hardly necessary to have any special provision for the wealthy class who have enough room on the Malabar Hill, Gamdevi, Fort and Colaba localities.

(d) The expansion of the industries already existing and those coming into being require a large area reserved for them in the Northern part of the Island so that they may not unnecessarily occupy other areas suitable for other purposes in future.

(e) Allotment of open spaces for purposes of public gardens and of recreation and health is most essential. Such allotments should be in all the parts of the city.

(f) It is necessary to provide suitable means of communication both by road and rail with any areas which may be provided as aforementioned.

(v) It is most essential that chawls for the poor should be built on far more extensive scale than it has hitherto been and especially in the E, F and G Wards as suggested above.

Re paragraph 5—

(a) I do not see any necessity to remove these buildings. Moreover, it would be too expensive to do so. The space for their expansion will be obtained after the removal of the Cotton Green from Co'aba.

(b) I am not able to say anything on this point at present; it is quite clear that the scheme of Reclamation would be too costly to make it practicable.

(c) I think that the Government should grant large annual donation towards the achievement of the specific object of the development and expansion of the city.

I have the honour to be,

Sir,

Your most obedient servant,

JUGMOHANDAS VURJEEVUNDAS.

*Sommersett Cottage, Warden Road,
Bombay, 6th November 1913.*

From The Honourable Mr. JAMES P. CRYSTAL;

To B. W. KISSAN, Esqr., I. C. S.,
Special Officer, Salsette Building Sites, Bandra.

Sir,

I have the honour to acknowledge your letter of the 22nd ultimo and in reply I beg to state that I shall be glad to give evidence before your Committee in regard to the matters referred to in paragraph 4 of Government Resolution No. 7440, dated 16th October 1913:—

(1) As I am not in touch with the progress of the work at present being carried out in the North-Eastern side of the Island referred to in clauses 1, 2 and 3 of paragraph 4, I regret that I cannot offer any comment thereon, except that I am fully in sympathy with the development of the district in question in the lines indicated in what is known as the Improvement Trust Scheme V.

(2) With regard to points mentioned under clause 4 of paragraph 4, I feel that I should at the outset state that, although I believe that the Reclamation of Back Bay may be necessary and desirable at some future date, I am not in favour of this work being taken in hand until the existing areas available for the development of the City are utilised. The first move in this direction is, in my opinion, the opening up of the Western districts from the Hornby Vellard to Bandra Causeway. There is a large area of land available here to meet the requirements referred to in sub-clauses (c) and (e). To develop this district, it is essential that the sewage nuisance at Love Grove should be abolished, and I consider that the removal of this nuisance is one of the most urgent and pressing needs of the City at the moment, and that it should not be delayed.

(3) In a short time the centre of the Cotton Trade will be removed from Middle Colaba. This will release a fairly large area with many excellent frontages which I think might be utilised for the requirements mentioned in sub-clauses (a) and (b), in so far as the proposed new Government and public buildings are by nature closely associated with the existing buildings of a similar character at present located in the Fort districts; that is to say, any additional buildings such as a new Council Hall, Public Hall, or extensions of the Secretariat, High Court or University might find sites in the Middle Colaba area, but any new Technical or

Engineering College, and Institutions not closely associated or dependent on the immediate control and administration of a parent institution already established in the Fort, might be allotted sites on the Southern end of the suggested New Developments in the North of the Island.

(4) It will be seen from the above that I am opposed to increasing, at present, the residential possibilities of the Fort and Colaba districts, and favour rather the improvement and extension of those in the direction of the North. The arguments I have heard that heads of firms, etc., desire to live close to their offices, are in my opinion contrary to the experience of cities at home where the whole tendency of this class of people is to live in the suburbs and out of town. Following the scheme of development here outlined, I think a site in the neighbourhood of the Hornby Vellard might be found for the new St. George's Hospital, as in future years this would be a more central position (in view of the increased population in the North) than Middle Colaba which I have heard suggested as a possible site for this new Hospital.

(5) As the hill of Trombay has been adversely reported upon by Mr. P. J. Mead, I. C. S., as lacking in sites for an extensive residential quarter, the objects mentioned in sub-clause (d) might be served by reserving land in the neighbourhood of Coorla. The flat land from the East of the railway up to the foot of this hill and to the Thana Creek might also be used for industrial purposes. The latter is an area that will be accessible by sea as well as by rail.

(6) The present lines of the B. B. & C. I. and G. I. P. Railways will serve the areas suggested for development, but this service must be well supplemented by tramways and wide roads. I think the new road at present under construction through Worli and Mahim will prove too narrow for the traffic that it may ultimately have to carry when this portion of the Island is fully developed.

I have the honour to be,

Sir,

Your most obedient servant,

JAMES P. CRYSTAL

To

B. W. KISSAN, ESQUIRE, I. C. S.,

Special Officer and Secretary to the Committee appointed
under Government Resolution No. 7440, dated 16th October 1913.

Sir,

I have the honour to acknowledge receipt of your letter dated 22nd October 1913 and its accompaniment, and to detail below my views on some of the points mentioned in paragraph 4 of Government Resolution No. 7440, dated 16th October 1913.

(A) The erection of a large number of chawls for the accommodation of the poorer classes (paragraph 17(1) of Government Resolution No. 3022, dated 14th June 1909.)

2. Since 1909, new chawls have been erected by the Board at Imamwada, Nagpada, Agripada, Mandvi and Soparibaug Road, having 1,290 living rooms, which with 2,961 living rooms in chawls previously constructed, make up the total of 4,251 living rooms.

3. The total cost of these chawls, including value of land, but exclusive of the cost of management and establishment, amounts to about Rs. 34,32,000.

4. Besides these chawls, there are semi-permanent camps at Palton Road and Chowpaty containing 248 and 262 rooms respectively.

5. The average population of these chawls and camps during 1912-13 was 17,266.

6. In addition to these chawls and camps, the Board have sanctioned the erection of chawls at Chinch Bunder and Agripada, containing 372 and 336 rooms respectively, and semi-permanent camps at Agripada and Soparibaug Road having 115 and 126 rooms respectively. The erection of these structures will be shortly taken in hand.

7. Since the Government orders of 1909, provision has been made in the amended Improvement Trust Act whereby the Trust can materially assist the employers of labour in providing housing accommodation for their workmen close to their works, and the Directors of three mills are in negotiation with the Trust for availing themselves of the facilities afforded by this provision of the Act.

8. It goes without saying that no individual or public body, no matter what their resources may be, can deal satisfactorily single-handed with the question of housing people living in one room tenements, seeing that according to the census of 1911, out of the total population of 9,29,082, living in 2,00,808 tenements, 7,43,247, *i. e.*, about 80 per cent. of the total population live in 1,66,337 one room tenements.

9. It should be made obligatory, by legislative enactment, on the large employers of labour, such as owners of mills, workshops, etc., to provide housing accommodation for their workmen. Prior to the amendment of the Improvement Trust Act these employers of labour could not carry out this requisition, as they had no power to acquire land for the erection of chawls for their workmen, and to obtain money at fairly cheap rate of interest for the erection of these chawls. Both these disabilities have now been removed. In the interest of these employers, their workmen, and the well being of the City generally, such a legislative enactment as that above stated appears to be necessary.

(B) The widening of Abdul Rehman Street, and the provision of a broad arterial line of communication along Abdul Rehman Street and Parel Road to Sion (paragraphs 17 (2) and 18 (2b) of Government Resolution No. 3022, dated 14th June 1909).

10. To understand the modification that has taken place in this Scheme since the Government orders of 1909, the Scheme may be conveniently divided into three sections, *viz.* :—

(a) From Carnac Road near Crawford Market to the junction of Parel and Sandhurst Roads.

(b) Continuation of section (a) Northwards along Parel Road up to Lalbaug, and

(c) Continuation of section (b) Northwards along Soparibaug, Dadar, Vincent and Sion Roads to Sion Causeway.

11. Sections (b) and (c) have remained the same as originally proposed. As regards section (a), it was originally proposed to widen Abdul Rehman Street, but as the cost of widening that street was found to be very heavy, it was eventually decided to provide an avenue 100' in width in continuation of Palton Road along Hasankhan Khalifa Lane, Memonwada Road, and Nagdevi Street, and through old Nagpada to the junction of Parel and Sandhurst Roads.

12. As regards section (a) acquisition work is in progress, almost all the properties required for section (c) have been acquired and the construction work is in progress. As regards section (b), the questions whether its width should be 100' or 120' and whether this work should be carried out under the provisions of Street Scheme or deferred Street Scheme are under discussion.

13. No further modifications are necessary in the Scheme, because the Southern and Northern sections of the proposed avenue have now been definitely fixed, and all that now remains is to join these two sections by widening Parel Road north of its junction with Sandhurst Road—a work which entails the acquisition of a portion of J. J. Hospital compound.

(C) The recovery from the Improvement Trust after negotiation of their rights of reclamation in Back Bay south of Churney Road (paragraph 17(5) of Government Resolution No. 3022, dated 14th June 1909).

14. It has already been arranged between Government and Trust that Government carry out the whole Scheme, and pay to the Trust from year to year a share of the net profit that may actually accrue on the whole project, calculated on the proportion which the vested area bears to the whole area of the Scheme.

(D) The removal of Love Grove Pumping Station from Worli (paragraph 18 (1) of Government Resolution No. 3022, dated 14th June 1909).

15. Instead of removing the Love Grove Pumping Station from Worli, it has eventually been decided to retain it in its present position, but to extend the outfall further into the sea, which, it is believed, will do away with the present nuisance of the foreshore being fouled by the return of sewage on the shore. If these expectations be not realized, the outfall will have to be diverted either to Colaba as advised by Mr. Baldwin Latham or to the Municipal Kutchra Reclamation land at Devnur as suggested by Sir Charles Ollivant. It is believed that Government is opposed to the former alternative, and this opposition will be still more intensified if the Back Bay Reclamation be carried out as proposed by Government.

(E) The broad arterial line of communication along Chunam Kiln Road and Gilder Street to Bandra Causeway through the Mahim Woods (paragraph 18 (2c) of Government Resolution No. 3022, dated 14th June 1909).

16. This avenue as originally proposed may be divided into four sections, *viz.* :—

(a) From Sandhurst Road along Chunam Kiln Road, Gilder Street and Arthur Road up to its junction with DeLisle Road.

(b) Along DeLisle Road north of its junction with Arthur Road.

(c) Through Mahim Woods up to the south end of Lady Jamshedji Road, and

(d) Along Lady Jamshedji Road.

17. Out of section (a), Chunam Kiln Road has been widened to 80 feet, and the small length of new road in continuation of Chunam Kiln Road southwards up to Sandhurst Road has been constructed. No progress has been made with the remaining portion of section (a) and the whole of sections (b), (c) and (d).

18. If the avenue as originally proposed be constructed, it is suggested that a road be constructed along Tulsi Pipe Line from its junction with DeLisle Road to its junction with Haines Road, and a road in continuation thereof, across the race-course and the site of the disused storm water reservoir up to the junction of Warden and Clerk Roads.

19. If funds do not permit of the construction of the avenue as originally proposed, sections (b) and (c) may be eliminated, and the avenue from the junction of Arthur Road and DeLisle Road may be carried along Arthur Road, portion of eastern avenue from Lalbaug to the junction of Vincent and East Approach of the proposed Dadar Overbridge, along Dadar Overbridge and along Mahim Woods up to the south end of Lady Jamshedji Road.

(F) Mahim Woods Scheme.

20. So far we have dealt with points mentioned in paragraphs 4 (i), (ii), (iii) of Government Resolution No. 7440, dated 16th October 1913, in connection with some of the schemes mentioned in paragraphs 17 and 18 of Government Resolution No. 3022, dated 14th June 1909. It now remains to deal with the point mentioned in paragraph 4 (iv) of Government Resolution No. 7440, dated 16th October 1913, and to consider the measures which should now be taken for systematic further development; and the measure of prime importance that should now be taken in hand is the orderly development of such northern portion of the city, as is not included in the schemes, now being carried out by the Trust, and especially of Mahim Woods, including the tract of land situated between the two Railways north of Mahim, Loop Line of Railway.

21. The orderly development of northern part of the city, including Mahim Woods, has engaged the attention of Authorities ever since 1888. Section 348 (b) of the Municipal Act of 1888 authorized the Municipality to delay for six months the consideration of any proposal for the erection of any building on site previously unbuilt upon, so as to give the Municipal Authorities time to lay down lines of new streets, and ascertain if the site of the proposed building forms portion of the land required for any of the proposed new streets. A similar provision is made in the amended Municipal Act passed in December 1905 for proposal for the erection of building on any site. Apparently however these provisions have not proved effectual and ensured the object in view. The Municipal Corporation so long ago as 1891 sanctioned the laying down of the lines of 11 streets for the whole of the north-western portion of the city, but so far no practical action has been taken by that Body for the actual provision of these streets.

22. Then again shortly after the passing of the Improvement Trust Act, the Trust notified on 14th September 1899 Scheme V (Dadar-Matunga Scheme), which included a portion of Mahim Woods as well the tract of land between the two railways between Dadar and Matunga stations. Unfortunately however these two tracts of land were eventually excluded from the scheme as declared on 14th June 1906.

23. A scheme for the development of Mahim Woods was drawn up by the then Trust Engineer, Mr. Kemball, but for want of funds it could not be carried out. And recently a fresh scheme has been got out for the development of Mahim Woods by the Municipal Executive Engineer, and is now under the consideration of the Corporation.

24. Thus while schemes for the development of Mahim Woods are being considered since 1888, the area gets built upon any how, and if this state of affairs goes on any longer, the improvement of this area will become impossible except at prohibitive outlay. It is therefore necessary that something effectual and practical should be done in the very near future for the orderly development of this area. For this purpose only two alternatives appear to be available, viz.:-

(a) To include the whole area in a street scheme, acquire it and treat it as the Trust are now dealing with the area in Schemes V and VI, or

(b) to devise means whereby the owners themselves may be made to carry out the orderly development of the area, without imposing any burden on the public purse.

25. The adoption of alternative (a) will involve not only a very heavy initial outlay, but also recurring expenditure in the shape of interest and sinking fund charges for a very long period, as experience gained in the execution of Schemes V and VI shows that it takes a very long time for the development and ultimate disposal of such large areas of land. The owners of the lands, included in the scheme, are apparently, as usual, unwilling to part with their properties. Thus in the interest of both the rate-payers and of the owners of the properties included in the scheme, the adoption of alternative (a) seems inadvisable, if another alternative be available and found free from these objections.

26. The adoption of alternative (b) is dependent on the drafting and passing of a suitable Town Planning Act. Its provisions must be such as to ensure the orderly development of the area as a whole at the expense of the owners of the properties benefited by the Scheme, and without inflicting any burden on public purse. Owners of lands required for the recreation ground, new streets, etc., will have to be adequately compensated, and this amount of compensation will have to be recovered in equitable shares from other owners whose properties are benefited. Assuming that such an Act could be drafted and adopted the area in question should be dealt with under alternative (b).

27. It is suggested therefore that a comprehensive Scheme for Mahim Woods be drawn up, that a suitable Town Planning Act may be drafted and passed, and that the Scheme be carried out, either by the Trust or the Municipality, or any independent Body that Government may appoint under the provisions of that Act. While the Scheme is being carried out:—

(a) The Love Grove out-fall may be extended into sea as proposed, or if this fails in abating the nuisance, be diverted to Devnur, and

(b) Sewers laid in the area, for the effectual removal of the sullage from the area.

The Scheme should provide large areas of open spaces for the purposes of recreation and health, and a few roads from West to East joining it with Schemes V and VI. No provision need be made in this Scheme for the sites of Government institutions, nor for those of public institutions in which Government are interested, except for the accommodation of the Police. No sharp lines of demarcation may be laid down for residential quarters for the different grades of society, and no space should be reserved for industries, such as mills, etc.

(G) Widening of existing public streets under the set-back section of the Municipal Act.

28. Greater facility should be given to the Municipality for widening at reasonable cost a large number of public streets under set-back section of Municipal Act. This can be done by amending Section 301 (1) of the Municipal Act, which, as at present in force, enables the house owners to score so heavily and unjustly over the Municipality, and prevents the enforcement of set-backs in a large number of cases. All that an owner is reasonably entitled to, owing to the enforcement of a set-back of his premises, is the net loss that will be sustained by him, and in calculating this net loss, the extent to which the rest of his premises, that will remain in his hands after the set-back has been taken, will be bettered, should be taken into account.

(H) Back Bay Reclamation.

29. This work comes under the measures referred to in paragraph 4 (v) of Government Resolution No. 7140, dated 16th October 1913. So far as public requirements are concerned it is one of the measures "not necessarily for immediate adoption, but as being calculated ultimately to be called for in pursuance of a consistent policy of development".

30. The public requirement is the provision of a large area for suitable housing accommodation close to Fort for the large number of people who have their places of business in Fort. This demand has hitherto been largely met by the buildings erected in the last few years on Trust's Hornby Road, Marine Lines, Wellington Lines, Wodehouse Road and Colaba Estates. This demand is further likely to be met by the erection in the near future of suitable buildings on Cotton Green and the site of the existing godowns at Middle Colaba which will in all probability be available for residential purposes when the cotton trade is diverted to Sewri as already settled. Then again if the Municipality succeed in doing away the existing nuisance along the foreshore, either by further extending the out fall into the sea, or diverting it to Devnur, many well-to-do people, who can afford to keep motor cars, may prefer to live at Mahim, Worli, etc., close to the Western foreshore, even though their places of business be in Fort.

31. So far as public requirements are concerned therefore Back Bay Reclamation is not a work of immediate necessity. When all the other resources of the City are made available and exhausted, the work in question may become necessary. No doubt the provision of the proposed marine and a large recreation ground in connection with the proposed reclamation, will be very desirable amenities to the City, but instead of utilizing any portion of the available resources in providing these amenities at present, it would be to the interest of the City to keep these works in abeyance for the present, and utilize all the resources in developing different parts, especially the north of the City.

32. Nothing will be lost by keeping this work in abeyance for the present. The cost of the reclamation will not be greater say 20 years hence than it is now. But such is not the case with the development Schemes in other parts of the City, as was exemplified in the case of the proposed widening of Abdul Rehman Street—a work which became so expensive by the lapse of a few years, that this desirable Scheme had to be abandoned owing to its prohibitive cost. What happened in the case of widening of Abdul Rehman Street, will also happen in the case of Mahim Woods. If let alone for a few years and allowed to be built upon as at present, these woods will have either to be dealt with under a Street Scheme at enormous expenditure or the district allowed to become an insanitary area to be eventually dealt with under an Improvement Scheme at a heavy cost.

I have the honour to be,

Sir,

Your most obedient servant,

M. S. BHARUCHA, L.C.E.,

Land Manager.

6th November 1913.

H 988—16

NOTE BY MAJOR H. A. L. HEPPER, AGENT, G. I. P. RAILWAY, ON THE DEVELOPMENT OF
THE TOWN AND ISLAND OF BOMBAY (BOMBAY GOVERNMENT RESOLUTION No. 7440,
DATED 16TH OCTOBER 1913).

No definite proposals regarding matters dealt with in the following note have been submitted to my Board of Directors and I am not in a possession of their views. My remarks must therefore be taken as representing my personal opinions only.

2. In para. 17 of their Resolution No. 3022, dated 14th June 1909, the Government of Bombay summarised certain measures which they considered should be adopted at once, and certain developments which in the opinion of Government, should follow later.

3. One of the main developments of the last few years has been the proposal of Government to reclaim a large area in Back Bay to meet the demand for additional space for building sites, which raises at once, to my mind, the question as to whether the removal of the Love Grove pumping station at Worli should any longer remain relegated to the position of secondary importance assigned to it in 1909.

4. I understand that the Municipal Corporation, under the advice of experts, are arranging to extend the outfall at Worli with a view to minimising the present nuisances. But whether this measure results in any improvement in existing conditions, or whether it merely leads, as I anticipate it will, to the distribution of the nuisance over a wider area, I believe that so long as crude sewage continues to be discharged into the sea at Worli the western foreshore in the neighbourhood, which should be an ideal residential district, will remain practically uninhabited.

5. My view is that if a demand for increased accommodation for the housing of the better and middle classes exists to such an extent as to warrant the serious consideration of extensive reclamation in Back Bay, it would be far better to spend the money in removing the Love Grove pumping station with a view to conveying the sewage to the north-east of the Island where, after biological treatment, the effluent could be discharged into the harbour. This would render available for residential purposes a large area in Worli and Mahim which private enterprise, controlled by a Town Planning Act, might be trusted to develop, provided reasonable means of communication were afforded.

6. In this connexion I think that the policy adopted by the Municipal Corporation of reclamation by means of town sweepings requires reconsideration. So far as concerns areas definitely intended as open spaces there may perhaps be less objection, but in view of the possible removal of the pumping station from Worli it seems advisable to ensure that no area, which the removal of the pumping station would render otherwise suitable for residential purposes, should be treated in such a way as to restrict the uses to which it may be put in the future.

7. With the progress that is being made in the Improvement Trust Schemes in the north of the Island I would suggest that steps should be taken to improve the condition of Dharavi by the removal of the tanneries to the mainland, and by reclamation and drainage. This area is, or will be, well served by the railways, whilst the reconstruction of the Sion bridge and the diversion of the Bombay-Agra Road between Sion and Kurla, to the west of the G. I. P. main line, will afford greatly increased facilities for communication by road when the Eastern Avenue is completed.

8. Generally speaking, so far as concerns the provision of additional areas for housing the population, I would urge that the reclamation of the existing land, and its proper drainage, both as regards sewage and storm water, together with the development of Salsette, should precede the reclamation of any large additional areas from the sea. I also suggest it would be a wise measure to take steps to discourage, if not to prohibit, the establishment in the Bombay Island of any more mills or factories which can, without inconvenience to the public, be located elsewhere. But the most important requirement to meet immediate needs I believe to be the removal of the Love Grove pumping station from Worli, the disposal of kutchra by less offensive methods, and the subsequent development of Worli and Mahim for residential purposes.

9. As regards road communications I have few remarks to offer. The Eastern Avenue is under construction by the Improvement Trust, and the widening of DeLisle Road has been undertaken by the Municipality, together with the improvement of roads in Mahim and elsewhere. Frere and Reay Roads have been connected, and Sandhurst Road will shortly be completed through to the Docks. Apart from the improvement of existing roads I would only draw attention to the necessity for a new road in the Fort from Ballard Pier to Hornby Road, a requirement the need of which will, I believe, be increasingly felt with the opening of the Alexandra Dock.

10. The main developments in regard to railways that have taken place during the last four years have been the project to connect the G. I. P. Harbour Branch with Victoria Terminus, and the quadrupling of the G. I. P. main line, both of which works have been sanctioned and are in progress. In addition, both the G. I. P. and the B. B. & C. I. Railways are making enquiries into the possibilities of electric traction in connexion with the suburban services, and developments in this direction may take place in the near future.

11. The decision to remove the St. George's Hospital recorded in Bombay Government Resolution No. 3022 of 1909 has so far not been acted on, but plans have been prepared for remodelling and enlarging the Victoria Terminus so as to utilise the whole of the Railway land at present available, and for providing 11 platforms instead of the 6 formerly existing. With this extension, and assuming the adoption of electric traction for the suburban service, with consequent economy of space, I believe that there would be little difficulty in accommodating the present long distance traffic of the B. B. and C. I. Railway at Victoria Terminus. I do not think, however, that it would be wise to make such a change unless it were certain that the St. George's Hospital site would be available for further extensions of the terminus within a reasonable time. It must be remembered in this connexion that there is a growing tendency to provide long distance trains for third, or third and intermediate class passengers only; and for such trains the B. B. and C. I. Railway might find Grant Road as convenient as Victoria Terminus. As regards access to the Victoria Terminus from the B. B. and C. I. Railway, the works referred to in para. 10 above will provide four tracks from Dadar, with two more from Mahim *via* the Mahim Chord and Harbour Branch, making six in all, compared with two tracks from Dadar existing in 1909.

12. Assuming the diversion of the B. B. and C. I. long distance traffic to Victoria Terminus, I must doubt the necessity for the retention of the B. B. and C. I. Railway south of Church Gate when the cotton trade is removed to the Mazgaon-Sewri reclamation. The figures quoted in 1909 showed a daily average of a little over 5,000 passengers to Colaba, and, although the numbers may have increased slightly in the last few years, it can hardly be doubted that the removal of the cotton trade will lead to a very considerable reduction. The decision to retain the line to Colaba appears to have been arrived at in 1909 on the assumption that the objections to it were likely to be greatly reduced by reclamations in Back Bay. But as the question of reclamation appears to be in abeyance I make no excuse for again referring to the subject. The neighbourhood of Church Gate is undoubtedly convenient for suburban traffic, but I think that the position of the station, and of the line from it as far as Sandhurst Road overbridge, requires further consideration if the proper development and use of the sea face is not to be permanently restricted.

13. My view is that the terminus of the B. B. & C. I. at Church Gate should be a high level station on the maidan to the west of the Telegraph Office, and that the whole section of the line south of Sandhurst Road bridge should be reconstructed as an overhead line on an alignment allowing for a considerable widening of the Queen's Road. Rising on a grade of say 1 in 30, immediately after passing under Sandhurst Road bridge, the line should, I suggest, cross the Queen's Road overhead near the site of the old Chowpatti level crossing, (Queen's Road and Chowpatti being connected direct as formerly), and continue as an overhead line, to the west of the present alignment, to just south of Marine Lines station. At this point the line should again cross the Queen's Road overhead and, passing through the site occupied by the Native Infantry hospital, cross the maidan and follow its eastern edge parallel to Esplanade Road to an overhead suburban terminal station opposite the Telegraph Office. The new Marine Lines station should I think be located to the east of the Queen's Road in the neighbourhood of the hospital site.

14. I have no doubt that objections would be raised to part of the maidan between Marine Lines and Esplanade Road being used for purposes of the overhead railway as suggested. But the advantage to be secured by the opportunities for development of the sea front would, in my opinion, amply compensate for the slight interference with the maidan. I suggest that Government might allow the B. B. & C. I. Railway the use of the necessary Government land, provided the Railway Company were prepared to reconstruct their line south of Sandhurst Bridge as an overhead line as indicated above, the line to be used for electrically-hauled suburban traffic only. This reconstruction need not interfere with the present line or its traffic. On its completion, and provided that the cotton trade had then been removed to Colaba and that arrangements had been made to accommodate the B. B. & C. I. long distance traffic at Victoria Terminus, it would be a simple matter to transfer the suburban traffic to the new line, and subsequently to remove the old one.

15. Supposing this scheme to be carried out, the Queen's Road could be widened and carried direct to Chowpatti so as to avoid the objectionable turn at Sandhurst Bridge. From Colaba a wide marina could be constructed alongside and to the west of the Queen's Road as far as Marine Lines station where the marina and road would separate, the former being continued along the sea front to the west of the overhead line to meet the Queen's Road again at Chowpatti, which would require to be widened. The overhead line might be screened by a belt of trees and, at each station, or where important roads join the Queen's Road from the east, it would be an advantage to construct ample subways for foot passengers under the Queen's Road.

16. As an alternative, to meet objections to the encroachment on the maidan, the overhead line might be kept to the west of the existing alignment throughout, a terminal station being constructed near the present Church Gate station. I do not think, however, that between Marine Lines and Church Gate stations there is a sufficient space to accommodate a widened Queen's Road, a railway and marina. I prefer the maidan site as giving more room at the narrowest part of the sea front, and as providing a more convenient site for local passengers. My main objective, however, is the elevation of the railway, so as to give the people from the town free access to the sea face.

17. I have merely made passing mention in this note of the important works now being carried out in Bombay by the Municipal Corporation and the City Improvement Trust. So far as I can see no modification of the existing programme is called for, although I believe that the revision of the Municipal building regulations is necessary if the full benefit of the work of the Improvement Trust is to be obtained. My object has been to suggest certain projects for which no provision has so far been made, but which I believe to be essential to the proper development of the natural features of the Island. To summarise, my proposals in order of importance are:—

- (a) the removal of the Loya Grove pumping station from Worli and the provision of a complete and efficient scheme of drainage, for storm water as well as sewage,
- (b) the reconstruction of the B. B. and C. I. Railway south of Sandhurst Road Bridge as an over-head line for electrically-hauled suburban traffic as far south as the neighbourhood of Church Gate station only. The diversion of the B. B. and C. I. long distance traffic to Victoria Terminus, and the removal of St. George's Hospital. The removal of the existing low level line from Sandhurst Road bridge to Colaba, and the subsequent widening of Queen's Road and formation of a marina,
- (c) the construction of a new direct road from Ballard Pier to Hornby Road, and
- (d) the improvement of Dharavi.

18. As regards the financing of (a) and (c), I do not think that these are projects for which the rate-payer of Bombay should be expected to bear the whole cost. The proper drainage of the town and the provision of easy access to it from what will be the main point of arrival and departure for passengers from all over India are, I suggest, matters of far more than local interest.

H. A. L. HEPPEL,

Agent.

Bombay, 6th November 1913.

DAMODHER BHUVAN, WARDEN ROAD;

Bombay, 7th November 1913.

From

SIR VITHALDAS D. THACKERSEY, Kt.,
Bombay;

To

B. W. KISSAN, Esquire, I. C. S.,
Special Officer and Secretary, to
The Committee for the Development
of the Town and Island of Bombay,
Pali Hill, Bandra.

Sir,

I have the honour to acknowledge with thanks your letter of the 22nd October (with enclosures) conveying an invitation to give evidence before the Committee constituted to enquire into matters relating to the development of Bombay City. My views on many of the points set forth in the Government Resolution, dated the 16th October, are embodied in the Report of the Committee appointed by Government Resolution, dated 13th November 1912, to advise the Government on the financial merits of a scheme for the reclamation of a portion of the foreshore of Bombay. I am convinced that that scheme represents the immediate requirements of expansion of Bombay City, and that, if the cost of the areas to be set apart for public purposes be not charged on it, such objections as have been raised against it on financial ground, would altogether disappear. I shall be glad to meet the Committee and answer any questions that they may put me. I am leaving to-night for Mysore, and I expect to return to Bombay in a fortnight. Any date that may be fixed for my examination will have, therefore, to be after that period.

I have the honour to be,

Sir,

Your most obedient servant,

VITHALDAS D. THACKERSEY.

From

THE HONOURABLE MR. MUNMOHANDAS RAMJI,
Bombay;

To

B. W. KISSAN, Esqr., I. C. S.,
Special Officer, Sálsette Building Sites, Bandra.

Sir,

I beg to acknowledge the receipt of your letter, dated the 22nd October 1913, bearing number (not mentioned) and to give my opinion herewith on the various questions raised in the same. I beg also to thank the President of the Committee for inviting me to give my evidence before it.

The following are my answers to the issues raised in paragraph 4 of your letter :—

(i) This question contemplates probably the measures sketched forth in the resolution of the Government No. 3022, General Department, dated the 14th June 1909. With regard to the chawls for the poor, there has been a provision made only for 15,000 people while the original idea was to make accommodation for 75,000 people. The scheme of the widening of the Abdul Rehman Street has been taken in hand, though in an altered form, despite the protest of a large section of the public. The project of the joining of the Reay and the Frere Roads has also been taken up.

(ii) There have been no modifications in the scheme referred to in (i) so far as I know.

(iii) I do not suggest any modifications.

(iv) :—

(a) This question and the one immediately following it (b) are rather vague and general. Without knowing the date on which these questions must have been based, *e. g.*, the exact requirements of Government institutions in near future, it is difficult to answer them.

(c) I think that the main need for residential quarters is felt by the middle and the poor classes. The abnormal rise in prices and in the rents presses the most heavily on these two classes which would welcome any scheme which would provide them with healthy residential quarters at moderate rent. For the upper middle classes I would recommend the development of Sálsette and Máhim. The lower middle and the poor classes will always like to live near their place of work and any proposal, which aims at removing them to a distance from this, will prove a failure. Cheap chawls should therefore be built for them in the B, C, E and F wards. The following figures will show what is the number of one room tenements and their proportion and the number of people living in them in these wards.

Ward.	Number of people.	Number of tenements.	Proportion of this to the total.
B	114,966	27,565	91.51
C	135,613	31,050	80.19
E	202,993	45,675	90.37
F	73,836	17,948	83.20

There is no need for special accommodation in the case of the wealthy classes which, I think, have already sufficient provision for them in the Malabár Hill, Fort, Gamdevi and Colába localities.

(d) It is essentially necessary to reserve a large space in the Northern portion of the Island for the industries, both those already existing and those likely to be developed in near future.

(e) It is necessary to reserve and create open spaces for purposes of recreation and health.

(f) Such a provision should be provided.

(v) I think that there is a great necessity for providing a sufficient number of chawls for the poor workmen. The City would be rendered healthier by the provision of cheap and healthy dwelling places.

The following are my answers to questions raised in paragraph 5 of your letter :—

(a) I fear it would be highly ruinous to start any scheme for the removal of long established institutions like the University buildings and the Colleges grouped in their neighbourhood, the Secretariat and the High Court. If any more space is required for the expansion of the City in the Fort, removal of the Cotton Green and the Military Cantonment will supply a greater area than could be made available by the removal of the buildings aforesaid.

(b) This question does not tell us as to what is the expected extension in future of these institutions. Anyhow I think that under any circumstances no recourse should be had to re-

- clamation, against which the public justly protests as being an useless, unnecessary and abnormally expensive scheme. I hope I shall be excused for asserting with emphasis that in any scheme for a sane and rational development of the City, this fatuous proposal of the reclamation should be tabooed. My firm conviction is that it will only benefit the wealthy classes which, as I observed above, do not stand in much need of sympathy for the present. I may be allowed to quote below a portion of my letter to the *Times of India* on this subject. I am aware that the question of the reclamation is not directly before us but it is because I fear that some excuses may be found out for it by introducing it indirectly that I would like to expose the fallacies lying at the root of the whole scheme.

"It is estimated that 60,000 square yards will be taken up annually for a period of sixty years which is said to be a conservative estimate by some of the supporters of the scheme. I am not optimistic enough to think like this. According to the Census of 1901, there were 88 bungalows in A ward and 975 bungalows in D ward. Unfortunately, the Census Report for 1911 has omitted several important tables of which that relating to bungalows is one. Still, taking the total number of bungalows for A and D wards as 1,200 (which would be a liberal estimate) at present, and the rate of increase 100 in the next fifty years, it will be seen that the land likely to be taken up in this wise will be 1,800,000 yards in fifty years, estimating 1,500 square yards for each bungalow. On the other hand according to the estimate of the Government if the scheme is to be a fairly successful one, at least 3,600,000 square yards will require to be taken up in 60 years, i.e., almost double of the ordinary and natural rate of increase. There is thus a probability of the calculations regarding the new scheme being upset.

"It may be perhaps contended that not only people living in bungalows but also in 5 and 6-room tenements at present will be able to secure places on the land proposed to be reclaimed. It is interesting to note that the number of 5-room and 6-room tenements according to the Census of 1911 is 1,900 and 2,674 respectively, and the number of persons living in the same is 14,013 and 25,282 respectively, for the whole of Bombay, showing the extremely limited portion of the population to whose wants, if any, the new scheme would cater. Carrying our inquiry still further, we may see the number of tenements and persons living therein in A and D wards, people from which wards will be mostly likely to take advantage of the new site.

	Number.
A Ward—5-room tenements	333
Do. persons	1,829
Do. 6-room tenements	525
Do. persons	3,672
D Ward—5-room tenements	544
Do. persons	3,671
Do. 6-room tenements	854
Do. persons	7,285

It will be thus seen that there are only about 16,000 people who are likely to take advantage of the new scheme."

I beg therefore to suggest that the Government should have nothing to do with this scheme.

(c) I am against reclamation.

Finally, I should wish that the Government should make provision in their budget for liberal allotments to projects for the development and expansion of Bombay and that the Municipal Corporation may be entrusted with the work of carrying out of the scheme for the development of the City whenever these are decided upon.

I have the honour to be,

Sir,

Your most obedient servant,

MUNMOHANDAS RAMJI.

7th November 1913.

77-78, APOLLO STREET:
Bombay, 7th November 1913.

From

THE CHAIRMAN,

The Indian Merchants' Chamber and Bureau, Bombay;

To

B. W. KISSAN, Esquire, I. C. S.,

Special Officer, Salsette Building Sites, Bandra.

Sir,

As requested in your letter No. 3012 of 1913, dated 17th October 1913, I have the honour to send you the following opinion of the Committee of this Chamber on the several questions raised in your said letter.

Y35-81-2311-N13E N123CB-3-N16
E4 F9

2. *Re* the points dealt with in paragraph 4 of your letter:—

(i) In this connection the Committee will consider *seriatim* the measures mentioned in the resolution of the Government, No. 3022, June 14th, 1909 :

(1) The erection of a large number of chawls for the accommodation of the poorer classes—

There has been little or no provision made in this direction to satisfy the requirements of the situation. Though the Trust was started mainly with this object, it has up to this time arranged for the accommodation of only 15,000 people.

(2) The widening of the Abdul Rehman Street—

This project has been taken in hand, though in another form, despite the protest of a large section of the public.

(5) The recovery from the Improvement Trust, after a negotiation, of their rights of reclamation in Back Bay, south of Charni Road—

Nothing appears to be done in the matter. The Trust has not got sufficient funds to develop this foreshore, while the period for the expiry of its rights in the same is drawing near. The Committee, therefore, do not think it necessary that the Government should now proceed to recover from the Improvement Trust their rights of reclamation in Back Bay south of Charni Road.

(6) The drafting and adoption of a Town Planning Act—

The public has no information on this point.

(ii) The modifications, if any, which have actually occurred in that scheme so far carried out :

No modifications have occurred, in the knowledge of the Committee, in the scheme so far carried out.

(iii) Whether any, and if so what, further modifications are advisable in view of the changes and developments which have taken place within the last four years :

The Committee have no modifications to suggest.

(iv) What measures should now be taken for systematic further development, the particular measures recommended being set forth under specific heads, and more especially with reference to the following :

(a) The provision of sites for Government institutions :

The Committee are not aware of the needs of the Government in this direction, nor are those described in your letter.

(b) Similar provision for public institutions in which Government are interested, such as the appendages to the University and its Colleges and several much needed institutions which are in contemplation :

The same reply as the reply to (a).

(c) The provision of areas suitably located to meet the increasing demand for residential quarters for the different grades of society :

The Committee beg to repeat the observations made by them in their reply to the letter of the Government, No. 7382, General Department, dated the 9th December 1907 :—

“No area in the proximity of the City could be better suited for relieving the congested situation of the town, with its greatly enhanced rents, for the accommodation of all classes of people, rich and poor alike, than the large stretch of land lying between Dadar and Mahim known as the Mahim woods. This extensive area needs to be thoroughly mapped out for purposes of residential quarters to achieve the great object in view. Naturally the poorer classes and the lower middle classes would prefer to live on the eastern side, so as to be as near as possible to the Railway Station and the Bazar, while the well-to-do and upper classes would naturally prefer the Western side. Thus were the woods cleared and proper allotment made of land, with broad and convenient roads, there will be purchasers found, who could obtain the different plots of the character for the building of the class of houses needed.

Cheaper priced lands on the East will naturally be acquired to build cheap dwelling houses, which the lower classes could reasonably afford, while land near the sea as well as other eligible plots will serve for the construction of better class of dwellings suited to the requirements of the well-to-do and wealthy. But in the opinion of my Committee, it will be altogether inadvisable and inexpedient to have any artificial barriers. The utilisation of the Mahim woods should be first undertaken, but it must not be on any sectional basis, that is not in favour of any particular class or classes, though it is a matter of fact that the necessity for dwelling houses in a suburban locality at reasonable rents is felt by the middle classes more than either by the poor or the wealthy. The last can find eligible places, but not so the other classes. In the proportion that the pressure of the middle classes is reduced from the town, there will be found ample room for the poorest in the town and near to outskirts ; and thus by a natural

law of gravitation, the well-to-do classes will concentrate in the land which may be made available in the Mahim woods. My Committee think that it is a marked characteristic of the labouring classes in India to have their dwelling places in the vicinity of factories or other places, where they may be employed, as far as possible. Whatever other places may be offered to them for residence, they will prefer to live near their places of employment. My Committee therefore think that good and healthy chawls, on the model of those built by the Improvement Trust in Princess Street, may be conveniently built for them in the E, F and G wards, for these localities are not only convenient but in every way suitable for their social and religious purposes owing to proximity of their places of worship, etc. Millowners also should be induced to construct such chawls near their factories for their employees."

The Committee beg to add on this occasion that the development of Salsette may well be undertaken for the location of the upper middle classes, and that no special provision appears to them necessary for the wealthy classes which have got sufficient accommodation for them in the Malabar Hill, Gamdevi, Fort and Colaba localities.

(d) The allotment or reservation of sufficient space to allow for the expansion of existing industries, such as the mill industry, and for the coming into being of possible new industries, in order that these, when developed, may not grow up at random in areas which it may be necessary or desirable to reserve for other purposes in future:

The Committee think that it is necessary to reserve a large area in the northern portion of the Island for this purpose.

(e) The reservation of open spaces for purposes of recreation and health:

It is highly essential to reserve open spaces for purposes of recreation and health. There should be such spaces for them in the heart of the city, which could be done by removing some institutions, for instance the Dongri gaol.

(f) The provision of suitable means of communication both by road and rail with any areas which may be provided as above:

There is a necessity for providing such means of communication.

(g) Any other measures which it may be desirable to indicate, not necessarily for immediate adoption, but as being calculated ultimately to be called for in pursuance of a consistent policy of development:

The Committee are of opinion that it is highly essential that chawls for the poor should be built on a far more extensive scale than has hitherto been the case, specially in E, F and G wards.

The following are the answers to questions raised in paragraph 5 of your letter:—

(a) In order to provide for the indefinite growing needs of the City in the matter of expansion, is it possible to entertain the idea of uprooting long established institutions, such as the University buildings and the colleges grouped in their neighbourhood, the Secretariat and the High Court, the removal of which to another part of the Island would afford considerable room for expansion besides solving the difficult problem of their own need for extension?

It is not at all necessary to remove these buildings. The proposal is too expensive to be entertained in any scheme for the development of Bombay. The required space for expansion will be obtainable when the Cotton Green is removed from Colaba.

(b) If the Committee consider that such an expedient is inadmissible, then is it in their opinion necessary, in order to provide for the absolutely needful extension of these institutions, to reiterate the view that recourse must be had to reclamation?

The Committee cannot give their opinion on this matter at present, but they have reason to apprehend that the cost of reclamation will be too expensive to make it a feasible project.

(c) If such is the opinion of the Committee, then would they recommend reclamation by a single scheme of considerable size to be carried out in sections, or by a scheme of one small section at first to be followed by additions as required?

No answer is required to this question as the Committee are against reclamation.

(6) Finally, the Committee should advise as to the best means of securing co-ordination and expedition in the carrying out of the measures which, after considering the recommendations presented in their report, Government may resolve on adopting:

Lastly, the Committee beg to think that the Government should in the interests of the city allot large sums annually for the specific object of its development and expansion.

I have the honour to be,

Sir,

Your most obedient servant,

PURUSHOTAMDAS THAKURDAS,

Chairman.

NOTE BY THE HONOURABLE MR. JUSTICE HEATON, VICE-CHANCELLOR, BOMBAY UNIVERSITY.

Looking at the matter from the University point of view the following considerations appear to me to be fundamental.

One of the great defects of our University system is a want of corporate University, life and association. To remedy this it is necessary to have the opportunity for the freest and most frequent possible intercourse between the professors and lecturers and also between the students of different colleges. To ensure this opportunity we require that all the affiliated colleges in Bombay and all their athletic grounds or playing fields shall be as near together as possible.

In the very near future also we shall require an extension of University buildings and a University Institute or Union and these buildings again must be as central as possible, that is as nearly as possible within easy reach of students and teachers.

The ideal arrangement would be to have all the University buildings, all the affiliated colleges and their playing fields in one locality. This, however, I regard as practically impossible, for it would involve rebuilding the University and all the colleges, including the New Institute of Science. Expense and sentiment are both against this.

The only practicable solution, as it seems to me, is to keep the present University buildings as a centre and to provide space in their neighbourhood for future needs.

There must be an extension of University buildings. The Elphinstone College will probably need to be enlarged or re-established on another site. Provision will be required for University laboratories unless, as I hope will be the case, the Institute of Science provides accommodation enough for University as well as its own purposes. A college for women is proposed and the college of Commerce must be housed.

Without looking very far ahead therefore we find that provision for some extension of buildings must be made in the neighbourhood of the University. If we look far ahead we find that a considerable area in this neighbourhood must be provided.

The point is this: if all the available space in the neighbourhood of the University whether now existing or to be added by reclamation or otherwise is allotted for non-University and non-college purposes, the possibility of establishing a University quarter will be lost. Diffusion will be perpetuated and concentration will become impossible.

To sum up: My opinion is, leave the University buildings where they are and provide in their neighbourhood land for extension of college and University buildings and for athletic grounds or playing fields. This can only be done so far as I can see either by

- (i) reclamation; or
- (ii) removing the B. B. & C. I. Railway from Churchgate Station to Colaba and using the land so set free and the land between the railway and the sea at least in part for educational institutions; or
- (iii) by acquiring land within say a quarter of a mile of the University and devoting it to such institutions.

I have written briefly without detailed enquiry and have not stated reasons at length but shall be glad if necessary to discuss matters.

J. J. HEATON.

9th November 1913.

No. 89, APOLLO STREET, FORT:

Bombay, 11th November 1913.

From

PURSHOTUMDAS THAKURDAS,

Bombay;

To

B. W. KISSAN, Esquire, I. C. S.,

Special Officer, Salsette Building Sites,

Secretary to the Committee appointed by Government Resolution No. 7440,

Bandra.

Sir,

In your letter No. 3102, dated 17th October 1913, you have invited me to give my opinion regarding Government Resolution No. 7440, dated 16th October 1913, in addition to my sending you the views of the Committee of the Indian Merchants' Chamber and Bureau. The latter have been sent to you by my letter to you, dated the 7th instant, and I beg here to say what I personally think regarding paragraph 5 of the Government Resolution.

(a) I am of the opinion that it is most undesirable to remove the University buildings and the Colleges grouped in their neighbourhood, the Secretariat and the High Court to another part of the Island. These institutions, and especially the High Court and the Colleges in the neighbourhood of the University, must remain in about as close proximity to the business part of Bombay, *viz.*, the Fort, as at present. The Indian Merchants' Chamber and Bureau's Committee think that space necessary for extension to these institutions will be available when the Cotton Green is removed to Mazagaon. It is, however, understood that a considerable part of the Cotton Green and adjacent land used at present for godowns, factories and other concerns in connection with the location of the cotton trade, will be utilized for the St. George's Hospital which requires to be removed from its present site, to allow for much-needed extension to the Victoria Terminus Station. It is also likely that the B. B. & C. I. Railway may want further space for extension to the present terminus station at Colaba.

I think that the large area of land at present occupied by the B. B. & C. I. Railway at Colaba can well be reduced by their making Grant Road as their terminus station for long distance trains and goods traffic. I do not suppose it would be difficult to acquire land for the B. B. & C. I. Railway, in continuation of their existing station at Grant Road, enough for their present needs and for future extensions. The location of the terminus at Grant Road will not be in any way extra-detrimental to the locality at Grant Road, as, a number of Mills already stand round there.

The existing stations Charni Road, Marine Lines and Church Gate are necessary for local traffic specially, and I advocate their retention for same only. When the working of local trains is electrified, as I expect it will be sooner or later, the long distance traffic commencing from Grant Road will not cause any inconvenience to the railway.

I do not think long distance traffic commencing from Grant Road will cause any very serious inconvenience to the public either. As it is, the bulk of these passengers get in either at Colaba or Grant Road. However if necessary, sections of long distance trains may be started from the Victoria Terminus and joined to the main train coming from Grant Road at Dadar.

As, after opening of the new docks and the reclamation ground at Sewri for shipping and landing of import cargo purposes, the B. B. & C. I. Railway will be importing their stores and coal direct by rail from the docks or wharves at Sewri. I think the B. B. & C. I. Railway cannot be seriously inconvenienced owing to removal of their terminus to Grant Road, except for the cost involved. But this will relieve a considerable area at Colaba for extension of College residency quarters and appendages to the University and its Colleges.

(b) Should the area made available as suggested above be not sufficient, I am of the opinion that recourse may be had to reclamation.

(c) I am in favour of reclamation of one small section at first to be followed by additions, if reclamation be found suitable from a financial point of view, which is very much doubted at present.

You will notice from the Indian Merchants' Chamber and Bureau's reply to (b) paragraph 5 that they have reason "to apprehend that the cost of reclamation will be too expensive to make it a feasible scheme."

It is popularly believed that the opinions of experts regarding the cost of reclamation of the Back Bay differ most considerably. For the satisfaction of this, it is most desirable not to launch a single scheme of considerable size at the commencement even though it may be carried out in sections; if it be possible a demonstration of the feasibility of reclamation on a small scale will be the right step, in the commencement, towards attracting capital and popularity for reclamation later on.

I take it that the provision of funds for reclamation as suggested above will be made by Government.

With reference to paragraph 6 I think it is desirable to devise measures for securing co-ordination and expedition in carrying out of measures that Government may resolve on adopting now and hereafter.

The landed interests in the Town and Island of Bombay are divided, broadly speaking, between—

- (1) The Municipality.
- (2) The City Improvement Trust.
- (3) The Port Trust.

All these three bodies work with either the Bombay tax-payers or the Bombay merchants' money in the form of taxes, cesses or other duties. It is therefore most desirable that these institutions which control the development, sanitation and the trade of the city should co-ordinate in execution of whatever is decided upon as most necessary or suitable for the city's needs.

I believe it would be best if a small Committee consisting of a representative from each of these three bodies be appointed for the purpose of reporting to Government every year how the progress of schemes sanctioned is going on. I would suggest the Committee be presided over by one of the Secretaries to Bombay Government and that the representatives of the

three bodies should, as far as possible, not be the executive officers of same. I mean, that it would be desirable for the Municipality, the City Improvement Trust and Port Trust to nominate on the Committee one of their members other than the Municipal Commissioner and the Chairmen of the Improvement and Port Trusts.

I beg to repeat these are my personal views.

I have the honour to be,

Sir,

Your most obedient servant,
PURSHOTUMDAS THAKURDAS.

No. 2757.

HIS MAJESTY'S HIGH COURT OF JUDICATURE,
APPELLATE SIDE:

Bombay, 12th November 1913.

From

R. E. A. ELLIOTT, Esquire,
Registrar, High Court,
Appellate Side,
Bombay ;

To

THE SPECIAL OFFICER,
Salsette Building Sites,
Bombay.

Sir,

With reference to your letter dated the 31st October 1913, I am directed by the Honourable the Chief Justice to say that his Lordship is of opinion that the High Court should be retained in its present position and that if offices which have little or no connection with the High Court are removed from the present building it will suffice for the needs of the High Court for many years to come.

I have the honour to be,

Sir,

Your most obedient servant,

R. E. A. ELLIOTT,
Registrar.

No. 9109 OF 1913-14.

OFFICE OF THE
DIRECTOR OF PUBLIC INSTRUCTION,

Poona, 12th November 1913.

From

THE HONOURABLE MR. W. H. SHARP, M.A.,
Director of Public Instruction ;

To

THE SPECIAL OFFICER,
Salsette Building Sites, Secretariat,
Bombay.

Sir,

In reply to your letter of the 31st October 1913 asking for my views with reference to the location of the University buildings, colleges and schools, I have the honour to state that, looking to the character of the University buildings, it appears to me impossible to scrap them and transfer the University to some other part of the Island. It is true that the University is in need of additional buildings, but the problem of providing such in the immediate neighbourhood does not appear to be incapable of solution.

2. It would be of little use to remove the University unless the colleges were removed with it to form a new academical quarter. Desirable as this would be in itself it appears to me now to be out of the question. I was very much in favour at one time of transferring the Elphinstone College to a more open site ; but I think that the chance of doing so passed away for ever when it was decided to plant the new Science Institute (which is to provide the science side of the College) alongside of the present building. It is scarcely conceivable that St. Xavier's

and Wilson Colleges (both of which have spent considerable sums of late in new buildings) would consent to migrate. The Medical College must adjoin a big hospital; and the Law School, as long as it is staffed by practising lawyers, must be near to the High Court.

3. The Government schools in Bombay are the Elphinstone High and Middle Schools. Both are day-schools, both are as large as is desirable (700 and 600 boys respectively), and both are conveniently situated for the classes that attend them. The present Middle School however is required for an extension of the Small Causes Court in the near future; but I have suggested an adjoining site which might replace it.

4. Closely connected with these two schools is the Secondary Training College. It is essential that it should remain in the neighbourhood of these schools which afford the necessary practice for the teachers in training. A hostel has just been built for this institution, and further buildings for it are in contemplation.

5. The School of Art has an extensive and expensive range of buildings, and I do not think that it has been proposed to meddle with it in any way.

6. I come now to new institutions which may require to be provided for. The first of these is the College of Commerce, which has already been opened. It is intended to rent accommodation for the present, but eventually a building will be required, and it is essential that this should be close to the business quarter so that the students may conveniently fill in part of their time in actual offices for practical training. Should a hostel however be provided for them hereafter, it is not essential that it should be in the Fort, so long as access is convenient. With this college the Government of India have proposed to combine an institute for economical and sociological research.

7. Unless the whole course of law studies is changed and the school made a whole-time one, the Law School is not likely to require a building of its own. But it is much in need of a hostel, which might possibly be combined with a hostel for the Commerce students, and located at a spot convenient of access by rail or tram.

8. There has been some talk of a College for Women. Some of the missionary bodies are very anxious to start one if they can secure Government aid; but a Government College has also been suggested. In the first instance it is probable that the girls would have to attend a men's college for certain subjects (*e. g.* science or Sanskrit), and therefore it would be convenient to locate them in the neighbourhood of such a college, which (in the case of a Government Institution) would have to be the Elphinstone. This circumstance, together with the experimental character of the venture and the difficulty of forecasting exactly how much would be required, points to the desirability of beginning with rented quarters in the Fort and letting the question of permanent accommodation stand over for the present.

I have the honour to be,

Sir,

Your most obedient servant,

W. H. SHARP,

Director of Public Instruction.

WILSON COLLEGE, BOMBAY:

13th November 1913.

From

THE ACTING PRINCIPAL,

Wilson College;

To

B. W. KISSAN, Esq., I. C. S.,

Salsette Building Sites Officer.

Sir,

With reference to Government Resolution No. 7440 and your request, dated 31st October, that I should state my views on paragraphs 4 (IV) (b) and 5 (a), I have the honour to reply as follows.

First, negatively, there should be no consideration of the erection of buildings on the spaces, immediately in front of and behind the University buildings, known as the Oval and the University Gardens. The two University buildings are perhaps the finest achievements of British architecture in the East. But it is only from those vacant spaces that their proportions can be rightly seen, and their great beauty appreciated. If large commonplace buildings were erected beside them they would be over-shadowed, the artistic situation would be lost, the charm would be completely destroyed, and the question of uprooting would become of minor importance. Moreover, apart from the important matter of open spaces and of the admission of pure air into crowded business quarters, the Gardens are valuable for their botanical specimens, and as the only public spot suitable for Garden parties in honour of distinguished men, and as the most appropriate place where statues of Governors and eminent public servants may be erected.

On the positive side I beg first to say that for appendages of the University less is required than is sometimes alleged. If the University undertake M.A. teaching and, later, something of post-graduate research, the classes will be small and can be accommodated, for the greater part, in existing buildings. I make two definite suggestions: (1) That certain rooms of the College or Royal Institute of Science, and especially the Examination Halls, should be at the service of the University for advanced work; and that an announcement should be made to that effect. (2) In the event of the erection of a new Elphinstone College (as seems desirable) and the Government's taking over the present buildings for administrative purposes, I think that some rooms including the ground floor should for the present be given to the University for general uses. By these two temporary gifts the needs of the University would for several years be satisfied.

It remains that new buildings, including an Elphinstone College, the Sydenham College of Commerce, and perhaps a Law College.

For Elphinstone College a very appropriate place is the Cooperage, on the South or South-East side of it, where the ground is now occupied by large trees. There is, I think, in that region room for all the educational buildings required. And, if built with a fine frontage to the North, they would enhance the architectural appearance of the city. The site between the Municipal Offices and the Police Offices, if not required for other purposes, would suit admirably for the College of Commerce. Immediately North of the B. B. & C. I. Railway Offices is a vacant space sufficiently large for any educational building. South of the Church Gate Station the ground between the Railway and the road, though narrow opposite the University, is towards either end of sufficient breadth for public buildings of secondary dimensions.

Other sites might be found, but at greater distance from the University. These are sufficient until Reclamation has been effected and new ground is available in the part of the Bay nearest to the University or to Marine Lines.

As to uprooting, I know not how great works of architecture can be transplanted. But in the course of a generation the expansion of the City North, North-East or South or South-West will show where new buildings may arise connected with the intellectual life of the city. Meanwhile what is good should be preserved. And the whole region of the Gate of India from Apollo Bunder to St. Xavier's College should be made worthy of a metropolitan city. Government should take possession of the buildings adjoining the Secretariat. Rampart Row should be re-built. The region north of Marine Lines up to the Fraunjee Cowasjee Hall should be reconstructed. Of this scene of possible magnificence the University buildings must remain the centre.

I have the honour to be,
Sir
Your obedient servant,
R. SCOTT,
Acting Principal.

No. 1635 of 1913-14.

GRANT MEDICAL COLLEGE:
Bombay, 13th November 1913.

From
THE PRINCIPAL,
Grant Medical College, Bombay;

To
B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites,
Bombay.

Sir,

With reference to your letter dated 31st October 1913, I have the honour to state that it is essential from a teaching point of view that the College ought to be in the vicinity of the Hospitals attached to it. These Hospitals as well as the College itself are all Memorial buildings and large sums of money have been spent recently on the erection of the subsidiary buildings for the development of these institutions. I do not therefore think it possible to entertain the idea of uprooting these institutions.

I have the honour to be,
Sir,
Your most obedient servant,
A. STREET, F.R.C.S.,
Lieut.-Colonel, I. M. S.,
Principal, Grant Medical College.

*Bombay Presidency Trades Association, Limited,
49, Hornby Road, Fort :
Bombay, 14th November 1913.*

No. 1774-13.

To

B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites, Bandra.

Sir,

I have the honour to acknowledge receipt of your No. — of 1913, dated the 22nd October, together with two resolutions of Government to which it gives cover.

The same having been placed before my Committee, I am directed to say that while thanking you for your courtesy in bringing the matter to their attention and asking their opinion thereon, they feel that in view of the very short notice given them, and having regard to the importance of the questions involved, the time allowed for representation is not sufficient to enable them to do full justice to the subject under reference, which is to be regretted seeing how keenly my Association has for many years past interested itself in the scheme for the development and extension of the Town and Island of Bombay.

In regard to your invitation to submit the names of witnesses to give evidence, my Committee have pleasure in nominating Mr. F. F. Gordon, J.P., who is expected to return to Bombay from Europe at an early date, and he will verbally represent my Association's views.

Pending the taking of this gentleman's evidence, my Committee have very carefully considered the contents of the documents accompanying your No. — of 1913, and in accordance with the proposals made thereanent my Association accord their support to the following :—

Provision of residential areas for wealthy classes.

- (a) Construction of residential areas in the north of the Island involving
 - (1) Development at Mahim and utilization of the Mahim woods for all classes.
- (c) Development of Bombay.

Channels of communication.

Widening of Abdul Rahman Street.

Construction of a short length of a wide street connecting the west end of Ballard Pier with Hornby Road.

Provision of a wide road east of the present row of buildings connecting the Ballard Road (widened to 80 feet) with Fort Street (which is now 80 feet wide).

Provision of a central artery along what is now the main thoroughfare of the City from Sion Causeway along Vincent, Soparibag and Parel Roads, and Abdul Rahman Street to the Crawford Market and the Hornby Road.

Extension of Frere Road into Reay Road.

Extension of Queen's Road in the direction of Grant Road Station.

Construction of a "really good road" to connect the Island of Bombay with the mainland.

Provision of a western artery giving clear access to the Bandra Causeway through the Mahim woods.

Provision of a road northwards from Sandhurst Road in the line of Chunam Kiln Road (where widening is urgently required), which will afford a valuable route northwards *via* Gilder Street.

Provision of an eastern artery to meet the requirements of the Port, following the Frere and Reay Roads and their extension to Sewri and probably connecting with the central artery south of Mahim Chord Railway line.

Provision of a connection between the north end of the road forming the western boundary of the trade zone with the central thoroughfare to be made by the Improvement Trust as part of their suburban schemes for the north of the Island.

Widening of Elphinstone Bridge on the completion of Sandhurst Road.

Widening of the section between Mount Road and Parel.

Provision of a wide road with easy gradients connecting Sewri village with the new Sewri Road at the south-west corner of the cemetery.

Proposal that elevated or shallow underground lines should be worked electrically and carried along routes that will provide quick communications between outlying areas and the business centres.

Adaptability of Victoria Terminus for main passenger traffic.

Desirability of adapting the Victoria Terminus for the reception of all main passenger traffic into Bombay.

Proposal that, in order to facilitate the dealing of long distance traffic at the Victoria Terminus, urban and suburban traffic should be provided for by an overhead line.

Arrangements for local passenger traffic.

Proposal that local traffic should be diverted to the present Victoria Terminus or to an adjacent station and that the B. B. & C. I. Railway should be stopped at Grant Road.

Provision of an electric railway on the eastern side of the Island with a central station in the Fort.

Proposal that the passenger traffic from Grant Road to stations south and *vice versa* should be dealt with by electric tram-cars.

Provision of electric railway of the elevated or underground type.

Proposal that both railways (G. I. P. and B. B. & C. I.) should have running powers over each other as far as Bandra and Kurla to be exercised when necessary.

Housing of middle and labouring classes.

(1) Accommodation for the middle classes—

- (a) in the neighbourhood of Mahim ;
- (b) in Mahim and the northern districts ;
- (c) on the western portion of the Mahim woods ;
- (d) in the northern suburbs of Dadar, Mahim, Dharavi and Sion, and also Dhobi Talao, Bhuleshwar, Khetwadi, Girgaum and some part of Mazagou ;
- (e) in places comprised in the Improvement Schemes Nos. V and VI and the vacant lands of Mahim and Dharavi.

(2) Accommodation for the labouring classes—

- (a) in localities to the north-east of the Island of Bombay ;
- (b) area north of the Fort and east of the G. I. P. Railway ;
- (c) at Dadar and Matunga and north-east of the Island ;
- (d) in chawls to be built in E, F and G wards of the City on the model of those built by the Improvement Trust in Princess Street ;
- (e) (mill-hands and dock-labourers) in the centre and eastern side of the Island, in Mandvi, Omerkadi, Khara Talao and Kumbharwada ; (working classes) in Kamatipura, Khara Talao and Kumbharwada.

Proposal that provision similar to that made for the Mahars, Marathas, Konkanees, etc., in Scheme No. 11 and the Koliwada Scheme should also be made for poor high caste Hindus working on low wages as well as for the Mahomedans and Parsis.

Desirability of filling up low-lying portions of the Island.

Suggestion that the attention of the Improvement Trust should be particularly directed towards lessening the over-crowding of houses on the available area.

Proposal that in future all milch-cattle stables should be concentrated in suitable localities north of Clerk Road where their construction and sanitary condition can be carefully supervised.

Provision of workmen's trains.

Suggestion that powers should be reserved in any new traffic arrangements that may be entered into for workmen's trains, as cheap transit to the outlying districts may have an important bearing on the schemes now under consideration.

I have the honour to be,

Sir,

Your most obedient servant,

R. D. HUGHES,

Secretary.

MEMORANDUM SUBMITTED BY SIR SASSOON DAVID, GIVING HIS VIEWS TO THE COMMITTEE APPOINTED BY GOVERNMENT ON MATTERS RELATING TO THE DEVELOPMENT OF THE TOWN AND ISLAND OF BOMBAY.

In giving my views on the several points raised in the enquiry regarding the development of the Town and Island of Bombay I have not been able to deal with them in point of sequence as in Government Resolution No. 7440 of the 16th October 1913, but have dealt with the various points as they suggest themselves to my mind.

Northern part of Island.—The development of the northern part of the Island now being carried out under the Improvement Trust schemes is in my opinion in the right direction and should be continued, as it is far-reaching and will in course of time afford means for easy communication with Bombay and Salsette. The Trust should therefore be allowed a free hand and entrusted to carry out future requirements to the fullest extent.

The Mahim Woods Scheme.—This scheme in my mind is too colossal a one to undertake except at great cost. It will therefore be too expensive as residential areas for the middle classes, and will not appeal to the wealthy class on account of the distance from the business centres, and also the undesirable nature of the approach to the same owing to the present locality of the Pumping Station, the site of which I do not see any possibility of being removed although I have great hopes that the steps now being taken by the Municipality will, in a great measure, remove the nuisance.

St. George's Hospital.—I recommend that this should be removed to the Apollo Reclamation at Colaba, and its present site should be then made available for Railway purposes and the extension of Public offices, such as the Post Office, etc.

New Road and Colaba Railway Station.—I consider it most essential and desirable that a new road should be laid down from Chowpatti to Colaba on ground to be reclaimed at least as far as the Wodehouse Bridge to relieve the congestion of traffic on Queen's Road, and provide a Marine drive in addition to the existing ride. If this were done, then I do not think that any appreciable advantage would be gained by the abolition of the present terminus of the B. B. & C. I. Railway, especially as the adoption of electric power in the near future will remove the smoke nuisance which is now such a prominent one.

Chawls.—The only way to overcome the difficulty in meeting the demand for housing the labouring and poor classes is for large employers of labour, such as Factory and Millowners, Port Trust, Railways, and Municipality, to construct their own chawls for their workmen in the vicinity of their own offices and factories. The authority given to the Improvement Trust under the amended Act allows the Trust to deal with individual employers, and I feel sure that it will not be long before several mills and factories will take advantage of this. Therefore I do not think it necessary that the Improvement Trust should be saddled with any further responsibility to provide for such chawls.

University Buildings, High Court, Secretariat, etc.—I do not at all favour the idea of uprooting such long-established institutions as the University Buildings, High Court, Secretariat, etc., so long as the existing open spaces are preserved as such.

Any future extension or expansion of the present Secretariat and High Court could be met by the removal of the Elphinstone College and Public Works Department offices which might then be located in the Colaba Cotton Green on the Apollo Reclamation, together with any other Government offices that may be required in future, where sufficient area would be provided at a reasonable cost. The Government official residential quarters might well be provided for on the reclamation now proceeding on the Sassoon Dock foreshore. All such necessary areas should be acquired as soon as possible.

Back Bay Reclamation.—I am strongly in favour of the Back Bay Reclamation which to my mind is the only means of providing in the healthiest and best portion of the Island for all present and future requirements and, as it must come sooner or later, if taken up now, will be a great saving to the City from economical and financial points of view.

The Reclamation should be undertaken by Government as a single scheme of considerable size, to be carried out in sections; such a Reclamation would give an extensive area of land situated in the best part of the Island, and would provide for

- (a) sites for Government institutions and housing of Government officials;
- (b) Public institutions in which Government are interested;
- (c) areas for residential quarters for different grades of society;
- (d) reservation of open spaces for purposes of recreation and health.

I am not in favour of any reservation being made in this Reclamation for the expansion either of existing industries or of possible new ones. These might well be permitted to expand only on the north-eastern side of the Island beyond Dadar into Salsette.

I do not think that the Reclamation will in any way tend to reduce the value of existing land. There may be some depreciation in the beginning but I feel sure this will only be temporary and will readjust itself in a short time.

SASSOON DAVID.

Bombay, 17th November 1913.

WRITTEN STATEMENT OF HUSSONALLY ABDOLALLY, Esq., J.P.

Development of Bombay City and the Improvement of Communications in the Island.

1. I have read with interest the Government resolutions and the reports and discussions of the various schemes which have appeared from time to time in the public press; and I approve of the undertakings which have been carried out so far by the City Improvement Trust and by the Bombay Municipality.

2. As regards future measures for further development of the City and Island of Bombay, I beg to offer my humble opinion on the several points noted in paragraph 4 of the resolution of Government.

3. *Government Institutions* and such public institutions in which Government are interested could be amply provided with spacious sites for building by reclaiming the west and south-west (Harbour side) foreshore at Middle and Upper Colaba, thereby adding a considerable area to the existing Government land in that district; access to the same being by an extension of the Cuffe Parade Road south.

4. It will be wiser to reclaim at Middle and Upper Colaba which is but a shallow water, and the projected scheme could be easily and beneficially carried out. Further, if the reclamation at Back Bay be attempted, and if supposing, after the completion of the reclamation, rows of buildings be built, the present enjoyable residences at Chowpatti, Colaba, part of Malabar Hill will be completely shut out from their sea-view and from the cool, refreshing and much longed-for breeze, and eventually this will deteriorate the value of the property on those sites. As the law protects light and air of buildings which have enjoyed them for twenty years, from being, in any way, shut out from the original openings, I fear the Government, if they attempt reclamation at Back Bay where the residents are enjoying healthy surroundings and a sea-view and breeze for centuries together, will, if not legally, at least morally, be bound to compensate for such sites or buildings as are being shut out from their healthy surroundings, or the owners of the buildings, who might, thereby, suffer much loss in their incomes. If after all it is found necessary to reclaim a further portion of the Back Bay I would suggest that the extension be carried out only to about 400 feet beyond the present sea-wall. Such newly reclaimed land, if any, would be sufficient for building two rows of residences with the necessary roads—and serve as a trial scheme financially.

5. A *Sea-front Road* would be a boon to the residents of Bombay and should be provided for in any new scheme for reclamation. A Marine drive should be constructed to extend from Colaba to Varsoova by tunnelling Malabar Hill at a point beyond Chowpatti. If this were completed, the drive from Colaba to Varsoova will be nearly twenty miles, and we can then boast of our Bombay as one of the finest sea-side cities in the world.

6. *Love Grove Pumping Station* should be removed at once, at any cost, to the north-east side of the Island beyond Kurla. A large area of site for building between Mahaluxmi and Worli onwards to Mahim and further north would then be available for residences sufficient for another century or two.

7. *Residential Quarters*.—It would be interesting to know what demand there is at present among the wealthy class for building sites.

8. If enquiries were made it would be found that 90 per cent. of the wealthy Indian residents of Bombay prefer to reside in the town owing to their system of doing business. A large number also live in their own houses or houses built by members of their families, and are conveniently situated for the different sects attending temples, mosques, or other places, as the case may be.

9. As this large number of citizens are paying rates and taxes, they naturally look to the City authorities for some improvement in their present insanitary surroundings rather than desire to remove from districts that are convenient for their businesses and the ordinary transactions of their daily lives.

10. *Bandra Creek*, from Lady Jamssetji Road, west, to Kurla, on the east, should be filled in to form a link with Bandra, north. The land thus reclaimed could be used for building less expensive residences suitable for clerks and office assistants at moderate rents. The site would be convenient to residents, as it is near to Bandra Railway Station and Kurla on the G. I. P. Railway.

11. *Local Markets, Elementary Schools, Shops, Police, etc.*, should also be established for the convenience and protection of the residents in all the would-be newly developed districts, and Committees appointed to decide what area is to be reserved for that purpose, and where the Markets, Schools, Shops, *Public Water Stands*, and Police stations are to be located. With these facilities there will be some inducement for the people to leave the overcrowded quarters of the town and settle in the newly developed districts.

12. In constructing the abovementioned buildings the Municipal requisitions for building quarters should keep the cost as moderate as possible by stipulating that only such sizes of timber and thickness of walls be used as are adequate to economy, in order that decent

accommodation may be provided for classes with middle, as well as poor, remuneration at comparatively low rents. At the same time, the authorities, we hope, in the Thána District (Salsette), would sympathetically make their terms easier and taxes more moderate, and would thus encourage the builders on those sites. Further, their attention is respectfully invited to the sympathetic report of Mr. Mead, I. C. S., the once Collector of Thána.

Price of Land, Cost of Building Material, Rent, etc.

13. Before deciding to undertake any further reclamation schemes it is necessary to arrive at the approximate selling rate of the would-be newly reclaimed land for building purposes, and to take into consideration the increased cost of building material and also to ascertain what demand there is likely to be for expensive residences in the near future.

14. It is generally known that the majority of Europeans in Bombay with incomes up to Rs. 800 per month cannot afford to pay more than Rs. 150 to Rs. 200 for a flat fitted with electric lights, fans and modern sanitary arrangements, whereas the majority of Indians with much larger incomes are not inclined to pay more than Rs. 100 as rent.

15. In my humble opinion, the Municipal authorities and Executive Councillors should also compare the condition of Queen's Road with Mandvi Commercial main and cross Roads, or with roads in other districts, and ascertain if the amount spent on the up-keep of the former is proportionate with that of the latter, in proportion to the revenue derived from the locality.

16. *King's Road Scheme to the north of the Island.*—This scheme should be undertaken without delay, as it will greatly facilitate the trade of the City, and it is evident that land would be readily taken up on both sides and would be developed. And in order to keep the roads clean and tidy, I would suggest that, as vehicles with loose axles grind and spoil much of the well-kept roads, some means be adopted to prevent any such.

17. *An overhead Electric Railway.*—As employees with but poor salaries, residing in suburbs, worried and exhausted already by long walks from their homes to the station and by domestic duties and hurrying all in haste in time to be in their offices, find it very difficult to walk out all the way from Church Gate Station to Museum West or from Victoria Terminus to their offices, near Elphinstone Circle Garden, I would suggest an overhead Electric Railway from and to these points, which would obviate the difficulty of the poor suffering masses.

In conclusion, I am glad to say that we are very fortunate to see the officers of Government, Municipality, Port Trust, City Improvement Trust, and Railways, from top to bottom, are quite sympathetic for the public comfort, and this will greatly stimulate the present Bombay Development Scheme.

WRITTEN STATEMENT OF R. H. A. DELVES, ESQ., F.S.I., DEPUTY LAND MANAGER,
BOMBAY IMPROVEMENT TRUST, RECEIVED WITH HIS LETTER OF NOVEMBER 17TH, 1913.

Para. 4 (i) & (ii).—I understand that the Honourable Mr. Orr, Chairman of the Improvement Trust, has already reported to Government as to the progress and modifications made in the scheme formulated in the orders of 1909, and this being so it is not necessary for me to say anything on these points.

(iii) In my opinion no circumstances have arisen during the past four years to render it desirable to introduce any further modifications.

(iv) (a) & (b) The information at my disposal is not sufficient to enable me to form an opinion on these questions, but there are certain institutions which might with advantage be moved to the north of the Island.

(c) There is room for a very large population able to pay rents of from Rs. 3 to Rs. 150 per month in that portion of the Island lying to the north of a line drawn from the Worli sluices to Sewree. This area is, roughly speaking, split in two by the two main lines of railway. That to the east of the G. I. P. Railway belongs for the most part to the Improvement Trust and will be well laid out. That to the west of the B. B. & C. I. Railway belongs to a large number of different owners, and in order that it may be developed in an orderly manner it is necessary, in my opinion, that a scheme for dealing with it should be formulated at an early date.

For persons of wealth and for those who for various reasons must live near the Fort it will be necessary to reclaim an area from Back Bay for this purpose a large and comprehensive scheme should be prepared and (if engineering problems permit) carried out in sections.

(d) Mills and factories should, so far as possible, be located in the eastern portion of the Island where there is a large quantity of land not suitable for residential purposes and where they would be served by the Harbour Branch Railway. None should be allowed to the west of the B. B. & C. I. Railway north of Elphinstone Station, and only those having an electric drive or worked by power other than steam should be erected on the area lying to the north of the Mahim Loop line and between the B. B. & C. I. and G. I. P. Railways.

(e) The areas in the north of the Island now being developed by the Improvement Trust will be well provided with recreation grounds, both large and small, and the same policy should be adopted in the lay-out of Mahim—park ways should also be provided. In other parts of the City I would like to see provided, as opportunity occurs, a number of small play-grounds for children, so as to keep them off the streets, which in these days of fast moving traffic is more than ever necessary.

(f) The schemes already propounded will provide sufficient means of communication, by road and rail, with the north of the Island but it may and probably will be necessary at some future date to construct a broad road along that portion of the Tulsi pipe line lying between DeLisle and Haines Roads and to eventually carry it across the Flats to Tardeo. Such a road would relieve DeLisle Road of a considerable amount of fast traffic and provide a means of access from Worli and the southern portion of Mahim woods to the City—at Tardeo traffic could branch off to the east *via* Falkland and Bellasis Roads or continue south over Kennedy Bridge which will eventually have to be widened.

An alternative would be to construct a road leading from Worli Bridge across and through the land (area about 100 acres) lying to the west of the storm-water channel, thence across the Flats to Tardeo.

Para. 5.—Other matters necessary for the carrying out of a consistent policy of development are :—

- (i) the sewerage of the northern portion of the Island at an early date ;
- (ii) the provision of means of access (before the price of land has risen) to the sites of future stations on the Harbour Branch Railway ;
- (iii) the immediate acquisition of land for widening some of the roads leading north.

R. H. A. DELVES.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

No. 18241-W.

*Agent's Office,
Bombay, 17th November 1913.*

From

THE AGENT ;

To

THE SPECIAL OFFICER,

Salsette Building Sites,

General Department, Secretariat, Bombay.

Subject—Development of the Town and Island of Bombay.

Dear Sir,

With reference to the correspondence ending with your letter No. *nil*, dated 28th October 1913, I beg to offer the following remarks for the information of the Committee convened under Government Resolution No. 7440, dated 16th October 1913.

2. Since the declaration of the general policy formulated by the Government of Bombay in Resolution No. 3022, dated 14th June 1909, no changes or developments have occurred in the operations and prospective needs of the B. B. & C. I. Railway which have or are likely to set up new conditions materially affecting future projects for the development of Bombay. The progress in carrying out the various large schemes to be prosecuted by this Administration has been slow, but this has been unavoidable as, apart from financial considerations, many conflicting interests have to be met or compromised. In regard to these schemes the following brief notes may be of interest to the Committee :—

(1) *Electrification of the Railway.*—It having been recognized that a *prima facie* case existed for investigation into the working of the suburban traffic by electric traction, the services of an electrical expert were engaged in 1913 to report on the matter. This report, which has not yet been received, will deal with the inclusion in one scheme of the whole of the railways in the Island of Bombay, it being recognized that free interchange of stock between the Port Trust, B. B. & C. I. and G. I. P. Railways should be arranged for.

Lay-out of Colaba Terminus.—The lay-out has been approved by the Government of Bombay; and the complete project is now being drawn up. It is, however, to be noted that the roads serving the terminus are in need of considerable improvement, a need which will be the more felt when, with the completion of the new buildings, the terminus has to accommodate its proper share of the traffic to and from the north of India.

Removal of the Stores Yard to Sewri Reclamation.—The matter of the removal of the Stores Depot at Colaba to Sewri is at present under the consideration of the Board of Directors, and the question appears to be one calling for no comment at present.

Main Western Thoroughfare.—It is understood that this thoroughfare will follow the Tulsai pipe line which runs parallel to and near the Railway fence from Dadar to Mahim stations. It seems advisable that the new road should be aligned a little distance to the west of the proposed route, so as to allow of the provision of adequate space for the parking of vehicles at Dadar, Mahim and Matunga, and to permit the provision of intermediate stations should the need for such facilities be hereafter demanded by the public.

Development of Local and Suburban Traffic.—In my letter No. 2285-W., dated 15th February 1908, I furnished Government with statistics showing the average daily number of local passengers using the B. B. & C. I. Railway stations south of Grant Road for the first half of 1907. A comparison of these figures with those for 1912 as given below will show how considerably the local and suburban traffic has increased during recent years:—

Station.	1st half 1907.	1912.
Colaba	5,151	5,893
Church Gate	17,869	18,883
Marine Lines	9,055	10,313
Charni Road	7,591	8,534

Quadrupling.—The Railway has a large scheme for quadrupling its tracks between Borivli and Grant Road, which it is hoped will be commenced in the near future. Combined with electrification, this increase in the carrying capacity of the local section should result in an even larger development of passenger traffic between the City and its suburbs than has occurred since 1907 and fully justify the measures Government are now taking for the improvement of the roads, lighting and water-supply in the residential areas in the Island of Salsette.

Development of the District in the vicinity of the Parel Workshops.—I attach a copy of a Note of 15th November 1913 on this subject by our Locomotive and Carriage Superintendent and would invite attention to the suggestions made therein.

Yours faithfully,
A. D. G. SHELLEY,
Agent.

Documents accompanying—

Copy of Note of 15th November 1913 from Locomotive and Carriage Superintendent.

Copy of Note, dated 15th November 1913, from the Locomotive and Carriage Superintendent, B. B. & C. I. Railway, Parel, to the Agent, B. B. & C. I. Railway, Bombay.

Development of the District in the vicinity of the Parel Workshop.

In view of the fact that a Committee has been appointed to consider the development of the City of Bombay, I beg to bring to your notice the conditions existing in the vicinity of the Parel Works with a view to the facts and suggestions being laid before the Committee. The area referred to in the attached notes for their consideration is bounded on the south by Haines Road and Arthur Road, on the east by DeLisle Road as far as Lower Parel station and the B. B. & C. I. Railway as far as Elphinstone Road, on the north roughly by a line drawn from Elphinstone Road station towards Worlee village and on the west by Worlee Road. At present what is specially noticeable about this district is that a large number of tenements of various kinds are crowded together without any attempt at order along portions of the main roads while large tracts of land, generally low-lying, cover the area between the congested slums lining the parts of the main road. In the monsoon periods and for many months afterwards the low-lying pieces of ground are flooded with water and are usually in an insanitary condition. Owing to the large number of mills and the B. B. & C. I. Workshops and

Running Shed there is a large working class population anxious to occupy any tenement offering at a reasonable rental and a very large number are forced to live at considerable distances from their work as accommodation is not available in the district. One reason which I consider is responsible for the want of house accommodation is the lack of streets tributary to the main roads. Between Worlee Road and DeLisle Road on the west and east and between Ferguson Road and Parbhadevi Road there is a piece of ground almost one square mile in area which is not served by a single road with the exception of a bullock track alongside of the Tulsi pipe line.

The storm-water drain running from the Mahalaxmi Race Course to Worlee cuts through the middle of this area and does not improve this part of Bombay as a potential building site. I am inclined, however, to think that the class of people who would occupy the land if opened up would probably not be deterred from living there on account of unsavoury odours usually emanating from the stagnant water normally lying in the canal.

As mentioned earlier there are several large open spaces at present, but as I have previously pointed out, many of these are water-logged during the monsoon and for many months after and consequently there are very few open spaces on which the numerous children living in the locality are able to play, and I think it very desirable that, while land is available, arrangements should be made to set apart areas to be retained as open spaces for recreation and to prevent overcrowding.

In order to let you have this letter on Saturday I have been unable to tabulate the results of an inquiry I have been making regarding the present accommodation occupied by men working at Parel and the reasons why a large number do not live in the vicinity, but from the figures already received it is evident that there is a large demand for housing accommodation in the area referred to, provided suitable accommodation at a reasonable rental could be obtained, and when it is remembered that in addition to the B. B. & C. I. Workshops and Running Shed employing between 6,000 to 7,000 hands there are 12 large cotton mills also situated in this area, it is obvious that the area occupied by housing accommodation is bound to extend.

It seems most desirable that this extension should be regulated to avoid congestion and concentrated slums, the elimination of which would involve heavy expenditure in years to come. I would therefore propose that no time be lost—

(1) in deciding on a plan according to which this area should be developed and in allotting certain areas to be retained as open spaces;

(2) in providing roads along which housing accommodation could be extended in order to reduce the tendency to overcrowd the area in the vicinity of existing roads;

(3) A start should be made by opening up the Tulsi pipe line road between Carroll Road and Haines Road. I consider a road should also run parallel to Ferguson Road cutting Tulsi Road about midway between Ferguson Road and where it meets the end of Carroll Road and extending from DeLisle Road to Worlee Road. This would necessitate making a road between two mills, but it would seem quite possible and should result in opening up the district beyond.

A reference to table 13 of Census of India, 1911, Volume 8 for Bombay Town and Island, shows that Parel has the unfortunate distinction of housing a larger number of people per building than any other district except those situated right in the centre of the City, and when it is remembered that the number of large buildings is not excessive in the area referred to overcrowding must be bad and the need for extension great. Twenty-seven per cent. of the population live more than 5 per inhabited room.

*84, Hornby Road,
Bombay, 19th November 1913.*

To

B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites,
Secretary, Development Committee,
Secretariat.

Sir,

I am to acknowledge the receipt of your letter, dated 12th instant, together with its enclosures, intimating that your Committee invites me to give evidence before it on the points mentioned in the Government Resolution No. 7440 of 16th October last. You also intimate that it would be a great convenience if I should submit my views in writing on or before the 30th instant.

2. In reply I am to say that while I feel thankful to the Committee for its invitation, I am constrained to respectfully decline it. I consider it a pure waste of time and energy, to expound my own views on the development so called of the Town and Island of Bombay, because

I have almost lost faith in Committees appointed by Government. Experience of the past 30 years and more leads me to believe that such Committees generally register the pre-determined resolution Government may have arrived at. No doubt, on the present Committee there are a few distinguished citizens who enjoy the highest confidence of the people. But on the whole, its character, I am constrained to say, is official. The official majority's opinion will, of course, weigh with the Government, as it always does, right or wrong.

3. I may here state that when the Government letter of December 1907 was published it was understood that a Committee would be formed to consider and report on the opinions which would be submitted by the various public bodies and private individuals invited by Government. But no such Committee was appointed, which, in some quarters, has been deemed a breach of faith. But whether there was or was not a breach of faith, matters little, and I am not going to lay any stress on it. I, however, venture to assert that the proper time for the appointment of the Committee had arisen when the opinions were collected. Those opinions showed a radical difference of views. The resident citizens and their representative bodies, including the Bombay Municipal Corporation, gave one set of opinions, while those representing the interests of foreign trade gave another. Between these two sets there was a variety of opinions. A genuinely "representative" Committee, had it been appointed at the time, would have called witnesses, heard their evidence, and endeavoured to reconcile all shades of opinion as far as possible with the view of making a fairly unanimous report on the exact lines of which the development of Bombay might proceed. Unfortunately for the City and its permanent residents, the Government cared not to embrace that right time. It was over-keen on setting aside the opinions elicited more or less, and formulate its pre-determined line of policy which it eventually laid down in its published resolution of December 1909. It was a grave administrative blunder. The Committee at the time would have been right and proper, having regard to the gravity of the problem, so far-reaching in its effects on the well-being of the city, on the health of the people and the colossal financial burdens entailed on the ratepayers. Practically, the wholesome principle of carrying the people with the Government on such a measure by a well reasoned out policy, based on popular views, was deliberately set aside and a purely autocratic method adopted which, I need not say, speaking for myself, has hardly proved satisfactory to the permanent interests of the resident citizens. Both prudence and administrative statesmanship should have dictated the appointment of a Committee in 1909. But to my great regret that was not the case.

What has been the result? We have a kind of haphazard progress, progress here and there, on no defined basis or no defined principles. Such progress is worse than useless, not to say aught of the ratepayers' monies that have been wasted in the bargain. And it is surprising to see the Government now inviting people to state what "progress" has been made since 1909 and what are their views as to development! Where is the guarantee that the views they are now invited to express will be regarded? If the public, I mean that large majority which has permanent ties and interests in the City, have on more than one occasion in the past been greatly disappointed, not to use a stronger word, and if, after making a show of public investigation, the Government has carried out its own pre-determined policy, is there any reason to doubt that the action of the Government will be different in the present instance? I for one cannot get out of the conviction that the deliberations of the Committee will share the fate of many of its predecessors. I should, however, be agreeably surprised if there were a different ending to the present investigation. Meanwhile, I repeat that for the reasons set forth above I am constrained respectfully to decline the invitation which the courtesy of your Committee has made to me.

I have the honour to be,

Sir,

Your most obedient servant,

D. E. WACHA.

WRITTEN STATEMENT OF PHIROZE C. SETHNA, ESQ., RECEIVED WITH HIS LETTER
OF NOVEMBER 20TH, 1913.

It is very gratifying that the Government of Bombay has not allowed its Resolution No. 3022 of 14th June 1909 to repose peacefully in the Secretariat archives but intends to pursue with vigor the recommendations made in this resolution with any changes if necessary to suit later requirements and thereby ensure to the present and succeeding generations of the citizens of Bombay more comfortable homes, readier means of communication to all parts of the City and other corresponding advantages. In submitting my remarks I prefer to give precedence to the proposed scheme of the Back Bay Reclamation as on its acceptance or otherwise will depend what replies to give to some of the other points referred to in the Government enquiry.

The increase in the population of Bombay is not at so amazing a pace as to warrant the very heavy expenditure which the reclamation is bound to involve and with doubtful results as to the leasing of the plots at fairly remunerative rates. The physical configuration of Bombay

is very alike that of New York, and the tendency in both cities is for Government and commercial offices to be congregated towards the tapering point where the islands are at their narrowest, with the result that, as more room is wanted for business centres, properties hitherto used as residences have by degrees been converted into offices. This has been our experience in the Fort, but an experience which after all has helped to remove the occupants of crowded Fort residences to the north and west of the Island where the congestion is not great and consequently the residents of the Fort who have migrated are doubtless now occupying healthier and roomier residences. If there is more space required for Government and business offices, I contend that if the area in Fort North is taken in hand, where a large number of houses are of the poorer class and very insanitary, this area when developed will easily afford that broad thoroughfare from east to west, which has been felt to be a great desideratum, and the removal of the existing poor residences will open up enough spaces in the Fort to meet for the next thirty years or more the increased requirements of Government or of the commercial community. If Bombay continues to grow at a quicker rate than what it has been doing in the last three decades it will be time a quarter century hence, and not before, to take in hand the question of the Back Bay Reclamation to supply to this City the want which Brooklyn supplies to New York and the population of New York today is at least $4\frac{1}{2}$ times that of Bombay.

It is urged that the tendency at the moment is for the better classes to occupy residences as near their places of business as may be possible. How can we account for this somewhat sudden change unless it be that residences on the Malabar Hill are no longer available at rents that prevailed 10 or 15 years ago? If bungalows with compounds are available on the western foreshore at reasonable rates there will readily again be an exodus towards the west and the more so as motor-cars are replacing horse traction and afford quicker means of transit than was the case some years previous.

The sewage outfall at Worli within a year or so will be nearly a quarter of a mile further away in the sea, and if the hope is realised that the present nuisance will be considerably abated it will open up a foreshore from Mahaluxmi Temple to Mahim Causeway of nearly five miles facing west which at present is very little built upon and which is best suited for desirable residences for the wealthier classes.

For those who are anxious to have residences near their places of business in the Fort the existing houses in Marine Lines, Wellington Lines and Colaba Reclamation afford a fair amount of accommodation, but there will be room for half as many houses and more on the site at Colaba at present occupied by cotton in open jutthas and cotton in godowns when the Cotton Green is removed from Colaba to Mazagon.

I would not advocate the removal of the High Court or the Secretariat, but it would be advisable to remove the Elphinstone College and the College of Science from their present cramped locations to suitable sites in the north of the Island with spacious recreation grounds and airy hostels in the College compounds, as also residences for the College professors. The change will be greatly appreciated and prove of great benefit to the gradually increasing number of students who attend these institutions. Students may with advantage be removed to an atmosphere of peace and quiet and away from the noise and distraction of the City's traffic to which they are now exposed. These institutions should be at convenient walking distances from railways or tramways.

The Sailors' Home at Apollo Bunder does not prove half as useful as it would if it were near the Docks. If this change could be arranged, Government could use the Sailors' Home as some public office. Perhaps the Public Works Department could be transferred there with a floor added to the building and the present Public Works Department office be utilised as the Small Causes' Court. If the Elphinstone College is removed, that building can serve as an *annexé* to the Secretariat.

It is high time that restrictions are imposed on the construction of factories in the heart of the City. If any particular area is to be defined, it might be laid down that no factories be built to the south of an imaginary line commencing on the west from the junction of Ferguson and Haines Roads and extending to the Harbour on the east. Even beyond this line some parts should also be strictly excluded, such as the Mahim Woods and the areas under Schemes V and VI of the Improvement Trust. The plots on these schemes will appeal more to the middle than the wealthier classes, and we may expect residences there of the type that are built on the Improvement Trust Estate near the Byculla Club. As the price of land increases, factories will per force have to be built further away from the City, but it will be necessary to prevent their erection in close proximity of the possible residences on the western foreshore or Mahim Woods or right near the Improvement Trust Schemes V and VI. The working classes employed in cotton mills and other factories necessarily prefer to live within an area that offers the best chances for employment. Mill-hands and others who work long hours do not want to spend another hour or so going to and from their work to their homes. The longer the hours of work the less time the workman is physically able to spend in reaching his home. He therefore prefers to be as near the factories as possible. The same applies to the Dock labourers who naturally prefer to congregate in that vicinity.

As to railway communications, I hold that the B. B. & C. I. should have all their long distance trains start from Grant Road. From Grant Road the existing line may be maintained only as far as Church Gate, but the same be only used for passengers for local trains which

should be electrified before long. Church Gate should be the last or perhaps another station in front of the Back Bay Swimming Bath. The line beyond that point would not be necessary, and it would throw open a very large plot of land occupied at present by the terminal station at Colaba, as also the very large yard in the possession of the B. B. & C. I. Railway required for bringing in cotton from the mofussil. It is so large a space that if the European General Hospital is removed here from its present place it could be well located on this site. The average railway traffic from local areas to Charni Road, Marine Lines, Church Gate and Colaba according to the figures in the Government resolution of 14th June 1909 is 39,666. If therefore some of the fast non-stopping trains from Andheri, Bandra and Dadar be allowed to cross over to the G. I. P. track and alight passengers at Victoria Terminus the number would be still further reduced and would be small enough to be transported by electric tramways from Grant Road instead of by electric passenger trains. This tramway should be run by the B. B. & C. I. Railway itself and pass-holders should be given the right to change at Grant Road from the local trains into the tramways without any extra to pay. I suggest electric tramways in place of electric passenger trains because that would enable a portion of Queen's Road now occupied exclusively by the railway line to be thrown into the road and thus Queen's Road would become one of the widest and the best streets in the City.

PHIROZE C. SETHNA.

BAZAR GATE STREET, FORT:

Bombay, 20th November 1913.

From

ARDESHIR NOWROJI GUZDER;

To

THE CHAIRMAN AND MEMBERS

of the Development Committee of Bombay.

Gentlemen,

The Newspaper Report Mr. E. L. Sale, I. C. S., the Collector of Bombay, as having said that the construction of the road connecting Ballard Road with Hornby Road in the Fort Ward, was in my opinion desirable, and that a street commencing somewhere near the junction of Gunbow Street and Hornby Road and running east to connect with Ballard Road would not only provide a direct road from Hornby Road to Ballard Pier, but would also open up a congested portion of the Fort Ward.

In connection with the above statement of the Collector of Bombay I have the honor to bring to your notice that there are extensive vacant plots which have been lying idle for years. They go by the name of Mapla's Chawl and are situated near Gunbow Street; next to it are some very old small buildings, a very large and very old Tabacks Pawl, Bottliwalla Chawl and also some Jerry Buildings used as petty shops situated at the corner of Gunbow Street and Bazar Gate Street. I venture to suggest to your Committee that the Municipality, the Improvement Trust, the Port Trust and the Government jointly should take steps to purchase the abovesaid Chawl, Buildings, Pawl and the Shops. Just at this point a very heavy traffic emerging from four adjacent roads meet and causes serious impediment to the street traffic of that side of the road, and as traffic is on the increase on account of the increasing number of passengers and their luggage which passes from that locality on its way from Ballard Pier to Hornby Road and *vice versa*, besides this the Municipality which wants to build a New Market in the Fort is awaiting consideration of the abovesaid scheme, if the abovesaid suggestion is carried out at an early date, the remaining vacant ground after completing the road from Ballard Pier to Hornby Road can easily be resold at least Rs. 100 per square yard and I feel sure that the Municipality Improvement Trust, Port Trust, and the Government would not be put to any financial loss on account of the road and they will have the gratification of having opened up a congested portion of the Fort Ward.

I also request you Gentlemen to kindly visit the locality one day on the arrival or the departure of the English Mail, so that you can have an opportunity of seeing for yourself the abovementioned Mapla's Chawl, Petty Shops, at the corner of Gunbow and Bazar Gate Street and also the Bottliwalla Chawl. I shall be much pleased to attend and show you the abovesaid places when you Gentlemen call over to see the place.

I have the honor to be,

Gentlemen,

Your most obedient servant,

ARDESHIR NOWROJI GUZDER.

ELPHINSTONE COLLEGE :
Bombay, 21st November 1913.

From

A. C. L. WILKINSON, ESQUIRE,
Acting Principal, Elphinstone College ;

To

THE SPECIAL OFFICER,
Sásette Building Sites.

Sir,

With reference to your letter of the 31st October enclosing a copy of G. R. No. 7440, dated 16th October 1913, I have the honour to submit the following statement, which I must point out, is in the main only an expression of my personal views as owing to its being the College vacation I have been unable to consult with my colleagues on the very large issues involved :—

1. The question is one that should have been decided about 5 years ago before the present Science Institute was commenced and the St. Xavier's and Wilson Colleges entered upon very considerable building extensions to meet their growing requirements and increasing numbers. The question was considered from a general point of view in 1907 and many of the considerations then put forward for retaining the Elphinstone College in the Fort still hold good.

2. The Elphinstone College is in every way hampered by its present situation: the building was designed as a printing press and is most unsuitable as a College. Owing to its proximity to the tram lines all the class-rooms in front are noisy, particularly with regard to the large class-rooms on the first floor the noise almost precludes us from using them for lecturing purposes. Also there is no room for expansion, though some relief will be felt when all the Science classes can be transferred to the Institute of Science. We are in fact at present obliged to limit our classes to 120 for the first year, 80 for the second year and 100 for the B. A. courses, together with some 50 reading for B. Sc. and M. A. courses and this at a time when the number of University students is yearly increasing. The following figures show the increase in the numbers of students in the Bombay Arts Colleges between 1900 and 1912:—

Elphinstone College	in 1900,	366	Students,	in 1912,	380.
St. Xavier's College	do.	181	do.	do.	530.
Wilson College	do.	378	do.	do.	675.

Of these 1,585 students, some 740 are first-year students and the difficulty of expansion could be met by making other arrangements for the first year's work.

Apart from the insufficiency of class-room space the Hostel attached to the College with accommodation for about 110 students is most inadequate and is also incapable of expansion and further it is impossible under present conditions to invite a Senior member of the Staff to live there.

3. The provision of recreation or playing grounds has been entirely neglected. We have at present 4 tennis courts, one Balminton court (too small) and a cricket ground held on a very uncertain yearly tenure. The main principle so far of College games seems to be that of the gladiatorial contest. It is difficult for anyone to play tennis or cricket until he has reached a degree of proficiency that permits him to mix in the select circle of the 22 cricketers or 30 tennis players; while hockey, a game more suitable for Indians than football, has but few adherents. Little attention is paid to encouraging new students to learn games for the obvious reason that with our limited space the older and more proficient students do not wish to be crowded out. No provision for in-door physical training exists.

4. The distances of the three Bombay Colleges render co-operation regarding inter-collegiate lectures on Honours subjects extremely difficult and in consequence a student studying any subject often hears only one point of view and is not stimulated by coming in contact with many minds. There is no common meeting place for students or lecturers, literary and debating societies are all collegiate and depend largely on the energy of individual Professors to encourage and maintain them, the Students Brotherhood may in future somewhat supply this want, but at present it seems to confine its energies to procuring a regular series of addresses from leading scholars and hardly serves to stimulate the immediate generation of students that it is intended to serve. Thus there is not at present and cannot be any student corporate life nor any relief to the College staffs of having to teach all subjects in all branches which is particularly disadvantageous to those students who reach the final stage of the University courses.

5. The ideal solution, to assemble the various Colleges and Institutions in one place whether inside or outside the Island would appear to be outside the range of practical politics and moreover if the Institute of Science now building be completed, the possibility of removing the Elphinstone College far from its present site cannot be thought of. For any scheme of transferring the Elphinstone College outside the Fort must then include the transference of the Institute of Science.

6. The next best solution would be to provide a site near Bándra or Sion, *i. e.*, within easy access of Bombay and provide in the first instance an Arts College for 1,000 students or preferably two independent but closely related Colleges for 500 students each, with sites reserved in case either of the other two Bombay Colleges cared finally to move out. A hostel should be provided with accommodation for about 400 students and laboratories must be provided for all but research work, *viz.*, Post-graduate work would remain with the University. Ample space must be allowed for recreation grounds, residences for Professors, Lecturers and Subordinates and the possibility of subsequent extension must be kept in view. It should be clear from the figures given in para. 2 that the time is rapidly approaching when a new College must be provided for the increasing number of students studying in Bombay as the existing Colleges may be considered to have reached their final state of expansion consistent with efficient teaching and this alone would justify the above proposal.

7. If the removal of the Elphinstone College is found to be impracticable on account of the impossibility at this late period of sacrificing the Institute of Science, the providing of a new site for an enlarged College, a new Hostel and suitable recreation grounds should be a first claim on the reclamation scheme or the partitioning of the Cotton Green. With the steady growth of Scientific study which all anticipate in the near future, more Mofussil students will want to take advantage of the facilities of teaching and apparatus at the Institute of Science and if this latter is to retain an intimate connection with the Elphinstone College this College must be enlarged and improved accordingly.

I have the honour to be,

Sir,

Your most obedient servant,

A. C. L. WILKINSON,
Acting Principal.

Bombay, 22nd November 1913.

From

THE HONOURABLE MR. ABDUL HOOSEIN ADAMJI PEERBHOY;

To

THE SECRETARY TO THE COMMITTEE OF THE DEVELOPMENT
OF THE TOWN AND ISLAND OF BOMBAY,
Bombay.

Sir,

I have the honour to acknowledge receipt of your favour, dated the 12th instant, inviting me to give evidence before the Committee on the points mentioned in Government Resolution No. 7440 of the 16th ultimo, and also to submit my views.

I have great pleasure in accepting the invitation, and have the honour to make the following observations:—

Ever since the year 1875 the question of the development of the City of Bombay has been receiving attention both from the Government and from those concerned in its progress and prosperity and Government have appointed expert Committees from time to time with a view of receiving suggestions and finding out a solution of this vexed question. Numerous suggestions have been made to those Committees, the principal of which are:—

- (1) The development and opening out of the northern part of the Island, and
- (2) Reclamation.

These two are the points on which much stress has been laid ever since the question has been taken up, and numerous are the suggestions for giving effect to those schemes with which the question of providing cheap and rapid locomotion to induce the people to live in the distant, developed parts is inseparably associated. These are the remedies often suggested to prevent congestion and insanitation in the town. I need not enlarge on these points, and would leave the Committee to come to its conclusions on the evidence they have already recorded, as I believe it would be superfluous for me to repeat them here.

One thing seems to have been lost sight of. Are there not the possibilities of development within the present occupied areas of the Island in such a way as to reduce its population in that area, and secure the maximum advantage to the City at the minimum outlay? I believe there are, and I propose to confine my observations mainly to this object. It may be contended that this is being done by the City Improvement Trust; but in this respect, I should say, that, without a definite programme aimed at attaining the object I suggest and without having an eye to the acquisition of a wider area at a smaller cost, the trust has embarked on costly schemes which have resulted in the unnecessary destruction of a large number of dwelling houses, and have displaced a large number of the poor and the labouring classes; and the result is that this wilful destruction of property occupied by those classes has reduced the number of dwelling places available to them, and they have now helped to cause congestion and insanitation in other areas. Reduction in the number of dwelling places has helped to increase rents, and consequently the value of landed properties in Bombay, and the effect of this is being felt by the Trust itself, as it is realising the fact that its schemes under contemplation have become more costly than they were originally estimated to cost. The abandoning of the widening of the Abdul Rehman Street is a striking illustration of this contention.

Before undertaking the question of providing an avenue or a road, as contemplated, from the north of Crawford Market to Parel, I believe it would be prudent to fix upon a spot for the accommodation of the hundreds of families that are bound to be dislodged from their houses by the operations. That spot or spots should be such as would give them all the facilities they at present enjoy in the localities they are now living in. Otherwise they would also create over-crowding where it does not exist at present, or make the already congested localities more congested, and the result would be insanitation and increased death-rate.

The most important point to keep in mind is, to settle what class of people it would be desirable to allow to remain within the heart of the town as being necessary for the City's industrial and commercial activities, and what class of people should be removed to the suburbs without causing or creating any inconvenience to trade and industry. The heart of the Town is, I believe, already over-crowded and steps are necessary to reduce the population within the area south of Bellasis Road, Ollivant Bridge and Matarpakhadi as far as the Carnac Road from the Carnac Bridge to the Marine Lines Station. This area can easily be cleared of its superfluous population and made available only for those who are closely connected with the commerce and industry of the Town.

The question will arise how to carry out this, I think it can be done by a simple method. A very large number of people who are living within this area are employed in the G. I. P. Railway and the B. B. & C. I. Railway Workshops—nine thousand of the former and five thousand of the latter. These Workshop employees, together with their families, dependants, domestics, petty traders, labourers, and artisans, who would in all probability number close upon a hundred thousand souls, would go where the Workshops go, if accommodation is provided for them near the place of their avocation, and the City would easily be rid of a huge population not needed at all for its trade and industry. The vast area thus vacated by the removal of the Workshops themselves and the removal of the Workshop people and those inseparably associated with them, can be made available for the population that is likely to be dislodged by the Trust's operations, and who are needed for the City's trade and industrial requirements. To the Railways, it would not matter much if the Workshops were in Bombay or outside the Island, away from the City.

Almost all the Indian Railways have their Workshops, not in large sea-port town, but away from them. The North-Western Railway has its Workshops at Lahore, not at Karachi. East Indian Railway has its Workshops at Assansole, 40 miles away from Calcutta. The Madras Railway has its Workshops at Perambur, away from the City of Madras or George Town, and similarly, many other Railways have their Workshops in the interior of the country and not at sea-ports. These Workshops are not needed in Bombay for Bombay's trade or industry, and I am strongly of opinion that, looking to City's needs and its peoples' benefit they have no right to be where they are. Their presence in Bombay has been tolerated long enough and it is now high time that they should be asked to find out places for themselves away from the town.

The other classes of people who inhabit the area in question are the Dock labourers. They cannot be asked to go and live in the suburbs; but still they can be induced to quit this area, if the Bombay Port Trust assist us. These Dock labourers number 16,000 and they, with their families, dependants, petty traders, etc., would number over 50,000. Most of these Dock labourers live in this area and go to the Docks daily to work. If accommodation is provided for them on the Port Trust Estates from Ballard Pier to Sewri, a large number of them would shift there and shop-keepers and others would follow them; thus this area would be rid of a population of another 100,000, and thus there would be increased accommodation for those whose presence is absolutely necessary for the City's requirements.

There are other institutions which I believe should not be in the heart of the town and if removed would give a further area for the development and accommodation of its population. These are, I submit, the prison, the school for the Blind, the Leger Asylum, the Deaf and Dumb Institution and Boarding School. Their removal to the suburbs would cause no inconvenience either to them or to the City at large, but on the contrary would give them better surroundings, better climate and better atmosphere. The inmates would be considerably benefited and the City would have the advantage of reducing a good percentage of its population.

It may take a decade or so to remove the workshops and those institutions and in the mean time the Improvement Trust would do well to devote its energies to the construction of streets and to the development of the north of the Island. They ought to stay their hands in the wholesale destruction of buildings in view of the hardships that destruction of the buildings would entail on their occupiers, and the Trust would have ample scope, in the interval, of improving the congested areas as proposed by the Chairman of the City Improvement Trust, in his speech of the 27th June last. The measures suggested by him in his speech are, I believe, the cheapest for reducing the insanitary condition caused by over-crowding and congestion in buildings which are ill-ventilated.

It should not be overlooked that the City will continue to grow and expand on account of its vast commercial and industrial energies and enterprises and the City's population is bound to continue to increase and therefore it is necessary that provision for the accommodation of growing population should be made even from the present period.

A large number of Mills and Factories were allowed to crop up in the past within the heart of the town and are occupying a vast area. Around them live the Mill-hands who have perforce to remain there in order to be ready at the gates when they open to receive them every morning, and I suggest that no more Mills or Factories be allowed to be erected south of Clarke and Connaught Roads, and the existing Factories and Mills should not be allowed to make extensions. As opportunities arise and funds permit the existing land on which they should stand be acquired by applying the Land Acquisition Act for the City's requirements and needs. The number of Mills and Factories have come into existence in localities south of Clarke and Connaught Roads and they employ over 25,000 souls who, with their families, number, say 50,000, and the removal of those institutions would result in a further appreciable reduction of population and the lands and dwellings occupied by them would be available for others who desire to shift from congested areas. In the absence of measures for preventing the erection of more Factories and Mills within the said area the development of the north of the Island would not be as effective as it should be. What with the prospects of large thoroughfares, wide roads and g and avenues the poorer classes will not be induced to go and live in the north, away from the heart of the town and the only means of bringing about this result is the removal of those institutions to those parts where we desire the poorer class should go to reside. Even a cheap ticket for travelling or even the inducement of a free Railway ticket will not encourage them to go and live away from their places of work. Their means are, as a rule slender and their working hours are such that they would not be tempted to sacrifice either their time or money for travelling.

For the wealthy class I do not think any further accommodation is needed at present. For their future requirements by the diversion of the sewage outfall to the north-east the whole of the foreshore from the Hornby Vellard as far as Bándra Causeway will be rendered available. This large area facing the sea would meet their requirements for number of years to come. But large thoroughfares for quick transit between the north and the south will be indispensable, the proposed eastern avenue will not meet the requirements, nor will a road from Parel to Dádar, Máhim and Bándra *via* DeLisle Road, or the road running straight from Lamington Road to Bándra Causeway. The increase of population in the north will cause an increase in traffic on these roads and it will not be possible to maintain a rapid service. If the foreshore is to be utilised as a place of residence for the wealthy and the middle-class people a special road from the west of the B. B. & C. I. Railway should be constructed. This will not be used by carts and similar slow-moving vehicles. If this road is not made wide enough to allow of a fast motor and electric tram service, say, a service of 20 miles an hour, even the wealthy and the middle class would not be induced to go and live there and I therefore propose that a wide road running to the west of the B. B. & C. I. Railway, starting from the Sandhurst Bridge along Tardeo to Hornby Vellard over Tulsi Pipe Line to Dádar and Máhim, be constructed and I have enclosed a rough sketch showing the alignment of what I suggest. This road will not be a very costly one, as there is a large portion of vacant land through which it is proposed to pass and the price to be paid for the acquisition of land for it will be comparatively very small. Besides this, it would make a large area on either side of the road available for building purposes and would fetch a price that would in a large measure recoup the cost of the road and developments.

The Municipality, the Railways, the Port Trust and the Government in my opinion should be asked to provide housing accommodation for their employees and if they agree to do that they would greatly contribute towards the cost of developments.

Coming now to the question of reclamation, it seems to me that all public offices should be located on the sea-side and for this purpose the Government ought to carry out the reclamation under their supervision and at their account. The hands of the Municipality and the Improvement Trust are, I believe, quite full, and it should also be borne in mind that the Government is in a better position to judge of its own requirements. Government knows how much of the reclaimed land would be required for public offices and how much for the residences for its officials. If the Government carries out the reclamation for these two purposes the premises at present in their occupation will be available to the people.

Much has been said about the existence of the Railway Line from Grant Road to Colaba. In my opinion as it is, it is a necessary evil. It should, however, be replaced by an underground electric service from Grant Road to Church Gate. All long distance trains should be

as far as Grant Road, while the underground railway would cope with the local traffic and would serve as an extension of the suburban service. An underground electric railway about three miles in length should not cost more than 75 lakhs, the present rolling stock and permanent way of the B. B. & C. I. Railway used for local service would serve for the underground electric railway and only locomotives worked by electricity need be purchased which would appear trifling as compared with the advantages that would accrue by its adoption. An overhead railway would not be very desirable, not only because it would be a nuisance by its noise, but it would also prove a source of permanent obstruction.

With the removal of the Cotton Green at Sewri there would remain no need for a railway beyond Church Gate.

I have the honour to be,

Sir,

Your most obedient servant,

ABDUL HUSEIN ADAMJEE PEERBHOY.

THE BOMBAY EAST INDIAN ASSOCIATION.

Bombay, 22nd November 1913.

To

THE SECRETARY TO GOVERNMENT,

General Department, Bombay.

Sir,

I am desired by the Bombay East Indian Association to forward a Memorandum containing its proposal in connection with the development of Bombay.

The Association represents the East Indian Catholic Community of Bombay, Salsette and Bassein, consisting of 60,000 souls, all natives of the soil and subjects of the King-Emperor.

They are greatly interested in the questions which are forming the subject of enquiry by the Bombay Development Commission which is now sitting in Bombay. The Association is anxious that its views on this important question should be placed before the Commission.

In these circumstances I am desired to request you will be so good as to obtain the permission of the Commission to the appearance before it of Mr. Peter A. Baptista, Manager of the Morarji Goeldas Mills and a Vice-President of the Bombay East Indian Association, who will place before it the views of the Association as set forth in a general manner in the Memorandum in question.

I have the honour to be,

Sir,

Your most obedient servant,

J. L. BRITTO,

Honorary Secretary.

Address —

Mr. J. L. BRITTO,

Honorary Secretary,

The Bombay East Indian Association,

Nawab's Bungalow, Nesbit Lane,

Mazagaon.

Memorandum containing the proposals of the Bombay East Indian Association in connection with the Development of Bombay.

The Bombay East Indian Association has the honour to submit its views on the Development of Bombay.

Roads.

With regard to the roads in Bombay, we find that owing to the increasing traffic the principal streets are always crowded, and are, therefore, of opinion that a complete survey of all the streets be made and new set-back lines arranged especially in the congested localities of the B, C, D and E Wards. No new roads should now be constructed of less than 60 feet in width and all existing narrow roads, wherever possible, should be widened.

The most important roads to be constructed for the development of Bombay would be a road of at least 80 feet along the present Mahim Bazaar Road and Worli Road upto Tardeo. This would open a large area for residential purposes in the West. The Lady Jamssetjee Road should also be widened. A road along the Tulsi pipe should be built from Mahaluxmi to Mori Road at Mahim. A number of cross roads from West to East should be made in Mahim as far as the B. B. & C. I. Railway in order that these lands may be developed for residential purposes. Short cross roads should be undertaken in other parts of the town like the Cavel Street with a view to open congested areas.

All these roads ought to be undertaken by the Municipality and, if necessary, a special loan should be raised for the purpose.

Open Spaces.

Open spaces for recreation are desirable but, where land is dear, preference should be given rather to wide roads than to recreation grounds. A park in the Mahim Woods is very desirable and should be made at an early date, for land may become dearer later on. Another park in the centre of Parel Mill district is also desirable. The hard-worked mill-hands could go to enjoy fresh air during the holidays. We deprecate the idea of small recreation grounds and gardens as these become generally haunts for loafers and loiterers. We may here add that the existing open spaces in the Esplanade and the Fort should be religiously guarded and that no new buildings should be allowed to be built upon them.

Development of Mahim.

The development of Mahim Woods should be undertaken and be left entirely in the hands of the Bombay Municipality. The hands of the Improvement Trust for the present are too full and they should not be saddled with the development of Mahim. It appears to us that upto this date Mahim has been entirely neglected by the Bombay Municipality. It has all along been treated as the Cinderella of Bombay. We think if broad roads are planned, like the New Marunga Road, every $\frac{1}{4}$ or $\frac{1}{2}$ mile, Mahim will not only be improved but will give ample accommodation to the middle classes. No factories should be allowed to be built in Mahim. This should be essentially a residential quarter for the middle classes. Care should be taken that in the development of Mahim we do not create a new slum which, say after a quarter of a century, will be required to be pulled down wholesale by the Improvement Trust. If necessary, the Municipal Act and bye-laws should be amended for the purpose. The whole of the Mahim Woods should be planned as a modern sanitary city and the whole programme chalked out and left in the hands of the Municipality for execution. Sites should be reserved for Bazaars and other public buildings.

Communications.

As regards communications the Bombay East Indian Association would urge that the existing Tram lines be carried from Parel upto Sion North. Another line from Tardeo should pass along Worli and skirt the beautiful Mahim Bay and go as far as the Bandra Creek. A Tram line should also go from Sandhurst Bridge West to East. The train service should be accelerated so that a larger population may be induced to reside in the suburbs. So far there are very few facilities for middle class people to reside in the suburbs; and taking all in all, many middle class people prefer living in Bombay as they find it cheaper, and more convenient.

Removal of Slums.

The Bombay East Indian Association is also of opinion that for the development of Bombay, the slums should be removed. In the very heart of Fort where Parsis reside there are dark dingy houses with low plinth and no light and air, which are quite unfit for human habitation. There are also a number of rickety buildings which are veritable man-traps. The energies of the Improvement Trust should be confined to the improvement of such slums rather than to other developments.

Mill-hands' Chawls and Mills.

It is essentially desirable that special localities should be reserved for chawls intended exclusively for mill-hands and other operatives. The captains of the Textile Industry should be asked to build chawls for their work-people. It is an investment which will well repay them. These chawls should be as near as possible to the Mills where the working people are employed. It is hard to define the area but it can roughly be stated as follows:—From Kala Chowki in the South to Sewree in the East, Government Gate Road in the West and Naigam Road in the North. The whole of this space should be reserved for mill-hand chawls and new mills. Allied factories like founderies, etc., may also be built in this area. Moreover, livery stables and bullock cart stables could also be confined in this area. Another location for chawls and mills is the area bounded as follows:—Haines Road in the South, Worli Road in the West, the B. B. & C. I. Railway in the East and Elphinstone Road in the North. These

two places are eminently fitted for the future development of the Textile and other allied industries. The Mills should not be spread all over the Town but confined to these two areas.

The Bombay East Indian Association is also of opinion that if better communications were provided with the island of Salsette, it would be desirable that Mills and other new industries be developed in that island.

Reclamation.

The Bombay East Indian Association is of opinion that the Reclamation of Back Bay be undertaken within the next decade. Bombay is a rising City of imperial importance and for its development Reclamation is an absolute necessity in the near future. We must not wait with folded hands till such a contingency arises but foreseeing our future wants and requirements should begin to carry out this project without much delay. This would add a very good area for public buildings, educational institutions and residential quarters for the wealthy. We also think that the public buildings, for which Government want spaces, should be built in this reclaimed area. Bombay, as already stated, is an imperial City and our Imperial Government should be asked to contribute annually something towards its development. An export duty on cotton may be imposed and the revenue devoted to the development of Bombay.

Milk Cattle Stables.

Lastly we would urge that all milk cattle stables be removed from the heart of the City to some place in Salsette. It is not only an eye-sore in many places but also a menace to the health of the City.

J. L. BRITTO,
Honorary Secretary,
The Bombay East Indian Association.

Bombay, 22nd November 1913.

From

MR. JAMSETJI ARDASIR WADIA ;

To

B. W. KISSAN, ESQUIRE, I. C. S.,
Special Officer, Salsette Building Sites.

Sir,

I am in receipt of your letter dated the 15th instant asking me to submit a statement of my views on the points raised in Government Resolution No. 7440 of the 16th ultimo.

The development of the Island of Bombay in my opinion depends very largely upon the means of communication and necessary reclamation. Wide arterial roads are absolutely necessary between the north and the south of the Island, and a commencement has been made in that direction. I am entirely in favour of the Back Bay Reclamation as originally planned as it is the only means by which public bodies can supply their wants, and also provide residential quarters for the well-to-do classes which will neither go to Máhim, nor to Matunga nor Worli. If one wanted a house at Máhim, when it is developed, he might just as well go to Bándra or Páli Hill and beyond. He can do it cheaper and avoid local taxation to a large extent. Every acre of ground reclaimed from the sea is an advantage to the city as a whole, and one in which the rich and poor participate to the fullest extent. It was originally proposed so far as I remember to reclaim 1,500 acres in the Back Bay, the cost of which was estimated at about Rs. 6 per square yard.

Where can you get in Bombay desirable land worth the name at Rs. 6 a square yard? It was proposed to give a portion of the reclaimed land to Government free of cost, and also to the Municipality for parks, playgrounds, roads and rides, on the same terms, that is to say, free of cost. To the wealthy public at large, the ground is to be sold at an average price of Rs. 25 per square yard. It is also estimated that 60,000 square yards of ground will be sold annually for such a purpose. If this was done and the expectation of selling 60,000 square yards of ground to the public was realised, the scheme would be self-supporting and financially a success. I am of opinion that public bodies must be made to pay for the ground acquired at half the market price. If in all the civilized parts of the world Corporations are providing parks and playgrounds, I do not see why the citizen of Bombay should not pay something towards what is considered an absolute necessity. As it is, Bombay has neither parks nor playgrounds worth the name, not even a decent road or a footpath except what has been provided by the Improvement Trust. The Queen's Road, our supposed best road, is an abomination and an eyesore—narrow and cramped, either dusty or slippery, on the one hand engines puffing smoke, on the other, cemeteries, burning-grounds and mean-looking sheds. At

present, in spite of our vain glorious boast of *Urbs Prima in Indis*, this is the state of the most fashionable road in Bombay, in which all the amenities of life are conspicuous by their absence. It is a pitiable sight to see the Chowpatty road and footpath cramped with carriages and pedestrians of an evening, and on holidays, when thousands flock to the shores, there is no standing room. I am therefore absolutely and emphatically in favour of the Back Bay Reclamation on an extensive scale as originally planned, and to put it beyond all financial doubt, to charge half the market price to the public bodies and to compel the Bombay Municipality to acquire land for public purposes. The Corporation, in my opinion, will do nothing without some kind of compulsion. It is an extremely conservative body, very slow and overcautious. It took about eight years before it sanctioned band performances. It took about seven, if not thirteen, years to consider the advisability of duplicating the Tansa Main, which is now sanctioned and which will take another five years before it is completed. Our building bye-laws are as defective as ever, and the main source of insanitation in Bombay. They are still under our consideration, although our Health Officers who drew our attention to their defects are dead and gone. I am referring to men like Dr. Hewlett and Dr. Weir. I think Mr. Harvey drew our attention to their defects in 1901, and after great deliberation we have altered them in 1910, and now we are told that we have achieved precious little; and the Corporation since 1911 has again commenced to deliberate.

If the Back Bay Scheme be not taken in hand, then I am in favour of a very wide road with footpaths and rides from Chowpatty to the Cuffe Parade. It would add greatly to the health and happiness of the citizens of Bombay, who are to be seen in their thousands at Chowpatty on all holidays. The cost of such a thoroughfare may be apportioned between the Government, the Municipality, the Port Trust and the Railways. But if that be not possible, then it must be borne by the Corporation alone. But again some pressure will have to be exerted; because, as I have said above, it is an extremely thoughtful and deliberative body and never in a hurry except under pressure. I am in favour of opening up the Máhim Woods for residential quarters; but beyond giving means of communication by broad roads, I would allow it to be developed by private enterprise. I am in favour of giving power to the Improvement Trust for building cottages with gardens at Matunga on a small scale by way of experiment, to be rented or sold. A man of moderate means may be willing to acquire such a cottage for five or six thousand rupees, provided he is saved the bother and harassment of acquiring the land and then building upon it. I am in favour of confining future industrial expansion to a certain locality where workmen's quarters may also be erected. I do not think cheap workmen's trains will be availed of. I am in favour of removing the Colaba Station of the B. B. & C. I. Railway which should stop at Church Gate.

In conclusion, I am of opinion that nothing will be achieved, and permanent benefit will not be conferred on the city, if the erection of the buildings is not brought under control. As it is, for the last 15 years the Improvement Trust is endeavouring to evolve some order from chaos, whilst the fouling of the city is going on apace under the Municipal Building Regulations, a sad commentary on some of our methods. And yet it is the Improvement Trust which is generally so vehemently criticised as if it was the only sinner in Bombay. I should like to add that in order to increase the resources of the Municipality the Corporation should have the right to raise the property tax from 12 to 14 per cent.

I have the honour to be,

Sir,

Your most obedient servant,

JAMSETJI ARDASIR WADIA.

Bombay, 24th November 1913.

WRITTEN STATEMENT OF J. F. WATSON, ESQ., A.M.INST.C.E., IMPROVEMENT
TRUST ENGINEER.

1. Probably the most urgent of all requirements in connection with the development of Bombay is the suitable amendment of the Municipal Building Bye-Laws. These must be revised so as to give the Municipality power to prevent buildings being erected on any building Estate, however small, without the previous approval of the Municipality to the Development plan of the building Estate. This approval should only be granted to developments which provide for the orderly erection of buildings on any plots with reference to all the adjoining plots and roads and in the case of larger estates for the proper and orderly provision of estate roads giving access to the buildings on the estate. The Bye-Laws should also be amended so as to prevent building owners erecting buildings which would unduly interfere with buildings on neighbouring properties or which would prevent the inhabitants of the buildings themselves from obtaining a proper and sufficient supply of fresh air and light. It should, in my opinion, be made just as criminal to supply one's tenants with impure air and insufficient light as it is for the dairy-keeper to supply those tenants with impure milk.

2. The next crying need in Bombay is a Town planning scheme in order to prevent the improper development of areas which are at present vacant or only partially populated. As examples of the first, I would mention the areas lying between the two Railways to the north of the Mahim Chord and the area adjoining the Vellard and the race-course and as an example of the second the Mahim works area.

3. Another need is the provision of greater facilities for through traffic. This will be partly met by electrifying the local traffic on both the main lines. In addition, I would suggest the advisability of immediately constructing a wide road at least 80 feet, wider if possible, extending at present, from Worli along the Worli Road, Vellard, Tardeo Road as far as the Frere Bridge at Grant Road and linking in with the Lamington Road widening. This road might be further extended, later on, round the shore as far as Mahim and would provide for the opening up of building sites for the wealthier classes at Worli and neighbourhood as soon as the Love Grove nuisance is removed; this should not be a very costly undertaking as there is a good deal of vacant land along this route.

4. *Back Bay Reclamation.*—I consider that a Reclamation on the scale at present suggested is distinctly premature for the following reasons:—

(a) The estimated financial results of the scheme are, in my opinion, far too sanguine, and cannot possibly be lived upto. The Trust has during its period of existence leased annually an average of about 60 thousand square yards, having an average value of 10 lacs of rupees; this includes sites for both residential and business purposes, and it is obvious that the capital invested for the latter purpose is not available for the Reclamation in Back Bay. Again the Trust figure includes a lot of very low priced lands which are bought by small investors and it need hardly be pointed out that capital from this source is not available for the Reclamation. Therefore it may safely be assumed that the leasing of 60 thousand square yards of land at Rs. 25 per square yard every year is quite outside the range of practical politics.

(b) It seems to me that not only would such a Reclamation as that proposed hit itself very badly financially but it would also have an adverse effect on the financial position of the Improvement Trust, and would prevent its doing as much useful work as it otherwise would; because there must be a more or less definite average amount of capital in Bombay available annually for investment in lands.

Supposing we assume that the amount is Rs. 50 lacs (exclusive of the amount to be spent on buildings to make the land revenue producing). There are three parties in Bombay at present interested in supplying the land for the investment of the abovementioned capital, viz., the Improvement Trust, private owners and the Port Trust; in addition to these, there is Salsette claiming a portion of the capital for its development. If now, a fifth party is added claiming, say, 10 lacs of rupees per annum (which is assuming that the reclamation is sold at the rate of 40 thousand square yards per annum instead of 60 thousand square yards), it is obvious that the other four must lose heavily and the Improvement Trust being the biggest landlord will lose most.

(c) It seems to me that before undertaking a fresh reclamation outside the existing boundaries of the Island it would be better to reclaim some of the very large areas inside the island which need to be reclaimed in the interest of the sanitary condition of the City. I refer to the area of about 600 acres bounded on the east by the G. I. P. main line, on the south by the Mahim chord, on the west by the B. B. & C. I. main line and on the north by the Dharavi Road; to the area of about 900 acres near the Vellard and to the Mau-grove swamps near Worli and Mahim. The reclamation of such areas as these is however yearly becoming more costly and in a short time will become absolutely prohibitive in cost whereas the reclamation of sites such as that proposed in Back Bay will almost certainly not only not increase in cost for very many years to come but may even become cheaper owing to improvements in dredging and distributing machinery.

(d) Once the Love Grove nuisance is removed—and there seems to me no reason why a satisfactory solution should not be found for this trouble—there should be no difficulty in providing sites for bungalows for the wealthy classes for many years to come, along the western shore from the Vellard to Worli. The question of distance in these days of motor cars may be considered negligible provided properly constructed and sufficiently wide roads are provided.

The above remarks do not apply to any reclamation made and paid for by the Government for the provision of sites for Government purposes which would not throw land on the public market for sale or lease.

5. *Removal of Public Institutions.*—Government themselves are of course the best judges of their own requirements; but assuming that the present Government House is not suitable or is not suitably situated; that extra land is required for military purposes; and that the various buildings at present occupied by Government Offices are inadequate; then I think there can be no doubt that a small reclamation to the North of the present military station at Colaba would be the best method of supplying the necessary sites and I would suggest that such a reclamation might well be undertaken to provide, say, 40 acres for Government House, a hundred acres for military purposes, a hundred acres for a site of the University, and a hundred acres for a hospital.

I think, if there is to be any removal of public offices or institutions from their present positions it would be preferable to remove the University, the Elphinstone College and the Science College to a new site and to utilise the buildings at present occupied by these Institutions as Government Offices, because it would seem more conducive to the efficient and expeditious transaction of Government business to have the Government Offices as near as possible to the centre of the capital. On the other hand, the University and kindred institutions must eventually require much larger areas for their future extensions, and would, in addition, better obtain that condition of cloistered calm which should prevail in matters scholastic by being removed from the noise and fret of the traffic and the general hurly-burly of civic existence. The necessary area for extension and the calm required, would be best obtained on a Reclamation such as proposed.

As regards St. George's Hospital, it will probably be found desirable to maintain a small hospital for accident cases somewhere in the neighbourhood of the Docks, but there would probably be little or no objection to the removal of the rest of the Institution to some quieter and more healthy site such as that to be obtained on the Back Bay Reclamation.

6. *Parks and Play Grounds.*—I am in favour of the provision of Parks and Play grounds wherever cheap land can be obtained, but in the City proper where land is expensive, I think that, apart from the strengthening of the Municipal Bye-Laws with a view to obtain a greater area of open space round individual buildings as mentioned in paragraph 1, the best method of improving the healthiness of the population is by the provision of wide, tree-planted thoroughfares, or Boulevards interspersed with Plazzas and Squares. Play grounds and Parks are doubtless of great advantage to the young and strong, but these are quite able to travel a fair distance to reach them; whereas the old and feeble are best catered for by something which will bring the pure air to their dwellings and enable them to obtain something in the way of pleasant and shady place to sit and this is best done by wide tree-planted streets and squares.

J. F. WATSON,

Trust Engineer.

WRITTEN STATEMENT OF COWASJEE JEZHANGHIER, Esq., RECEIVED WITH HIS
LETTER OF NOVEMBER 24TH, 1913.

Some improvements have taken place in the Island of Bombay since the Government Resolution of 190-, much is on the high way to being accomplished, but a great deal is still under contemplation.

In the 1909 resolution Government have in very clear terms indicated their dissatisfaction at the very slow rate at which the Improvement Trust had erected chawls for the poor classes (para. 14). During the last 4 years, I believe only about 1,200 (one thousand two hundred) new rooms have come into existence. Considering the number of people the Trust's operations have dislodged, this indeed is slow progress. Although the Improvement Trust Act has been amended so as to enable millowners to build chawls for their work people with capital borrowed from the Trust, I am afraid it is hopeless to expect much relief in this direction. The majority of Mills in Bombay have a capital debt, and are not in a position to try an experiment unless there are chances of a handsome return. Even with the amended Act it is likely the building of chawls by millowners would entail a loss. For the chawls to be a benefit to the Mills owning them, it is necessary they should be in close proximity. To find vacant land thus favourably situated is in many cases difficult. The housing of the poorer classes was, and ought to be one of the main objects of the Trust. They should now be required to at least erect as many new rooms as they acquire, and demolish, to prevent overcrowding, which now unhappily is the result of their operations.

Good wide thoroughfares especially North and South still is and will continue to remain a question of prime importance. The widening of Abdul Reheman Street is very slowly but surely being accomplished by the Corporation by the acquisition of set-backs. I am afraid it will be years before any tangible result is visible. Frere and Reay Roads will soon be linked together, but it has taken well over 20 years to do so. The New road through Memonwada will of course be the most important New North and South thoroughfare. Mr. P. R. Cadell has already most clearly placed before the Committee (as seen from the local papers), the many changes in this direction in the course of accomplishment and contemplation. In my opinion there is no urgent need for the new road between Hornby Road and Ballard Pier. At present the traffic goes down Church Gate Street where there is already a set-back line, and which in the course of time will be widened. I think the cost of the Scheme is not commensurate with the benefits to be derived. Mail passengers generally arrive and depart in the morning, when Church Gate Street is by no means overcrowded.

There is I believe a great deal, the Corporation is desirous of doing, in the way of widening roads, and which is under their serious consideration, but yet awaits their formal sanction. A case in point is the widening of DeLisle Road. The Corporation, with an income of 1½ crores (one and a quarter crores) are already incurring (on the taking of set-backs together with the

annual grant to the Improvement Trust), an annual expenditure of about 15 lakhs. They have already incurred for future set-backs a liability which cannot be ascertained. It is thought that very soon the costs of these improvements will not be in keeping with the Corporation's annual income, especially after the handsome grant paid to the Trust. But what is especially thought unfair and unwise is the way in which the Corporation are forced to burden only one generation with the cost of improvements which future generations are bound to enjoy. This is caused by the short period of their loans enforced upon the Corporation by the Government of India. If the Committee would recommend the Government of Bombay to use its influence with the Government of India to get the period of these loans extended, it would in my opinion be doing a great service to this City.

The Corporation then could more boldly go forward with the several improvement schemes now in contemplation.

As to the "provision of Sites for Government Institutions, and institutions in which Government are interested", there are some sites and buildings available, in close proximity to the present Government buildings. I believe the Secretariat is in urgent need of expansion. I would advocate the acquiring of the Taj Mahal Hotel for that purpose. With several alterations, it is capable of being made into a grand Secretariat, with spacious offices and a Council Chamber worthy of this City. It ought to be able to supply all the wants of Government now and for the future. Considering what it could cost Government to build a new Secretariat with the present enhanced rates of building materials if the hotel could be acquired at cost price or under, it would be financially to the advantage of Government.

The present Secretariat should be handed over for educational purposes. This would enable the Elphinstone College to be extended and would also accommodate some other educational institution.

I would advocate the acquiring of the Wellington Mews. I consider it a great initial mistake to have allowed unsightly stables to have been built on so beautiful a site. The pulling down of the stables would of course be necessary which would entail some loss.

I would advocate the acquiring of the Watson's Hotel for educational purposes.

The Colaba Cotton Green will soon be available, and even if it is intended to earmark it for the St. George's Hospital a considerable portion of the area could still be available for Government Institutions.

I believe that the portion of Upper Colaba which is handed over to the Military is found to be more than they require, which belief is confirmed by the many Barracks remaining untenanted throughout the year. I would suggest that an area be here set aside for the St. George's Hospital. When once the Cotton Green is removed the numbers of Cotton Godowns and all the Presses will have to follow. Thus a most valuable area will be set free over and above the Cotton Green itself. All these sites could well be used for Government and educational institutions and would be no further off from the main centre than the proposed Reclamation.

I would advocate the acquiring of the Sailors' Home which is now no longer suitable for the object for which it was built but which would be most suitable for an educational institution.

It must not be forgotten that once the Cotton Green is removed the B. B. and C. I. Railway will only have to cater for local traffic at the Colaba end, and the land which is now found necessary for their needs will be set free and can then be laid out and utilized by Government.

In my opinion the question of providing suitable areas for the better and middle classes is to a great extent tied up with the question of the Love Grove Pumping Station, which has been for years a thorn in the side of the question of the development of Bombay in this direction.

The Corporation are spending about 25 lakhs in increasing the power of the station and taking the sewage out-fall of the City to a greater distance into the sea. This in the opinion I believe of Mr. Midgley Taylor will satisfactorily mitigate the great nuisance that now undoubtedly exists. If these efforts of the Corporation are successful the whole fore-shore between Mahalaxmi and Warli Fort will become an ideal residential quarter. I would here like to mention that I do not agree with the opinion so often expressed that business men prefer to live in the proximity of their offices. Over 50 years ago when Motor Cars were unknown the better class of merchants both Indian and European migrated from the Fort to Malabar Hill.

In these days of quick locomotion there is no reason why the Warli fore-shore and hill if properly and systematically developed should not become another Malabar Hill provided the pumping station nuisance is remedied.

The Mahim woods and fore-shore is another area which may well be developed as a residential quarter and it is possible if means of communication are improved that the upper middle classes may be tempted to go out to this part of the Island. This question of the developing the Mahim District has already been before the Corporation and I believe the residents would

prefer the Corporation to develop it rather than the Improvement Trust as this would certainly be beneficial to their interests. But I am afraid the Corporation would not be in favour, and rightly so, of incurring so large an expenditure. I am therefore in favour of the passing of a Town Planning Act suitable to our needs and that both the Warli and Máhim Districts should be systematically developed under the operation of the new Act.

I do not believe there is such a scarcity of residential accommodation in the Fort and its vicinity as seems to be imagined and which can be readily seen from the high percentage of flats to be found vacant throughout the year. I think it will be found that seven to nine per cent. of the flats that are kept up to date and in a state of good repair, are untenanted. About ten per cent. of the other flats are unlet during the season, and the percentage sometimes rises, I am informed, as high as twenty-five per cent. during the hot weather and monsoon.

Therefore I cannot agree that there is any great increasing demand for residential quarters even in this district. The rents may comparatively be considered high but still they are no higher than in Calcutta, where there is no question of a lack of space for expansion. There may be a demand for very cheap flats in the Fort but those who cannot afford to live in a district where the price of land is high will be forced to go further afield to Máhim or even outside the Island. This is nothing unusual. It is to be found in every big city in Europe and must eventually be the same in Bombay, and would have been the same before now if a suburb had been laid out with cheap and quick means of communication with the business centre. In my opinion there are plenty of sites still available for chawls for the working classes in the district North of Jacob Circle but they should not be encouraged to be built further West than Hains Road or in the Máhim District. There is also ample accommodation for chawls on the areas developed by the Improvement Trust. The Agripada estate is a suitable locality, where there is a considerable amount of vacant land. In the Parel scheme (Improvement Trust Scheme 31) the Trust have acquired an area of over 8 lakhs of square yards round and about Sopáribág Road. Having regard to the fact that it is connected with a main arterial Road, a part of this locality would be admirably suited for the middle classes, the other part for chawls. Lakhs of yards in the Naigaum and Dádar-Mátunga District are also suitable and intended for the middle classes. I think it will be acknowledged that these districts in the Island itself will meet the growing needs of the City for a few generations to come.

It must be admitted that it was a great mistake to allow Mills and other big Factories to be built in the City haphazard. The time has now come when Factories should only be allowed to be built in certain districts. I am in favour of all Mills and Factories being built in the future outside the Island of Bombay. But this is not possible until a vast area outside the Island is properly developed for this purpose with good means of communication provided. Provision should also be made to convey labour at cheap rates to this district from the Island where for many years to come the labouring classes will insist on living. To force the New Mills to go outside the Island without providing these facilities would merely mean crippling the future expansion of the industry. Until such an area is developed and means of communication provided I would suggest that no New Mills should be allowed to be built further south than a line drawn from the west of the Island through Elphinstone Road and Bheiwada Cross Road. On the Western side I would restrict them from being built too near the Warli or Máhim Districts.

The reservation of open spaces for purposes of recreation is certainly the most difficult problem. A recreation ground reserved for the Elphinstone College is badly needed. I would suggest that a greater part of the Oval be entirely reserved for this purpose. The area inside the Race Course should be developed reserved for polo. The area by the side of the Race Course which is now being slowly filled up by the Municipality might also be reserved for recreation purposes. Golf Links might be situated here. The Nakhoda Tank should be filled up and handed over to the St. Xavier's College as a play ground. The Wilson College is already allotted a playing field on Kennedy Sea Face. The New Educational Institutions which are likely to come into existence in future must also be provided with recreation grounds. I would suggest that some of the sites I have already mentioned as suitable for Government purposes may, in the future, be laid out as recreation grounds for these Institutions. I would like to draw the attention of the Committee to the neglected condition of the Kennedy Sea Face. If Bombay had been a European City, the Kennedy Sea face would ere now have become one of the finest marine drives and Promenades in the World. The Khote Footpath should be enlarged and carried along the Kennedy Sea Face to Warehouse Bridge. I think the Committee should press for a Marine Drive alongside of the footpath where there is also space for a Rotten Row. I would suggest that some of the Improvement Trust Building Sites at Chowpatty where at present a temporary hand-stand exists be laid out as a garden and the present Charni Road Gardens be left as open space. The subject of recreation grounds is now receiving the attention of the Corporation and other public bodies and it is not likely that any new area will be developed without this subject being taken into serious consideration. I am strongly against "uprooting long established Institutions such as the University Buildings and the Colleges built in their neighbourhood." From a sentimental point of view I am against such a radical change. Is it not rather late in the day to put forward such a suggestion? Lakhs of rupees are being spent on the new College of Science and Examination Halls and the Prince of Wales's Museum which is also an Educational Institution. Is it possible that the work on these two immense buildings can be peremptorily stopped? This must undoubtedly

follow, if the Committee come to the conclusion that the University Buildings should be removed. It would be most difficult to adapt the beautiful University Hall and Library for any other object than that for which they were built. I have already indicated more sites than I believe will be necessary for Government purposes in the future. I have never heard it mentioned that the High Court requires extension. The P. W. D. Offices could be removed if necessary to one of the sites mentioned above. The Government institution which I am informed is sorely in need of extension is the Secretariat but I have already dealt with that question.

From the above it will be seen that I am of opinion that any reclamation scheme is at present premature. Such a scheme, if decided upon, would only provide residential quarters for the better classes. From figures already before the Public if the big scheme is carried out as proposed by Government, land will cost Rupees 25 a square yard. I would ask the Committee to consider what the rents for the houses would be, if the reclamation is not to become a huge Flat-Land. I would think they would be somewhere near Rupees 300 a month. I have already mentioned above that a certain percentage of Flats in and round and about the Fort are always vacant I therefore do not consider that there is any great demand for flats of this rent.

I am strongly of opinion that looking to the way in which investors have burnt their fingers on the Cuffe Parade, where I believe there are some plots still unlet, the Public will not come forward in any numbers to build on the proposed reclamation. I admit that having an extensive park and recreation grounds is the only tempting part of the scheme. But before Government decide upon launching upon so ambitious a programme I trust they will seriously take into consideration whether the development of other parts of the Island would not suffice for our needs, for at least a couple of generations to come. If the efforts of the Corporation in mitigating the nuisance of the Love Grove Pumping Station be unsuccessful, the question of removing the Pumping Station must seriously be taken into consideration, or perhaps a reclamation scheme in Section might become advisable.

COWASJEE JEHanghIER (Jun.).

Bombay, 26th November 1913.

From

SIR COWASJEE JEHangGIR, BART.,
Readymoney House, Malabar Hill, Bombay;

To

B. W. KISSAN, Esquire, I.C.S.,
Special Officer, Salsette Building Sites, and
Secretary to the Committee for the Development
of the Town and Island of Bombay.

Sir,

In response to the invitation of the President of the Committee I have pleasure in submitting my views about certain matters relating to the development of the Town and Island of Bombay.

I am strongly of opinion that it is not advisable to uproot long-established educational institutions.

I am quite aware that more buildings will be required for the College of Commerce, a Ladies' College and other educational institutions to meet the growing demands in our City.

After spending lakhs and lakhs of rupees on the University buildings, the Royal Institute of Science, the Public Hall and the Prince of Wales' Museum, which I also consider an educational institution, it becomes a matter of necessity to concentrate all the present and future educational institutions, such as the College of Commerce and Ladies' College, between the University and the Royal Institute of Science. From a sentimental point of view I would object to the removal of these cherished institutions from their present sites, and I am afraid it would deter philanthropic gentlemen in the future from donating large sums of money for the erection of a public institution if they find that they may be shifted from place to place.

I do not think the whole reclamation scheme, as published by Government, will be necessary for the next 25 years or so, but I would like to see an embankment made and a Marine Drive from Chowpaty along Kennedy Sea Face right upto Colaba and a reclamation in small sections, as the necessity arises from time to time.

I am of opinion that the Secretariat building, not being large enough for its purpose, should be handed over for educational institutions, and it may be built on the new reclaimed land, and should not be very far from the present Band Stand for the convenience of the

public. Here I may be permitted to add that instead of building a new Council Hall at great expense, the Public Hall, which is in the course of construction at the corner of Mayo and Esplanade Roads, will admirably suit the purpose.

As for residential quarters for the better classes, I do not think there is any pressing demand for houses for them, for, if any statistics are available, it would be found that a number of houses on the Apollo and Colaba Reclamations are vacant year in and year out. Further, we have the authority of Mr. Cadell, our Municipal Commissioner, that the Love Grove nuisance will soon disappear, and in that case Worli foreshore and portion of Mahim will be available for residential quarters.

As soon as the Hydro-Electric Power is supplied to Bombay, I suggest Government would seriously take up the question of electrifying both the railways from the termini right upto the environs of Bombay.

I would also reserve a large area for the future expansion of the cotton mills and other industries in the north-east of the Island, as near as possible to the future cotton and coal depôt at Sewri.

As for the proposed new road from Ballard Pier to Hornby Road, I am afraid it would cost a lot of money which could very profitably be utilized in improving some of the slums in the Fort. From Ballard Pier, Church Gate Street is the nearest road for going west. It is wide enough near the Cathedral, and, if widened further down, it would carry all the passenger and other traffic from Ballard Pier and it could be done at a great deal less cost.

I have the honour to be,

Sir,

Your most obedient servant,
COWASJEE JEHangIR.

WRITTEN STATEMENT OF SUNDERRAO D. NAVALKAR, Esq., M.R.A.S.E., RECEIVED
WITH HIS LETTER OF NOVEMBER 26TH, 1913.

Development of Bombay and its Suburbs.

On account of the prevalence of plague, and latterly on account of the operations of the Bombay Improvement Trust, many middle class people have been dislodged from their dwellings in Bombay. These people then bought lands in Salsette rather than pay heavy rents with insufficient accommodation in Bombay, with two-fold objects, *viz.*, (1) that they will have a cheap living (as there were no building taxes then) and (2) that they will not be required to shift to any other place for the time being during the prevalence of plague if they were to live in suburbs. With these objects in view these class of people began building their houses and bungalows without giving least consideration to the principles of sanitation (not in all cases) and also to the site of their neighbours. The Government should have then not allowed people to build as they liked, before lines of proposed roads were marked out. So that we would not have seen, as we see now, bungalows built here and there in the suburbs, but we would have seen suburbs planned out on the sanitary principles as we see in England and that the suburbs would have been picturesque in sight.

Now the people have given up the idea of building bungalows on account of the Notified Area Committee's taxes; moreover, of rules and regulations of the Town Planning Act under consideration, as they do not realise anything in the shape of interest on the capital they invested, and besides they do not recover even sufficient amount, on the capital spent, to defray the expenses of a keeper's wages. Another reason is that they are able to secure good new houses built by capitalists on the Improvement Trust plots. Besides, the Matunga scheme of the Improvement Trust will provide people with cheap and healthy houses and that the people will be able to attend to their offices and business in Fort without much waste of time in trains. This last factor, *viz.*, good houses with low rents and other conveniences such as handy medical aid, education of their children, and *want of* cheap railway fares and fast service, safety of their person and property, supply of good water, lighting of public roads, public markets, places of amusements and recreation such as play-grounds and parks, civil courts—one located at Bandra or Andheri for those who live along the B. B. & C. I. Railway lines, instead of at Thana, as at present, has greatly averted the minds of the people from leaving Bombay.

To me it seems that, unless all these abovementioned things are provided, the people would not go in for constructing new buildings; moreover, the people, who have already built on their lands in Salsette, would not think of leaving Bombay to go to live in suburbs.

It will take at least (50) fifty years more for the full development of places in Salsette before all the conveniences of the people are complied with.

To me it also seems that the obstacles that are put in the way of the people for building should be removed, and that the people may be allowed to build houses as before with due

consideration to the rules and regulations of the Notified Area Committee, whether they have approaches to a road or not, after marking out regular lines of proposed roads, so that the people might be able to know whether their houses fall within the marked line of proposed roads or not and that they will be in a position to know whether they should go in for buying lands for building purposes, which they have at present stopped doing on account of the reasons stated above.

Similarly, there is no need for the reclamation of the Kennedy Sea Face, as at present there is ample land available to the north of the Island of Bombay (Matunga, Mahim, Sion) for building and other useful purposes. If the Kennedy Sea Face were to be reclaimed, it will not only be a waste of money and energy but it will also mar the natural beauty and picturesqueness of the Kennedy Sea Face. The reclamation of the Kennedy Sea Face would have been quite justifiable if there would not have been sufficient and convenient lands in or about Bombay for the future development of the City. Besides, the suburbs, where there is vast land and nice and healthy climate, will not be developed and grow into at least small cities for (100) one hundred years more, in case the scheme for the reclamation of Kennedy Sea Face is taken in hand, unless people are driven there by some Divine cause, as is the case since the outbreak of plague in Bombay. Again, the opening of Karachi as an English Mail port, in future, would also reduce the overcrowding of Bombay and its importance to a little extent.

From this it will be seen that Bombay and its suburbs can very well be developed by the present available sites in Bombay and its suburbs, and villages south of line drawn joining Versova, Andheri and Coorla, can very well be included in the City of Bombay, or at least Jandra and Santa Cruz should be included in the City of Bombay for its future development.

SUNDERRAO D. NAVALKAR, M.R.A.S.E.

WRITTEN STATEMENT OF DR. NADIRSHAW H. E. SUKHIA.

When I was deputed by the Municipal Corporation as one of their members to give evidence before the Committee proposed by Government under their Resolution No. 7440 of the 16th ultimo, for the consideration of measures for the development of the Town and Island of Bombay, I considered it a compliment paid to me by my colleagues for the little time and service I devote in the interest of my fellow-countrymen of Bombay; but on the receipt of the invitation of Mr. Kissan, the Secretary of the Committee, formed pursuant to the Resolution aforementioned for "a statement of my views on the points raised in the said resolution," and seeing of whom the Committee consists and on reading the accompaniments to the Secretary's letter, I felt and feel somewhat diffident as to the way in which I can assist a Committee, which I have no hesitation in saying is composed of very capable, competent and independent gentlemen properly constituted by the Government of Bombay; for it seems to me it is little we non-officials can advance which is not already on record in the course of the long series of inquiries Government has from time to time instituted since 1907 on the subject we have under consideration. But, it is only because I see in this movement a new departure of a desire and call from Government for co-operation of the citizens of Bombay in measures which the Government have to undertake, that I venture to submit this minute for the consideration of the Committee as I hold it the duty of every public citizen when called upon to assist and aid the authorities, be they Government, Municipal or other Public Bodies, even if he may be of the opinion that whatever he may say or do, will in no way alter the preconceived and previously decided opinion of the Authorities as to what will be done. I therefore still hope, that the Committee will make another effort to have Mr. D. E. Wacha's valuable evidence on record for I think that none will deny that after the Hon'ble Sir Pherozeshah Mehta no one can better help the Committee to come to a more correct decision on what they have to report than Mr. Wacha on account of his varied knowledge of the City and his very long connection with its Local Self-Government, and I hope that the Committee will call upon all those whom they have invited to give their views in writing to give evidence as it were cross-examined by the Committee Members so that every point may be thoroughly threshed out and not taken as granted because it has been recorded in a statement.

2. The remarks I desire to place before the Committee are those formed by me from my personal knowledge of the environments of Bombay and its Suburbs and from my experience of public life of now some 15 years.

3. I am glad to find that Government have not confined the Committee to report only on "what measures should now be taken for the systematic further developments" of Bombay but also to report "the progress already made in the execution of the Scheme formulated in the orders of 1903" and "whether any, and if so what, further modifications are advisable in view of the changes and developments which have taken place within the last four years." For I think some of the suggestions that I submit will necessitate a modification of some of the orders formulated in the earlier Resolutions of Government on the subject the Committee have now under consideration.

Reclamation.

I think it will be conceded by every one without exception, that the growing needs and wants of the ever and fast increasing population of Bombay must require a recourse to a reclamation scheme, *if there is* no suitable space and ground available for the development of Bombay so as to meet all its requirements for, say, the next 25 to 30 years. For I hope the Committee, whatever conclusion they may arrive at, will not go beyond a period of 25 to 30 years—say one generation—as we do not know what changes the march of Science and the invention of man may not bring about, which may make what we may now do as unsuitable and out of place 50 years hence, so that we may not leave an inheritance to the future generations such as what we have in the many public Buildings and Institutions we now find most difficult to remove from their present situation. Besides, it is not at all desirable to put the burden on the Rate-payers and the Tax-payers of this generation of carrying out projects which may be or may not be useful and expedient or satisfactory for future generations. The Committee, I therefore trust, will not for the abovementioned reasons take into consideration our requirements beyond the period of the next 25 to 30 years.

For this period of time and even longer, I am respectfully of opinion that Government have at their disposal ample space and ground now existing within the Town and Island of Bombay, or within its close vicinity, without resorting to any huge reclamation if the suggestions I now submit meet with the approval of the Committee and Government.

6. The reclamation scheme which I believe Government have had under their consideration for the last few years is that which owes its origin to Lord Sydenham or his Government. That scheme may probably be a necessity some 50 or more years hence. It will cost some crores of rupees and the question therefore is, if by utilizing half that sum we can in every way meet all our requirements, setting aside for the moment the huge outlay of Sinking and Interest Fund the expenditure on the Reclamation will entail, is it desirable or wise that we should launch on an expenditure of crores and crores of rupees the full advantage of which neither this nor the succeeding generation can get?

7. However if Government can successfully finance the Reclamation Scheme of which I am very sceptical, it will afford some means of dealing with the problem of the growing requirements of the City for the benefit of future generations. If the Reclamation is effected to the South of Cuffe's Parade beyond the Panday Sanatorium upto Colaba Point where throughout there is high rock and the Government utilize that reclaimed area for an adequate Government House befitting the City and the Province and for other Government Institutions I have not much to say against. But if the reclamation be in any way made to the North of Cuffe's Parade which is sure to spoil the amenities of Fort South and moreover render Fort North more unhealthy than it is at present owing to the Chinese Walls erected by the Improvement Trust on the open spaces existing before it was created, shutting out all westerly breeze to the whole of the Fort North, it is from a sanitary point of view to be entirely condemned, and I think from a financial point of view most likely to be a failure. To compensate for the immense mischief already done by the Improvement Trust to the Fort North, I would strongly advocate its improvement to some extent at least by extending the existing roads throughout from East to West at any cost, by cutting out some roads from East to West not in an ambitious manner and by the improvement of the most insanitary houses on the lines of the Undria Scheme which I hope will turn out to be the most economical way of improving houses in such quarters.

Present and Near Future Requirements of the City.

8. I believe all the measures recommended by Government to meet the present and future requirements and needs of Bombay fall within the heads (A) to (F) of paragraph IV, Clause 4 of the Government Resolution of the 16th ultimo and under which Resolution the Committee have come into existence and, I am of opinion, all the space and ground required to meet these measures or objects will be wholly and fully available if Bombay is developed on the lines I beg to suggest. To meet the requirements of these six heads of measures, Government will need some (40,00,000) square yards of land (I give these figures subject to correction) and I am respectfully of opinion that this quantity of land is within available reach of the authorities or can be acquired for half the cost and even much less which Lord Sydenham's reclamation scheme must cost.

9. The six measures or objects above referred to for which Government want land are :—

- (a) A new Government House.
- (b) Additional accommodation for the Secretariat.
- (c) A College of Commerce.
- (d) A Women's College.
- (e) A Law College.
- (f) Increased accommodation for the Elphinstone College and Hostels, and also for
- (g) Another Medical College.
- (h) An European General Hospital.

- (i) Residential quarters for the different grades of Society.
- (j) Open spaces for the purposes of recreation and health.
- (k) Location of new industries and factories.

10. Before I deal seriatim with the allocation of land for the above (a) to (k) objects, I beg just to enumerate without giving the area (for I have neither the data nor approximate figure at my command) the plots which I think will more than suffice if set aside and appropriated for the purpose. They are the following :—

- (1) All land appertaining to Government House, Malabar Point.
- (2) All land available and made suitable for residential quarters by the removal or the improvement already taken in hand of the Love Grove Pumping Station.
- (3) All land available by dispensing with the Colaba Station and the B. B. & C. I. Railway Line South of Church Gate Station by making the Victoria Station the reception of all main passenger traffic into and out of Bombay. The local railway traffic on the B. B. & C. I. Railway should stop at the Church Gate Station and on the G. I. P. Railway should continue as hitherto, but the Railways inside the City from Dadar inwards should be electrified.
- (4) All land available by removing the Mint and any building still belonging to the Arsenal.
- (5) All land available by the removal of the Barracks for Native Soldiers at Marine Lines.
- (6) All land and building available by removing the Sailors' Home and the Post Office Stables in its vicinity.
- (7) All land available by removing the present European General Hospital.
- (8) All land available by removing the Cotton Green at Colaba to the North of the Island.
- (9) All land available by the filling in of all low-lying land in and about Bombay.
- (10) All lands available by the closing of all petty salt works situated on the North-East of Bombay and its vicinity such as Sion, Matunga, etc.
- (11) All lands available by the removal of the Mahim Woods.

11. I am of opinion that if the plots abovementioned are made available either by means of the Land Acquisition, Improvement Trust or a Town Planning Act, that there will be land more than sufficient for the purposes (a) to (k) in para. 9 hereof or for all our essential requirements for even the next 50 years without having to resort to the Reclamation Scheme. Of course the displacement of some of these plots will probably greatly inconvenience some people but *salus populi suprema lex* and therefore, *privatum incommodum publico bono pensatur*, and I have no doubt these people will in a very short time be reconciled to the inconvenience caused by being fully compensated for what they will be deprived of and the rising generation will reap the benefit of the little hardship we of the present day may have to suffer in our time by these appropriations.

12. I beg to briefly particularize how and where the plots above enumerated can be appropriated and utilized for the purpose and object given under (a) and (k) in para. 9 hereof.

(A) A New Government House.

I have not the slightest hesitation in stating that the first and foremost need, in fact our paramount duty, is to have a Government House suitable and befitting the dignity and requirements of a Governor of Bombay. The present residence of our Governor is nothing else than a mere Marine Villa and as a residence for the Head of the Government is a scandal. It was most humiliating to contemplate that having no suitable accommodation His Imperial Majesty—Our King-Emperor—had to remain on Board His Ship and to entertain his guests there. And I think the Committee should determine as the first work of urgency a suitable site for Government House, for this I think one can well be built on the reclaimed site South of Panday's Sanatorium if reclamation is decided upon, and failing that on the Cooperage with such lands as may be necessary from the site rendered available by the removal of the B. B. & C. I. Railway Terminus from Colaba, which will do away with the necessity of the Wodehouse Bridge, and if the three Gymkhanas adjoining are to be displaced, they could be located in close proximity of the present Parsi, Hindoo and Mahomedan Gymkhanas on the Marine Lines. If this is not feasible, a Government House could be built on land, if there is none belonging to Government available, to be acquired at Middle Colaba North of the Military Cantonment. I prefer this plot as it commands the sea breeze both from the East and West. If this is not thought advisable then a suitable and befitting Government House could well be built on land situated between Church Gate and Colaba Stations, which will be available by the doing away of Railway communication after Church Gate Station on the B. B. & C. I. Railway and if needs be by building a sea wall to prevent the depletion and damage to the land by the encroachment of the sea. If none of these sites are acceptable to the Committee I may suggest the building of Government House on the Cotton Green upto as far as the

Grant Buildings. Thus there is available land either on the Cotton Green or that vacated by the B. B. & C. I. Railway for High Class Residential Quarters. The sale of the site of the Malabar Point will enable a magnificent Government House being built on any of the sites abovementioned at a very moderate further expenditure.

(B) Additional accommodation for the Secretariat.

I am strongly of opinion that the Secretariat should be within easy reach of the Fort and the business quarters and the present building is therefore admirably situated. If, however, the present building is not sufficient for its increasing and growing requirements I am of opinion that the portion now in the occupation and use of the Elphinstone College would be more than sufficient for all the requirements of a Secretariat proper for the next 25 or more years. I do not think a separate Council Hall or Building with rooms for the use of the Councillors is at all necessary. If it is absolutely essential that the Legislative Council should meet in another or separate Hall, the new Public Hall built in connection with the College of Science or the Town Hall could be utilized for the few meetings of the Council that are held in Bombay.

(C) to (G) New Colleges for Commerce, Law, Medicine, for Women and Elphinstone College and Hostels.

I am completely in accord with the Honourable Mr. Justice Heaton, our Vice-Chancellor, on the desirability of having in one Locality our whole University system of a corporate university life and association so that there may be the freest and most frequent possible intercourse between Professors, Lecturers and Students between themselves and between those of the different colleges and institutions there should amongst them their University Buildings, Union, play and recreation grounds. This ideal University it is possible to build up in Salsette or at Trombay for instance or on the estate which Mr. Chabildass Laloobhoy had a few years ago offered to place at the disposal of Government for an University, but as this would necessitate the upheaval of our present University buildings and great expenditure the idea of such an ideal University must be given up. It then becomes necessary to consider where these Colleges which have to be built can be located. For the Elphinstone College I would remove the Sailors' Home from its present building and establish the College in this building. At the back of the Sailors' Home is a large plot of land used as stables for the Post Office and now that the General Post Office is located at Bori Bunder these stables should go in its near neighbourhood and the ground made use of for the College play ground. If this plot is found to be not sufficient for a recreation ground of the Elphinstone College, I would assign the plot of vacant military ground opposite the Sailors' Home to its west for a play ground to this College.

The Sailors' Home ought to be in the close vicinity of the Docks and it would not be difficult to acquire land in the vicinity of the New Docks, say between the Office of the Port Trust and the British India Steam Navigation Company and the Sailors' Home should be located there. I hear there is a suitable plot of land in the close proximity available—the Fraser Ice Factory which the owner would gladly give if a fair compensation is offered to him.

Even if we cannot now get all our Colleges on one plot of land yet I am of opinion that the 4 New Colleges can easily be accommodated in the neighbourhood of the existing University Buildings. I would for this purpose acquire the Watson's Hotel Building which could easily be acquired and could without difficulties be made accommodating the Colleges of Law and Commerce and for the Women's College the Building of the National Bank could be acquired. If this is not deemed advisable then I would suggest the building of these Colleges in Chowpatty or Gamdevi. They will then be in the close vicinity of an existing Educational Institution, viz., the Wilson College. While for the Medical College which I believe is to be connected to the Goculdas Tejpal Hospital I would assign the land from which the Barracks at Marine Lines will be removed, on the land reclaimed by the filling in of the Nakhoda Tank.

(II) European General Hospital.

I think the plot on which the Mint with its tank now stands could admirably be appropriated for buildings for the European General Hospital. The Mint may be removed to the northern part of the Island or to Poona or Kirkee. If this plot is not sufficient for the purpose then in that event it is possible that Government could arrange to acquire Mazagaon Castle, which it was some time ago given out that Sir Jamsetjee was willing to part with. The buildings and grounds of Mazagaon Castle could be converted into an admirable European General Hospital. If this too is not feasible, the European General Hospital can be admirably accommodated in buildings erected for the purpose on lands now available by the removal from Colaba of the Lunatic Asylum to Poona, or in any part of Upper Colaba.

(I) Residential Quarters for all grades of Society.

If my suggestion under paragraph 10 hereof and particularly those under (1), (2), (3), (8), (9), (10) and (11) are approved there will be any amount of land suitable for residential quarters for the wealthy, middle and labouring classes. For the High Class there is ample accommodation on Malabar Hill, on the Vellard upto Mahim and at Colaba, and they can well afford to go and reside in the suburbs.

(J) Open spaces for the purpose of Recreation and Health.

I am fully in agreement with Mr. Cadell in all he has said regarding the open spaces for the purposes of recreation and health but I may add that where there are several such available and hence not additionally necessary it is not desirable to provide more at the cost of general Ratepayers of the whole City. It seems everybody is in agreement on this point and the quantity of land which will be opened up for disposal, if the suggestions I have made are carried out there would be any quantity of land available for open spaces for recreation and health. There are some such spaces in A, D and E Wards. Those in F and G Wards are included in the Improvement Trust Schemes extending into them. The B and C Wards are badly in want of them. No amount of reclamation on the Western Shore would enable the people of these wards to get the benefits of recreation and play grounds. I think the removal of the Pinjrapole to Kurla or places further North will doubtless give a sufficient area of ground for the purposes of recreation and play to the residents of the C (Bhuleshwar) Ward. The B (Mandvi) Ward is the only one without a proper recreation and play ground. I would be too glad to see the Development Committee finding out some solution of this problem of providing a sufficient recreation ground in this ward.

Means of Communication.

There is no doubt that the means of communication from North to South and East to West of the Island are very defective. The Improvement Trust have undertaken the Eastern Avenue and a central as well as a western trunk line of road-way are now necessary. I would strongly advocate the immediate construction of a road of adequate width from Bandra Causeway to Sankli Street *via* DeLisle Road and another from Bandra Causeway to Lamington Road *via* Mahim and Worli. As these roads will materially advance the development of the suburbs of the City, it is but fair that Government should contribute towards the cost of the roads.

(K) Location of New Industries and Factories.

From a sanitary point of view it is highly advisable to prevent Factories and Mills and Workshops from being located in the heart of the Town or in the vicinity of crowded localities. They all should be relegated to the North or North-East of the Island near the outskirts or beyond the precincts of the City and Island of Bombay. On pain of removal to the North or outside the City all the existing factories, mills, etc., within the City and in close vicinity of dwelling houses should be required to work with electric power instead of steam power. No dangerous or offensive trade should be allowed to be carried on in any part of the City unless the buildings in which it is so done are quite apart and far away from dwelling houses.

Ways and Means.

13. I do not think the Committee expects me to go into details as to the ways and means and how these several plots of land could be made available for the purposes and objects we have in view. For if Government and the Committee resolve that these appropriations and alterations may be effected, the Collector of Bombay with the Engineer of the Public Works Department, Improvement and Port Trusts and of the Bombay Municipality will undoubtedly be able to carry out effectively the orders given them.

A few further Matters.

14. I fear I have travelled at greater length than it may probably be deemed necessary by the Committee, but what I have stated will not perhaps be deemed a complete reply to what is wanted of a witness by the Committee, if I do not briefly refer to a few matters which in what I have stated may need explanation.

Removal of Colaba Terminus.

15. I have above suggested the doing away of the B. B. & C. I. Railway from Church Gate. This is of course not my own idea, but it is that of many more capable than myself to give an expert opinion. This idea, however, Government have in a previous Resolution set aside and have come to the conclusion that the B. B. & C. I. Railway should continue at Colaba as at present. This decision is arrived at, I am inclined to believe, on the statistics furnished to Government of some 39,666 daily passengers who travel between Grant Road and Colaba, which number dwindles down to 2,500 only between Colaba and Church Gate if the Railways be removed between them as advocated by me, being likely to be inconvenienced and that the retention of the Terminus at Colaba will be necessary by reason of the increased traffic arising from the Sind and Delhi Bara Mattra Line which will now soon be completed. But as Government have empowered this Committee to modify, if necessary, in view of the changes and developments of the past four years, their previous orders I trust the Committee will hold that in view of the present needs and requirements as brought to notice by Government themselves the inconvenience to 39,666 people, or by reason of the traffic opened by the new line is not such

as to outway the convenience and benefit to the people and the public at large arising from the effective carrying out of the proposals I have placed for the favourable consideration of the Committee and Government. I need not remind the Committee that it is now the established policy of the authorities in every capital town or commercial city to have only one terminus for all lines of Railways coming into the Town, e.g., Calcutta, New Delhi and European Towns.

Removal of Love Grove Pumping Station.

16. I have above simply mentioned the removal of the Love Grove Pumping Station. I am aware of Mr. Cadell being of opinion that the Mahim Woods can now be utilized for residential quarters by reason of there being no likelihood of a nuisance by the Love Grove Outfall being extended far into the sea; but the opinion given by the Municipal Health Officer so far back as 1908, I beg to give below:—

Remove the outfall at the Love Grove to Deonar and render the area of five miles of the western foreshore and the land behind it fit for magnificent building area.

Utilise the existing pumps and more if necessary at different parts of the Island for lifting the sewage into a high level main.

Fill in land east of Hornby Vellard to Worli Hill on the West from Clarke Road on the South to Haines Road on the North and the B. B. & C. I. Railway on the East.

Utilise both the Railway lines for hauling the refuse from the City direct.

Erect Incinerators to destroy part of the refuse.

Fill in the land north of Ferguson Road on both sides of the Railway line north of the Island and get rid of this fever-producing area.

Abolish the B. B. & C. I. Railway from Grant Road to Colaba.

These recommendations I submit for the favourable consideration of the Committee.

The Mahim Woods.

17. I desire to add that I am fully in agreement with Mr. Cadell's views as regards the utilization of the Mahim Woods for residential quarters even if the Love Grove Pumping Station is not to be removed but that this should only be done by the Improvement Trust or under a Town Planning Act. It is now high time that districts such as Mahim must be at once developed, but it would be only just and proper that the development should be undertaken under a Town Planning Act. The area extending from Worli to Mahim should also be taken in hand side by side or as soon as it is ascertained that the Deep Sea Outfall now under construction will obviate the existing nuisance. This is also an area where the Town Planning Act should be applied. It is but fair that where wholesale development is undertaken, out of the unearned increment going to the owners of property a portion should be contributed towards the expenses of the improvement.

Electric Traction.

18. As regards the communications by road and by rail, if any kind of further means of communication will be necessary by the abolition of the railway from Church Gate to Colaba, I would suggest the same be supplied by an electric tram while the overhead railway on the East will give great facility of communication if it is brought down as far as the Town Custom House.

Removal of Milch Cattle Stables, etc., from the City.

19. One other suggestion I desire to make and that is that I trust the Committee will come to a decision that all milch cattle stables be removed out of Bombay and built and constructed on sanitary principles in some distant locality, such as Trombay, Salsette, etc., or to the extreme North of the Island, and by so doing very large areas of land will be available for the building of dwellings for the middle and lower classes of people in the heart of the City. I would also submit the great desirability of removing the Pinjrapoles, the Pauper Asylums and the like which should not be allowed to remain or to be hereafter located in the heart of the City.

Body to carry out Development.

20. As regards the bodies who should carry out these various improvements and development, I think, if to any one of the existing ones, *viz.*, the Bombay Municipality, the Improvement Trust or the Port Trust, the work should be entrusted it must be to the Bombay Municipality who may be entrusted with legal authority to enforce that no mill or factory shall be permitted to be erected except in the North-East part of the City, and that no factory employing over 100 men shall be allowed to erect the same without building suitable quarters for their

workmen. Of course the conference of these legal powers to the Bombay Municipality will not in any way absolve the Improvement Trust from their duties and functions and it should be distinctly understood that to carry the object of development and improvements the hands of the Municipality should be strengthened by a financial subsidy from Government in the way in which they have recently helped the Improvement Trust with regard to the Sydenham Road Scheme.

Sukhia Buildings, Fort,
Bombay, 27th November 1913.

NADIRSHAW H. E. SUKHIA.

OFFICE OF THE SURGEON-GENERAL
WITH THE GOVERNMENT OF BOMBAY :

Poona, 27th November 1913.

THE HONOURABLE MR. CLAUDE HILL.

My dear Hill,

With reference to our conversation on the 24th instant, I would offer the following remarks regarding the extension of medical teaching in Bombay when the limits of the Grant Medical College have been reached. The number of students, at the Grant Medical College, is restricted to 500 owing to the limited number of beds available at the J. J. and allied Hospitals. In the College class rooms facilities exist for teaching over 600 students. In the near future additional beds for clinical teaching will be required and can be provided (a) by enlarging the J. J. Hospital and (b) by making the Gokuldas Tejpal, Cama and Albless Hospitals available.

Sooner or later the J. J. Hospital must be enlarged as the accommodation has fallen far short of what is required. Situated as it is in the vicinity of large engineering works and mills, it is unable to take in the number of cases of sickness and accidents sent to it. When every bed is full, these cases have to be sent to the Gokuldas Tejpal Hospital, however urgent they may be, and this is likely some day to lead to a grave scandal. Besides being deficient in accommodation the J. J. Hospital is structurally out of date, unsuitable for the treatment of sick and a bad model to imprint on the receptive minds of students. It should be rebuilt and enlarged by adding one or more stories to it. There is no room available on which to enlarge it on the present single story plan.

In the Gokuldas Tejpal Hospital there are 120 beds, in the Cama 75 and Albless 25 (Obstetric). The two latter hospitals could only be opened to female students, but if this were done these students would probably be attracted in larger numbers than at present and the group Gokuldas Tejpal, Cama and Albless Hospitals might eventually become a female medical school. In the meantime if male students are to be taught at the Gokuldas Tejpal, it would be necessary to provide wards for the clinical teaching of Midwifery and Gynaecology.

Hostels and recreation grounds for students would be required situated within a reasonable distance of these hospitals.

If the above arrangements are carried out, they would probably suffice for some years to come, but I believe that eventually a second medical school will be necessary and this should be provided for now in the town planning scheme.

The most suitable site for such a school would be in the north of the Island to the north of Thakroorwady and Parel Convent where its hospitals would provide for the mill population to the west and south and for the residential neighbourhood which will most probably develop to the north and the east. The area required might roughly be taken as 50 per cent. larger than that covered by the Grant Medical College and the J. J. and other Hospitals. This would allow for open spaces and for the provision of recreation grounds and hostels.

Yours sincerely,

R. W. S. LYONS.

WRITTEN STATEMENT OF W. S. MILLARD, ESQ.

In the development of the Town and Island of Bombay and the particular reference to the provision of sites for Government institutions, I trust that the matter of sufficient space for the establishment of a Government Botanic Garden may not be lost sight of.

The extent of this Botanic Garden should, in my opinion, be at the lowest estimate 50 acres.

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As it will probably be impossible to find 50 acres which would be available for such a purpose within the Island of Bombay, I would suggest a site being reserved in Salsette, suitable as to position, access, soil and water-supply.

If the land south of Clerk Road is available, this might also form an adjunct of the Salsette Botanic Garden since it is more accessible to the City. This land has already been suggested as a Peoples' Park. The soil or 'filling' of this ground, it is true, is hardly suitable for such a purpose at present, since I believe it has been reclaimed with town rubbish, but in the course of time—with cultivation this would be changed, and I see no reason why such a site as this should not be utilized by a Horticultural Society of Bombay for a garden with free admission to the public to the greater portion of the Park.

Bombay City is peculiarly unfortunate in possessing no Botanical or Horticultural Garden, with the exception of the Municipal (Victoria) Gardens at Byculla, and not only would the Botanic Garden be of great use to all students of botany in Bombay and the Konkan, but a Horticultural Society, such as I have suggested, would promote the study of horticulture, and help to gather together the large number of citizens who are interested in this subject.

W. S. MILLARD.

28th November 1913.

WRITTEN STATEMENT OF VASANTRAO ANANDRAO DABHOLKAR, ESQ.,
RECEIVED WITH HIS LETTER OF NOVEMBER 28TH, 1913.

One cannot sufficiently thank the Government of Bombay for its anxiety to see that this Island is developed to such an extent and in such manners as would give sufficient accommodation to all classes of its inhabitants, at the same time making ample provision for the location and extension of public offices and institutions. Experience shows that without the creation of such bodies as The Bombay Improvement Trust or Committees under The Town Planning Act there has been a steady and progressive development in the Northern part of the Island independently wrought by private enterprises and private means. If these undertakings have to be encouraged and the development carried to perfection in as short a time as possible, it is necessary that consulting the conveniences of the land-holders, arterial and branch roads should be laid out and constructed as has been proposed by Mr. Cadell in his Scheme for the development of Mahim and the plans of which are before the Corporation for discussion. If such a scheme were brought into existence, as if with a magic wand Mahim would be turned into a prosperous suburb without being bereft of its stately palm-groves which are sources of income alike to the property owners and Government and the means of subsistence to many a poor family. The wholesale acquisition of lands by the Improvement Trust in their Schemes Nos. V and VI, Dádar, Mátunga, Sion show that such acquisition has in the first place brought ruin to property owners who were compelled first to deteriorate the values of their properties by allowing them to be under the ban of the notification thereof for ten years without being acquired by the Improvement Trust or being alienated to private purchasers though favourable prices were offered. Secondly, though high hopes were held out by these Improvement Trust Schemes of the early development of that part of the Island there is scarcely any beginning of such developments and chawls and residences for the poor are yet unbuilt even when there is space enough to erect them without undertaking any huge reclamations. No doubt reclamations are necessary in certain parts, viz., those commencing from the B. B. & C. I. Railway Mahim station on the west and G. I. P. Sion station on the east to a line drawn parallel thereto from the outlet under the Bandra Railway Bridge to the Sion Bridge. This recommended reclamation will be rendered necessary in case we fail to point out such other open areas as would enable the Government to erect Buildings for their offices and for public Institutions such as the Elphinstone College:—

Back Bay Reclamations.—With a view to providing accommodation for the erection of Government and Public Buildings and furnishing sufficient space for the construction of palatial residences for the rich and opulent it is proposed to reclaim the portion of the Back Bay to the South of Charni Road Station. Such a proposal would be welcome if the City of Bombay is unable to afford space enough to answer these wants. I undertake to point out that such a demand does not emanate from the rich and opulent in the face of the fact that Improvement Trust estates at Chowpatty and Gamdevi are lying unbuilt upon for years together simply because the upper classes do not feel any necessity for having any more palatial buildings. Further evidence on this point is furnished by a survey of such fashionable portions of the City as the Malabar and Cumballa Hills, Cuffe parade, Apollo Reclamation, Wellington Lines where bungalows and flats which could be occupied by the well-to-do classes are vacant and untenanted. Even if it be argued that this reclamation is intended for the building of chawls and residences for the middle and poor classes I say that there exists no such necessity, for by turning to the North it appears that there is already space enough to meet this contingency and if The Bombay Improvement Trust is made to push on their operations on the east and west sides of the Vincent Road there will rise buildings and chawls capable of giving cheap and commodious accommodation to the major poor population of Bombay before the reclamation is begun.

People are surprised to hear that the present—High Court Building requires extension and there being no immediate space adjoining it where such extensions could be carried out it is necessary that a new and more palatial building should be erected for the accommodation of that Court. The advocates of the reclamation seem to say that the required space would be found on the new reclamation. I take the liberty of pointing out that the Public Works Offices which almost seem to touch the High Court Building could very well be utilised as the annexé of the Court, removing the Public Works Offices to the ground now occupied by the Marine Battalion Lines. The troops from these lines may be conveniently shifted to Santa Cruz where every year they are taken for Drill purposes. Again the erection of the Building for Public Works Offices will not take as many years to complete as carrying out the reclamation and building over it the High Court Building. Taking into consideration the extensive area now occupied by the Marine Battalion Lines I am inclined to think that it could afford space enough not only for the Public Works Offices but that many more institutions such as the Elphinstone and other Colleges could also very easily find ample accommodation. Again turning southwards with Cotton Green in sight it will appear that at no distant date this extensive space will be available for many an Institution like the European General Hospital, added to this space, will again be available further area of almost half as much extent if the basin known as Arthur Bunder in front of the Grant's Building is reclaimed.

Disadvantages of Reclamation.—During the Government of Sir Richard Temple a Bombay Betterment Scheme was contemplated with the principle object of providing the City with roads running west to east for carrying Sea breezes unhindered, but for some reasons the Scheme had to be dropped till the time of the advent of the plague in the City of Bombay when all in haste The Bombay Improvement Trust was ushered in and both the Trust and Government advocated construction of similar roads and the Princess and Sandhurst Roads came into existence but if now the proposed reclamation be carried out and palatial buildings are erected thereon they will obviously shut out all Sea breezes from those portions of the Town through which these two roads run. The present Sea shore known as the Kennedy Sea Face was brought into existence by the Esplanade Fee Fund Committee completing at an enormous expense building slopes over the protecting walls for the use of people willing to offer religious homage to the Sea and otherwise going into it for baths. If the proposed reclamation is carried out these conveniences will be destroyed and people enjoying walks along the foot-path from Colaba to Chowpatty will to a major extent be deprived of the privilege. The then remaining portion of the Back Bay from Charni Road to Chowpatty will afford but a very narrow and short perambulating space to the large and ever increasing population of Bombay. Turning to the history of reclamations so far back as the early sixties we find that the effects were disastrous to the properties abutting on the Northern foreshore of Bombay and the properties in the Alibág taluka of the Kolaba district. With the commencement of the reclamation the sea began to wash away and literally extinguish valuable properties on the Mahim foreshore. The further reclamation at Colaba now known as "Cuff's parade" stimulated the ravages and further lands were washed away including the portion of the Mahim Hindu Burning and Burial Ground belonging to the Municipality. As a precautionary measure the Municipal Engineer suggests the erection of a retaining wall to stop further ravages. But surveying the Mahim foreshore it will be observed that certain property owners such as the Dyeing Mills and others have erected at a great cost similar retaining walls to save their properties but that nevertheless the Sea has not only breached them in several places, but has carried away portions thereof and no annual repairs at enormous cost can stop the inroads of the Sea. I cannot conceive how the intended Municipal retaining wall will succeed in protecting Municipal properties. This much for the present state of the things and I am afraid that when a thousand more acres are reclaimed from the Sea at the Back Bay the Sea will certainly take possession of an almost equal space by absorbing the coarts on the Mahim Sea Shore and also on the shores of the Colaba district. How far the early and further reclamations have washed away the lands at Mahim can be easily learnt by comparing the present and past Government Records such as plans and Rent Rolls from the Collector's office and this inquiry in the interest of the public is quite necessary. It will be remembered that when first schemes were fulminated for the acquisition of lands North of the Dádar-Mátunga Road, those lying between the two railway lines were also included in those Schemes: notices were served on the owners and when the Schemes regarding the lands west of the B. B. & C. I. Railway line were by a Government Resolution given up some how or other this tract of land between the two railways was made over to the G. I. P. Railway for erecting thereon Carriage and Waggon Workshops. If this land had not been so appropriated a vast extent of ground would have been available for the accommodation of the poor, yet they have done that which now necessitates Government to contemplate the proposed reclamation which I find quite unnecessary under all circumstances.

The Mahim woods and the Improvement Trust.—Apropos of the development of Mahim woods twice did the Improvement Trust try to take over the locality and twice were they baffled in their attempts, Government declining to sanction their Schemes. Notwithstanding these facts and the popular Scheme propounded by Mr. Cadell there appears to be a difference of opinion in the Corporation with regard to the adoption of the Scheme, some members of long standing in the Corporation seem inclined to advocate that these woods should be handed over to the Improvement Trust. This means a complete spoliation of the woods and the exile of the property holders and the residents of the Mahim woods. Acquisition of land means wholesale

demolition of existing buildings and groves, turning them into a vacant space to be laid out in plots for sale with roads running between. Experience has shown that the Improvement Trust has been paying very low values for the lands acquired by them for Schemes Nos. V and VI, Dadar, Matunga, Sion and after laying out plots has succeeded in selling one of them at a value twice as high as the price awarded. Previous to the construction of Vincent Road and after the construction thereof the state of the localities surrounding the Vincent Road showed a noticeable change in the nature of the buildings and the classes who inhabited them. In former times were seen huts occupied by Agris and poorer classes of Native Christians but as soon as the Vincent Road was constructed bungalows and chawls sprung at Vadala, Naigum and Sion, as well as on the Western side of the Road people began raising health camps year after year when the plague broke out, and many desired with a view to avoid annual exodus to this place to have permanent bungalows and chawls but when the land was notified for acquisition by the Improvement Trust people could not carry out their projects. The Improvement Trust has not, despite its operations for the last ten years in the Schemes V and VI, succeeded in placing at the disposal of the public the least amount of ground capable of being built upon, nor is it possible, it appears, that the Trust will be able before the end of five years next to offer to the public building sites. Being disappointed in the directions of Schemes Nos. V and VI people who desired to occupy plots in this direction and those whose properties in the Bombay Town were acquired by the Trust turned their faces to the Mahim woods and purchasing lands made their homes there. This shows that the Mahim woods are spontaneously and without any official influence developing themselves admirably. Had Government been guided by the Improvement Trust and had sanction been granted for the acquisition of the Mahim woods, when such sanctions were already accorded for the wholesale acquisition of the other Schemes in the North, *viz.*, V and VI the whole of the Northern Suburbs would have fallen in the hands of the Trust and would have been wholly closed for public use, population scattered and plantations removed. But happily Government came to the rescue of those who were dislodged from their homes by the Trust operations in the heart of the City took refuge in the Mahim woods and have admirably developed them. What would have been the state of these people if the Mahim woods had been already handed over to the Improvement Trust. Mahim woods is the one locality to which all competitors can now look for employing their funds in buildings, as that is the only place left to the public where lands can be purchased at a cheaper rate than those for which they would have to go in for purchasing Improvement Trust plots Schemes Nos. V and VI. It will be clearly seen that if the whole of the Northern Suburbs were handed over to the Improvement Trust they would quote their own prices having no rival space affording competition at lower prices. Under these circumstances I shall not be wanting in wisdom if I throw over-board all suggestions for handing over the Mahim woods to the Improvement Trust and press the necessity of adopting Mr. Cadell's development Scheme which alone is expected to make Mahim woods a well developed portion of the City with broad roads, the necessary drainage, light and water-supply.

Removal of Tanneries.—I have suggested above the reclamation of the extreme portion of the Northern side of the Island but to make such portion healthy it is only necessary that the Tanneries situated at Dharavi should be removed elsewhere. If such reclamation be not deemed necessary with a view to afford a greater open space than at present available, these Tanneries should be removed and Dharavi will at once provide us with healthy open space, open to the sea and the removal of these Tanneries will enable us to utilise the large tract of vacant lands which abuts on Dharavi Road on both the sides from Mahim to Sion station, which cannot at present be brought into use on account of the existence of the Tanneries. The residents of Sion and particularly those on the Sion Hill and places surrounding it will bear me out when I say that the Tanneries are a nuisance to those residents, owing to the unbearable stench that emanates from these Tanneries which is a sort of hinderance to people desiring to go to Sion for habitation.

Future location of the Mills.—It is a standing complaint that Mills in the neighbourhood are a source of nuisance in many ways. It is therefore desirable that no Mills in the future should be allowed to be erected in the midst of the population. Such Mills can be built in Salsette, as an evidence that such can be conveniently built, I can take the liberty of directing attention to the two big Mills at Kurla.

Why the rents have gone up?—There is a hue and cry raised on all sides that the rents in Bombay have unbearably gone high and this fact has been acknowledged even by the Government of Bombay in their letter No. 7382 of the 9th December 1907 addressed to several public bodies in Bombay. One would like to know why the rents have abnormally gone high and who is to be blamed for such a state of things. When did the rents begin to rise? Not until the Improvement Trust operations came into force. It commenced its acquisition, valuing properties on the basis of 16 times the Municipal assessment. Owners of properties whose rents were very low having actually suffered heavy losses, owners of properties all around whose rents were cheap took the hint and raised the rents so that in case of the acquisition of their properties they might get value nearly actual. Poor tenants and the owners of houses, acquired by the Trust, being dislocated sought for habitation and were forced to take up quarters at an enormously high rate of rents. For before sending them adrift the Improvement Trust had made no provision for locating them. From this it will be clearly seen that the Improvement Trust acquisition procedure has been the cause of the rise of rents in Bombay. Government seem

anxious that the development of the City should be on a line which will afford relief in point of rents and for this reason, this Committee has been appointed and I hope that the *modus operandi* of this Committee will in no way recommend the development to be carried on the Improvement Trust basis, but that they would devise a Scheme whereby people might be encouraged to carry out spontaneous and independent development without destroying properties wholesale. The development of the City being steady, spontaneous and without the influence of any body like the Improvement Trust was progressing during a period of a score of years before the Improvement Trust came into existence. The value of the properties was well maintained and the rents were reasonable; with the ushering of the Improvement Trust and the assessment of the values of the properties for the Trust acquisition and with the uncertainty as to when any portion of the City would be notified for the Trust purposes the values of properties went low and rents went high and properties became non-negotiable and could not be favourably sold or mortgaged.

"The City Improvement Trust Scheme for the erection of the Buffalo sheds."—It is a patent fact that the Improvement Trust was created to remove the congestion of the City and to improve its sanitary condition. Recently the Bombay Corporation has drafted rules for the construction and maintenance of Buffalo sheds in Bombay which in the opinion of gentlemen such as the Chairman of the City Improvement Trust are stringent so far as they would not enable the owners of the Buffalo sheds either to construct or to let them as paying concerns even on a cheap estate like that at Agripada belonging to the Improvement Trust. If the Improvement Trust contemplates leasing out any plots for such purposes I think they are deviating from the purpose for which it has been created. Government has appointed this Committee to suggest means for the development of the City in the direction of providing cheap and commodious residential quarters to the poor inhabitants of Bombay and the Agripada estate being in the centre of the Industrial quarter of the City ought certainly to be utilized for building thereon.

Necessity of a New Road and the widening of certain streets in Bombay.—It has long been felt necessary that there should be a direct straight road from the Ballard Pier meeting the Hornby Road which forms the centre of Commercial offices. This road would not only give easy access to the Pier but will facilitate all communications with the Alexandra Dock. At present all such communications are made in circuitous way through the Church Gate Street, which being narrow there is always a congestion both of vehicular and pedestrian traffic and relief is urgently required. There is another street in the Fort where brisk business is done and it is always impassable during the business hours, I mean the Meadows Street. Two more important streets which pass through Native business quarters require to be necessarily widened and they are the Abdul Rehman Street and the Shaik Memon Street. The former runs from the Carnac Road to Pydhonie and thence to Grant Road by the side of the Null Bazaar Chowky. The latter runs from the Carnac Road, meets Bhuleshwar Road and is connected with the Girgaum Back Road and thence with the Sandhurst Road. These are the main arterial roads which traverse through thickly populated business quarters always flooded with carts, carriages and pedestrians of all ages and sex.

Diversion of Traffic to Victoria Terminus from Parel, B. B. & C. I. Railway, with Grant Road as Terminus.—In my opinion it would not be advisable to divert traffic from Parel to the Victoria Terminus because passengers booked for the Victoria Terminus will have to change trains at the Parel stations with their bag and baggage causing great inconvenience and confusion. It is likewise inadvisable to make Grant Road the terminal station, for then the passengers intending to go to places in the heart of the town, *viz.*, to Girgaum, Bhuleshwar, Mumbadevi and places adjacent thereto will have to get down at Grant Road station and, thence to proceed to their destination at an extra cost. It will be observed that the number of such passengers is very large, specially those coming from Gujarát and places beyond Ahmedabad as far as Ajmere, again vegetable and milk sellers from Palghar, Virar, and Bassein who do their business at Bhuleshwar, Mumbadevi and other places get down in numbers from the various trains at the Charni Road and Marine Lines stations. Add to them students and the dealers in fish. Passengers who have to go to the Fort or the Apollo Bunder and Colaba will, if required to go to the Victoria Terminus, have either to walk on foot to their homes or places of business or hire carriages for the purpose. Thus in the interest of the public convenience it is not desirable that the passenger traffic should be diverted as suggested in the Government Resolution No. 7382, dated 9th December 1907.

Trombay vs. Salsette.—The Government Resolution quoted above seeks opinion as to whether Trombay could be utilized for residential purposes. I am not prepared to say that Trombay is or is not a healthy place for residential purposes, yet taking into consideration the conveniences of communication at present there are none. Instead of directing attention to Trombay Government will be well advised to develop Salsette as far as Andheri and Murrol and even upwards as far as Borivli on the B. B. & C. I. Railway and Ghatkoper as far as Thana on the G. I. P. Railway. For the present the development Scheme of Salsette should be stringently applied as far as Andheri and Ghatkoper on both the lines under the direct supervision of the Notified Area Committee. These places have been partially developed and the development should be carried to its completion. With the increase of local trains to both these stations people tempted to seek residences there as many have done of late. The only hardship, which places in Salsette named above are suffering from, is the scanty and costly

water-supply and this can be remedied by giving these and other near places in Salsette their own and independent water-supply. Encouragement should be given to the people for erecting residential buildings in Salsette by annulling the levy of building fines as at present enforced.

Town planning.—I am firmly of opinion that in a City like Bombay the Introduction of the Town Planning Act is not desirable and is uncalled for as there are already such public bodies as the Municipal Corporation, and the Improvement and Port Trusts which answer all purposes of development and sanitation. I would strongly recommend the application of the Act to Salsette where extensive tracts of land require to be laid out with proper Schemes.

Conclusion.—In conclusion I should like to urge upon the Committee the desirability of carrying on essential developments in Bombay and Salsette with due regard to the preservation of private properties.

WRITTEN STATEMENT OF CHUNILAL V. MEHTA, Esq., RECEIVED WITH HIS
LETTER OF NOVEMBER 28TH, 1913.

(IV) (i). In the forefront of the orders of 1909 was the erection of a large number of Chawls for the poorer classes. During the last four years the Improvement Trust have provided for 5,000 more persons, bringing the total up to 15,000 adults, which is far short of the 75,000 for whom they meant to provide. Whether Millowners take advantage of the favourable terms placed at their disposal by the recent amendment of the Act or not, the Trustees must considerably accelerate this rate of progress for accommodating the displaced poor, especially as now the Chawls show no, or, very little, loss.

(IV) (a and b). Sites for Government institutions and public institutions in which Government are interested can be provided for by Reclamation in Back Bay.

The area released by the removal of the Cotton Green from Colába may be utilized for educational institutions, such as the Commercial College, etc. Part of it will also be required for expansion of the B. B. & C. I. Railway Terminus at Colába. I do not approve of Grant Road as the Terminus for long distance traffic.

Part of it may also be utilized for locating St. George's Hospital.

Without wishing to suggest separate compartments for different grades of Society, I believe the reclamation will meet the demands of the wealthy classes and the people now residing in Fort, who will be displaced by the increasing number of offices and shops. The upper classes will always prefer to reside near clubs and places of amusement and near the centre of business, even if accommodation is made available near Worli. There appear to be good hopes of the extension of the outfall proving successful, but I regard the removal of the pumping station too costly and distant of accomplishment unless a profitable scheme for the utilization of sewage can be shown to be practicable, and so long as that is not done, the wealthy will not take kindly to Worli. Several of the richest men amongst Hindus and Mahomedans still reside in the native town, but in the near future they will avail themselves of the best residential quarters, though they may continue to retain their business in town. I do not think they will permanently live in the North of the City or in Salsette. The middle classes will tend to diffuse themselves gradually northwards, and in a body, until they have exhausted what space is available in Girgaon, Chowpatty, Gamdevi, Grant Road and Tardeo. This they are rapidly doing, and Dadar, Mahim and Matunga will be soon occupied, the lower middle classes taking up quarters near Railways and termini and bazaars, the upper ones going further out. The development of Mahim and the building of a road to the causeway should, therefore, be at once taken in hand. The road should be constructed by the Improvement Trust as originally intended, and the development should be made by the Municipality by a judicious application of town planning. Owing to the prevalence of Malaria during certain seasons, want of a pure water-supply, absence of school, etc., expansion further North will be delayed. A great impetus, however, for the popularity of Mahim as well as Salsette would be an efficient, frequent, and fast train service. Early measures should be adopted for the electrification of the lines to achieve this end.

(d) There would be no objection to restricting industries to an area in the North-east of the island, but no such prohibition should come into force until communication and other facilities are obtainable there. Matunga and Mahim should certainly be saved from further erection of factories. I think, however, the low-lying area known as Mingutwadi and the area to the east of Naigaum may be made use of, and people should be allowed to choose what sites they think are most suitable, subject to the Municipal veto which should be strictly enforced in cases of apprehended nuisance. All objectionable industries should be relegated to the North-east of the Island, and even sent outside of it.

(e) The demand for open space and recreation grounds is constantly growing, and where land is cheap it should be at once acquired. I would insist on a play ground being provided within a reasonable distance of Schools and Colleges, and the younger children must also have a small open space, even in crowded localities. For older people, I regard free access of air round houses, or blocks of houses, as of more benefit than an open space, accustomed as they are,

especially the women, to spending indoors the majority of the twenty-four hours. Wider streets acting as "lungs" are also most desirable, and the Improvement Trust must look upon their statutory power of providing open spaces and recreation grounds in their schemes as an obligation.

(f) Apart from roads North and South such as Frere and Reay Roads, Worli and DeLisle Roads, the Municipality is doing its fair share and more in regard to East and West communications in connection with laying out roads in the Sewri district and widening of roads further South. Tramway traction has not fulfilled expectations so far as long distance traffic is concerned, and it would be worth while determining by expert opinion whether another system such as a bus service would not be preferable. If such should prove to be the case, we will have to revise our idea about the width of streets. Roads 150" wide might then be an unnecessary luxury. In this connection I venture to suggest that a fair apportionment be recommended between the various bodies of the cost of all these improvements.

(V) Consideration of sentiment and expediency are opposed to the uprooting of the University buildings and Colleges. They certainly are crowded. The expansion of the University can be best attained by the acquisition of adjoining buildings. The Secretariat can be accommodated on the reclamation, along with the public Hall and other public buildings. The reclamation would be a good investment, provided the estimates of cost are maintained.

CHUNILAL V. MEHTA.

JAEFULWADI, LADY JAMSETJI ROAD:
Makim, 28th November 1913.

To

B. W. KISSAN, ESQUIRE, I. C. S.,
Special Officer and Secretary to the Bombay
Development Committee.

SIR,

For the consideration of the Committee I have the honour to forward herewith statements of my opinion based on practical experience of the past 40 years after taking the degree of L.C.E. in December 1873 as follows:—

1874-75.—Apprentice to Col. Goodfellow, Public Works Department.

1875.—Acting District Engineer, L. F. Department, in charge Buldána District, Berár.

1876.—In charge of Survey of Bhoré Ghát, G. I. P. Railway.

1876 to 1879.—Personal Assistant to Mr. Walton in the construction of Tulsi Water Works and designing in detail the New Drainage Scheme, Bombay Municipality.

1880.—Portuguese Railway Survey, in charge of Ghot Section.

1880—83.—Acting District Engineer, L. F. Department, in charge Buldána District, Berár.

1884-85.—Special Officer in charge construction of Umrooti Water Works, Berár.

1885—1888.—District Engineer, L. F. Department, in charge Akola District, Berár.

1888 to 1904.—Practised in Bombay as Civil Engineer, Surveyor and Architect and retired in 1904.

I have the honour to be,

Sir,

Your most obedient servant,
HORMASJI ADARJI KANGA, L.C.E.

Statements of opinion.

1. I will first take up paragraph 4 and paragraph 5 of 7440 of 1913:—*a.b.* It is not possible from the pecuniary point of view to remove the University Buildings, Colleges, Secretariat, High Court and other Government and allied Institutions from their present position. Consequently their present and future expansion must be on their present site. For this purpose reclamation of Back Bay opposite their site is a necessity.

2. This reclamation should be of such extent as would provide room for St. George's Hospital, quarters for Government Officers, and for those now occupying the space from Marine Lines to Church Gate on the east of Queen's Road, and also for recreation ground.

3. Only this part of the reclamation should be undertaken at first by the Government themselves as they are directly concerned for the above. If Government should succeed in doing it within their estimated amount, then the remaining whole scheme should be undertaken.

4. (c) The present need of the upper classes will be satisfied by the area of the existing Cotton Green at Colaba which will be soon vacated and the portion facing Queen's Road on the east from Marine Lines to Church Gate, as stated in paragraph 2. If the part of reclamation to be undertaken by Government is successful then their future need will be amply met by the whole reclamation and the above two sites may go to the middle classes.

5. For the middle classes, the site around King's Circle, at Dádar, and at Máhim, as detailed below, will be suitable. The best site for this class is the extensive central part of the town at Parel occupied by the workshops of the G. I. P. and B. B. & C. I. Railways. These workshops should be transferred to Sálsette: those of the former at Kurla or Kallian; those of the latter at Bándra or Andheri.

6. There is another large triangular plot between Dádar and Port Trust Loop line which being served by railways on both sides east and west would be an ideal plot for middle classes. Government lately presented it to the G. I. P. Railway (or rather to themselves). There is yet time to transfer these workshops to Sálsette.

7. Development of Mahim.

Without intimately knowing Máhim, there are many who glibly talk of cutting down Máhim woods wholesale. I emphatically say that if Máhim woods are cut down indiscriminately the rainfall of Bombay will be seriously affected which will in its turn adversely redound upon the health of its inhabitants. Again, before anything is done the representations of the land-owners, residents and ratepayers of Máhim to the Government in 1900 and 1904 should have due weight.

8. Government very wisely considered this in issuing their schemes in 1903. Now the best way of meeting the above demands as well as of opening up Máhim for the middle classes would be as follows.

9. From Dádar to Máhim there are no cross-roads whatsoever running east to west except tortuous paths which are watercourses during monsoon and except one now under construction by the Municipality from Matunga station. A series of cross-roads at regular intervals, running from the B. B. & C. I. Railway on the east to the sea-shore on the west, is an absolute necessity. They should not be more than 30 feet wide. While acquiring land for these cross-roads, frontages on each side of them to a depth of about 100 feet should also be acquired which will serve a double purpose, *viz.*, the property owners who have no outlets or only on narrow paths shall not acquire frontages on these roads free of cost and the plots formed by the above frontages will be available for middle classes. It should be clearly stipulated that not more than one-fourth of the area of each plot shall be built upon and no trees should under any circumstances be cut unless those coming within the foundation of structures. These works should be undertaken by the Municipality. The rate-payers of Máhim have borne their share of all the improvements done by the Municipality in other parts of Bombay receiving nothing in return, for the Municipality has done practically nothing in Máhim. It is high time therefore that these cross-roads should be constructed by the Municipality at their expense, selling these plots at cost price to the middle classes and in return stipulating for reserving three-fourths or more of the area as open spaces with trees. At the cost price with all sanitary reservations these plots will be soon filled.

10. I maintain that open spaces all round each building is far superior from sanitary points of view to crowded buildings and a large open area at a remote corner. No open spaces other than the above mentioned round each building are here required for purposes of recreation and health, for each cross-road would lead to the sea-shore for recreation and health. Again, there are any number of tanks in Máhim belonging either to Government or the Municipality, and when there would be need in future of open spaces, these could be filled in to serve the purpose.

11. But the success of the above scheme will much depend upon cheap and rapid locomotion, and an electric tram service on the Lady Jamsedji Road would be a necessity.

12. The scheme suggested by the late Municipal Commissioner for the development of Máhim, as far as could be judged from the scanty details published, is very extravagant and therefore impracticable from the pecuniary point of view. Take an item for instance: a park is proposed, I am told, of sixty to sixty-six acres. Acres are never introduced in land measurements in Bombay. Probably they are introduced to screen from the public the immensity of area, *viz.*, more than three lacs of square yards of valuable ground for a park which must cost nine lacs of rupees; and what a large amount will be required for its annual upkeep? The neglected condition of small municipal gardens of a few thousand square yards in the heart of the city is notorious. Will the Municipality bear an annual recurring enormous expenditure for this

large park? and what useful purpose would this white elephant serve? None whatsoever. On the other hand, a much smaller annual expenditure on the existing gardens would put them into a good state of usefulness. Why, in that amount of a useless and wasteful park any number of the cross-roads as described above could be made accommodating hundreds of families.

13. For the poor or working classes sanitary chawls around their work should be built by the large employers of labour; but they will not disgorge a part of their profit for this purpose unless compelled to do so. The mill-owners should be compelled to build such chawls on the Improvement Trust ground near their mills, the Port Trust for their dock-labourers on their own reclaimed ground, the Municipality for their working people on their own or Improvement Trust ground. The railway workshops being removed to Sálsette, the railway workmen will naturally imigrate to Sálsette (a great benefit), and the Companies should provide such chawls for them around their workshops.

14. For the above purposes the recent amendment of the Improvement Trust Act will be greatly beneficial, and it should not be allowed to remain a dead letter but must be enforced. The remaining miscellaneous working people will be very few and will easily be provided for by the Improvement Trust on their several schemes.

15. (d) The site for mills and other industries should be at the north-east part of the Island but no hard and fast rules should be made for them. Only obnoxious industries should be prohibited in the Island and allowed in Sálsette.

16. (e) Open spaces for purposes of recreation and health are required in congested localities. The Improvement Trust should be compelled to set apart such spaces in all their schemes irrespectively of the value of land. On the other hand, open space for recreation created where it is not wanted is money wasted. An instance of this is the newly filled up Gowalia Tank. All around it are bungalows having fine compounds with gardens and peopled by wealthy classes possessing conveyances to take them to the sea-shore or other distant recreation grounds. It must be thrown open for building purposes, stipulating open spaces all round each building. Rate-payers' money was spent in filling it up on the assurance that it would be utilized for building purposes. If now kept open it will simply be a present from the Municipality to the Improvement Trust for the benefit of their Gamdevi scheme and a reckless waste of the rate-payers' money.

17. (f) Government in their resolution of 1909 have judiciously provided roads running south to north along the Island. But they all run towards the north-east of the city. There is none provided towards the north-west of it. There is only one existing road here, *i. e.*, from Dádar to Bándra Causeway, *viz.*, Lady Jamsetji Road. This is the main and only artery leading from Bombay to Sálsette, Gujarát and Káthiáwár. It was constructed more than fifty years ago suitable for the then existing requirements. It now stands in almost the same condition though the traffic has increased many folds. It is urgently necessary that it should be widened to hundred feet at least besides footpaths. The cross-roads proposed in the Máhim scheme above will all cross this road in about their centre forming feeders to this main artery. No time should be lost in widening and improving it.

18. All talk, from Government downwards, for increasing means and facilities of communication; but what is the actual condition prevailing in the city north of Dádar?

19. A solid wedge of railway workshops is driven from Dádar to Máhim (Port Trust Loop line), permanently separating and barring all communication between the eastern and the western portions. A vehicle to go from west to east must either go to Máhim and cross north of that station or go to Dádar and cross at that station. Even the new cross-road which the Municipality is constructing (the only one ever undertaken and that probably for the Sassoon Reformatory) has a dead end at the Matunga station of the B. B. and C. I. Railway. I live here and know how poor people suffer owing to this evil; but they have no voice. But when these parts, *viz.*, Máhim and Improvement Trust No. V and VI schemes, are peopled by the middle classes a clamour will surely be raised for inter-communication, and what is now being constructed must be then pulled down. It is as yet time to remove this solid wedge of workshops to Sálsette and cross-roads provided for the communication between the eastern and the western parts of the city.

20. Many people propose sea-side drives and a line of bungalows from Maháluxmi to Máhim; but so long as the sewage outfall is at Worlee nothing of the above is possible. The present make-shift though costing lakhs of rupes to the Municipality will not achieve the above purpose unless and until the outfall itself is removed. I was personal assistant to Mr. Walton appointed for the construction of the Tulsi Water Works in 1876-79. During this period the drainage scheme for the whole of Bombay was evolved by us and laid before the Drainage Commission appointed by the Government in 1878-79. We conclusively proved before this Commission by practical experiments that the natural sewage outfall for Bombay from the sanitary point of view was at Colaba. Government however would not have it and forced upon the Municipality the existing outfall. The fouling and laying waste of this extensive and most lovely piece of land must be laid at the door of the Government; but the Municipality could not be entirely absolved from ruining the above site. It was a natural storm-water reservoir for Bombay. They filled it up with Bombay "kutchra" which naturally flooded the low lying

inhabited parts of the city and was rendered at the same time useless for building purposes, not to mention its ill-effects on the adjacent parts of the city. I do not know whether any experiments are conducted to show that its removal to Kurla will not defile the eastern foreshore.

21. Its removal is a necessity but its future site should be carefully selected by practical experiments so that no other part of the Island will be similarly affected. In fairness, the whole cost of its removal or at least a very substantial portion of it should be borne by the Government.

22. The inter-communication of local passengers, whose number is now enormous, on the G. I. P. and B. B. & C. I. Railways from Bándra to Church Gate and from Victoria Terminus to Kurla is a necessity. Some morning up trains from Bándra to Victoria Terminus and *vice versa*, some evening down trains from Victoria Terminus to Bándra and similarly from Church Gate to Kurla and *vice versa* would be very useful. There is no extension of the electric Tram system to the northern part of the city. The company should be compelled to extend their lines to King's Circle along Vincent Road and to Máhim along Lady Jamssetji Road if these parts are to be filled up by the middle classes.

Para. 4 (i).

23. Item 1, Government Resolution of 1909.

Very little progress is made. Unless the large employers of labour are compelled, as stated by me in my paras. 13 and 14, nothing materially will be achieved.

24. Item 2. Do. do.

This is not needed by the alignment of the new road through Mamanwáda.

25. Item 3. Do. do. *nil.*

26. Item 4. Do. do. It must remain in abeyance till the Back Bay reclamation is done by the Government, as suggested above in para. 2.

27. Item 5, Government Resolution of 1909.

Completed

28. Item 6, Government Resolution of 1909.

Not done.

29. A Town Planning Act will be useful if wisely drafted and cautiously enforced in the Mofussil, say Sálsette and other parts of the Thána district, in the first instance; but it is entirely unnecessary in the city of Bombay. I go further and say that it will create great mischief and retard improvement and development. It could not be made applicable to the whole of the city and partial or sectional application will be a great source of ill-feeling and jealousy between the inhabitants of the several wards. Again, to put it into execution a new and separate body must be created, for the existing ones, the Municipality, the Improvement Trust and the Port Trust, have all their hands full and do not cope with their legitimate works. These do not work amicably, and in their tug-of-war (with the Railway Companies thrown in) many useful and urgently needed works hang fire, remaining in abeyance for years, causing great inconvenience to the public. To create another additional body would be to make chaos complete.

30. *Sálsette*.—After the first outbreak of plague in 1896 Bombay people began migrating to Sálsette, and by this time Sálsette would have been filled and the overcrowding in Bombay entirely removed but for the grasping policy of the Government; on the one hand, Government showed themselves very anxious to assist people in residing in Sálsette, thereby preventing overcrowding in Bombay, and on the other hand those doing so were mulcted of a large sum of money in the shape of building fines to the extent of Rs. 5,000 per acre. Not content still they have transmuted these fines into permanent land tax, which is, I suppose, an increase of about a hundredfold on the original tax. Again, this tax is for a limited period of fifty years only, about a third having already elapsed; and there is no knowing that after that period Government may not again increase it several folds as they did at Mazagon. It would be very illustrative, and would serve a very useful purpose in future, if the special Office of the Sálsette Building Sites be requested to furnish a comparative list showing the old and new taxation of sites already built upon. Even one figure of the total amount of the old tax and another of the new tax of the above sites compared together would clearly illustrate what I say.

31. This pocket filling policy effectually checked the rush of population to Sálsette. The plea put forth for this exorbitant increase in taxation that buildings were built on agricultural land was ridiculous. Why, according to that plea the taxation should be lowered, as there was far greater security to the Government for the payment of their former taxes.

32. The remedy lies in reducing the tax, say on a par with Government taxes in Bombay, for Foras freehold or Pension tax land and the period extended to 999 years. Then Sálsette will be soon filled and Bombay relieved.

No. 1066 of 1913.

THE CHAMBER OF COMMERCE :
Bombay, 25th November 1913.

To

B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites,
Secretariat, Bombay.

Sir,

I have the honour to acknowledge receipt of your letter of the 15th instant in connection with the development of Bombay in which you inform me that the time for opinions to be sent in has been extended to the 30th instant, and although it has not been found possible during this short extension to obtain the views of the members of this Chamber on the important questions now to be considered, I am desired by my Committee to address you briefly on the few points which seem to them to need consideration.

Recognising the great difficulties that lie in the way, my Committee have no reason to be dissatisfied with the progress that has been made in planning out and opening up wide thoroughfares from North to South and from East to West. They attach great importance to road development from the Fort to the North of the Island, for the scheme of opening up the northern districts for residential quarters will never be successful if the people cannot travel quickly from their work in the Fort and in the Native town to their homes in the suburbs. The trade and industries of Bombay have expanded very rapidly in recent years and must continue to increase. If office accommodation is to be found in the Fort, as it certainly should be, a new area for building will have to be provided and it was with this object in view that, some years ago, my Committee suggested that Hornby Road should be connected by a broad thoroughfare with the Ballard Road. My Committee were disappointed therefore to find that in their resolution of 14th June 1909 the Bombay Government only placed this scheme as one of those that in due course would need to be considered. It is hoped that on further consideration this scheme will now be given a prominent place in the programme, for it will not only facilitate traffic and improve a congested and insanitary area but will also open up, for business purposes, a large and important district lying around Parsi Bazaar and Bazaar Gate Streets. Unless this is done office accommodation will have to be found elsewhere and this is only possible by displacing residents at and near the Apollo Bunder which is not desirable. Business quarters should centre around the Banks and the district of Fort North is the only one now available for extensions of this character.

As regards modifications of schemes dealt with in the Government Resolution above referred to, my Committee would suggest that the question of the B. B. & C. I. Railway along the sea front should again be considered. They accept the decision of Government that this Railway cannot be cut off at Grant Road as the local traffic from Grant Road to stations South is considerable and important. One of the questions, however, that they think should be considered in this connection is the absolutely inadequate accommodation for traffic provided by the present Queen's Road. Some years ago my Committee pointed out the inconveniences of this road and they would again emphasise what they consider to be a great necessity of the present time that the alternative road should be made immediately or the present road be made at least double its present width. Various schemes have been suggested in this connection but my Committee do not propose to discuss them in detail or to specially recommend any one of them. One scheme, however, is that a road should be made along the sea front with overbridges at Marine Lines and possibly also at Church Gate. Another, that the Line should be electrified and carried overhead from the Sandhurst Bridge to its terminus wherever it may eventually be decided that this should be. My Committee are inclined to think that the decision, that Colaba should remain the terminus, is a matter that might be reconsidered. If, however, the Railway could be run overhead increased road accommodation could easily be provided and the general public could be given free access to the sea face which is very desirable. The question of retaining Colaba as the terminus of the B. B. & C. I. Railway appears to have been arrived at on the assumption that long distance trains must be started from there and that as a large reclamation was to be made at the Colaba end of Back Bay the Railway would then be an inland Line instead of along the sea front as at present. If my Committee are correct in assuming that this proposed reclamation is not likely to be carried out for residential purposes on a large scale it is doubtful whether Colaba is the best place for the terminus of the Railway, for south of Church Gate Street it occupies and monopolises a large area which is capable of advantageous development.

The question, however, of a widened Queen's Road is, my Committee consider, a very important one and they hope that this point will be fully investigated and a definite solution arrived at.

As regards the northern districts all my Committee desire to say at present is that so long as the Love Grove Pumping Station remains where it is, the area around it is not likely

to be opened up for residential purposes. My Committee are aware that certain works are being carried out by the Municipality with a view to improvement, but even so it seems very doubtful if this very desirable area will be taken up for occupation so long as this nuisance remains. My Committee do not know what arrangements will be made as regards the drainage from the districts that are now being opened up in the northern part of the Island. They suggest, however, with a view to the possible removal later on of Love Grove that the drainage arrangements of new areas might be planned differently and that the sewage or effluent should not be discharged on the western side of the Island.

As regards the question put as to whether it is possible to entertain the idea of uprooting long established institutions such as the University buildings, the Secretariat and the High Court, my Committee desire me to say that in their opinion the High Court and the Secretariat must remain where they are and that as the University buildings with colleges adjacent are now where they are, they do not suggest their removal, but if the Fort is to become, as is likely, a business and shopping district, more or less, and if the people are to be induced to live in the Northern part of the Island and in Salsette, the location of the University and its colleges seems rather out of place at the South end of the Fort and the buildings would probably be more suitably placed if they were in the residential area in the north of the Island or even in Salsette. The question as to additional land for the expansion of public buildings has been considered by my Committee and it appears to them that the vacant land that will be available at Colaba within the next few years will be sufficient for present needs. Eventually, however, some reclamation in Back Bay may be necessary, but they doubt if this is an urgent matter at present. They are not, moreover, inclined altogether to agree with the argument that has been put forward in this connection, that as wealthy people desire to live near their offices a large reclamation at Colaba is necessary for houses for the well-to-do. There will always be a certain number, no doubt, who prefer to live near their work, but the great majority in the opinion of my Committee will be glad to live outside the Fort, if by road and by rail their homes can be easily reached. With the Railway electrified and the service more rapid and frequent, with an extension of the Tram service to the Northern part of the Island and with the large increase of private motor cars which is likely in the near future, my Committee are inclined to think that people will be very glad indeed to get away at night from the Fort and Colaba if suitable accommodation be provided for them to the North of the Island and in Salsette.

My Committee agree that an area should be provided for the expansion of existing industries and for any new industries that may arise and if this cannot altogether be provided to the North and East of the Island they would suggest that the island of Salsette be allocated for the purpose. It does not appear to my Committee that Mills need now be located so near the Docks as was necessary in the past when everything had to be carried in bullock carts. The new arrangements for rail-connection with the Docks will enable the mills to go further afield without any inconvenience and if they could be located in less populous districts the housing question for their hands would probably be simplified. One can only see at the present day the mistake that was made not so very many years ago when mills were allowed to be built in Girgaum and in and around Tardeo.

Another point which ought to be considered is as to whether the site at Colaba which it is understood may be decided on for the European General Hospital is under all circumstances the most suitable. In many ways it may be a desirable site, but it never can be a central one and if those who will very largely use this Hospital live, as apparently they will have to do, to the North of the Native town it is for consideration as to whether some other site to the North but not too far away from the Docks, would not be more suitable. A point, however, my Committee desire to call very special attention to is that work in connection with a new Hospital should be undertaken at once so that the present site may be vacated as quickly as possible. If this is not done it will be years before the new building is ready and a long delay is most undesirable.

My Committee are very much in favour of large open spaces being reserved for recreation and health, and regret the tendency in recent years to build on some of the vacant spaces which in the past were used for purposes of recreation.

Co-ordination and expedition in carrying out the necessary works for the improvement and development of Bombay are very essential, and as the matter is of great importance my Committee will be pleased if some scheme can be devised to this end.

I have the honour to be

Sir,

Your most obedient servant,

C. H. ARMSTRONG,
Chairman.

R. E. GREGOR-PEARSE,
Secretary.

37, Nesbit Road, Mazagon:
Bombay, 28th November 1913.

To

THE SECRETARY,
The Bombay Development Committee.

Sir,

I venture to suggest that until and unless the past mistakes in drainage are rectified the whole of the Bombay Improvement schemes will be of no use in improving the accommodation or the health of the city. Therefore, the first thing for the Government to do is to bring into existence a Civil and Mechanical and Electrical Engineers' Union to give moral and material advice in rectifying the past mistakes in our outfalls of drainage at Worlee, as exposed by the late Mr. Baldwin Latham. The outfalls are built, he said in his report, *to fight with nature* as they are against the currents of waves of the Arabian Sea and westerly breeze, which blows nine months of the year in Bombay and this healthy breeze is quite polluted by these falls. Unless you remove these from the west to east or to Colaba, Worlee will always be shunned by the better classes of people for residential purposes. It has a long and splendid seashore, which is lost to public, owing to these polluted falls. At any cost they must be removed for both space and health sakes. I remember reading in the *Times of India* some years ago that a woman met her death by drowning in the sea at Worlee, where she was staying. Her relatives and friends failed to discover her body after a very diligent search on the spot where her clothes were found. But after three days her remains were discovered by fishermen at a couple of miles distance from the Colaba Prongs Light House. This instance clearly proves that the currents of water are running from Worlee to Colaba. In the like manner the outfalls must be running and spoiling our westerly breeze from Worlee to Colaba.

2. The Bombay roads are or were made without taking into considerations the motor cars or trams. No Governor, no Councillor, or no Municipal Commissioner ever took a bird's-eye view of Bombay for its improvement except perhaps Sir Bartle Frere and Arthur Crawford. The one broadest road is necessary *all round* Bombay. The essential conditions of which should be that *one side all round should have the water* except Docks and on *the other side the land*. I beg to enclose a plan showing the road all round Bombay. This road will be the road for motor traffic and yearly Motor Car Show and Carnival and perhaps Motor Car Races and a resort for recreation.

3. As to Reclamation, Bombay needs it not for financial reasons. But very small reclamation is urgently needed to rectify, amend and smooth *all acute angles and corners on the fringes of the seashore all round Bombay*. This foreshore road should have nowhere acute angles, but wherever found should be reclaimed into obtuse ones by filling up in some cases and digging up in others *all the indentures*. This Motor Car Road, West, East, North and South, will be the pride of Bombay and westerly portion of which would be the evening drive and health resort. In this manner you can encircle Bombay Proper with a broad sea-side road with foot-paths, equidistant trees and gas lamps to be called "Willingdon Sea Side Road, North, South, East and West."

4. As to recreation grounds there ought to be one plot for every one or two miles. And roads should be made upto all our water works, namely Tansa, Toolsi, Vehar, etc., for Picnic purposes to be reached by Taxi cabs. The gathering grounds round them should be marked and fenced for picnic purposes without anybody polluting the waters.

5. All the places of all the castes for the disposal of the dead should be out of Bombay Proper, they should be removed somewhere near the Trombay or beyond Sewree. I know this is a religious question, but by postponing the same you won't make improvement in the health of Bombay. And this religious bugbear may be satisfied by proclaiming that all the existing places are sacred to the dead and are not to be deprived of; but from 1918 no dead body would be allowed to be disposed of in Bombay Proper. All the trustees of all these places should be presented with *land gratis* and Government, Improvement Trust, Port Trust and the Municipality will join in *contributing the expenses* of the new cemetery places for all castes and creeds, Hindus, Mahomedans, Jews, Christians and Parsis. Their present places will not be touched by the Government till 1918 and then the trustees to keep them intact as *cemetery gardens only for all times to come*.

6. Overcrowdings should be checked by houses to be built only of one floor and one ground floor with 6 feet of space all round, and by reducing the 3rd class fare of the railways.

7. Trams should run as far as Varsova and Baroli and the New Cemeteries.

8. Colaba, Church Gate, Marine Lines and Charni Road stations to be removed.

Please put this before the Committee and oblige.

Yours faithfully,

ARDESHIR C. POWALLA.

WRITTEN STATEMENT OF HOOSAINBHAY ABDOOLABHAY LALLJEE, ESQ., RECEIVED
WITH HIS LETTER OF NOVEMBER 29TH, 1913.

I desire to give as briefly as possible a statement in writing on the subject I am invited by the Committee appointed by Government to express my views regarding how the future development of Bombay should proceed, because I think the Committee formed as it is of some of the most capable and competent gentlemen we have amongst us, and supplied as it is with all the available information, Government has gathered in the course of the series of enquiries they have been instituting for the last five or six years while the witnesses who have gone before me have, it seems so explanatively given their views that I do not want to go over at length the same ground they have travelled. I therefore desire to confine myself to my own personal experience of what I have seen elsewhere.

I therefore simply wish to record without any comment that my views, as regards the subject matter the Committee has under its consideration and my reasons for the same will be found to be in consonance with those of the majority of the non-official witnesses who have been examined or have submitted their views, for example I am opposed to Reclamation Scheme and that building space and ground for all our needs and requirements of the present and of the near future could be supplied by—

- (a) Utilising the Hornby Vellard and the Mahim Woods.
- (b) The doing away of the B. B. & C. I. Railway from Grant Road to Colába.
- (c) By removing the Cotton Green at Colába.
- (d) By the removal of the present Government House at Malabár Point if desired.
- (e) By filling up all the low-lying land in Bombay and in its vicinity.
- (f) By acquiring under the Land Acquisition, Improvement Trust, or Town Planning Acts, such other suitable lands as may be wanted or necessary.

The lands and sites required for our present and immediate need are I believe for—

- (1) A new Government House.
- (2) Additional Secretariat accommodation.
- (3) New Colleges for women, commerce, law and medicine.
- (4) The European General Hospital.
- (5) Residential quarters for the different grades of studies.
- (6) For location of new industries and factories, and
- (7) Open spaces for the purpose of recreation and resort and roads.

Land for all these requirements I am of opinion can be easily attainable by the utilising the plots I have remunerated without resorting to Reclamation Scheme thus :—

(1) *A New Government House.*—This could be built on the Cooperage and land extending as far as the Colaba Railway Station and if necessary by removing the three gymkhanas facing the sea. These gymkhanas being taken lower just say opposite the present B. B. & C. I. Railway Offices and Church Gate Street Station, (b) at Middle Colába Land for same to be acquired if there is no Government Land there available, and (c) a magnificent Government House could be built on the land vacated by the B. B. & C. I. Railway between Charni Road and Marine Line Station.

(2) *Additional Secretariat Accommodation.*—The present Elphinstone College building should be wholly made over for the use of the Secretariat.

(3) *New Colleges.*—The present Elphinstone College should be removed into the present Sailors' House, that institution being suitably accommodated by acquisition say of the Ice Factories between the offices of the Port Trust and the British India Steam Navigation Company as a Sailors' Home should be as near the Docks and Shipping as possible. The play and recreation ground for the new Elphinstone College to be made by the removal of the Post Office stables at the back of the Sailors' Home, which should be taken into the neighbourhood of the present General Post Office somewhere on the Frere Road Estate.

(4) *The Women's College* could be erected on the present vacant military ground opposite the Sailors' Home and the Ripon Club while those of the Law and Commerce could be comfortably housed by the acquisition of Watson's Hotel. If this is not feasible these colleges can be built on the Chowpaty and Gamdevi Estate of the Improvement Trust. The Medical College can be built on the land now occupied by the barracks in Marine Lines, the small contingent of troops that stationed at Marine Lines being removed to Santa Cruz or thereabouts.

(5) *The European General Hospital.*—The present hospital must be removed from its present location to make room for the requirements of the G. I. P. and B. B. & C. I. Railways and it should be located in the site (a) that will be available by the removal of the Cotton Green, or (b) on the ground vacated by the Lunatic Asylum at Colába being removed to Poona.

(6) *Residential Quarters*.—For residential quarters for the wealthy, middle and labouring classes there will be, I think, sufficient land available after the above public buildings are provided for. On site of Government House, Malabar Point, and the five miles of sea-shore and land made inhabitable on the Mahim Woods, at Colaba, the Marine Lines and such of the plots which I have allotted as alternatives for some of the public buildings we have to build, then well-to-do can well build their residential quarters. While the middle and labouring classes will have ample ground for their use in the building scheme the Improvement Trust have on hand.

7. I am strongly of opinion that all the Industries and Factories should be built on the north-east part of Bombay and the owners and proprietors of such factories should be every factory employing over 100 hands be compelled to build suitable quarters for their workmen.

8. As to open spaces for recreation and resort and roads our Engineers will find ample vacant land not made use of for their building purpose at every corner and specially the Jail Land at Umerkhady, the Pinjrapole Site at Bhuleshwar and such other sites.

9. I know it is considered in some quarters that it would not be convenient for all passengers and goods traffic of the B. B. & C. I. and G. I. P. Railways terminating at Bori Bunder in one place. But I need only state that the E. I. and B. N. Railways of Calcutta have their traffic terminated at Howrah and from these passengers and goods have to come and be brought into Calcutta by other means of conveyance, and if Calcutta with its Railway Traffic or perhaps double the extent of ours can manage without having a Railway Terminus even within the heart of the Town surely the Bombay public ought not to complain because they can not travel from Grant Road to Colaba.

10. I would suggest in lieu of this Railway the building of a circular train line they have in Calcutta, I would take the train from Grant Road *via* Chunam Kiln or Sydenham Road and Queen's Road to join the tram line from where the Marine Line Barrack stand, at Dhobi Talao or Money School while motor buses traction, I have not the slightest doubt, will come into use for the other part of the town and the Overhead Railway, if it has its terminus near the Government Custom House, will more than compensate those who will be unable to travel from Grant Road to Church Gate by rail.

11. With the creation of these residential quarters I should like to see the Municipality building markets in suitable localities but the markets should not be merely for meat, fish and vegetables, but for all kinds of things of which people are constantly in need. They should be like the Municipal Markets of Calcutta.

HOOSEINBHOY ABDOOLABHOY LALLJI.

WRITTEN STATEMENT OF W. A. CHAMBERS, ESQ., F.R.I.B.A., RECEIVED
WITH HIS LETTER OF NOVEMBER 29TH, 1913.

I suggest that the Mahim River to the North of Dharavi be reclaimed, that the development of Salsette be joined on to the development of the island of Bombay and that Salsette should become part of the Bombay Municipal Administration.

A sea parade should be constructed from Colaba Point along the Western coast to the village of Danda; its construction would lead to the abolition of the Love Grove Pumping Station, the development of Mahim woods, the removal of the slaughter-house, and the demolition of several insanitary villages—all of which are desirable. A development such as this would place at the disposal of the public a large tract of excellent building land. The sea parade is already, in parts, constructed by the reclamation at Colaba, the road at Chowpati, the Vellard, the Bandora Sea face and a road recently made South of the Danda village. It probably would be necessary to stop the Railway at Grant Road and to remove Queen's Road further West making that road a part of the parade.

The policy—futile and expensive—of taking up set-backs in unimportant thoroughfares should be abandoned and public effort ought to be concentrated on the making of roads running, North and South, for communication and, East and West, for ventilation. A good example of the latter is Princess Street, Grant Road and Sandhurst Road and of the former Parel and Frere Roads. The obstruction to the public caused by the narrowness of Abdul Rehman Street should be removed.

All new buildings intended for industrial purposes should be constructed on the East of the Island; as to buildings of this character now in existence, the problem will solve itself as it has already been solved in Manchester. Land will so increase in value in and about the centre of Bombay that, in course of time, it will be more profitable to pull down obsolete industrial structures than to rebuild or alter them on their present sites.

It is a tempting proposal to suggest that each Mill should provide housing accommodation for its hands but there are few mills that could afford to do this and to insist legally upon it being done, would cripple an important industry. If land can be obtained cheaply, communications are convenient, and building regulations are not too restrictive, housing accommodation will be provided without the legal coercion of one industry.

Planning and building regulations should be under the administration of one authority, but the decisions of this authority should not be final, an appeal from them should lie to some higher body whose judgment after a hearing should be conclusive.

Planning and building regulations, however admirable, depend for their success on their administration and this administration must not rest on the shoulders of one overworked man or department. The policy, guiding the planning and regulations, should be under the control of one authority but the responsibility for the details should be divided among officials of experience—each appointed to one district.

W. A. CHAMBERS, F.R.I.B.A.,

Architect and Surveyor.

Bombay, 23rd November 1913.

WRITTEN STATEMENT OF DR. A. G. VIEGAS.

(a) and (b). No better site can I think be provided for Government institutions than the Fort more or less in the vicinity of the existing Government buildings. The Fort is and will continue to be the business quarter of Bombay and it is a great advantage to have the various Government offices close to the business place. As for the other public institutions such as the University and its Colleges it would certainly be advisable to locate them in quieter surroundings far removed from the bustle of the business locality specially if the University is to become a teaching body as it is likely to become soon but since the new Institute of Science has been already placed in the Fort (which in my opinion was a mistake) it will not be advisable to remove the University and its affiliated institutions far from the Institute with which they are to be intimately connected.

A good site can however be found for the new Government institutions as well as for the other Institutions in which Government is interested, in the new proposed Back Bay Reclamation, the eastern portion of which could be reserved for such a purpose. A row of Government buildings extending from the Church Gate Station to the Warehouse Bridge on the site where the railway line from Church Gate Station to Colaba is now situated with handsome facades such as only Government could afford to provide and facing the present noble Government buildings would I think add considerably to the beauty of the place. This will necessitate the removal of the Railway line from Church Gate to Colaba, but after the removal of the *Cotton Green* to Sewri this portion of the line will be of no use and the Reclamation will afford space for the existing Church Gate Station to be extended so as to provide sidings for passenger traffic only. Besides the demand for residential sites in the eastern portion of the Reclamation will be less than on the western portion of it owing to its greater proximity to the sea. Even looking at it from the financial point of view, I do not think the buildings for the new Government and other public institutions in which Government are interested will cost more if built on the new proposed Reclamation than in other suitable localities as unless it is proposed to locate them in the northern portion of the Island (where land is cheap) which is not at all desirable, any other site which may be chosen for the same institutions will be worth not less than the amount spent on the portion of the Reclamation which may be taken up for them.

As for the Reclamation it should be resorted to not only to provide land for the above institutions but also to meet the demand for residential sites for well-to-do people. It is well known that those persons whose business brings them daily to the Fort find it very convenient to live close to the Fort thus economising both time and money and this circumstance added to the beauty and healthiness of the place and the tendency of well-to-do Indians to move to better and healthier localities will create a demand for residential sites on the Reclamation. The demand for office accommodation is also increasing and the rents paid for offices being higher than for residences, many buildings now used for residential purposes are being converted into offices thus curtailing the residential accommodation in the Fort. Notwithstanding all these facts and considerations I would strongly suggest a cautious policy in proceeding with the Reclamation and instead of launching at once into a very ambitious scheme I would prefer that it should be undertaken tentatively and by instalments, so that it might be modified if so required by the light of experience thus gained.

(c). Regarding the provision of sites for the different grades of society I do not think it will be possible to definitely assign certain areas to certain classes as the population of big towns adjusts itself to different places according to its own needs and convenience. The rich classes will be sufficiently provided for by the Reclamation and the good plots available in some of the Improvement Trust Schemes. The sea front from Mahalaxmi to Mahim can also be made available for first class residences if the Love Grove Pumping Station is removed or if its nuisance is greatly minimised which I think is not impossible. For the middle classes the existing residential accommodation together with the land made available in the Improvement Trust Schemes Nos. V and VI (which I think should be solely reserved for residential purposes) will be sufficient for some time to come. A further prospective site for middle-class residences will be available in the Mahim District which is still undeveloped. I do not think, however, that it is worthwhile to incur a great expenditure in developing this locality all at once as no large demand for building sites in the locality can be expected just now and before the other available sites are built upon. A deferred scheme for the development of the Mahim District should however be prepared at present so as to avoid the haphazard way of building which is

how going on in the locality where insanitary buildings are sometimes being erected in a nigg'edly-piggledy way thus increasing the existing insanitary condition of the locality.

I do not attach much importance to Salsette as a place for middle class people to live in as owing to its distance from Bombay where these classes have to do their daily work, I do not think they will avail themselves of sites in Salsette owing to their tendency to live not far from their business places. It is true that shortly after plague broke out in Bombay there was a great rush to places like Ghaktopar, etc., but as soon as the panic subsided the tendency to move outside Bombay almost disappeared.

(d). Nothing will, I think, induce the labouring class to live anywhere else but near the factories and other industrial concerns where they work and no better locality can, in my opinion, be reserved for the expansion of the existing industries and the location of new ones than the north-eastern portion of the Island such as Dhárávi, Sewri, etc. Steps should be taken to provide residences there for the working population making it obligatory on the owners of the industries concerned to build such residences. Accommodation for these classes should also be provided near the new trade depôts at Sewri. I consider it a matter of great importance as a good deal of the unhealthiness of Bombay is due to the over-crowding of the working classes in the existing *chawls*, many of which are insanitary. It may be that the existing land in the northern part of the Island is not sufficient for all the prospective industrial concerns but land can be set aside in Salsette for locating those industries for which room cannot be found at Dhárávi, etc., but in no case should factories, etc., be allowed in any other localities than those reserved for such purposes.

(e). There is a great most urgent and crying need for open spaces in the City and more specially in the crowded parts of it and such spaces should be provided as soon as practicable. It is not necessary that they should be large but of reasonable dimensions; large new recreation grounds should however be provided in the still undeveloped localities. It is not sufficient, though necessary, to provide sanitary buildings with open spaces round them; it is also necessary that besides these open spaces about the buildings the rising generation should be given facilities for exercise and recreation.

(f). The question of developing the outlying districts of the Island involves the question of improvement in the communication between them and the business quarters of the town as without such improvement the intended development will not be of much use. A more constant and rapid train service of the two existing railway lines serving Bombay which is necessary should be electrified as far as Bándra and Coorla and the extension of the electric tramways to the outlying districts and a greater acceleration of the same will improve considerably the communication. The overhead railway projected by the Port Trust will also be a great improvement in the means of communication specially if it can be extended to such places as the residential sites in Schemes V and VI of the Improvement Trust. As for the goods traffic the linking of the Frere and Reay Roads and the extension of the Reay Road further north as well as the Eastern Avenue about to be made by Improvement Trust will be sufficient for the requirements of the trade. It is possible that other avenues of communication between the north and the south of the Island may be required later on when they can be taken in hand, but a tendency is observed to sacrifice many necessary schemes for the improvement of the existing insanitary areas in the City to the provision of these avenues and I would rather see the consideration of the provision of these avenues postponed if there is the slightest chance of their interfering with those improvement schemes which it is absolutely necessary to take in hand at once for the sanitary improvement of the City.

Bombay, 29th November 1913.

A. G. VIEGAS.

MAZAGON CASTLE :

Bombay, 29th November 1913.

To

B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites.

Sir,

In response to the invitation contained in your letter of the 12th instant, I beg to send you a brief statement of my views on some of the points raised in Government Resolution No. 7410 of the 16th ultimo.

I may start by saying that I am strongly in favour of the scheme of reclamation laid down by Lord Sydenham's Government in 1909. It may be that the immediate needs of the City do not call for the undertaking of such a scheme, but if Bombay progresses at the rate at which it has done in the past I have no doubt that some comprehensive measure of the kind indicated will have to be taken in hand at an early date. The measures which are being taken with regard to the development of the North of the Island and of Salsette do not affect the main problem and that is to find more room in the Fort for the various purposes outlined in the Government Resolution. In advocating the reclamation scheme I assume that the official estimates of the cost of the undertaking are correct. If they are, it seems to me that the scheme would prove a financial success besides solving the many difficult problems with which we are confronted. It will provide the public of Bombay with the opportunity of acquiring

magnificent residential areas at very moderate prices and bring down generally the high rents which prevail in the Fort with regard to both residential and business premises. This is not a boon likely to be estimated in view of the fact that the Fort promises to become increasingly the centre of Bombay's activities. The scheme will also solve the difficulty which Government and large public bodies at present experience in finding room for various institutions. It seems to me that unless the bounds of the Fort are to be enlarged by some sort of reclamation or other it would be impossible to provide for the growth of Government and other public institutions and the only alternative will be to remove them to another part of the Island which I need not say would create grave hardship to both the Government and the public. If the Fore-shore were reclaimed it would also be possible to create a fine university centre where the various colleges could be located in suitable surroundings and by intimate intercourse be able to promote a healthy spirit. Lastly the reclamation would add considerably to the amenities of life in the City and enhance the beauty of its natural situation. It would give Bombay a magnificent park and recreation grounds and promote the health and happiness of the people. As I have said above, the scheme may seem altogether ambitious and unnecessary at the present moment but I am of opinion that if it is not taken up now it will have to be undertaken in the near future when conditions will have altered and when perhaps Bombay will have pledged itself to other costly undertakings. It is imperative therefore that the project of 1909 should be put into execution now and that there should be no tinkering with it; the scheme to have beneficial results in the long run must be carried out in its entirety.

On the question of suitable means of communication not much need be said in view of the activities of various public bodies which have during the last few years resulted in providing Bombay with a system of roads connecting various parts of the Island with each other. It is, however, necessary that there should be a broad thoroughfare running North to South, and as the Eastern and Central avenues afford no scope for fast traffic this North and South road should not be made available for slow traffic of any description. If it is to run along the Western Foreshore it may be found necessary to join Worlee with Bandra by a causeway which would not only result in providing a straight road after leaving Worlee but would greatly cut down the distance between Bombay and Bandra. Unless some such short cut is devised communications between Bombay and Salsette will not be very easy or expeditious. Then again the present alignment of Dharavi road should be improved. There should be a straight road connecting Sion and Mabim through Dharavi village in place of the present circuitous thoroughfare. One remark I have to offer in connection with the Eastern avenue. My opinion is that its alignment should be from Elphinstone Circle running along Frere Road, Reay Road and the new Sewri Road running half on the Eastern and the other half on the Western side of the Harbour Branch Railway till it comes to the Sewri Bulk Oil Installations. Then it should be continued by an overbridge in or near Sewri village over the Harbour Branch Railway in a Northernly direction through Sewri Road and passing it behind Wadala village join a portion of old Matunga Road till it meets the King's Circle at Matunga. This will greatly facilitate traffic between the Eastern and the Central portion of the Island.

As to the question of reservation of residential areas for the different grades of society, I am of opinion that it is not possible to create water-tight compartments; it must however be borne in mind that the labouring classes must wherever possible be housed near the scene of their daily labours and for that purpose it would be necessary to find room for mill-hands in the area now occupied by mills and which in the North-East of the Island will in future be occupied by them. For that purpose large areas are even now available and some scheme should be devised whereby among other agencies cheap and sanitary dwellings should be constructed by large employers of labour. It would also be desirable to reserve Dharavi for the lower middle classes. They should be located in the area lying between the two Railways but before that can be done the tanneries at present located in Dharavi should be moved away from the Island as they serve as an effective check upon any development scheme that may be taken in that locality.

The remaining points outlined in the Resolution of the 16th ultimo may be briefly dismissed. There seems to be general agreement that new industries should not be allowed to spring up promiscuously all over the Island and that a definite area should be marked out for their location as well as for the expansion of existing industries. The North-East of the Island seems well suited for the purpose and no other seems possible. Then as to the question of open spaces for the purposes of recreation and health though ample provision has been made for this in the reclamation scheme yet it is necessary that every District should have an open space, be it large or small, which would promote its sanitation and afford some relief from the congestion which seems inevitable in certain localities. In this respect it is gratifying to note that the mistakes of the past are being recognised and a sounder policy is being gradually adopted. I have only to add that it is in the highest degree in the interest of the City and its outlying parts that the Committee should not only lay down a comprehensive policy with regard to future developments but should also recommend legislation of a character such as has been undertaken in many of the Cities of the West with results which can scarcely be over-rated.

I have the honour to be,

Sir,

Your most obedient servant,

JAMSETJEE JEJEEBOY.

MEMORANDUM SUBMITTED BY LIEUT.-COLONEL COLLIE, I. M. S. (RETIRED), TO THE COMMITTEE APPOINTED TO CONSIDER THE DEVELOPMENT OF BOMBAY.

I shall take the points referred to in paragraph 4 of Government Resolution, General Department No. 7440, dated 16th October 1913, to which I have given consideration.

1. IV. (a).—*Provisions of sites for Government institutions.*

(1) *St. George's Hospital.*—Since it was decided that this institution should be removed various sites have been officially suggested, the Sassoon Dock, the Cotton Green, the compound of the J. J. Hospital, a site on the suggested Back Bay Reclamation, Chowpatty and the Byculla Club compound.

The Sassoon Dock and the Cotton Green may be dealt with together :—

As a hospital should be easily and conveniently accessible to the people for whose benefit it exists, I consider that these two proposed sites do not meet this requirement, as they are at the extreme southern limit of the Island and would not be quickly and conveniently reached without involving considerable expense and waste of time to the sick and their relatives. The classes who seek treatment at the hospital are not only those who live in the Fort, Frere Road and the Docks, but many come from Byculla and Parel. Further, assuming that the B. B. and C. I. Railway Terminus remains at Colaba, the inmates would be exposed to a repetition of the disturbing nuisance of an adjoining railway which is so intolerable in the present Hospital.

The J. J. Hospital Compound is in my opinion barred by the impossibility of estimating the future requirements of the J. J. and the other allied Hospitals and of the Grant Medical College. The available space is very limited and expansion beyond the recently acquired limits would be financially impossible. At present the buildings are huddled together for the most part, instead of being erected round the confines of the available area. It is only a question of time when the Hospital and the original Grant Medical College building, together with other structures, must be rebuilt, and this should be done in such a manner as to make the most of the available area. The surroundings and approaches to the J. J. would be unattractive to many who benefit by the European Hospital.

The Back Bay Reclamation offers the same objections as the Cotton Green site and, owing to the prejudice of many people to living in proximity to a hospital, contiguous sites in the reclaimed area would depreciate in value.

Chowpatty may be dismissed on the same grounds, as well as "Il Palazzo" on Malabar Hill, which also was tentatively suggested.

To the *Byculla Club* compound I can see no strong objections, except that it would be very inaccessible to the Captains and Agents of ships who have frequently to visit hospital and have little time to do so.

The site which I consider most suitable, and which I suggested when I gathered that under the Reclamation scheme the native troops would be located at Colaba, is the present site of the *Native Infantry Lines*. It is easily accessible from all parts of the city and its surroundings are ideal.

2. IV. (b). *A Teaching University.*—Over 12 years ago this question first attracted my attention and then, and on several occasions since, I have both officially and in the Press urged that the matter should receive attention whilst possible sites were available.

It is now generally recognised, I think, that the University should be more than an examining body. I do not see how it is possible to create an ideal teaching University, and allow for the unknown requirements of the future, in the neighbourhood of the present University buildings. I presume that the educational University should be, at least partially, residential, and this entails not only the buildings necessary for teaching but also hostels, and the accessory and essential playing fields. I suggest that the compound of the Byculla Club, (about the future centre of our future city), is now the only available area which provides the conditions necessary for the building up of a teaching University—it will make a magnificent quadrangle. When the question of Science Teaching was first raised and, again, before the present site of the Science College and the Sir Cowasjee Jehanghir Hall was decided on, I urged that a beginning should be made with the Teaching University and that no better opportunity had presented itself than the erection of these buildings—the Sir Cowasjee Jehanghir Hall as the centre piece and the Science College as the first of the essential buildings, to be followed by others erected probably by munificent donors. As part of the scheme it was suggested that all the subjects of the first 3 years of the Grant Medical College curriculum should be taught at this University, thereby relieving the pressure for accommodation in the College site, and reserving the teaching there to the purely professional work of the last 2 years of the curriculum.

As a further part of the scheme I suggested that the Elphinstone College should be transferred to form the Arts portion of the University. By doing so, (1) the college would be removed from the most undesirable surroundings; it is possible to conceive that a teaching institution could have—and, (2), the college buildings and the adjacent land would become available for what is said to be absolutely necessary—an extension of the Secretariat. The building of the Science College in its present position appears to me a great mistake and I see no reason why, before it is too late and further expenditure incurred, the buildings in course of construction should not be adapted to Secretariat requirements.

To provide playing fields for a University erected at Byculla a portion of the projected park on the flats should be set apart.

The present University buildings can scarcely be "up-rooted" and should remain as, we may say, the business portion of the University.

3. IV. (c).—*Provision of areas for residential quarters.*—There is, to a certain extent, a consensus of opinion as to how the undeveloped portions of the north of the Island are likely to be utilised, but I am not sure that it is recognised how much building is already proceeding, or is projected, in Mahim, and that some of the newer buildings are being constructed in a manner which will, to say the least, not harmonise with the anticipated future development of that area. I suggest that a well-thought scheme should be laid down *without delay* for this area and future building controlled.

I suggest that the ultimate construction of a circular road of fine dimensions round the Island should be kept in view, taking the foreshores of Worli and Mahim, crossing Dharavi to Sion, thence to the Rowli Hill and across the present Salt pans to Matunga and Sewri.

As the city progresses from a business point of view, the population which will desire to reside in the vicinity of the Fort must necessarily increase and difficulty in finding residence at reasonably rentals will also increase. It appears to me that the only way to meet this future demand is reclamation.

4. IV. (d).—I suggest that, as far as practicable, *new industries and extensions of the present ones* should be located to the north of the Island, beyond the present city area, and there is extensive vacant land between the B. B. & C. I. and G. I. P. Railways, seen to the east as you approach Bandra, which might be considered as a suitable site for a purely industrial town.

5. IV. (e).—I raised the question in the Corporation a few years ago of provision of *open spaces for recreation* and on going into the matter it was found to be financially prohibitive in the crowded parts of the city. I still think, however, that it is practicable to take up unbuilt on land in certain localities and I suggest (a) an area to the north of Love Lane, and (b) areas to the west of DeLisle Road. Both these sites would meet the requirements of the lower classes in a densely crowded unattractive area. The Victoria Gardens are for show, not recreation.

In the areas which are at present being developed it is understood that open spaces are being reserved and, I also understand, that it is intended ultimately to utilise reclaimed portions of the flats as Parks and recreation grounds. For the increasing present and future demands of the Fort population, reclamation is the only means of providing additional open areas.

On this subject, I would strongly urge *specially reserved areas* in all open spaces for *very young children and girls*. Take the Fort at present, all open spaces are monopolised by those playing games. I have suggested that a portion of the Cooperage should be railied off and adapted for the very young, who have only the University Gardens, the streets and the sands at low tide to resort to. The grounds round the new Museum might be reserved for this special purpose and provided with the amusements requisite for children. A visit almost any evening to the Strand Road in front of the Taj Hotel will provide an object lesson on this matter.

6. (V.) In Government Resolution No. 3022, dated 14th June 1909, General Department, Government expresses the opinion that it had been "possible to arrive at a final decision" on the *question of continuing to run the B. B. & C. I. Railway to Colaba* and, whilst admitting that the removal of the Cotton Green would doubtless reduce the traffic to that station, it is advanced that there would again be an increase when the locality become residential after reclamation. It is by no means clear how the traffic is to be increased under such a contingency, because the classes who are assumed as likely to occupy that area can find no possible necessity or advantage, as far as I can see, in using the Railway—unless it be for their servants. There can be no question as to the aesthetic objection to the railway between Grant Road and Colaba and none as to the nuisance it is to the public using Queen's Road. A common central terminus at Victoria Station would be equally as convenient as Church Gate to the majority who come daily to the Fort. If necessary, and considering the absence of residences along Queen's Road, there appears to be no reason why a quick service of trams on the present Queen's Road should not run for the convenience of those travelling from Grant Road to the Fort and a new road constructed to the west for other wheeled traffic. I am not in a position to express an opinion on the requirements of goods traffic, but as I understand that the lines are being quadrupled to facilitate rapid handling and the new Port Trust Railway must, when fully working, afford considerable relief, it appears to me that this question of the removal of the B. B. & C. I. Railway and Colaba cannot be considered as finally disposed of by the Government Resolution of 1909. When this question was formerly considered I believe that the impossibility of enlarging the area at Grant Road in order to deal with goods traffic was recognised, but I suggest that on the flats between Grant Road and Mahaluximi, ample accommodation would be found. If I remember aright, it is only recently that the B. B. & C. I. Railway, applied for and obtained the sanction of the Municipality to the granting of facilities for dealing on this area with the grass traffic.

7. If Government continues to appoint Committees at short intervals to consider schemes for the development of Bombay much will be done to ensure the carrying out of well-planned projects but I suggest that periodical conferences of representatives of all the important bodies in Bombay should be held at frequent intervals, say, twice a year. In this city no finality can ever be expected—alterations or new schemes to suit altered conditions must be frequently projected, and I suggest that in the embryonic stage, before details are worked out, the projected ideas should be discussed at such conferences—it would save much waste of time and money. To my knowledge the lack of such a system in the Municipality has led to hasty, ill-directed efforts and unnecessary financial loss which could have been easily avoided.

M. COLLIE,
Lt.-Colonel, I. M. S. (Retired).

30th November 1913.

To

CUMBALLA HILL,
Bombay, 27th November 1913.

B. W. KISSAN, Esquire, I. C. S.,
Special Officer, and Secretary to the Committee
on the Development of Bombay.

SIR,

With reference to your letter of the 15th instant, I now beg to submit my views on the points raised in Government Resolution No. 7440 of the 16th ultimo. In my written statement, I do not propose to enter into details, or to treat in any particular order the various questions with which the Committee has to deal.

2. I shall first discuss the question of reclamation, for it promises to figure largely in the deliberations of the Committee. I may state at once that I am altogether opposed to any scheme for reclaiming the Back Bay foreshore. Since the idea was first mooted, no case has been made out for altering the natural lay-out of the city in the way in which it has been suggested to be done. For the various purposes for which reclamation is thought to be necessary, there is ample available land within the present limits of the city, which, in consequence, need no enlargement. I hope to show, in its proper place, that it is not necessary to have recourse to reclamation to provide residential areas, or recreation-grounds or sites for Government institutions. Another objection to the scheme is on the score of its not being financially a sound proposition. There is reason for apprehending that the official estimates of the cost of the undertaking, and the area of land which is expected to be taken up annually by the public, are unduly optimistic, and in view of the notorious uncertainty attaching to all schemes of reclamation, this aspect of the question must be carefully examined. Then again, the scheme will create an undesirable and excessive concentration in one particular quarter, dislocate all existing property values, retard the natural movement of the population towards the suburbs, and be generally in conflict with the avowed policy of the Government with regard to the development of Salsette. For these reasons, which I cannot discuss at length here, I am opposed to any scheme of reclamation, whether based on the lines laid down by Lord Sydenham's Government, or on a more modest scale.

3. Coming now to the question of provision of sites for Government and other public institutions, it cannot be denied that the necessity for these is bound to be felt more acutely every year. But with judicious utilisation of the land already at our disposal, and which in the near future will come into our hands, the problem is by no means difficult of solution. The removal of the Cotton Green from Colaba will set free an extensive area capable of housing several institutions. It will also set free large tracts of land which at present are occupied by the godowns of private owners, who will have to put up the land in the market for building purposes. Then there is room for public institutions on the Gamdevi and Chowpati estates of the Trust, and adjoining the B. B. & C. I. Railway Offices at Church Gate. Judiciously allocated, these areas will provide for the needs of the city in this particular direction for a long time to come.

4. I shall next turn to the question of providing suitable areas for residential quarters for the different grades of society. In this connection, it is necessary to point out that within the last 15 years the operations of the Improvement Trust and private owners have resulted in the creation of a large number of houses suited to the wants of the upper and middle classes. While the latter have not appreciably increased in numbers, a considerable addition has taken place to the accommodation previously available to them. If in spite of this rents have gone up, it is not because houses are few, but because people as a rule prefer the new buildings, equipped as they are with modern conveniences. The rise in rents has drawn into the market speculative builders, and induced landlords of old houses to renovate their premises and bring them in a line with modern requirements. The result of all this has been that the supply threatens to exceed the demand, and rents already show signs of falling off. An estimate of the large number of houses and flats which are lying vacant in the Malabar Hill district, and in certain areas in the Fort and Colaba will bear out my contention. But even assuming that more houses are wanted

for the better classes, the remedy lies not in reclamation, but in the careful utilisation of the resources which we already possess. The measures which the Municipality are taking with regard to the Love Grove Pumping Station will, there is every reason to hope, do away with the nuisance from which the neighbourhood is suffering at present, and render available to the upper and middle classes a magnificent area stretching from Worli right along the sea-shore. Again, if the filthy and insanitary Colaba village is cleared, an impediment will be removed to the development of the Eastern foreshore, which the shifting of the centre of the Cotton trade will place at our disposal and which the Port Trust is already reclaiming at one point. Then we must take into consideration the possibilities of Salsette, and the steady migration of the people northwards, when the suburbs have been provided with the amenities of life and rendered easy of access. This movement towards the northern part of the island must be encouraged as much as possible in the interests of the city as a whole, and any scheme which conflicts with that object must be strongly condemned. We do not want more concentration in the Fort; our chief aim should be the development of our beautiful suburbs. When these are opened up, I am confident the housing problem will not trouble the Government for some decades to come. In the meantime, let the better classes be left to themselves and let all efforts be concentrated towards providing the lower, middle and the labouring classes with cheap and sanitary dwellings. Their want is the greatest, and the various bodies charged with the administration of our city should bestir themselves to better purpose than they have hitherto done. Among other things, inducements should be held out to large employers of labour to provide for the needs of those they employ. In and around Dharavi, and in other parts in the north-east of the Island, accommodation must be found for the lower, middle and the working classes. The problem is full of difficulty but beginning has to be made. If anybody has been hit by the operations of the Improvement Trust in clearing insanitary areas, it is the poorer classes, who deserve more attention than they have hitherto received. As I have attempted to show, the situation as regards the upper and middle classes is already changing, and will show a considerable improvement within the next ten years.

5. Turning to the question of the reservation of open spaces for purposes of recreation it cannot be said that the city has been amply provided in this direction. But much has been done within recent times, and there is opportunity for a good deal more. The Oval and the Cooperage, the Esplanade and the cross Maidans and playing-grounds given over to the various Gymkhanas on the Kennedy Sea-Face would be amply sufficient for the needs of those who dwell or have occupations in the Fort, provided the pressure on these were relieved by the creation in every district of recreation-grounds suited to local wants. This has in some instances been done. The Gowalia Tank has been lately reclaimed and will serve a large population in and around the district. The Mahalaxmi Flats will in the near future form a considerable addition to the recreation-grounds in the city, and increase the amenities of life in a quarter which has been neglected in the past, but which has splendid possibilities. If in addition to this, the various public gardens which have fallen upon evil times and no longer serve their purpose are cleared and transformed into open spaces, and if as opportunity offers, small plots of land are acquired for similar purposes in Mandvi, Bhuleshwar and other crowded localities, it will be found that in the matter of recreation-grounds, Bombay offers all that the public can reasonably expect. More would certainly be welcome, but it is neither possible nor necessary to have.

6. On the question of suitable means of communication, I have few remarks to offer. Considerable progress has been made during the last few years in connecting the various parts of the city with each other, and in establishing communications with outlying districts. This has been achieved by a net-work of roads running north and south, and east and west. It is necessary, however, that the tramway system should be extended further north into the Island and should also be carried in the direction of Worli in view of the developments that may shortly be expected in that area. The railways should be electrified for local traffic, and there should be a faster and cheaper service if the suburbs are to be developed. A want that is keenly felt is that of a road to Bandra which shall do away with the necessity of joggling along the narrow tortuous lanes which one encounters after leaving Worli, and which seem to be relics of a past civilisation. Now that Worli road has been and is to be widened, the proposed road to Bandra should avoid the Mahim woods, and run all along the sea line. For this purpose, I would suggest that the stretch of foreshore between the Worli and the Mahim forts be reclaimed, and the two points being linked up, the road be made to run along the sea-front. Not only we shall thereby have a continuous drive by the sea-shore, but the distance to Bandra will considerably be curtailed, as a glance at the map will illustrate. In addition, a fine area will be provided for residential purposes. The cost of reclamation will be very modest on account of local conditions, and will be met by the sale or lease of the land. If the scheme is carefully considered, it will be found to possess advantages which cannot be lightly estimated. If the Mahim scheme, which neither the Corporation nor the Improvement Trust seems anxious to take up, is laid on the shelf, the suggestion I have made may well be considered.

7. As to the reservation of space for the expansion of existing industries and location of new ones, nothing need be said beyond that large tracts of land in the north-east of the island must be set apart for the purpose. Under no circumstances should it be possible to have a repetition of the mistakes of the past which resulted in the location of factories in residential and otherwise unsuitable areas. All offensive trades and manufactures should be moved away from the Island, and I would suggest in this connection the removal of the tanneries which constitute such a nuisance in the Dharavi district.

8. With regard to the location of the University buildings, the Secretariat and the High Court, I have only to remark that it is impossible to entertain the idea of removing these institutions to another part of the Island. They cannot be moved from their present position without causing grave hardship to a considerable section of the people. The Elphinstone College, however, in view of its cramped accommodation and undesirable surroundings, may be taken to another part of the town, where it could have a better habitation, a larger play-ground and a more congenial atmosphere to breathe. If the site selected is within easy distance from the Fort, there ought to be no objection to the removal. It would be an ideal arrangement if all the colleges and the University buildings could be grouped in one quarter, but as that is out of the question, the next best thing we can do is to see that they are in convenient positions, and not too widely scattered.

9. There are various questions which do not come directly within the province of the Committee, but which I should like to refer to in passing. For one thing, there ought to be a well laid-out marine drive all along Back Bay. I believe a project dealing with a section of the foreshore is already before the Government, but that is not enough. Few cities in the world possess the natural advantages of Bombay, and no other city with the resources which we have could have been guilty of such gross neglect. In my opinion, the money required could not be better spent than in endowing the city with a marine drive, and giving its inhabitants the opportunity of making the most of its splendid, natural situation. Wherever possible, bathing-places should also be provided. This is not merely a question of recreation, but concerns the health of the city. The attention of the Committee might also be drawn to questions concerning the removal of milch-cattle stables outside residential areas, and the reservation of sites in the suburbs for the disposal of the dead in order to meet future requirements. These are questions vitally affecting the health of the people and should receive early attention.

In conclusion, I should like to point out that it is in the highest interests of the city and its suburbs, that a more liberal policy should be adopted towards those who hold land in Salsette under a tenure from the Government. Unless the lessees are granted longer terms, it is idle to expect that Salsette could be developed by private enterprise. The present leases, I understand, were renewed some 15 years ago, and have not many years to run. In consequence, lessees from Government have no option, but to put up cheap structures and exact as high a rent as they can. While this is the case, the suburbs must develop very slowly, and no measures calculated to promote their growth will have any effect unless the Government assessment is placed on a more satisfactory basis. It is also important that private owners of land should not be allowed to buy up large areas, and sit tight over them for years, waiting for a rise in the market, and all the while paying a nominal assessment on the vacant land. Measures for dealing with such cases have been devised in Germany and elsewhere, and would be found useful here. I confess I speak with some diffidence on the subject, but it seems to me that more important than the means by which Bombay and its suburbs are to be developed is the framing of definite, well considered enactments governing the acquisition and assessment of land in the future.

I have the honour to be,

Sir,

Your most obedient servant,

H. P. MODY.

STATEMENT COMPARING DEATH-RATE OF FORT NORTH WITH CITY DEATH-RATE
(FIGURES RECEIVED WITH DR. TURNER'S LETTER OF DECEMBER 1ST, 1913).

Year.	Plague.		From all causes.		City death-rate.	Remarks.
	Attacks.	Deaths.	Total mortality.	Death-rate per 1,000 of population in Fort North.		
1903	561	498	1,403	61.11	65.09	
1904	368	334	1,097	47.78	54.99	
1905	457	367	1,348	58.72	61.54	
1906	420	304	1,378	47.83	54.07	
1907	179	134	1,125	39.09	39.56	
1908	156	113	1,144	39.75	39.13	
1909	174	131	1,033	35.89	35.66	
1910	153	114	1,126	39.12	35.72	
1911	160	129	1,082	42.59	35.69	
1912	68	51	1,045	41.14	39.77	

WRITTEN STATEMENT OF SIR DINSHAW MANECKJI PETTIT, BART., RECEIVED
WITH HIS LETTER OF DECEMBER 1ST, 1913.

Development of the Town and Island of Bombay.

I am of opinion that with the phenomenally rapid growth of the trade and prosperity of Bombay during the past few years, and with the still further anticipated increase on the completion of the new Docks, together with the sure possibility of a natural expansion being seriously hampered by the want of further land for building purposes in the Fort which, by reason of the Harbour, Railway Termini and Docks, will ever remain as the centre of the business-life of Bombay, a scheme for the provision of more building land in its near vicinity should not be any more delayed: and I believe that it should be taken in hand immediately to secure the advantage of cheaper cost before the inevitable rise of wages in the future would make it prohibitive. Experience of reclamations carried out in the City within the last generation, notably along the Apollo Bunder and in front of the Colaba Station, show conclusively the need of building areas round about the business quarter of the City; for quite a new town teeming with houses mostly occupied by business men has arisen on the empty spaces once occupied by the sea. This is surely a result which even the most enthusiastic admirer of the scheme could hardly have anticipated. Now with the mercantile population of our City being ever on the increase and with the decrease amongst the Indian communities of living on the joint family system why may we not entertain the hope of the projected new scheme turning out a success? There seems every chance of the reclaimed area being taken up soon after it is ready, to accommodate the vast influx of business men which is sure to flow during the next years to come. There would perhaps be a legitimate cause of apprehension of the scheme proving a white elephant, if the large proposed area were to be thrust on the market all of a sudden. In such a contingency the supply would certainly over-run the demand. When, however, it has been carefully computed that the scheme would be able to pay its own way even if the absorption of the whole reclaimed area by the public were to proceed at a rate as to extend the period to a considerable number of years and that too on the basis of a rate very much lower than the rate of land ruling in the Fort at present, any such apprehension cannot well be entertained. There is no denying the fact that every available space in the Fort has been occupied, the top floors as residential quarters and the ground floors as business premises, and that further accommodation there is a physical impossibility. This has had the inevitable result of forcing up rents to an abnormal degree, which has commenced to press heavily on business men primarily and through them the public. Then, again, the contemplated improvements of the unhealthy and congested parts of the Fort by the Improvement Trust would necessarily involve the demolition of many houses to allow of free air and light to the others. This will mean a further reduction in the area available in the Fort for residential purposes. All these considerations make out a very strong case in favour of the proposed reclamation of the foreshore of Bombay. Another great advantage that would accrue to the people of Bombay if the scheme were carried out and one to which I would draw particular attention is that they would have the benefit of a public park which is so essential for the health and well-being of a vastly overcrowded City like Bombay, and the want of which is such a great drawback as compared with the other great cities of the world.

Then again, the scheme would put at the disposal of the public different plots of grounds for different sports and athletic games, *viz.*, polo, cricket, football, golf, etc., etc. With the limited recreation grounds at our disposal at present we all know what an amount of discomfort and dissatisfaction is being caused among the devotees of the different games, as want of adequate room makes it impossible for all games to be enjoyed simultaneously, and one must necessarily make room for the other on certain appointed days. This, as all know, is a great drawback to the population of Bombay who realise more and more in a marked degree the benefits of physical exercise.

I understand there is a fear in certain quarters that the scheme, if carried out, would cause huge buildings to be reared on the frontage, thus completely out-shadowing the grand and stately buildings that skirt the Oval at present and prevent all breeze and light from the now existing buildings in the Fort. A careful study of the plans and the scheme laid down in detail would surely dismiss such an illusion. For it must not be forgotten that all the vast reclaimed area between the Marine Lines Station right up to the Band Stand is to be utilized towards providing a grand public park and separate grounds for athletic games. This being the case, there cannot possibly be any question of the existing buildings being in any way shut out or obscured, but on the contrary they stand the sure chance of being brought into more prominence by reason of the vast grounds right in front of them. The building area proper will only begin from the Band Stand running due South or South-West. Of course, this will to a certain extent interfere with the houses already standing in that locality. A careful and scrupulous planning and laying out of the newly reclaimed area can and should, however, minimise the interference as to be felt as little as possible. Moreover, it would not be right, for the sake of such a comparative small interest, to set aside a scheme which would confer such large and lasting benefits to the City.

In addition to all the above advantages it is proposed to have a marine drive running all along the reclaimed area. This will enable the public of Bombay to have the full enjoyment of a long drive and promenade along the sea-face without a railway running full speed alongside or the sight of a burial or burning ground to mar its beauty.

To sum up, as the scheme has for its object the provision of ample recreation grounds, side by side with adequate accommodation for housing business men in close vicinity of the main centre of business in Bombay, as its carrying out would tend to improve the contour of our Bay of which we are all so proud and would lead itself to still further beautify our already beautiful City and make it compare very favourably with the other large cities of the world by reason of its park, marine drive, recreation grounds, etc., I think it ought to commend itself to the favourable consideration of all who are concerned with the welfare and well-being of the vast population of Bombay.

DINSHAW M. PETIT.

WRITTEN STATEMENT OF JEHANGIR BOMANJEE PETIT, Esq., RECEIVED WITH
HIS LETTER OF DECEMBER 3RD, 1913.

I am strongly of opinion that the time has now come when a well-considered and comprehensive scheme for the development of the city on broad and modern lines should be brought into force without any delay. I think that such a scheme, if promulgated, will not come a day too soon; on the contrary, I am inclined to think it was a sad mistake for those responsible for the administration of the city to have allowed it to grow at random and without a fixed plan, as it has hitherto done. Now, however, the course of natural progress has to be greatly restricted if not altogether impeded, owing to the fact that what might otherwise have been considered a full and free growth of the city has to be reconciled to a very great extent with existing conditions, owing to financial and other important considerations resulting therefrom, which must necessarily play an important part in the shaping of each recommendation, however good and essential it may be on its own merits.

First of all, I am strongly of opinion that, whatever the recommendations of the Committee may be, they should be made only after a full and careful consideration of the requirements of the city for at least 50 years to come, bearing in mind the pace at which it has progressed in the past, and the accelerated rate at which, in view of its growing importance and the improvements which we see going on in all directions, it is bound to advance in the future; and if any good is to be achieved, a really bold and comprehensive scheme should be brought into effect, definitely laying down the lines on which the city shall grow for the next fifty years.

In giving expression to this view, I admit at once that for a general scheme of this character, a method should be devised by which the burden incidental to the development of the city on the lines indicated by me, should not be all cast on the present generation. I recognise that in such schemes, framed for the benefit not only of the present but the future generation, the burden should be as equitably divided between the two as possible. The only remedy is to issue 50 or even 75 years' loans, thus distributing the load in a manner which need not overburden one single generation.

Subject to this reservation, I give my views as follows on the several points raised in the Government letter:—

Educational institutions and Government buildings.—If possible, I would remove, from their present place, all the educational institutions, including the University and everything connected with it,—but not the schools—and locate them all together in an extensive area specially set apart for them in beautiful surroundings within easy reach of the city, either on the proposed reclamation on the Back Bay to which I shall refer later, or even in the suburbs,—preferably the former,—with sufficient space to provide for its growth on a very liberal scale for the next 50 years. In such a case, I would make over all the present educational institutions to the Government for Government offices, from the New College of Science right up to the Telegraph Office, and would even recommend the acquisition of the Sassoon Mechanics Institute, the Army and Navy Stores and the Watson's Hotel Building for future needs.

If, however, out of important and weighty considerations—but not merely on grounds of tradition—it is considered inadvisable to remove the educational institutions from their present site, I would recommend the removal of all the Government departments, *viz.*, the Secretariat, the High Court, the Record Office, the Public Works Department, the Old Post Office and the Telegraph Office, to a site to be specially reserved for them on the prospective Back Bay Reclamation, leaving the educational institutions where they are and handing over the present Government institutions to the University for educational purposes.

If given the choice, I would however, personally prefer the removal of all the educational institutions to a quieter and more suitable site; and rear a regular university settlement there amidst healthy and salubrious surroundings with a detached university atmosphere of its own.

Development of the north of the Island including the Mahim Woods.—The whole of the hitherto neglected northern portion of the town, and particularly the very extensive areas in the Mahim, Dadar, Naigaum, Matunga and Worli districts, which, though generally low-lying, are all very healthy and many of which face the sea, should, I think, be rapidly developed and properly laid out to meet the increasing demand for residential quarters for the different grades of society, and particularly the middle classes. The Mahim Woods in particular, I think, if properly planned out, ought to be able to supply sufficient accommodation for residential buildings for a very long time to come. But I would not altogether destroy the woods which form, without exaggeration, one of the finest plots of natural beauty we have got in the town. I would keep a fairly good portion of the woods as a large park and lay it out properly for the use of the public for recreation and other purposes.

Love Grove Pumping Station.—It would be difficult however to develop the whole of the Worli and Mahim foreshores without effectively dealing with the Love Grove Pumping Station. I would await the result of the extension of the outfall which is now being carried on by the Municipality at a very heavy cost; but in the event of this scheme proving a failure, I would once for all remove the Pumping Station from its present place either to Colaba or to Trombay, where all the sullage of the town may be first scientifically treated and then pumped into the sea.

Division of localities for the different grades of society.—I do not think it would be possible to reserve whole areas for the different grades of society, although I believe that it would not only be possible but also desirable to divide large sections and localities for the purpose. This I would do by bringing such effective and stringent building and other by-laws into force in different localities in the town as to make it impossible for people other than those for whom such localities are intended, to come and live there; thus automatically dividing localities according to grades without producing the consequent feeling of invidiousness attaching to such artificial divisions by legislation. I think a beginning in this direction could have been made very much earlier and with lesser cost. The unsightly chawls erected by the Improvement Trust behind the Hindu burial ground on Queen's road and similar other structures spread over the town in many important localities, ought never to have come into existence.

Chawls for the poor, bigaries' flats, accommodation for hackney carriages and such other necessary evils should I think be all concentrated in three or four or even five spacious spots in the town, so selected in isolated areas in different localities as to serve the needs of the city with the minimum amount of nuisance and danger to it.

Milch cattle stables I would altogether remove out of the town and locate in municipal structures specially erected for the purpose on advanced sanitary principles and let out to keepers of milch cattle under constant municipal supervision, at the same time providing proper transport and other facilities to those engaged in the trade of supplying milk to the city.

The location of the mill industry.—I am firmly of opinion that it was a very grave mistake that the mill industry was ever allowed to grow right in the middle of the city and in many cases even in the most thickly populated localities—with all its attendant drawbacks—such as over-crowding, ill-health, smoke-nuisance and so forth.

A well-thought-out and comprehensive scheme should, I think, be soon worked out to enforce the location of all future mills and other big industries in Salsette. I would allocate the enormous area north of Coorla for the purpose; but prior to prohibiting the erection of mills in the city as at present, facilities of transport, municipal and sanitary requirements, water-supply, chawls for the poor, and easy and constant communication with the principal centres of trades, such as the Docks, the Cotton Green and the business quarters of the town, must be first established. Without these facilities it would be impossible to do anything in the matter. Until this is done, however, permission for the erection of mills should be given only after very careful and mature consideration, and such permission for erection should in no case be given below an imaginary line drawn from the junction of Haines and Fergusson roads on the west to the Sewri Cemetery on the east; and even above that line, the Mahim Woods and all areas facing the sea should be reserved for residential purposes only.

Chawls for labourers.—I think the Improvement Trust should erect more chawls for labourers than they have hitherto done. It is a pity that only two mill companies have come forward to avail themselves of the facilities offered by the Improvement Trust to the employers of labour to provide housing accommodation for their workmen in close proximity to their factories. I recognise that the offer of the Trust is a distinct advantage to the industry in the long run; although it cannot be denied that to many concerns for the moment it would mean a very serious drain on their limited resources. For this reason and owing to other considerations, I am of opinion that it would be undesirable in the highest degree to make it obligatory on the employers of labour to erect chawls for their employees.

Provision of open spaces.—If anything has been neglected in the past to an extent which may without exaggeration, justly be characterised scandalous, it is the provision of sufficient open spaces in the town for purposes of recreation and health. Our city—great and advanced though it is in many other respects—is woefully wanting in this most important need; and I have no hesitation in saying that for this extremely unsatisfactory state of affairs, both the Municipality and the Improvement Trust are to blame. This is one of the most vital questions

in the health and well-being of a big and growing city like ours, and cannot be overdone. Whenever and wherever possible, I would keep large areas as open spaces all through the town, and even provide for additional and extensive spaces in the proposed reclamation. I would convert the flats into a large and extensive garden, and always keep it as such. I would also lay out a fairly large portion of the Mahim Woods for recreation purposes, and provide at least half a dozen such other large open spaces in different localities in the town for similar purposes. The encroachment on a portion of the Christ Maidan made by the row of houses on New Marine Lines under the auspices of the Improvement Trust, was a grave mistake; and should never have been allowed.

Means of communication.—The question of the provision of suitable and rapid means of communication must be satisfactorily grappled with before anything of value can be achieved in the development of a city; and what is true of all big cities is all the more so of Bombay, owing to the fact that this important consideration has long been neglected. It must be admitted, however, that of late the Municipality and the Improvement Trust between them have been doing all that they can to advance this object. The linking of the Frere Road with Reay Road and DeLima Street with Sewri Road and its continuation further North; the widening of Memonwada from Crawford Market and its prolongation right through Parel Road to Mount Road and King's way; the widening of DeLisle Road to Sankli Street right up to Bandra; and the improvement of Worli Road to Bandra, will, I think, establish four main channels of communication between the North and the South. The improvements already undertaken in this direction should be completed at an early date.

I am of opinion that convenient and easy means of communication between the East and the West are being sufficiently attended to by the Municipality at present; and hope that these efforts will not be relaxed. I consider a road from Ballard Pier to Hornby Row a necessity. It will have the effect of relieving the congestion of Church Gate Street and also of diverting heavy traffic going towards Hornby Row, I would connect Worli Point with Bandra Point either by a strip of reclamation or by a bridge; and if I may incidentally speak of Salsette in this connection, I would also connect Danda with Jui. Reverting to the city, I would have a straight drive to Bandra from Hornby Villard by an outer road. I would also have a fine wide road running, if possible, along the sea face, all round the city, beginning with Colaba Point and joining Cuffe Parade, then along the new proposed reclamation to Chowpatty, then below the line of bungalows at Walkeshwar round Government House to Nepean Sea Road *vid* Warden Road to Hornby Villard, and then *vid* Worli to Bandra; and similarly on the other side, wherever possible, up to Coorla. Although the cost would be something prohibitive, I think it is a scheme worth considering and undertaking, if it is possible to do so, by spreading out its cost over a number of years, and by co-operation between the Improvement Trust, the Municipality, the Port Trust, and the Government as representing the interests of Salsette.

Development of Salsette.—Side by side with the development of the city, efforts should also be made to develop the beautiful suburbs to the North of the Island, particularly Andheri, Jui and Versowa. Substantial facilities of communication and in other directions, granted to the public in the development of these suburbs as residential localities, would, in my opinion, more than repay the cost involved; and would indirectly benefit the city to an extent which cannot be overrated. It must be sorrowfully admitted, however, that the Government has not only done nothing in this direction but has in my opinion imposed serious disabilities in the way of the growth of these and other suburbs. The imposition of heavy building fines, the reduction of the period of the leases to 50 years, and the enhancement of railway fare, are three of the worst instances in point.

I am strongly of opinion that a vigorous attempt should now be made to develop the suburbs in every possible way, all building fines and other disabilities should be removed, a quicker and more regular train service should be established and communication by tram should be introduced in the suburbs. It should be possible to have at least half a dozen trains running between Andheri and Bombay per day either way, covering the distance in not more than 10 minutes.

Reclamation.—On principle, I am not opposed to reclamation; and am of opinion that, if found necessary, it should be by a single scheme of considerable size to be carried out all at once and should provide for the requirements of the city on a liberal scale, at least for the next 50 years. I am of opinion, however, that it must be laid down definitely that once such a scheme is sanctioned and put through, there should be no further reclamation at least for a period of 50 years after the completion of such a scheme.

What the area to be reclaimed should be, how it should be used, what portion of it should be used for recreation purposes, public buildings, residential quarters, etc., are matters of details, and can, I think, be settled when once the general question is decided upon, as to whether there should be reclamation on any very large scale or not. I would not, for various reasons, leave much space for residential quarters in the proposed reclamation; as I think there is sufficient space available in many very desirable parts of the town.

The cry raised in certain quarters of the alleged urgent necessity of having sites for residential quarters near the business centres of the city, is in my opinion a hollow one. The site of the Colaba Cotton Green which is shortly to be removed to Sewri, and the site now

occupied by the Colaba Station and its yards, the removal of which I strongly advocate ought, I think, to suffice for a very long time to come for residential quarters required in the vicinity of the business quarters of the city.

The B. B. & C. I. Railway.—I think the B. B. & C. I. Railway should stop at Church Gate; and that Grant Road should be made the terminus for heavy goods traffic.

Development of Fort North.—If resources permitted, I would open up Fort North and convert as large a portion of it as possible into office quarters. Though prohibitive, yet perhaps an ideal scheme—to be thought of at some future date would be the conversion into office quarters of the entire rectangle that would be formed by Hornby Row on the one side, Frere Road on the second, Bhatia Baug and the New Post Office on the third, and an imaginary line drawn from Church Gate Street to the Town Hall on the fourth.

In conclusion, I must add that in making the foregoing suggestions, I have not considered the question of cost; nor even whether it is the Municipality or the Bombay Improvement Trust or the Port Trust or the Government that should undertake any of these recommendations. These questions must, in my opinion, be left for subsequent settlement.

JEHANGIR BOMANJEE PETIT.

D. O. No. 5356 of 1913.

BOMBAY BACTERIOLOGICAL LABORATORY, PAREL:
Bombay, 3rd December 1913.

Dear Mr. Hill,

I have been reading with great interest the remarks and recommendations made by the various witnesses examined by the Bombay Development Committee of which you are Chairman. I have for long taken a keen interest in the city, for my work with the Plague Research Commission and the Committee appointed by Government to enquire into certain matters connected with the prevalence and causation of malaria and other fevers in Bombay enabled me not only to see the condition of various parts of the city but to study defects in its development. I did not write to you at an earlier date because I was so much occupied with my official work that I could not find an opportunity to do so. The evidence given by Mr. Chrystal, Mr. Bharucha and the Chamber of Commerce, however, has so stimulated me with enthusiasm for my old scheme that I am taking the liberty of drawing your attention to the report of the Committee appointed by Government in Government Resolution, General Department, No. 1772 of 23rd March 1906. This Committee sat for nearly two years. Bannerman was Director of the Laboratory at the time the Committee was appointed, but when I acted for him I joined the Committee. One of my first duties on the Committee was to read over carefully the large amount of evidence that had been collected and as the Committee had been sitting for many months I placed before them a minute in which I summarised the evidence they had amassed. I suggested that a report should be drafted on the lines of this summary. This was agreed to and I was asked to prepare the report, the original copy of which I now send you, being the only one in my possession. I trust you will excuse its untidiness and the fact that it is written in manuscript.

The first part of the report has little bearing on the subject that your Committee are considering: it is mainly concerned in pointing out that apart from plague, the health of the city has not deteriorated. The last section of the report, however, deals with matters which are of interest to you, *viz.*: the measures for the improvement of the city which in the opinion of the Committee require to be carried out immediately. These have been summed up in the conclusion of the report as follows:—

(1) The duplicating of the Tansa main and the conversion of the intermittent supply into a constant one.

(2) The abolition of the halalkhore system for the disposal of night-soil and the adoption of water carriage system.

(3) The removal of the sewage outfall from Love Grove to Deonar where the sewage would be treated by precipitation before being passed into the sea.

(4) The abolition of the railway kutchra siding on the Tardeo flats and the erection of refuse destructors and depôts on suitable sites. The removal of such refuse as cannot be disposed of in this manner by electric tramway to Deonar.

(5) The opening out and development of the districts known as Tardeo, Mahalaxami and Worli by encouraging the expansion of the city in this direction and thus relieving the overcrowding of buildings and people which at present exists in certain parts of the city.

This summary expresses my personal opinion as to how the city should be developed and improved in the future. It however does not deal with certain matters which seem to be

of immediate importance to Government, *viz.*, the position of the University, the Secretariat and the St. George's Hospital. With regard to these points I am of opinion :—

(1) that the B. B. and C. I. Railway should end at Church Gate Street Station and that all sidings for shunting, etc., should be situated in the large area allocated to the railways at Parel and Dadar;

(2) that the University should remain where it is, that the present Secretariat should be made over to the University and that the buildings in proximity to the Secretariat (Watson's Hotel, Army and Navy Co-operative Stores, Elphinstone College) should be acquired by the University for future development. Further expansion might take place on the area occupied by the Colaba Station and sidings;

(3) that the new Secretariat buildings should be erected on the site of the Cotton Green and the various godowns which will be abandoned when the Cotton Green is removed to the north of the Island;

(4) that the St. George's Hospital should be removed to Parel Government House compound. My reasons for this proposal are that (a) there is no site in the Fort which is healthy, that is free from malaria. The Medical Officer in charge of St. George's Hospital is greatly handicapped in his work by the fact that both the patients and his staff frequently suffer from malaria contracted in the hospital; it is very desirable, therefore, that some site should be selected such as the one proposed at Parel which is comparatively free from this disease. (b) Parel compound is as near to the docks and the mills as the Fort. The majority of the patients in St. George's Hospital come from the docks or mills, a few also come from Byculla where there is a large, comparatively poor European population. (c) If the Northern and Western parts of the Island are developed for residential quarters the proposed situation of the hospital will be more central than any in the Fort; at Parel the main roads from all parts of the Island converge.

In conclusion I am in favour of the construction of a road along the sea face parallel with Queen's road to join the existing road in front of the Improvement Trust's reclamation at Colaba and the road in front of the Wilson College at Chowpaty.

I will be pleased to appear before your Committee if you so desire.

Yours sincerely,
WM. GLEN LISTON.

To

B. W. KISSAN, Esq., I. C. S.,
Special Officer and Secretary to the Committee.

Sir,

I have the honour to submit my views as follows in reply to your letter of the 2nd October last.

Provision of site for Government Institution.—The whole area between Mayo Road to the West and Esplanade Road to the East between the P. W. D. offices and the site for the College of Science should be sufficient for all present needs and for future expansion.

The whole frontage in Mayo Road has not a single property belonging to a private owner.

The High Court and the Secretariat need not be uprooted and could not be removed to a better site.

It will not be difficult to purchase the properties of private owners in the area fronting the Esplanade Road like Watson's Hotel or Treacher & Co.'s Building where it may be necessary to acquire them.

Institutions in which Government are interested.—All our colleges and educational institutions with all their appendages and adjuncts, such as hostels and play-grounds, should be located in one suitable area. It is impossible otherwise to remedy that want of corporate university life and association to which the Vice-Chancellor has drawn attention.

Such a location must be free from the noisy distractions and undesirable surroundings of a busy and giddy city like Bombay. We have an ideal site on Trombay Hill in our vicinity for the purpose. It stands apart and yet not far away. It may easily be connected with Bombay by a road or bridge over the narrow portion of the creek between it and the Matunga Salt pans. It is a very salubrious site. The area of Trombay Hill including Mawal Hill is close upon 2,500 acres or nearly 4½ square miles and will provide ample accommodation for all present and future needs.

No doubt the Rajabai Tower and the Cowasji Jehangir Hall cannot be removed. But they may remain for the purposes of the annual Convocation and the Senate and Syndicate Meetings. So far as the students are concerned they do not appear to have entered largely into their life and habits.

1. *Provision for Residential Quarters.*—The Lovegrove pumping station is a monstrous imposition from which our city ought to be speedily and permanently relieved. If the authorities cannot remedy the evil that results from it they must remove the station altogether, as has been frequently proposed.

If this is done we will have at hand a magnificent sea front for the residences of the wealthier and upper middle classes.

(a) *Malabar Hill to Mahalaxmi.*—The shallow foreshore from Petit Hall to the Mahalaxmi Temples can be easily reclaimed and at moderate cost. This will give an area of about 2½ lacs of square yards for healthy and desirable residences.

If the battery at Mahalaxmi cannot be removed to the edge of the reclaimed portion the reclamation need not go beyond the battery site.

(b) *Mahalaxmi to Worli.*—The low lying area to the east of the Villard if properly filled in with earth and not with *kutchra* will give a fine stretch of land open to the sea breezes about a mile and a half in length.

The residences should be restricted in height as in Marine Lines.

The area behind the residences up to Clark Road can well be utilised for Park or recreation grounds. The road should be widened by adding the ride to the Villard Road.

The road to Worli beyond the Villard is already being widened as far as the Bridge over the storm water channel near Cleveland Bunder. This should be completed and extended right across Worli village. Such a road is essential for fast motor traffic which will make the site easily accessible for business men from the Fort. Parallel to that road to the east there may be provided if necessary a road for carts and slow traffic. The land there is so cheap that it could be acquired for the purpose at no great cost. The whole of the foreshore from the end of the Villard to Worli village will be an excellent site for rich residences.

The Worli Hill should be and could be easily removed so as to give better access to the sea breezes to the flats to its east. It is already being removed for the purpose of filling in low lying ground.

The Worli village ought to be removed. During the cold weather the smell from dried or drying fish is a great nuisance. Its removal will give an addition of three lacs square yards for desirable residences.

(c) *Worli to Mahim*—A portion of the Mahim Bay from the Worli Village to the Fort at Mahim can and may be easily reclaimed to the extent of 600 feet seawards and added to the Mahim Woods giving a most healthy site for richer residences. This will add 12 lacs square yards at a moderate cost.

The question about the Mahim Woods will no doubt be considered with due regard to the complaints submitted to Government by the land owners and residents and rate payers there. They estimate the loss by the removal of the toddy palm trees at 20 lacs of Rupees to the owners and at 12 to 15 lacs of Rupees to the Government. They add that it will entail a loss of livelihood to nearly 30,000 persons out of the 1,500,000 who form the population of Mahim.

The Reclamation proposed above will be free from this difficulty and hardship. If it is made, a road skirting the sea, like the one near the Cuffe Parade, from the Worli Village end to the Bandra Cause Way at its South end will provide a good drive and bring the reclaimed areas within easy distance from the Town.

No doubt the Mahim Woods cannot be left as they are. The labyrinth of lands and narrow zig-zag roads is quite discreditable. The Town Planning Act should be put into force there without delay to remove this labyrinth and displace it by good roads and to prevent the extension of disorderly buildings which threaten to injure a very valuable site.

(d) *Worli to Danda.*—The distance from the Worli Village end to the Lands End at Bandra, is about a mile, in the sea. A road connecting the two points like the Bandra Cause Way and running parallel to it will bring the whole foreshore from Bandra to Danda within easier distance, as it will be only a five minutes motor drive from Worli to Bandra.

From the Lands End at Bandra to Danda there is already a road which may be widened if and where necessary. It extends along a beautiful foreshore about two miles in length which will add another splendid site for residences for the rich and the upper middle classes without any costly reclamation.

(e) *Danda to Juhu.*—The foreshores at Juhu is about 2 to 2½ miles in length and Mr. Meade in his Report on Salsette recommends it as a most healthy site. The late Mr. Jamssetji N. Tata—perhaps the most clear-sighted and far-seeing of Bombay's citizens, spoke of it always with enthusiasm and attributed its neglect, which he thought reprehensible, to want of knowledge and want of enterprise.

There is an existing road from Danda Point to Juhu but it is under water at high tide. The distance is only 1,600 feet, or about a third of a mile; and a high level road or a bridge could be built at no great cost.

We may thus have another extensive and magnificent sea front for residences, at no great distance from Bombay. From Worli Point to Juhu *via* Bandra and Danda the distance will be only about 3½ miles (Juhu to Danda 1,600 feet or one-third mile; plus Danda to Lands End, Bandra, 11,000 feet or 2 miles; plus Lands End to Worli Point 5,200 feet or mile one). The

road will be free from cart and other slow traffic. With the help of Motor Vehicles we can drive from Bombay to Juhu more pleasantly than our forebears drove from Government House Road, Parel, *vid* Bhendy Bazar and Kalbadevi to the Fort, or from Malabar Hill *vid* Girgaum and Cheera Bazar and Dhobitalao.

Back Bay Reclamation.—It is important to consider if with the above available resources the Back Bay Reclamation will be necessary or advisable.

The Government Reclamation Scheme is undoubtedly a very alluring one. Perhaps we may keep dreaming of it with advantage for some years. When it becomes a necessity Government will have the benefit of public support which at present is obviously lacking. It might be that the associations surrounding the Back Bay Reclamation Scheme are still too unpleasant to permit the public mind to view and discuss any similar proposal without distrust and gloomy forebodings. But the fact remains that public opinion is against the scheme and that is a disadvantage. Probably when another half century has rolled by, Bombay may view the scheme differently and Lord Sydenham's vision of a larger and more beautiful city may come to be realised with greater good-will and appreciation, and with great advantage.

But if the proposal submitted above for availing of the existing resources within our city's reach do not commend themselves to the Committee's approval, or are considered insufficient for the needs of the present and of the near future, then the scheme of reclamation may be carried out along the lines of least resistance as follows without detriment to its complete fulfilment subsequently.

A portion of the foreshore in Upper Colaba from a point opposite the Afghan Memorial Church to the South as far as Colaba Point should be first reclaimed. This is a shallow rocky foreshore and the cost of reclamation will not be so great as that for the reclamation of the portion from Marine Lines to near the Afghan Memorial Church. The reclamation in this portion may at present extend from the foreshore as far as the 150 feet avenue in the Government Reclamation Scheme. The site for Government House may be reclaimed wholly.

If with the above the Cuffe Parade Road is extended straight towards Colaba Point to meet the 150 feet Avenue Road near the Point opposite the Afghan Memorial Church a great deal will be done to meet the more urgent requirements for the present.

The area thus reclaimed will, according to the calculations provided in the Government Reclamation Scheme, furnish a large number of plots for residences for the richer class.

The changes which the removal of the Cotton Green must entail will afford more than sufficient space for residential quarters in Colaba as will be seen from the following:—

(a) Between Ormiston Road in the North, the Arthur Basin in the South and the Colaba Causeway to the West there will be a vacant portion of what is now the Cotton Green measuring 20,000 square yards.

(b) Between the Grant's Buildings in the North, the Sassoon Dock in the South and the Colaba Causeway to the West there will be an available area of about 200,000 square yards. This area includes at present the following:—

(1) Open Cotton Green belonging to the Colaba Land Company.

(2) Pucca built godowns belonging to the same Company which will be useless and unnecessary when the Cotton Green is removed and which stand on a very valuable building site.

(3) The Colaba Village which was one of the insanitary areas to which the late Mr. Harvey, when Municipal Commissioner, drew the attention of the Improvement Trust.

(4) The Gun Carriage Factory buildings belonging to Government. Since the removal of the Gun Carriage Factory the buildings are no longer required for their original purpose and may be acquired from the Military Department which is in charge of them.

(5) Godowns and presses belonging to the Colaba Land Company and other private owners. There will be no necessity for them when the Cotton Green is removed and they will afford good building site for residences.

(c) There will be available a further area of about 75,000 square yards between the B. B. & C. I. Railway Goods Yard in the North, the Chanda Ramjee Mills in the South and the B. B. & C. I. Railway Line to the West. This area includes vacant land vested in the Improvement Trust, vacant land belonging to the Colaba Land Company, and godowns belonging to private owners in Pasta Lane. These godowns will be useless and unnecessary also after the removal of the Cotton Green.

Reclamation of the Eastern Foreshore, Colaba.—If necessary the whole of the foreshore from the extreme South-East point in Sassoon Docks till the Pilot Bunder can be easily reclaimed, as it is shallow and rocky. The Port Trust has already commenced some reclamation there. Beyond the Pilot Bunder again towards Colaba Point there is a further rocky foreshore similarly reclaimable as and when necessary.

Every need for desirable residences in the vicinity of the busy quarters can be met now and for the future by taking advantage of the above available resources without exorbitant cost.

Provision for Residential Quarters.—For the middle class generally the Improvement Trust Schemes 5 and 6 will amply provide healthy and desirable residences.

In addition to this the area to the East of the Mahim Woods—when Mahim is brought under some sort of Town Planning Scheme—will be available to a great extent.

If the tanneries in Dharavi are removed there will be a further extensive and healthy area available for residential quarters. At present there is a zig-zag road between the Mahim Station on the B. B. & C. I. Railway, after crossing the Railway Line, to the Sion Station on the G. I. P. Railway. This can be easily displaced by a straight broad road from Mahim to Sion adding to the foreshore on the Mahim River a large portion of the space which is now to the South of the zig-zag road. Some small reclamation in the Mahim Bay nearest to the foreshore on the Mahim River will then provide a very desirable site for residences open to the sea breezes. This area lying between the two Railway stations—the Mahim Station on the B. B. & C. I. Railway and the Sion Station on the G. I. P. Railway—will be within easy reach from the Town. There is a large low-lying area in Dharavi South of the present Dharavi Road and extending to the Mahim Loop of the Harbour Branch Railway which needs reclaiming. It will give another extensive site for residence with a public park and recreation grounds. A new Railway station half way between the Sion and Matunga Stations on the G. I. P. Railway will make this area more easily accessible from the Town.

The Working Classes.—The Cotton Mills occupy a large space in the centre of the Island. If we take the Curry Road Station on the G. I. P. Railway as the centre and make a circle with a radius of 1 mile we find 55 Mills within that circle and about 10 more Mills near the border. There are large vacant spaces within this circle which are not desirable for residences and which ought to be utilized for the housing of the mill-hands and other factory employes.

Reservation of space for Industries.—It is obviously not desirable to allow the further building of mills or factories in the centre of the Island. These should be confined to the East of the Island. The salt pans which extend from the Bulk Oil Installation at Sewri to the extreme limits of the Island in the North, where the Durcan Causeway connects the Island with Coorla, will afford a large area which may be reserved for the Mill and other industries in future.

The Harbour Branch Railway divides this area East and West. The Eastern portion should be reserved for the mill and other factory buildings and the Western portion should be reserved for the mill-hands and workmen in other industries. The Harbour Branch Railway will facilitate traffic with the Docks.

The Tata Hydro-Electric Scheme also runs through the salt pans.

Excluding the portion acquired by the Improvement Trust for Scheme No. 6 this area will measure over 70 lacs of square yards.

The cost of the land in this area will be cheaper than in other portions of the Island. When Government acquired some land for the construction of the Harbour Branch Railway in the Northern part of the area the Collector awarded 4 annas per square yard to the owner of the Salt Pan Land. The price will be higher of course as we go nearer to Sewree. The land will have to be reclaimed but the basin is shallow and reclamation will not be costly. This should be done by the prospective purchasers at their own cost.

I have the honour to be,
Sir,
Your most obedient servant,
H. A. WADYA.

No. 302 of 1913.

To

MILLOWNERS' ASSOCIATION:
Bombay, 4th December 1913.

B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites,
Secretariat, Bombay.

Sir,

I am directed to acknowledge receipt of your letter No. 3013, dated 17th October 1913, together with a copy of Government Resolution No. 7440, dated 16th idem, in connection with the development of the town and Island of Bombay.

I am to state in reply that my Committee are unable to submit their views on the majority of the proposals, because of the diversity of opinions which exist among the members, but on

one or two points there is unanimity, and my Committee's recommendations under these heads are as follows:—

(i) In connection with (d) of the 4th paragraph of the Government Resolution above referred to, my Committee are of opinion that it is desirable to allot areas outside congested districts for the mill industry, but they submit no Act should be brought into force compelling Millowners to erect new mills within such area, until proper road communications and other facilities for the conveyance of labour, etc., have been established. So far as other industries (such as the leather trade) are concerned, it is felt they should be located outside Municipal limits.

The area suggested for the mill industry is to the north of a line drawn from Ferguson Road on the west to Sewri Cemetery on the east, excluding Mahim woods and the foreshore, which will, it is understood, be utilized for residential purposes.

(ii) Another recommendation my Committee wish to put forward is in connection with the proposals contained in Government Resolution No. 3022, dated 14th June 1909. Herein it is stated that the Governor in Council considers certain measures should be adopted at once, and the first of the measures is the erection of a large number of chawls for the accommodation of the poorer classes.

My Committee understand that some 1,200 odd rooms have been erected since 1909, but in their opinion this number is not nearly sufficient to meet the requirements of the case, and they recommend that the Improvement Trust's efforts should be directed towards increasing the number of chawls as soon as possible.

(iii) Regarding the Love Grove Pumping Station, my Committee are of opinion that considering the whole history of this question it would be inadvisable to criticize the present scheme until it has further developed.

I have the honour to be,

Sir,

Your most obedient servant,

R. E. GREGOR-PEARSE,

Secretary.

WRITTEN STATEMENT OF R. J. KENT, ESQ., A.M.I.C.E., RECEIVED
ON DECEMBER 5TH, 1913.

Government Resolution No. 7440, dated the 16th November 1913, appointing a Committee to enquire into certain matters relating to the development of the Town and Island of Bombay.

I regret that I have not the time at my disposal to do more than briefly express my views on the points mentioned in the above Government Resolution. It will be convenient to deal with the several points in the order in which they appear in the Resolution.

(i) *The progress made in the Execution of the schemes formulated in 1909.*

Of the six measures deemed of permanent importance at that time, the first mentioned is "the erection of a large number of chawls for the accommodation of the poorer classes."

The progress made by the Bombay Improvement Trust in the erection of chawls has not perhaps been as rapid as the urgency of the question demands; but what work has been done has, on the whole, been well done, and a type of chawl has at least been evolved which from the sanitary point of view has few defects. The sizes of the rooms, their lighting and ventilation; the provision of washing places and latrines, and the all important question of cost have been subjected to the most searching examination with the result that the modern reinforced concrete chawl has been practically standardized.

The Architects are faced with a difficult problem, the problem of making these very utilitarian structures conform to some standard of decent architecture and thus save the City from being made unsightly by a number of hideous and commonplace buildings. They should certainly be allowed only on back plots hidden away from the public view.

The housing of the working population is perhaps one of the most difficult problems that civic bodies have to face. The problem is to build cheap sanitary houses at very low rents. Houses must be built more or less to a type and by building in quantity great savings may be effected. The promoters of the Hampstead, Garden City by employing one big firm of contractors to construct all the houses on the estate have effected great economies. With increasing wages and a rise in the price of commodities all over the world the problem becomes yearly more difficult and it is not surprising that many public bodies have given up the task in despair. In my opinion the only way in which the housing problem is ever likely to be satisfactorily solved lies in the greater co-operation of capital and labour. Take some of the big

captains of industry in Europe who keep their employes loyal and contented by providing them with decent houses and often a share in the business. This treatment pays in the long run and the big millowners in Bombay are, I am glad to see, considering schemes for building chawls under the provisions recently enacted for the purpose in the lately amended Improvement Trust Act.

For public bodies to provide chawls at a considerable loss to the public purse is only an indirect way of subsidizing employes; if losses are inevitable in the housing of industrial employes they should be regarded as part of the employers' unprofitable outgoings to be set against immunity from strikes and a contented and loyal working class.

If the Improvement Trust are to continue to provide chawls for the poor their schemes should be governed by more businesslike principles, at any rate they should not be run at a loss.

In my opinion the class that is far more deserving of sympathy is the clerk class in Government and private employ. This class ought to be encouraged to leave the thickly congested city and reside in the northern suburbs where there is fresh air, and where far better accommodation could be provided at lower rents than obtain in the heart of the city, where land is so valuable. It is generally recognized that the working class must, from economic considerations, reside near their work. In Bombay this class is chiefly employed in the docks and railways, and for their accommodation suitable dwellings are required in the north-east and eastern side of the island. Many houses scattered about the city which are now inhabited by clerks and others could be remodelled or adapted for the labouring class in the event of the migration of the clerk class to the northern suburbs. Owing to the plague season there is a wholesale exodus of this class to the north, both to places within and outside the island, and it would only require a little encouragement on the part of such bodies as the Improvement Trust to persuade them to remain there permanently. In other words, suitable cottages should be erected and leased to this class with the option of purchase on the instalment system, as is done in England by the many building and other societies that exist for enabling a poor man to have a house of his own. Such societies do not exist in this country so far as I am aware; at any rate I am convinced that the only way of getting the class mentioned away from the overcrowded city is by spending, say, 2 lacs of rupees in model cottages and letting them at rents sufficient to cover the building outlay and ground rent. Before anything in this country can be started there is the dead weight of inertia to be overcome; the people have little enterprise compared with Western nations, and if schemes for the public good are to be set in motion it usually means that Government or some quasi-Government body must supply the necessary impetus. Risks must be taken by public bodies no less than by private individuals. In the case of the latter the risk is taken with a view to prospective gain; in the former the object is the public good.

The East is too full of lawyers and often the intentions of the would-be promoters of schemes of benevolence are frustrated by the diabolical ingenuity with which the legal profession is able to bring forward a host of objections, often, it is feared, with a view to swelling the bill of costs.

2. *The widening of Abdul Rahman Street.*—After careful consideration by the Improvement Trust of the relative merits of widening this street and another route some little distance to the east in line with Paltan Road, it has been decided to adopt the latter, partly from financial considerations and partly from the belief that less disturbance of trade is likely to result. From the aesthetic point of view the former is undoubtedly superior, as a fine road continuous with Hornby Road would be obtained, while the selected route is only a continuation of Paltan Road, which though of considerable width is at present little more than a side-street.

The same object is gained by either route, *viz.*, the piercing of the densely populated area between Carnac Road and Parel Road and the provision of a wide thoroughfare to form part of the Eastern Avenue, which is to extend as far as Sion in the north.

3. *The linking up of Frere and Reay Roads.*—The narrow road (Lawrence de Lima Street) connecting these two important roads has always been an obstruction to traffic and the steps now being taken to improve the connection will give very great relief.

4. *The removal of St. George's Hospital.*—It seems that the Hospital must go, although it is a pity that so much money should have been spent in recent years on extensions and new buildings when its precarious future was known years ago.

5. *The recovery from the Improvement Trust after negotiations of their rights of reclamation in Back Bay south of _____ Road.*—An understanding has been arrived at in this matter.

6. *The drafting and adoption of a Town Planning Act.*—Good progress has been made with the Bill, and its passing into law as soon as possible is a matter of greatest urgency.

"(ii) The modifications, if any, which have actually occurred in the scheme formulated on the orders of 1909.

(iii) Whether any and, if so, what further modifications are advisable in view of the changes and developments which have taken place within the last four years."

No modifications of the urgent measures enumerated in the Government Resolution of 1909 appear to be necessary with the single exception mentioned above, which has the approval of Government.

As regards the developments mentioned in the same Resolution which are to follow later, the removal of the Love Grove Pumping station from Worli may have to be reconsidered in the light of the reports that have been made during the last two or three years by the local Engineers and permanent members of the Engineering profession in England to whom the case was submitted for investigation.

Dr. Turner's scheme for taking the sewage to the north of the island and treating it there before disposal would require very detailed investigation before adoption. My opinion is that it would have to be withdrawn on the score of expense. As an Engineering proposition it seems to be unsound, and anyone who knows anything at all about the heavy cost of treating sewage (and it would have to be very thoroughly treated if it is to find its way into the harbour) would be very chary of countenancing such a scheme when there is the broad ocean with offshore currents available for taking the sewage away in the crude state if the outfall at Worli were extended further out to sea.

The need for the provision of these broad arterial lines of communication running north and south is no less urgent than it was four years ago.

A start has been made by the Port Trust who are widening and straightening the roads around Sewri, and the Municipality have a scheme for straightening and widening to sixty feet the existing road from Sewri to Wadala combined with a projected extension northward to fit in with the road development of the Board's schemes Nos. 5 and 6.

The roads which are referred in the Resolution as "Frere and Reay Roads" will play an important part in the development of the large area of country belonging to the Port Trust to the north of the Harbour Branch Railway. It is believed that as new industries spring up in this locality, employes, particularly the clerk class, will be only too glad to avail themselves of the housing accommodation that will be available in the Improvement Trust Schemes V and VI, accessible both by road and by rail.

I regard the widening of Parel Road as far as Sion as a measure of great urgency, not for the reason that Parel road between, say, the J. J. Hospital and Kala Chauki, is too narrow for existing traffic but because property along it is increasing in value and large buildings are springing up along the route. Between the New Great Eastern Mill and Kala Chauki on the east side there are a number of old bungalows, in big compounds, which before very long will have to give place to shops, godowns and possibly chawls. The acquisition of large buildings is a costly business for the acquiring body and the longer the delay the greater the cost.

The sections of the Eastern Avenue are now in process of widening, *viz.*, the section from Crawford Market to Parel Road 100' wide (Sydenham Street); the Soparibag Road section 120' wide from Lalbagh to Elphinstone Road and the northern section 150' from Elphinstone Road to Sion. The fourth section, from Sydenham Street to Lalbagh, remains to be taken in hand. The width should be not less than 120' except for a short length as far as the J. J. Hospital which might be 100' if it is not possible to get the greater width without disturbing certain mosques which stand in the way. There can be no doubt that if the Improvement Trust were able to go back 12 years and begin its labours over again with the experience it has gained, the first work to be taken in hand would be the development of the northern schemes concurrently with the provision of the broad arterial road mentioned above. It has been estimated that the loss to the city caused by the delay of 12 years in taking this important work in hand is not less than one million pounds sterling.

Progress has been made with the line of communication to be developed from Chunam Kiln Road and Gilder Street to Bandra Causeway through the Mahim Woods thoroughfare. The Trust have widened Chunam Kiln Road to 80', and it is understood that the Municipality have a project in hand for connecting up De Lisle Street with Bandra Causeway by a wide road through the Mahim Woods. De Lisle Road should be widened to at least 100' under the set back sections of the Municipal Act and the set back lines should be laid down at once if not already done.

(iv) *What measures should be taken for systematic further development, etc.*

(a) *The provision of sites for Government institutions.*—It would seem impossible to group all Government institutions together in one place. Such institutions as hospitals must be located in different parts of the island not too remote from the great centres of population. Technical and Science Colleges and institutions where research work is carried on should be settled in parts where land is cheap so that there may be ample space round the buildings and the necessary quiet obtained.

(b) *Similar provision for public institutions in which Government are interested, such as the appendages to the University and its Colleges, and several such needed institutions which are in contemplation.*

My remarks under (a) also apply to this point.

(c) *The provision of areas suitably located to meet the increasing demand for residential quarters for the different grades of society.*

I believe that the bulk of the wealthy classes will continue to patronise the southern end of the island, but the pressure on the area available for building is increasing annually and soon there will be very few sites left.

With an improved communication and the sewage outfall at Worli no longer a nuisance, the well-to-do classes may settle along the Worli foreshore and the whole fringe of coast extending from the Vellard to Bandra Causeway. Whether they will go outside the island will largely depend on the railway service; but I leave consideration of this point until later.

The areas suitable for the middle classes are likely to be more scattered than those of the upper classes. Many members of the community will flock to the north, and I think we may look upon the Improvement Trust schemes V, VI and XXXI and the Mahim woods area as the special preserve of this class.

They will continue to reside outside the island in greater numbers as communications improve. The populating of the many desirable residential areas on the main land and the island of Salsette is retarded by the want of an adequate water-supply and other facilities necessary to attract people from the heart of the City.

The poorer classes will continue to live near the scene of their labour. The industrial areas lie principally on the east and north-east of the island. With the activities of the Port Trust large areas will shortly be available for the expansion of trade, and houses for the working classes in the near vicinity will have to follow.

(d) *The allotment or reservation of sufficient space to allow for the expansion of existing industries, such as the mill industries and for the coming into being of possible new industries, in order that these when developed may not grow up at random in areas which it may be necessary or desirable to reserve for other purposes in future.*

In future I think all factories employing large numbers of work people should be relegated to the north and north-east of the island, to the east of the Harbour Branch Railway. Mills might be allowed in this area but it is a question whether the installation of electric or oil motive power should not be made a condition of sanction. Small industries, inoffensive in the matter of noise, smell and smoke, employing only a few hands, might be allowed in most localities except of course in areas allocated exclusively to residential purposes. The city's milk supply is of vital importance. A plentiful supply of pure milk is essential to the health of the people, particularly young children, and it is the duty of the Health Department of the Municipality to maintain the strictest supervision over all milch cattle stables with a view to preventing milk adulteration and disease resulting from insanitary methods and dirty surroundings. I am doubtful whether in the absence of a service of milk trains it would be possible to remove all such stables outside the island, nor do I consider such a course necessary. Much inconvenience would be felt, and it is doubtful whether any great improvement in the milk supply would result therefrom. The Improvement Trust should make provision in most of their schemes for milch cattle stables and there are several places in the heart of the city where they might be located without causing any inconvenience, provided the stables themselves are designed in accordance with the Municipal bye-laws and the animals kept to the Health Officer's satisfaction.

(e) *The reservation of open spaces for purposes of recreation and health.*

Such spaces may be divided into three classes:—

(a) Large open spaces of compact shape for purposes of recreation chiefly, and parks.

(b) Small open spaces to be provided in all wards where children can play near their houses.

(c) Parkways.

The first would be few in numbers comparatively and would be of the type of the Oval, the Marine Lines and Esplanade maidans.

The large Municipal storm-water reservoir skirting the Vellard and race-course would when filled in make a magnificent playground providing ample room for every kind of game, including polo, for which considerable space is required.

This area with the prospective Improvement Trust Park on the other side of Clerk Road would provide the city with its largest lung, and it is important that no possible considerations should be allowed to influence attempts to devote these areas to other purposes.

On the Continent of Europe, particularly in Germany, the importance of providing a large number of small playgrounds in the hearts of cities is being more and more realized. It is felt that young children should be provided with places near their homes where they can play and be within easy reach of their mothers. The cost of such playgrounds lies in acquiring the land; little need be spent in preparing the site beyond levelling it and tarring the surface. Swings and a few gymnastic apparatus might also be provided.

Parkways are becoming increasingly popular in Europe and America. They consist of grass tracks along boulevards and roads of considerable width. The type of amenity is intended principally for people who are no longer young, who are past the stage of indulging in the

vigorous exercise of the playing fields. The width of such "ways" will vary, but they should be grassed if possible and always protected with shady trees and supplied with seats. The Improvement Trust have introduced a continuous parkway with their 150' boulevard in the north of the island.

(f) The provision of suitable means of communication both by road and by rail with any areas which may be provided as above.

The most important of the city's road communications are mentioned in paras. 17 and 18 of Government Resolution No. 3022, dated the 14th June 1909, but there are others of considerable importance though perhaps not of such immediate urgency.

For a city situated midst such natural beauties and with a population of nearly one million inhabitants it is surprisingly deficient in amenities. A stranger judges much by first impressions, and it is permissible to enter into his thoughts during a drive (in a *tieca ghari* for preference) from the Taj Mahal Hotel to Government House, Malabar Point. Passing the Sailors' Home, the new Museum under construction at the Crescent and the Elphinstone College he would be driven past the Bandstand and along the Oval where the High Court, Secretariat, Clock Tower and other buildings would attract his attention. If architecturally inclined these buildings would leave an impression on his mind. He would probably condemn the architecture of the Secretariat as mediocre, admire the mass of the High Court and have nothing but praise for the Clock Tower and University Buildings. The B. B. & C. I. Railway offices would strike him as a fine example of Indo-Saracenic style marred by certain incongruities, but on the whole worthy of the unique site on which it stands.

Our stranger would probably wonder why a barrier in the shape of the Railway barred him from the sea front, and if this was unavoidable why didn't a bridge span it to take him to the drive along the sea front. But there is no such drive, and this would be his first disappointment. Every third rate sea-side town in Europe has a marine parade, and he must be compelled to drive along a road flanked on one side by a railway line and on the other by a burning ground and extensive cemeteries.

At the Chaupatti Railway crossing he gets a nearer glimpse of the sea but a long detour over a Railway bridge delays his reaching it. From the crowd of people and carriages Chaupatti must be a popular resort, but why isn't more made of it. Why isn't it thrown further out to sea and protected with a permanent wall? The rest of the drive up the hill is along a narrow street defaced with many buildings and trades that are quite out of place along the approach to the Governor's residence. Our stranger's return journey is spent in deep thought at the extraordinary apathy that must exist in this important Oriental city, and if an American he would probably sigh for a little of the hustle of his countrymen to wake the place up.

For years past Government and the Improvement Trust have been spending large sums of money annually in patching up the existing sea wall along the Kennedy Sea Face and there is not likely to be any reduction in the expense as the rib work which has been in existence a great number of years is fast going to pieces. The building of a permanent wall has been held in abeyance all these years owing to the uncertainty as to whether a big scheme of reclamation would be taken in hand. Government will in the very near future, it seems, have to make some pronouncement in this matter; but until then the line of the sea wall cannot be definitely settled.

Whether reclamation is decided upon or not I consider a permanent sea wall should be built extending from Colaba reclamation to Chaupatti. It should be far enough out to afford space for a wide road, raised footpath and ride, and this arrangement should, in course of time, be continued round Malabar point and along the Walkeshwar foreshore to Worli, and ultimately connect up with the sea road at Bandra. An important east and west communication under consideration is a road for connecting the Port Trust Reclamation near the timber ponds with the Mill area to the west of the B. B. & C. I. Railway. This project has been surveyed and the suggestion has been made that the cost should be shared by the Port Trust, Improvement Trust and Municipality. Its alignment is through the Trust's scheme No. XXXI and the compound of the Government House, whence it cuts through Golanji hill and after passing to the south of the Moon Mill crosses the Harbour Branch Railway and drops down to the reclamation. This road will be an important one, as the only communication now in existence is a very narrow winding lane with steep gradients which are quite impossible for heavy traffic.

A number of more or less important roads will have to be constructed in the north of the island as the schemes for the development of that area are realized; one of the most important of which will give direct communication from the Board's scheme V to the Mahim Woods area, crossing the G. I. P. and B. B. & C. I. Railways immediately to the north of Dadar Station.

I am not entirely in favour of uprooting such institutions as the University buildings and the Colleges grouped in the neighbourhood, the Secretariat and the High Court. For the expansion of the two latter institutions, the Elphinstone College might be adapted and possibly the Government record office. It is conceivable that future requirements may not be adequately met by this suggestion, in which case I would advocate reclamation, as I consider it desirable that institutions of this type should be grouped together, partly for administrative and partly for architectural reasons.

I am opposed to reclamation on a large scale, looking at it from the point of view of the interests of Government, as I am not oversanguine of its financial success. If it is to cost the City nothing, I should if a citizen of Bombay give it my warmest approval as it would add greatly to the city's importance, and the proposal to set aside a large area for a park and playing fields must meet with general approval. I think the assumption that 60,000 square yards of land will be leased annually is not warranted, having regard to the operations of the Improvement Trust and the private land market.

I am in favour of a small reclamation for the location of Government institutions and the provision of a sufficient number of plots for leasing. These plots would be very valuable and the ground rent should be based on the highest rate they would fetch when auctioned in the public market. The rate would be governed by the extent of the building area permissible; and this should be carefully restricted, so that overcrowding of houses which is such a bad feature of the Colaba reclamation may not be perpetuated. I should like to see the small reclamation scheme at Chaupatti projected by the Improvement Trust taken in hand before long, as I believe it would be a success financially and it includes a portion of the permanent sea wall on the immediate building of which I attach so much importance.

I find I have omitted to express my views regarding the provision of means of communication by rail within the areas referred to [*vide (f)*].

It seems to be the opinion of the B. B. & C. I. Railway that the proposal to bring all long distance traffic to the Victoria Terminus station would lead to confusion. For one who has very little knowledge of the working of the two big railway systems that have their termini in the island it would be presumptuous to dictate any line of policy, but I have often thought that it might be quite convenient for the B. B. & C. I. Railway to establish a terminus at Grant Road for all long distance and goods traffic. I feel sure that the only way of popularizing residence in the suburbs both within and outside the island is by the inauguration of a circular accelerated electric service (5-minute service), and I think the Port Trust proposals in this connection should be carefully investigated. The novel suggestion made by Major Hepper, the Agent of the G. I. P. Railway, to raise the B. B. & C. I. Railway from Chaupatti south to enable the people to have uninterrupted access to the sea, has much to recommend it, and it would, I presume, form part of the proposed overhead electric railway for which a central station somewhere in the vicinity of the Queen's Statue or possibly the Elphinstone Circle has been suggested. The same railing should be continued along the Frere Road, preferably within Port Trust limits through Mazagaon, and eventually link up with the B. B. & C. I. Railway *via* the Mahim Loop with perhaps a branch running north as far as Kurla or in the future to Trombay.

R. J. KENT, A. M. I. C. E.

WRITTEN STATEMENT, DATED DECEMBER 5TH, 1918, OF DR. J. A. TURNER,
HEALTH OFFICER, BOMBAY MUNICIPALITY.

The G. I. P. Railway Workshop at Matunga. The Pearl Mill, DeLisle Road. The Kasturchand Mill, Dadar. Noor Mahomed Dyeing Mill, Haines Road. Woollen Mill, Dadar. Globe Mill. All these mills are in an undrained district and are allowed to be built without roads and drainage.

No large industries should be allowed West of the G. I. P. Railway Line. I think Salsette should be taken into consideration in connection with industrial development.

Even now the communications between Bombay and Salsette are inadequate. If the Island of Bombay cannot be joined up altogether with Salsette, then much greater facilities of communication by rail, road, tram and motor are required.

The number of industries now in the Island tend to over-crowd communications and traffic. Fresh industries will bring fresh labour. It will not be possible for existing mills to move their buildings for years to come.

Mills are being erected rapidly in inaccessible and undrained areas, without accommodation for the labour class.

As the labour population (Mills) go to live near their respective daily work, the congestion of the sites now occupied by the mixed class of labour and clerical class will be relieved, the neighbourhood improved, and more room given to better class of houses for better class of tenants.

Fort North is a very over-crowded, insanitary area which should be re-built. The tendency of the business Offices will be towards the Post Office, the Secretariat and the High Court if they are built at the Northern boundary of Fort North, facing the New General Post Office.

The pressure of the Residential accommodation at Apollo Bunder, Colaba, etc, will be relieved, if the Western foreshore from Mahaluxmi to Mahim is made habitable by removing the sewage outfall and reclaiming about 300 acres of land including Hornby Vellard: some of

which would be available for the richer class, some for the middle class and some for recreation. While the present system of drainage and sewage disposal remains an insult to sanitary engineering and a City like Bombay, nothing can be done to utilize this magnificent site.

Gandevi and Agripada would supply sites for houses for those moving out of Fort North.

Government Needs.

The area of that part of Fort North facing the General Post Office from Hornby Road to Frere Road can be utilized for building a new Secretariat and High Court; on looking at the Map, it can be seen that the open space known as Bhatia Baug could be extended in the form of a crescent giving Bombay City one of the finest collection of buildings of any City in the East easily accessible to all whose business calls them there.

The European General Hospital could be built on the hill, known as Gamadia Flag Staff Hill, overlooking the Hornby Vellard and the sea, which could be easily made suitable for the purpose and would be central; an emergency out-patient hospital for the Docks could be provided near the Docks.

I consider that the reclamation of Back Bay for residential purposes, when there is so much reclamation to be done inside the Island at less than half the cost and providing twice the area, would be a wicked experiment.

Reclamation of Back Bay should only take the form of a marine 200-foot road extending from Colaba to Chowpatti, cutting through Malabar Hill to Nepean Sea Road and thence on to Mahim, abolishing the Railway from Colaba to Grant Road and widening Queen's Road and closing the cemeteries which are over-crowded.

Assuming that the Secretariat and High Court and possibly the Public Works Department Offices are removed to Fort North, facing the new General Post Office, there would be ample accommodation for the University and Colleges in the existing High Court and Secretariat and Public Works Department Offices; the only drawback is the want of recreation ground; to obtain that, the land extending from Tardeo Road to Clerk Road, about 100 acres, could with very little expense be made into a playing ground available to all Schools and Colleges.

The direction the development of the City should take is in my opinion as follows:—

The re-organization of the drainage and sewage disposal, and storm-water drains on modern lines irrespective of cost.

Town-planning the North of the Island and the laying out of roads and streets, draining and paving them in the undrained part of the Island and prohibition of buildings within the limits laid down

The improvement of the insanitary areas notified 10 years ago.

The filling up of all low-lying areas.

The provision of recreation grounds for students.

The provision of cheap dwellings for the labouring classes near their work.

The adoption of incinerators for the disposal of refuse.

The removal of milch cattle stables from over-crowded areas.

The adoption of a Town Planning Act to be under the control of the Municipal Commissioner and the Corporation.

J. A. TURNER.

NAVSARI BUILDINGS, FORT :
Bombay, 5th December 1913.

From

MESSRS. TATA SONS & Co.;

To

B. W. KISSAN, Esq., I.C.S.,

Secretary to Bombay Development Committee,

Bombay.

Sir,

Referring to my letter dated the 3rd ultimo, I beg to submit a memorandum giving my views on the Government Reclamation Scheme, which is the principal subject which I propose to deal with in my evidence before the Committee. I have not much to say on the other

subjects under the investigation of the Committee and I therefore do not consider it necessary to give my views in writing on those subjects.

I have the honour to be,

Sir,

Your most obedient servant,

A. J. BILIMORIA.

Mr. A. J. Bilimoria's Memorandum on the Government Reclamation Scheme.

I must say at the outset that I am entirely opposed to the Reclamation Scheme of the Government of Bombay. Although the appointment of the present Committee, so soon after the promulgation of the Reclamation Scheme by Government and the remarks made by the Chairman during Mr. Chrystal's examination imply that it has for the time being been put in the background and that it is only a side issue for consideration by the Committee particularly with regard to lands required for the erection of Government and other public buildings, I think it would have been better if a definite pronouncement on the subject had been made by Government before the appointment of the Committee. In spite therefore of the Chairman's remarks upon this subject and as the big reclamation scheme is still before the public as a scheme which has been definitely approved by the Government of Bombay I take the liberty of dealing with this matter at some length.

The following statements made by me on this subject are on the authority of a reputed firm of Engineers who were engaged by Mr. Ratan Tata in 1910 to report upon—

(a) Reclamation and improvements of a more or less public nature with a view to increasing the area of the city at the point where present and future development is likely to be most pressing; and

(b) Reclamation and improvements for the purposes of development in the more northerly section of the Island and in the Salsette District particularly with reference to lands belonging to Mr. Tata.

As regards the first-mentioned reclamation scheme which would necessarily centre around the "Back Bay" district, as this is the centre of the business section of the town, they advised Mr. Tata that from the point of view of the investor they were fully convinced that the pressure on the available area of Bombay, did not warrant any such scheme the return from which would, to put the case mildly, seem to be highly doubtful. A year later, viz. in 1911, when the Government Scheme was put before the public, Mr. Tata consulted his Engineers again as he found that there was an extraordinary difference in the cost of reclamation as estimated by them and that put forward in the Government Scheme. In illustration of their statement that the pressure on the available area of Bombay did not appear to be so severe to a disinterested outside observer as to the Government of Bombay they gave us a comparison of the density of population in a few large cities chosen for their general familiarity which is as follows:—

Bombay	...	...	38,100	population per square mile.
Calcutta	...	...	42,800	" "
London (County)	...	...	46,700	" "
Paris	...	...	90,000	" "
Berlin	...	...	95,000	" "
New York (Manhattan)...	...	...	108,000	" "

They added that although this was not known when choosing the examples, it is seen that Bombay has the lowest density of population of any, even though the great bulk of the inhabitants are natives of the country who can live in comfort under conditions of crowding that would be intolerable to persons of other nationalities. I must here note that the Engineers took the population of Bombay at 800,000 while according to the last census, it is about 929,000. On this figure, the density of population in Bombay would be 44,200 instead of 38,100 per square mile. In the Engineer's opinion, land values in Bombay do not really reflect local conditions of congestion, and believe that there is still plenty of room for expansion within the present city limits. Very few cities in America where land values are higher than in Bombay, and whose populations are increasing at a vastly higher rate than Bombay's have gone to the expense of adding to their areas by reclaiming land from the waterfronts on which they usually lie and which are also the sources of their importance and growth. To add a few acres here and there as opportunity serves and in places where exceptionally favourable conditions exist is one thing, but at one fell swoop to alter entirely the whole lay out of an important city and add large acreage in the way proposed serves only to dislocate and depreciate present land values and to create chaotic general conditions which are likely to do much more harm than good. In the opinion of the Engineers, this huge scheme is unnecessary and chimerical to the last degree, and in fact they use a rather objectional adjective which they say were fitly applies to it.

Then as regards the question of whether the work can be done for the sum estimated by the Government Engineers they emphatically say that they consider it in the highest degree improbable and even impossible.

During the progress of the work which, it is safe to say, will take much longer than the Government estimates would lead one to believe the extremely unsightly appearance of the whole area undergoing reclamation will spoil the entire appearance of the City and will defeat its very object until nature has had time to cover up the traces of man's handiwork.

The large Sewri reclamation will remove from Colaba much of the business now carried on there leaving this section free for its orderly and natural development as a residential locality and for Government and public buildings.

If, however, Government is willing to tax the people in favour of such a scheme the matter assumes a different aspect and puts a burden on the public.

It has been stated that the buildings on the Colaba Reclamation are now all occupied, and that the Improvement Trust obtained very high prices for the plots. The latter statement is quite correct, but that does not prove that the lessees of the plots are realising a good return on their investments. It will be remembered that many plots in Princess Street when sold by auction for the first time realised very high prices, just as the Colaba plots did, but the investors, I believe, are hardly getting a net return of more than 4½ per cent. and in some cases not even 3½ per cent. When the Colaba Reclamation plots were put up for sale we found that they were being acquired at more than double the prices that we were prepared to pay for them and we had to beat a hasty retreat. About 20 to 25 years ago when the Ripon Road was opened up and the plots were put up for sale the late Mr. J. N. Tata intended to buy some of the plots if they could be obtained at reasonable prices. The very first plot was sold at two or three times the value we had put on it and not a single plot fetched less than double the amount of our limit. Afterwards a slump took place and I am afraid that the original purchasers made very unremunerative investments. It should also be remembered that prices of all materials and labour have gone up at least 30 per cent. to 40 per cent. during the last few years and that people cannot therefore afford to pay high prices for land as they cannot obtain much higher rents than before. As regards the complaint about the general increase in rents, so far as my experience goes I don't think there is much ground for it and even in buildings in the Fort, and on the Apollo Reclamation, I can state that rents have not increased appreciably, and in some cases within my knowledge the rents had to be slightly reduced. It is possible that after 20 or 30 years when all the resources are exhausted, some Reclamation Scheme may be found necessary, but it would be an extravagant and wasteful policy to embark upon such a scheme at the present moment. The provision of a marina and large recreation grounds on the proposed reclamation may be all very well, but it will be a sounder policy to utilise and improve our present resources and to provide for open grounds in those portions of the City where they are more necessary. I quite agree with Mr. Barucha's view that the cost of reclamation whenever it is absolutely necessary say 20 or 30 years hence will not be greater than it would be now. In fact it will be much less if we consider the important item of interest on the proposed outlay. While as Mr. Barucha points out the development schemes in the city itself will become more expensive and in some cases prohibitive in course of time.

A. J. BILIMORIA,

5th December 1913.

*The Bombay East Indian Association
Bombay, 6th December 1913.*

To

B. W. KISSAN, Esq., I. C. S.,
Special Officer, Salsette Building Sites,
Secretariat.

Sir,

In compliance with the request contained in your letter No. 22, dated the 23th November last, I have the honour to forward Mr. P. A. Baptista's views on the development of Bombay. I may add that the suggestions contained in the memorandum forwarded to you with my letter of the 22nd ultimo were mainly those of Mr. Baptista.

I have the honour to be,
Sir,
Your most obedient servant,
J. L. BRITTO,
Honorary Secretary.

Bombay, 6th December 1913.

To
THE HONORARY SECRETARY
 of the Bombay East Indian Association.

Sir,

I have the honour, with reference to the letter No. 22, dated the 28th ultimo, addressed to you by the Special Officer, Salsette Building Sites, to forward my views in connection with the development of Bombay. I am in perfect accord with the suggestions made by the Association. In fact you know them to be mainly my own suggestions. All I can at present do is to amplify them. The question is of vital importance to the future welfare of the City, and must not be looked upon from the narrow view of its present needs but from the wider one of its future necessities.

Roads.—The principal streets of Bombay are found to be quite insufficient for the present traffic in Bombay. I am, therefore, of opinion that a complete survey of all the streets be made and fresh set-back lines marked out especially in the A, B, C, D and E Wards of Bombay. Whenever opportunities arise these set-back lines should be enforced and no discretion in this matter should be left to the officers of the Municipality. Local Architects have a knack of evading the set-back lines and Municipal Commissioners are hoodwinked in this matter.

Besides widening the eastern avenue, a road 80' wide on the West should be constructed. This road should go along the present Máhim Bazaar Road, and Worli Road upto Tárdeo. This would open a large area for residential purposes. A road along the Tulsi pipe line from Dálar to Mahálakshmi would also open a large area which now lies undeveloped. The Lady Jamsetji Road should also be widened. A Cross Road from Sewree to Worli would certainly add to traffic convenience.

Open Spaces.—Land in Bombay is constantly rising in value, and the Municipality, in my opinion, should not delay in acquiring lands for parks and open spaces. A park in the Máhim Woods and another in Parel are very desirable, if not essential, and in fact I would advocate one such park in every Ward. Where land is dear and traffic great, I would, however, give preference to wider roads rather than small gardens. These small gardens are mere haunts for loafers and loiterers.

Communications.—I am also of opinion that the tram lines should be extended; but unless its speed is accelerated it will not be made much use of in the distant districts. The Goods Terminus of the B. B. & C. I. Railway should be at Grant Road. The B. B. & C. I. Railway South of Virár should be quadrupled, so that more and faster local trains can be run from the suburbs.

Slums.—The energies of the Improvement Trust should be confined to developing the present schemes in hand, and removing the slums of Bombay-Chawls for the poor near their works should also be constructed by the Trust.

Mills and Millhand Chawls.—I would also urge that Mills should be confined to certain areas in Bombay. It would, however, be very desirable to establish Mills in the suburbs of Bombay like Coorla. Millhand Chawls should also be constructed by Millowners near their Mills.

Reclamations.—Land is very badly needed for Government offices and public institutions. No spot would be more suitable for this purpose than Colaba. I am, therefore, of opinion that Reclamation works should be undertaken around Colaba.

Development of Máhim.—Máhim should be developed by Municipal agency and be reserved for residential purposes. No industries should be allowed to grow in this quarter. Cross roads like the New Mátunga Road should be constructed. Four or five such roads would open a large area for the middle classes.

The Love Grove pumping station should be improved or entirely removed from its present situation. Unless this is done, Máhim cannot be improved.

Milch Cattle Stables.—Lastly I would ask the Committee to consider the removal of the Milch Cattle Stables from Bombay. If these could be placed somewhere in Salsette under Municipal supervision like the Bándra Slaughter House, it would not only improve the health of the City but also reduce the infant mortality.

I have the honour to be,
 Sir,
 Your most obedient servant,
 PETER A. BATTISTA.

WRITTEN STATEMENT OF JOSEPH BAPTISTA, Esq., RECEIVED WITH HIS LETTER
OF DECEMBER 8TH, 1913.

The rapid rise of Bombay is remarkable. Seven humble fishing islets have grown into the first City in India, the second in the Empire, and the tenth in the World. Its potentialities are prodigious. Nature has been generous in her gifts to our Heptanasia. Napoleon and Hausmann would have made it the fairest City in the World. So far as salubrity is concerned, Bombay seems to be subject to violent fluctuations. Lusitanias "ilha da boa vida" became a charnel-house in the days of Aungier wherein "two muscoons were the age of a man". At the present moment Bombay is the graveyard of the poor and the infants owing to insanitary conditions, stable nuisances, offensive industries, pollution of the atmosphere by clouds of dense black smoke from the mills and mephitic exhalations from the drains, the bubonic plague, and other scourges. The researches of sanitarians in Europe show that Urban families become extinct in four or five generations. The sanitation of the City therefore is a question of vital importance to families who are permanently domiciled in Bombay, and especially to the Parsees if the community is not to be exterminated within a century. It follows that sanitation should have precedence over adornment in all schemes for developing the City. Schemes that ensure both health and beauty are preferable. But schemes and their ambitiousness must manifestly be governed by the state of the exchequer. It is useless incubating schemes of development without knowing what are the resources at the disposal of the Town-planners. The cardinal question to be settled, therefore, is the question of finance.

The sanitary regeneration of Bombay and its proper development is a stupendous and expensive task. I should suspect the sincerity of the undertaking if it is to be achieved mainly by Municipal money and local taxation. As the Capital of the West and the Gate of India, Bombay is entitled to substantial financial assistance from Imperial and Provincial resources. But hitherto the Government contributions have been on an eleemosynary scale. In 1898 when the Improvement Trust was called into creation Government proposed and intended to make a grant of 96 lacs of rupees but unfortunately its value eventually shrunk to 28 lacs only. Subsequent contributions brought up the total to 81 lacs, but 63 lacs were diverted to the Kingsway Scheme. The Government of India have displayed a far more equitable attitude towards Calcutta, where the tax-payer is to contribute 65 per cent. of the cost against 15 per cent. in Bombay. I am convinced that the development of Bombay upon approved principles of town-planning is utterly impossible unless Government accept the obligation of defraying two-thirds of the total cost. Schemes framed for meeting the pressing wants of the hour upon exclusively utilitarian principles produce patchwork. The City should be surveyed and a comprehensive scheme formulated in consultation with a Town-planning expert with the view of removing evils and defects and making provision for future requirements.

Railways.—The first necessity is an efficient Railway service for passenger traffic within the City. The existing railways were not designed for that purpose. The tramways are inadequate and slow. The fares are high. They can never really compete with railways. Tramways would suffice for Colaba and Back Bay Reclamation if accomplished. But for the rest of the City, South of Flora Fountain railways, alone can cope with the demand. The Victoria Terminus is not centrally situated with reference to Fort. In my opinion a new station should be located in the neighbourhood of Gunbow Road. The G. I. P. Railway's projected overhead railway should start from this station and proceed to Sion. The proposed alignment is satisfactory. From Sion it should go to Mahim Station, pass through the Mahim Woods and rejoin the B. B. Line at Mahalakshmi. From Marine Lines it should proceed along a new overhead or underground route to the suggested new station. The suburban passenger traffic should likewise discharge at this new station. Long distance traffic should discharge at Victoria Terminus for both the railways. The B. B. Line from Marine Lines southwards should be removed. The number of passengers travelling to Colaba would be reduced with the removal of the Cotton Green to Mázgaon. The Tramway could cope with the remaining traffic.

Reclamations.—The punkah is the luxury of the wealthy. Dwelling-houses without punkahs to be comfortable must be opened to the westerly sea-breezes. The western foreshore from Wálkeshwar Point to the Bándora Causeway affords an ideal tract of land for charming villas. Large area of the foreshore including the Vellard and the Mahim Bays should be reclaimed. The flats and the low-lying land east of the Vellard and the Worlee range of hills should be filled in. These disgrace the City and constitute a constant menace to public health. The benefits accruing from the filling in of this pestilential area are manifold. The rice fields in the north, and the land along the northern boundary of the City from Mahim to Sion should be similarly reclaimed. Improvement Trust Schemes V and VI deal with a large portion of these areas. The materials for reclamation can be obtained from the Worlee Hills which should be levelled with the ground and also from the hills of Sálsette by the B. B. Line and the new line. The submerged land, north of the Bándora River, as far as Coorla should also be reclaimed. Existing easements and fishery rights must be bought out, and a provision made for the supply of sea-water to the Salt-pans. I advocate this measure as I believe Bombay will expand so as to embrace Bándora and Coorla. I am informed that the late Mr. J. N. Tata had placed before Government a project for the reclamation of this area.

The above suggested reclamations within the City together with the Máhim Woods will yield abundant building sites for the rich and the poor and the middle classes with a reserve for a park and recreation grounds. The motor car will probably be a potent factor in the diffusion of the wealthier classes along the sea-board and the western side of the Máhim Woods.

Marina and River.—A magnificent marina should be constructed on the reclaimed foreshore from the Bandora Causeway round Walkeshvar Point to Colaba Point. The Bandora River should be deepened and widened and made navigable for pleasure boats. The marina would be a worthy addition to the amenities of the City and the deepened river would be a great attraction, especially if the adjacent submerged land could be transformed into a Boisd Bandora. A broad road should run parallel to the deepened river from Máhim to Sion or Vincent Road.

Sewage discharge.—It is evident that the sea-board from the Temple to the Causeway cannot be colonized so long as the nuisance caused by the discharge of sewage at Love Grove continues. The removal of the outfall from Love Grove has been mooted and advocated for nearly forty years. The nuisance is chiefly due to this fact that the sewage cannot be pumped into the sea at the rate at which it arrives at the station producing reflex action affecting the system throughout and resulting in retardation and putrefaction soiling the shore. The improved arrangement and the increased pumping power will render the outfall practically innocuous according to expert advice. But if this prophecy be falsified it would be better to convey the sewage to Deonar by gravitation and there pumped and treated bacteriologically in septic tanks and filter beds. To extend the outfall is a doubtful measure. It entails a very heavy expenditure. The bacteriological treatment would yield some return by the utilization of the effluent to irrigate the reclaimed land at Deonar for growing crops and flowers. The removal of the outfall to Colaba or any other place is utterly impossible, except as suggested above.

The Back Bay Reclamation.—The Back Bay Reclamation logically forms a portion of the general scheme for reclamation of the whole Western seafront; but the æsthetic charm of the stately public buildings abutting on Mayo Road will be lost for ever. Sentiment would fain avert such a misfortune. Apart from sentiment the scheme is premature. It can conveniently be deferred for 20 years. The cost of reclamation 20 years hence will not be augmented and may be reduced by mechanical inventions. The building sites will 20 years hence be more valuable and remunerative. There is no pressing necessity. The objects in view, except a new habitation for His Excellency the Governor and Staff can be attained by the suggested reclamation and the Máhim Woods. Its hour will draw near when the other resources of the City are exploited and exhausted. It is therefore to be deplored that Government have decided to prosecute an adequate scheme of reclamation for Back Bay. On the other hand, the suggested reclamations at less cost will effect material sanitary improvements and remove abominable nuisances which should never be tolerated by a Progressive Municipal Administration. There is, however, no doubt that the pressure on accommodation for shops and offices in the Fort is ever increasing. It is moving northwards towards Colaba for want of an outlet eastwards. An endeavour should be made to concentrate them in the Fort Division. The Fort like the City of London should be deserted at night. I would therefore advocate an up-to-date improvement scheme for the whole of the Fort North from Bhatia Baug to Elphinstone Circle wherein provision should be made for a new Station and an avenue from Ballard Pier to Flora Fountain. As a sanitary measure the scheme is not so urgent as other schemes, but it will effect improvements, relieve congestion and stimulate migration northwards towards the Máhim Woods and Schemes V and VI. But despite these benefits, if the Back Bay Reclamation is embarked upon before the others the graceful sweep should be preserved and enhanced. For the sake of economy a complete scheme for the whole reclamation on a considerable scale should be determined upon to be worked in sections from the Chaupáti end. The buildings should be designed and grouped together so as not to interfere with the inflation of air and with the view from the High Court and Secretariat. The reclamation will unquestionably be a favourite place for residence. But I apprehend that the anticipation that 60,000 square yards will be annually leased for residential quarters is too roseate a forecast. It should be remembered that according to Census the number of persons earning over Rs. 5,000 a year does not exceed 2,200 (?). But anyone earning less than Rs. 1,200 a month cannot hope to find a home in Back Bay. The number of such men seeking a dwelling-place is not ascertainable. For these reasons I can express no confident opinion upon its financial success.

Sites for Government and other Public Institutions.—The uprooting of the Secretariat, University Buildings, and the High Court is unthinkable. There is no indication in the Government Resolution as to the extent of the requirements of these institutions, but reclamation is not advisable for their expansion. The row of buildings abutting on Hornby Row from the National Bank to Treacher & Co., could be compulsorily acquired—also Watson's Hotel, the Army and Navy Stores and Sassoon's Institute. The Fort North Scheme should provide sites for offices and shops displaced by this acquisition.

European General Hospital.—Its present situation is objectionable. Its removal should not be delayed at all. It cannot wait for reclamations and development schemes. I would allot it a piece of land at the south end of the Cooperage opposite the Commercial Gymkhana. It is not much used at present except for parking carriages. The convalescents could find

some entertainment in the sporting contests on the Cooperage and music from the Bandstand. If public opinion is really against the allotment of the site for such a laudable object I would find room for it on the Cotton Green or better still on the site of the Government Dockyard. In 1877 the Committee recommended the "Dockyard, Arsenal and Gun Carriage Factory to be removed to Hog Island and ground to be leased for residences, warehouses or docks." The Mint may also be safely removed.

Colleges.—I perceive no advantage derivable from locating the Colleges in the neighbourhood of the Senate house or the Rajabai Tower. A Teaching University modelled on the Cambridge University with its affiliated Colleges, laboratory, library, museum, and union situate within a small radius is an ideal devoutly to be wished for. Such an undertaking demands the virtue of courage of a high order. The beneficent influence of a corporate life and a proper *esprit de corps* can scarcely be overvalued. Given a supply of water the Island of Mudd in Salsette would be a suitable place for a resident University. The rebuilding of Colleges should be no great obstacle as existing Colleges could be profitably disposed. If non-resident under-graduates were allowed to join the Colleges access to them must be improved. The development of Salsette would require a Railway along the sea-board from Bándora to Versova. A bridge from Versova to Mudd would solve the difficulty. I do not know if Trombay would be a good alternative. But if the Colleges are to be retained in Bombay I would suggest the acquisition of the extensive grounds of the Byculla Club. This is no place for an excellent English Club. A small number absorb a large area. The acquisition of a couple of the stables in the neighbourhood, the workshop east of the Byculla Club would give all the land that is required for Colleges for men and women, for the College of Science, for a Union Society, for residences for students, and for playgrounds. The College of Science and Elphinstone College should be removed from their present situation. If the reclamation east of the Vellard is undertaken there will be plenty of space for any conceivable expansion of the University.

With reference to paragraph 4 of Government Resolution No. 7410 of 16th October 1913, I believe the progress already made in the execution of the schemes formulated in the Orders of 1909 can best be ascertained from the Improvement Trust Board. To me no great progress is perceptible, but this is perhaps unavoidable.

The Slums.—There is not much enthusiasm displayed for attacking the slums. Schemes for represented areas are held up in suspended animation. Mr. Orr computed that the net cost of schemes for these areas would exceed three crores of rupees. I do not quite know if this net cost is total loss or gross cost. Government promised in 1909 "to take such measures in the direction of finding assistance to the Trust's finances as may be calculated to enable them to press forward vigorously those measures which lie within the scope of their operations." When the Kingsway Scheme came before the Corporation Mr. Orr assured the House that Government would find the money to improve the represented areas. But instead of clamouring for the promised aid and vigorously attacking the slums from which diseases radiate I find the Improvement Trust Board contemplating the abandonment of "the wholesale acquisition and demolition method." I deprecate this tendency. It shifts the burden on to the shoulders of individual owners. It means the abandonment of efficient schemes of improvement, and it will end in patch work. Thoroughness is imperative in the solution of sanitary problems. But "the policy of thorough" is impracticable without sufficient financial support. I do not approve of modifications of this description having regard to the actual state of affairs.

Chawls.—The number of chawls built for the poor is inadequate. Lord Shandhurst proposed to devote 83 lacs of rupees out of the total 495 lacs towards the construction of chawls. He observed "The re-housing of the poorer classes is one of the most important and attractive provisions of the Bill. These people deserve our sympathy and assistance." At present not half the sum is spent and the loss on chawl schemes is not very heavy. A statement should be called for from the Improvement Trust Board showing exactly what is the actual loss sustained by them on this part of their duty. The erection of chawls let at a loss is no doubt economically unsound. But for humanitarian considerations such expenditure would be condemned. To assist Millowners, to build chawls for the millhands is also economically unsound but only in a lesser degree. But the amendment of the Improvement Trust Act to assist them has yet yielded no fruits. It appears hopeless to expect employers of labour to fully recognise their duty to their employees and to the public. The only remedy is to make it obligatory on Millowners to construct chawls for their hands to the extent of at least 75 per cent.

Residences.—Much has been done to provide house accommodation for the rich and something for the poor but nothing for the clerks. Their case is urgent. Rents form a very heavy item in their domestic budget and withal the tenements are unattractive. The cost of living has doubled while their salaries have remained stationary. But schemes for providing building sites for the persons earning less than Rs. 200 a month will not give relief. They require small self-contained cottages at rents proportioned to their income. They have no means to build such houses for themselves. The Improvement Trust at one time were about

to embark upon building cottages for them in the Garden City, which would become the property of the tenants in 12 years on the instalment system but the law stood in their way. The law should be amended and the Trust empowered to build such houses. The choice for the tenants to become owners on the instalment system is attractive but the period should be extended to 30 or 40 years, due provision being made for transfers in case of the death of the bread-winners. I should like to say generally that providing building sites will neither arrest the rise of rents nor abate overcrowding. The only effectual remedy is a colony of cheap houses suitably situated with improved means of transit. It is not possible to lay down lines of demarcation for the different grades of society, but the ways of the masses and classes cannot always be harmonized. The millhand finds pleasure in song and shout and noise which disturb the midnight slumber of his neighbours. The chawl population must therefore be kept at a respectable distance from the rest of mankind. Suitable sites can be found for the middle classes in the Máhim Woods and the area east of Parel Road from Sir J. J. Hospital to the Victoria Gardens. As for the sites for the wealthy and the labouring classes, I have discussed them under the heading of reclamations.

Industries and Stables.—All offensive industries and trades should be excluded from the City. The tanneries of Dhárávi should be stopped. No mills should be allowed anywhere unless worked by electricity. Then they should go north-east to Gowree and Sion, but not too near the East Coast. The best place for them is Coorla. Bombay will soon be far too expensive a place for Mills. The great nuisances are the stables. The bullock cart is an anachronism in a modern city and I sincerely trust it will soon be as dead as the Dodo. But while they exist they cannot be ignored. Some sites for stabling bullocks and carts may be provided in different convenient parts of the City, but the bulk of them should be accommodated on Port Trust land. They chiefly ply between the Docks and the Railways. Stabling for horses must similarly be provided for to reduce the nuisance to a minimum. As for milch-cattle stables they should be nowhere allowed except under Municipal supervision whether in the City or outside. The importation of milk should be controlled as the importation of flesh meat. Drastic measures are demanded. In the long run they will be cheaper. The saving in life will compensate for the higher cost of milk and the cost need not be higher if stables are under efficient management. The stable nuisance in some cases is appalling. The Health Officer will not undertake the cleansing of these stables. The licensing and Municipal supervision of these stables is a prolific source of corruption.

Open spaces.—The provision of open spaces for recreation and ventilation cannot be too much emphasised. This should be in addition to the minimum required for light and air and access to houses. These open spaces are even more important than open spaces for ventilation and inflation of air around each house required by Bye-laws. I think it is a mistake to copy English rules regulating height of buildings and area of windows abutting on open spaces. The climatic differences, the temperature, the land and sea-breezes must affect the movement of air. These have not been carefully and scientifically studied in Bombay and for this reason I am not in love with the present tendency to make our laws stringent regarding height of houses and size of openings for each room, etc. The natural and logical sequence of such laws and bye-laws is high rents and overcrowding.

Roads and Railways.—The roads are useful but they are no substitutes for railways. I have already expressed my views regarding railways. As to roads the main arterial roads, north and south, should never be less than 120 feet in width. The whole width need not be metalled at first. The projected roads and those contemplated by the Corporation are sufficient provided the marina is constructed. The alignment of Kingsway from Pultan Road along Shaik Memon Street is a sad mistake. It should have traversed along Abdul Reheman Street which is the natural route of traffic. A good opportunity for improving Pydhoni Circus and making it worthy of the City, and adding an ornamental avenue is lost. The congestion at Pydhoni and Abdul Reheman Street will continue and cry out for measures of relief. The Western avenue should be carried right up to Bhuleshvar and Kalbadevi. Chief cross roads from Parel Road to the harbour should be straightened and widened to 60 feet. Subsidiary cross roads of 40 feet should be constructed at reasonable intervals.

Cemeteries.—The provision of cemeteries is becoming an embarrassing problem. Cremation should be encouraged by the Corporation by providing facilities. For communities who do not object to conveying corpses by carriages, Cemeteries should be provided outside the limits of the City.

MINUTES PREPARED BY JAMSHEDJI EDOLJI SAKLATWALLA WITH REFERENCE TO LETTER No. 17, DATED THE 22ND NOVEMBER 1913, FROM THE SECRETARY, BOMBAY DEVELOPMENT COMMITTEE, IN PURSUANCE OF GOVERNMENT RESOLUTION No. 7440, GENERAL DEPARTMENT, DATED 16TH OCTOBER 1913.

It can never be gainsaid that the North of the Island of Bombay should not be now developed and opened out for Residential purposes by the construction of a net work of roads and cross roads. As far as practicable no industrial works of however innocuous a nature should be allowed in these parts. These should be relegated as far as possible to the Mainland more towards Salsette and Trombay in conformity with the requirement, suitability and nature of the industry. The Government, in view of their giving whole-hearted support to the rapid development of these vacant areas in Salsette and round about, should relax their land tax policy by allowing a sort of a permanence and fixity of tenure to enable capitalists to put in their hoarded wealth in sound building projects and other industrial ventures such as Railways, Tramway and Bus Companies, &c., &c., too numerous to mention.

In the first place looking towards the extensive area lying idle in the North of this Island, the Tanneries* at Dharavi claim our foremost attention. These must be removed at the first opportunity. The best place they could be removed to is on the Eastern foreshore of Trombay by the side of village Nanla (*vide* plan A, site marked E†). The present slaughter-house† to be removed to Mahul.‡ The further attention that Dharavi will come to engage will be to entirely disallow licenses for the manufacture of bricks and mortar which is at present carried on, on an extensive scale. Both these industries involve a very great deterioration and injury to the soil of the District inasmuch as the carrying on of these trades exposes the land to be dug up for earth and lime stones and ruins the land by lowering its level to a very great extent and makes the whole district for over four months water-logged, creating every year fresh and new breeding places for mosquitoes. The Bombay Municipality wage an almost indiscriminate war against owners of wells, good and bad, in every part of the Island and winking at and permitting on a large scale creation of pits and holes all over Mahim, Dharavi and Sion. In connection with the question of these pits and holes careful attention of the Railway Companies should be directed and they should be unflinchingly called upon to fill in the trenches and borrow-pits: all along on both sides of their lines from Mahim Southward to Grant Road and from Sion to Byculla. In some places these trenches are reeking with very foul smells and have proved the veriest hot-beds of malarial and other poisonous gases. No less in connection with this the Bombay Municipality should be prompt and foremost in filling in so many of their own tanks and low-lying lands belonging to them and eradicate to a considerable extent the spread of Malaria in Bombay. Sanitation no doubt has an important bearing and connection with the development and improvement of every locality.

For the purposes of the improvement and opening out for residential purposes the North of the Island the first thing to be done is to lay out roads and cross roads without permitting the wholesale acquisition of the District through which such roads are proposed to be carried. The proposal so far made for the opening out of Mahim Woods by Mr. P. R. Cadell—our Municipal Commissioner, now on leave—is an excellent and well-thought-out scheme. Those who have given a careful study to this question will not fail to observe the great thought and care bestowed by him in the laying out of his scheme of Development of this healthy district. There may be a few modifications and additions necessary for its perfection but the consideration of the Scheme in all its details may be left out here till such time as the scheme comes to be discussed in all its bearings. This scheme of Mr. Cadell is not much dependent on the removal of the Worlee Outfall and may therefore be undertaken without any loss of time and should be entrusted to the Municipal agency for its accomplishment. This will in a great measure obviate the necessity of the application of any new Act such as the Town Planning Act which is now under contemplation for Salsette and other Districts of the Presidency. But the applicability of such an Act for the Town and Island of Bombay will be most anomalous. The Legislative Acts at present on the Statute Book and in force are more than sufficient to meet the requirements of this first city of this Presidency. All the energies and resources of the Improvement Trust should be reserved for at least 15 years to come for the improvement of all those highly insanitary areas in the Town—and they are many—and to the completion of the schemes which are already projected or are under construction.

Two new Trunk Roads, in my opinion, from South to North should be provided, similar to the Eastern Avenue now being carried out by the Improvement Trust. One of these two Trunk Roads will form the Western Avenue and the other the Central Avenue. The Western Avenue will start from Malabar Hill and proceeding Northwards to Hornby Vellard, skirt along the Mahim foreshore and finally meet the Mahim Causeway. The Central Avenue should start from some favourable point on Haines Road or Arthur Road and traversing all over Tulsei main pipe till it effects its junction near the Mahim Level crossing and meets the proposed road joining the Mahim Causeway with the Sion and Dharavi Road. Both these Trunk Roads should be at least 100 feet wide. I know that in the North of the Island extending

* *Vide* plan A marked E.

† Bandra.

‡ *Vide* plan A marked F.

from Parel, Elphinstone Road, Mahim, Dadar, and Dharavi an area of over 1,000 acres can be made available for immediate development and remove the congestion of the City. Land-owners are only waiting and biding their time to see that new roads and cross roads are constructed.

In this connection the excellent scheme formulated by Mr. Cadell as said above for the opening out of Mahim Woods must be taken as a model for future work and the principle on which he proposes to carry out his scheme must be followed not only for the Development of the North of the Island but also for opening out Salsette. If the Capital proposed to be laid out on a circumscribed area as that of Back Bay be devoted and applied to Schemes as laid down by Mr. Cadell I am firmly of opinion that within ten years Bombay and its environs will vie with any city in India or Europe for beauty, salubrity and extent.

The Love Grove Outfall at Worli.

To enter upon the discussion of this difficult problem, it would require not only high class technical qualifications and scientific knowledge but a close and intimate acquaintance with the Town and Island of Bombay in both its physical and Geographical aspects. Not only this but likewise the person so called upon to do so should possess a fairly good knowledge of the currents and soundings of the sea and creeks which surround our Island. At the very outset I must admit that I am neither an expert nor an Engineer to speak in an authoritative way on the solution of this much talked of question but merely present a common sense and practical view of the matter as it has come to appeal to me. Very high expert advice has been sought from England at very great cost time after time but to my mind no satisfactory or practicable solution has been offered up till now.

I have up till now noticed that all who have come forward before your Committee to give their opinion on the question of the Development of Bombay have advocated unanimously the removal of this Outfall from Worli but no one has said where and how that is to be shifted or removed with the exception of a few gentlemen, following Sir Charles Ollivant, who propose its removal to Dervar.

In order therefore to impress sufficiently on your mind how I propose to deal with this difficult problem I must be pardoned for discussing at some length the physical aspects of the whole Island of Salsette of which the Bombay Island is the Southern appanage. Were one to carefully study the exact configuration of Salsette he will at once perceive that it is very nearly a large inverted isocoles triangle having the Colaba point as its apex. The base of this inverted triangle, you will see from the map* herewith annexed, passes right through the Thana Creek on the North. Now to judge from this physical configuration how by lapse of time and the force of the currents all round about these Islands such a figure has come to be developed and carved out by nature.

The aspect which this Isocoles triangle presents is so vivid, clear and convincing that it presents to the physiographer a ready key to the solution of this vexed question which has come to baffle the Corporation for over a quarter of a century. One has simply to imagine what tremendous force must have been required and what stupendous momentum exerted over the rocky sides of Salsette by the daily intruding tides of the Arabian Sea on the Western Foreshores to bring about such a result. The very fact of our Bombay Island having been formed into an apex of this large triangle is a proof positive and a clear indication that our Outfall should be placed at the North-East corner of Bombay and made to flow out by way of the Mahim River into the Thana Creek twice a day at every high tide. But with the help of the sketch I have annexed† herewith, Engineers will be in a better position to work out the necessary scheme.

The Area of Salsette—(I include Bombay also therein)—is close upon 270 square miles and extends 16 miles from Bandra northwards to the Bassein inlet. It is studded with well wooded peaks highest of which is 1,550 feet—sufficiently high on nearly all its three sides. The low lands are much intersected by tidal creeks which specially on the North-West split the sea face of this District into small Islands. In ancient times these Islands must have formed a portion of the Mainland. When broken off by the volcanic agency and force of the Arabian Sea that portion became a cluster of rocky Islets. Several of these are now united either by bridges, causeways or embankments which were once separated by merely tidal creeks easily waded or forded at low water. Thus we clearly see how bountifully Nature has provided for Bombay and its environs all the help that she could possibly afford in point of not only its salubrity but sanitation on a stupendous scale. The force of the Arabian Sea as it breaks upon the Western foreshores of Bombay and Salsette is more than ample to carry away anything like sullage in land and out into the mid ocean again through the numerous creeks and tidal rivers Nature has so prodigally scooped out for the benefit of these numerous Islands. If we have suffered up till now for not having taken full advantage of such favourable natural conditions it is perhaps owing to our own poverty of practical wisdom and foresight.

No doubt the several causeways and embankments have proved of incalculable advantage to us in securing for us extensive areas of dry land on the Island of Bombay but some of the Causeways have unhappily done more harm than good. It is here therefore I find that the

* Marked B.

† *Vide* plan marked C.

true key to the whole solution of our trouble of this Worlee Outfall. To support my argument and contention I will only quote those very significant words from Dr. Cunha's "Origin of Bombay," page 103, without debating more on the point: "The Kurla embankment, for instance, which joins Bombay to Salsette, instead of improving the sanitary conditions of the Island, has checked the flow of sea water round Bombay, interfering materially with the purifying operations of the tide, and thus becoming a contributory cause of the increasing mortality of Bombay in recent years." How enlightening and true these words are I leave the Municipal Engineer to judge. They should study to direct the outfall to the North of the Island provide a long subway under the Duncan's Causeway for the tide water to flow into the Thana Creek inlet, to add a few more arches under the Mahim Causeway to enable a free and copious flow of the incoming tide (please *vide* my sketch plan annexed herewith marked C). I feel sure those who have studied the currents of the Creeks and those of the harbour of Bombay and the Arabian Sea will bear me out sufficiently.

I am not prepared at present here to go into the question of cost of bringing about this change but I can say off-hand that the cost will not be so prohibitive and will be much less, compared to the incalculable advantages that will accrue therefrom, than the expense or estimate incurred already and proposed to be incurred hereafter for extending the outfall too far into the sea. (It may be urged by some that the natural gradient in Bombay lies from North to South but if that estimate be inaccurate and fallacious, that can be passed over by securing the benefit of expert and accurate advice thereon. If I am not mistaken on this point Col. Laughton's last survey of the Island points quite the other way, for the levels continue to decrease gradually from South to North).

I believe the more the Worlee Outfall is extended into the Sea the more the crude sewage will return to pollute and befoul the whole Westerly foreshore from Mahaluxmes upto the Malabar Hill and even Colaba in course of time. Perhaps there may be some who will apprehend that this Northern Outfall will go to pollute the Eastern foreshore, the Docks and Colaba in consequence. But this will never happen in the scheme I have come to outline, for the Kurla-Chembur Causeway which will have to be somewhat diverted in consequence will shut out entirely and effectively the out-flow from going into the creek which separates Bombay from Trombay and thence towards the harbour. Rather this will help the Bombay Municipality to secure an extensive tract (3,000 acres) of dry land between the Sewree-Mahul Causeway and the Kurla-Chembur Road. This will further help to do away with the extensive mud flat which is no less a great menace to the Health conditions of Bombay especially as it will considerably affect the popularising of the Schemes V and VI of the Bombay Improvement Trust lying on its West.

Back Bay Reclamation.

I am not at all in favour of this reclamation. Scheme for the time is not yet ripe for carrying out such an expensive project which would go to benefit a very small portion of the Bombay inhabitants and besides, if at all carried out, it would be wholly at the expense of very many urgent works and improvement and development schemes of the extensive areas lying still vacant at Matunga, Sewree, Mahim, Dharavi, Parel, &c. This reclamation at one time must come in but to me it seems that the undertaking of such a project at present will be quite premature and it may be altogether dropped for full quarter of a century. The Scheme as formed and worked out by Government is not only very expensive but will go a long way to retard the progress of Development of the Island towards the North and in Salsette. Residences built on lands reclaimed from the bottom of the sea will always be unhealthy for the first ten years. I have dwelt at length on the subject of the removal of the Worlee Outfall simply because the Development and improvement of the Island hangs entirely upon the removal of this prodigious thorn which has come to penetrate the most vital part of the body of this Island. The question of its removal once being successfully solved, the progress of sanitation will be made more easy, development will take its natural course towards North, thus doing away with the imaginary necessity of reclaiming and destroying the beautiful sweep of Back Bay whose semi-circular shape suggests a comparison with the bay of Naples, for one of the old Governors of Bombay, Sir John Malcolm, used to say that in natural beauty the Bay of Naples and its vicinity was not so striking and picturesque as either Corfu or Bombay ("Origin of Bombay," page 332). The views obtainable from the ridge of Malabar Hill and the summit of the Alta Mont Road which winds up Cumbala Hill are magnificent. Standing by night upon the Ridge one looks down upon the palm grooves of Chaupatty, the Secretariat, and the Light House at Colaba Point, the whole curve of land being jewelled with an unbroken chain of lights which have earned an appropriate title of the "Queen's Necklace" (the Imp. Gazetteer of India, Vol. VIII, page 401).

I therefore beseech the advocates of the Back Bay Reclamation to defer and reserve their distinctive suggestions for at least quarter of a century and direct their thoughts, attention and the capital that is proposed to be devoted to it, for the improvement of the North of the Island and Salsette.

It will not be, I hope, considered out of place here to advocate the reclamation of some of the most eligible sites in and around Bombay in the order of their importance, as given below:—

- (1) The area lying between Petit Hall and Meber Hall on Nepean Sea Road.
- (2) The area towards the North and South of the Scandal Point Battery on Warden Road.
- (3) The whole area lying between the Mahim and Duncan Causeway.
- (4) The whole of the mud-swamp now stretching between the present temporary Sewree Embankment and the Kurla-Chembur Road.
- (5) The area of the Bay between the Dargah of Mama Harjani and Mahaluxmee Point on the West of the Hornby Vellard.
- (6) The whole area now occupied by the Salt Works on the East of the Antop Hill right up to the Salt Works of Wadia Mahal on the extreme North of Sion.
- (7) A small portion of the Mahim Bay between the Worlee Point and the Hindoo Burning Ground on the North of Dyeing Mills.
- (8) The large tract of sea flat on the West of the Mahim Causeway lying on the East of the Bandra Hill.
- (9) The whole sweep of the Back Bay between Malabar Point and Colaba Prongs Light House.

Who will not estimate the aforesaid area that can be made available for the needs of Bombay and its expansion for 50 years to come and equal in size to nearly twice the present area of the Island of Bombay itself?

Trombay.

Trombay is a place which will not for many years to come be sought for high class residences. Its advantage is its close proximity to the Harbour and the Island of Bombay. It labours for the present under several drawbacks. It has not been opened out by wide roads and there is no railway communication. I would suggest this to be connected by a railway* line running from the Sewree Fort towards the village of Mahul or Anik and passing through the villages of Maroli, Mani, Govindi and joining the Municipal Branch line at Devnar thus connecting it with G. I. P. Railway at Kurla (*vide* plan † annexed). Trombay has been healthily situated but its salubrity is rendered foul by the extensive malarial swamps which surround it on the East and on its West, and unless these are done away with this district will not come into favour. Besides the reclamation of these extensive swamps will prove of incalculable advantage to Bombay itself especially to the Improvement Trust Schemes V and VI which lie close to its West. It is therefore essential that this mud swamp which is full of mephitic and other poisonous gases causing malaria and fever in this Island, which only those who have resided and passed through it know full well to their cost. For unless this fruitful source of wafting of unhealthy morning breezes towards the direction of Schemes V and VI, it is quite certain the land in these Schemes will not be readily taken up by well-to-do people. It behooves therefore the authorities to give their close and serious attention to this question; I will revert to the improvement of the swamps when I come to discuss the question of the Worlee Love Grove Pumping Station. But under any circumstance when both Salsette and Trombay are put side by side for utilization for residential purposes every man in a hundred will give the palm of superiority unquestionably to Salsette. In point of having an exclusive westerly sea front open to the Arabian Sea, Trombay cannot hold a candle to the Isles ‡ of St. de Mar, Yerangal, Marva, Aksha, Manori, Gorai, Utan, and Dongri. For those who have closely traversed through this district will admit that provided with good roads, railways and suitable wharves at points where the creeks intersect, this part of Salsette will safely vie for superiority with Malabar and Cumbala Hills.

If I may be allowed to hazard a prophecy the time will not be far distant when Government will prepare to locate the Government House on an area of 100 acres on the breezy heights of the § Hills of Utan and Dongri, commanding a beautiful panoramic view of the range of hills and Thana Creek in the distance towards the East. It may not be amiss to mention in passing that it was in 1827 when Mr. J. Silk Buckingham passed through Thana District extolled the beauty and scenery of this part of the Island of Salsette and it was his description he then published inspired Mr. John Ruskin to write his first Nudigate Prize Poem "Salsette". With a view therefore of developing Salsette I subjoin a plan¶ showing how it can be opened out by a railway line running from Santa Cruz and traversing along the coast line on the West and passing on the North by the side of Thana Creek finally effect junction with G. I. P. Railway at Thana after passing through several well inhabited villages. What portion of Salsette will be most suited for high class and wealthy residences are indicated on a separate plan herewith and marked A', B', C', D', E' and F'. The area marked || D' which will be not less than 700 acres should be

* *Vide* plan B.

† *Vide* plan marked B.

‡ *Vide* plan A, area marked A', B', C', D'.

§ *Vide* plan A marked A', B', C'.

¶ *Vide* plan marked A.

|| *Vide* plan marked A.

reserved and marked for establishing all Educational Institutions such as the Government Colleges including the Technical Institute and all Institutes of Research and Science now being established and those that will come to be formed in future. This will leave ample ground for recreation purposes for the students of the College and the Institutes. The Educational Institutions and buildings so vacated will be utilised for all Government purposes and purposes of trade, Customs, Land Revenue, Records, Courts of Justice, etc. As far as possible all trade expansion should proceed out of Town (Bombay) Limits; the middle and some of the higher middle classes can well be accommodated on the Western portions of Worlee and Mahim. For the Labouring classes, middle Mahim, Dadar and East Worlee and Central Parel will suffice. The land owners of these districts are eagerly watching and waiting for a scheme of roads and cross roads to come on the model of Mr. Cadell's scheme and there is no doubt enough accommodation will come to be provided by way of chawls for the labouring classes who like to concentrate very near their centres of work inasmuch as the District above indicated is the place where most of the mills are situated.

The whole area lying between Haines Road and Arthur and Clerk Roads and the East of the Hornby Vellard should be reserved for recreation and health where could also be located an Acquerium, a zoological garden worthy the name of the City of Bombay.

In every district that is opened out an area of about 25 acres should always be reserved for open spaces and recreation grounds and 10 acres for Police accommodation and miscellaneous requirements of Government as exigencies may arise.

I cannot urge more strongly for the removal and extinction of all mud flats and mangrove swamps in Bombay and within the distance of 20 miles from Bombay and Salsette. So much so that I would even go far as to advocate the removal of all the salt works now existing on the East of the Antop and Rowlee Hills; thus bringing this extensive area for the use of trade purposes as the Port Trust of late have already done by the acquisition from Government and private owners the extensive salt works called Sewree, Wadalla, Dhopri, Naro and Antop.

I am in favour of making the Church Gate terminus for the B. B. & C. I. Railway but if practicable the present railway line should be removed further towards the West from Church Gate upto the Chaupatty Level Crossing. The electrification of both the railways, the B. B. & C. I. Railway upto Bassein and the G. I. P. upto Kalyan or if it be permitted upto Poona, should be considered a necessity. (*Vide* plan marked D, portion coloured burnt sienna).

The best site I can think of removing the St. George's Hospital would be the area towards the North of H. H. the Maharaja of Gwalior's Bungalow on the Worlee Hill or if not found too far, near the Land's End at Bandra.

Of the two sites I would favour the former; but at any rate it should be removed from its present position. Of course it must be well kept in mind that these proposals are entirely dependent upon the total removal of the Worlee Sewage Pumping Station at Love Grove.

In every scheme of Development of Town and Island of Bombay the question of Hill Sanitaria must play an important part. The Matheran Hill is indeed very favourably situated as a hot weather resort for the requirements of the citizens of Bombay. But the Hill station has become far too crowded and there is a great fear entertained by well informed persons that the place is getting well nigh highly congested, some other places as health resorts should be indicated and I would suggest Government to lay out the Hill of Tangarly overlooking the East of Bassein and the Hill called Parbal on the West of Matheran, while across the harbour I can safely point out the Beautiful Hill of Karanja and Dronagiri and the sea coast of Kihim and Alibag, Rev Danda and Janjira. I anticipate that Syndicates will be formed for the taking up from Government on favourable terms these Hills and leased out for Building purposes.

I am in favour of the Town Planning Act coming into force for Salsette but that it should not be extended to the Town and Island of Bombay inasmuch as the Improvement Trust Act and the Municipal Acts are quite sufficient to meet the needs of this City for years to come.

SANITARY REGULATIONS.

Restrictions, Light and Air, etc.

It goes without saying that sanitation in its widest sense should play an important part in every scheme of City Development and improvement. The Chairman of the Improvement Trust has given very careful thought to such building regulations as to light and air of buildings. I support them in all their entirety as laid down. I enumerate a few such regulations that should be enforced and enacted.

- (1) One-third open space to be kept in every plot built upon.
- (2) For Light an angle of 63° to be followed.
- (3) No owner to be allowed to build the boundary wall higher than 4 feet as is ordinarily provided and restricted in every form of Government leases. (*Vide* Mr. Watson's remarks *anent* same).

(4) No green or dry fish manure to be used for cocoanut and other trees except artificial fertilisers.

(5) No green or dry leaves of the palm trees allowed to be soaked in water-pits for the purpose of making "jaolies" as the stench that this emanates during the process of rotting of these leaves is simply abominable and most injurious to health. The trade of weaving jaolies is carried on in Salsette on an extensive scale.

(6) No dead animals such as horses, cows, buffaloes, goats, sheep should be allowed to be stripped for their skins within an area of 20 miles radius round any town or city.

(7) Drying of fish and storing of dry fish restricted to particular localities and restricted areas.

(8) No offensive trade or industry permitted within residential areas.

(9) Stagnant water-pits, wells and tanks containing unwholesome water should be filled in.

(10) Town sweepings and house sullage, night-soil should be disposed off on a well organised system.

(11) Supply of good potable water.

Summary of the Minutes.

A. Construction of residential areas in the North of the Island involving—

(1) Development of Mahim and Worlee for Upper middle classes.

(2) Elphinstone Road, Parel, Mahaluxmee for working classes and artisans.

(3) Dharavi including East Mahim for industrial purposes, not involving hazardous and offensive trades.

(4) Tanneries to be located in the East of Mahul Hill in the village of Nandla.

(5) Removal of Slaughter House to the East of Mahul Hill on the Island of Trombay facing Sewree.

(6) Removal of Worlee Outfall to the North-East of Sion effecting its connection with the out-flow in Thana Creek.

(7) Conferment on the Bombay Municipality with restricted statutory powers as far as they may be consistent with their bye-laws adequately amended for dealing with the construction of roads and cross-roads and such other conveniences as may be desirable for the development of the Northern portions of Bombay without the application of any Town Planning Act.

B. Reclamation in Back Bay as proposed by Government to be given up except the portion shown in my plan marked for the removal of the existing B. B. & C. I. Railway line towards the West and making Church Gate Station the Terminus.

Milch cattle stables to be located in Salsette, preferable in Andheri.

Trombay to be opened out by roads and railways going through Sewree and Devnar after passing through the villages of Anik, Maroli, Mani, Govindi, and effecting junction at Devnar.

Removal of the European General Hospital to Worlee or Bandra Hill.

II. Construction of a wide thoroughfare connecting the Ballard Pier with the Hornby Road—this road to effect junction near Fort Fire Brigade Station.

(b) Proposal to construct a Western Avenue and one Central Avenue and generally seconding the proposal of Mr. Cadell.

(c) Desirability of the Harbour Branch Railway effecting junction with G. I. P. Railway at Victoria Terminus.

(d) Desirability of reclamation of swamps, mud-flats, and low-lying portions in and around Bombay.

*Navsari Building, Fort, Bombay, }
10th December 1913.*

JAMSHEDJI E. SAKLATWALLA.

82, Tamarind Lane,
Bombay, 11th December 1913.

To
B. W. KISSAN, Esq., I. C. S.,
Special Officer and Secretary to the Committee, &c.,
Secretariat.

Sir,

I have to thank you for your letter No. 47, dated the 6th instant, forwarding to me copies of Government Resolutions and asking me to submit my views and suggestions in writing.

It is agreed on all sides that all the ills, to which Bombay is subject, are due to overcrowding. Plague, high rents, infant mortality and the high death rate are all due to overcrowding. What is the remedy? The same as is applied in the case of overpopulated countries like England, the same as is done with large families with a small ancestral house. In the former case emigration and in the latter enlargement of the house or construction of new dwellings. Everyone admits that more land is required to fill the immediate needs but they differ in their suggestions. I do not favour any artificial methods such as reclamation and overhead railways.

Reclamation has been tried by the Improvement Trust at Colaba and though they have done well pecuniarily the public who went in for the plots repent now. Many of the bungalows do not pay a good dividend and several are for sale at a loss. The public will not go in for any more reclaimed land. The well-to-do Indians are all housed already and the European element which wants no doubt decent house accommodation along the seafront cannot draw any more capitalists to invest their moneys at a loss.

There are great difficulties in the way of throwing large open areas within the Island of Bombay itself for immediate occupation. Take Mahim for instance. There are diverse interests clashing with any proposed scheme as can be seen by the representations made by the inhabitants. Dharavi requires also reclamation and displacing an already existing industry of leather.

Experience teaches us that there must be a migration towards the north (*i. e.*) from Bandora to Borivli. In the first years of plague, well-to-do people, mostly of the middle class, migrated to these suburbs with very good results both to themselves and to the City of their adoption. But for some reasons this growth is checked. I would advise facilities afforded to the middle classes to continue the work they commenced at the commencement of plague with such beneficial results. Government ought to resume all the available building land on either side of the B. B. & C. I. Railway up to Borivli and resell it in suitable plots to builders. The Railway Company ought to reduce their fares and have more frequent and faster trains. There should be another station between Goregam and Andheri. There should be a good water-supply scheme. Provision should also be made for extra police, dispensaries at every Railway Station, public telephones communicating with the City, and public markets. The Railway Company should have sidings at every station for the carriage of goods from the City, so that the old method of taking everything by carts may be done away with. In this connection I must say I do not favour motor busses as the time has not come for them. They have nowhere succeeded in India and private enterprise in this direction is bound to be a failure.

Every facility should be given to middle class families to move out to these suburbs. I would also suggest loans by Government or a Co-operative Credit Society to help families to have their own houses.

Capitalists also will come forward to build dwellings but no encouragement should be given to speculators. The latter have spoiled the beauty of the spots wherever they set foot. The speculator wants to make the most of land, leaves very little open spaces, uses bad materials, in many cases old materials, and wants to sell it off at an advantage.

I now come to the housing of the poorer classes. These are at present housed in chawls. Each family consisting of 3 to 5 persons is housed in a room measuring on an average 100 square feet. The conditions of living are such that the women and children suffer heavily owing to the cramped space and owing to the lack of fresh and bracing air. These rooms in chawls are merely pigeon holes. There is no privacy and the morality of the bulk of the population is thus lowered by promiscuous herding. Owing to the high rents of these rooms, in most cases as much as Rs. 5, these people are always in the hands of Marwaris and can never hope to be free of debt, unless some charitable association like the Servants of India Society in the case of sweepers, comes to their rescue.

Associations like Mill Owners' Association, the Native Chamber of Commerce, etc., want their hands to be near the works and hence they propose chawls near their mills, godowns, etc. But this is purely selfish. The master does not think of the welfare of his servant.

The only remedy to this state of things also is, to build small detached semipermanent cottages of the Improvement Trust type in the suburbs, a little further from the bungalows of the middle class residents. The people will not mind any little extra distance from the

Railway Stations. They can have a little land to themselves and can utilize it for a vegetable garden.

The advantages which accrue from my suggestion are many. Morally and physically they will be better. Being in the neighbourhood of the middle classes, they will be in touch with them. This will have a very good effect on their morals. Nothing is more deplorable than to divorce these communities apart. Look to any village organization and see how amicably the middle classes and the poor live side by side. Both are benefited. The servant problem will be solved.

As regards means of locomotion, I will propose workmen's trains both in the morning and evening at special fares. These people generally carry their lunch with them and hence there will be no difficulty for them as regards their meals. Their children will be looked after in special cases by poor neighbours or special institutions for the case of the young may be started as an experimental measure by some charitably disposed in these localities occupied by thousands of working class people.

Anyhow the people whether of the middle classes or the poorer classes must be away at least for the night from the vicinity of their places of business, so that they may forget the worries of the day and enjoy a restful night. It is sleep which is conducive to health and very few really enjoy concentrated good sleep. Just as very few get pure milk, so very few enjoy pure sleep, most are in dreamland every night.

I have been living at Malad for the last 12 months as an experimental measure and the above remarks are made from personal experience. I have no axe to grind, but state what I honestly believe.

Now coming to the question of accommodation for Europeans of the wealthy, the middle and the poor, I suggest that the Improvement Trust should undertake reclamation of Back Bay on a small scale and build villas themselves. These can be let to the upper ten; These villas can never be made to pay more than 4 per cent. and hence private capital will be shy. The middle classes ought to find ample accommodation at Colaba when the cotton green is removed. Agripada and Byculla, where there are still large areas, are the proper centres for the poorer classes of Europeans and Anglo-Indians.

A word about development of Salsette and I have done. I am against giving the work of the construction of roads to contractors who have neither the knowledge, experience and the tools necessary. I would suggest all road work should be carried out departmentally. The Engineering Department can afford to have up-to-date road rollers, motor wagons for the distribution of metal, machines for breaking metal, etc., and also a gang of men trained up always in its service. As there is a good deal of road-making and road-mending for years to come, this system will work out cheaper and the public will have double the roadway by such economy. At present the roads are anything but satisfactory.

Government will do well to request professional men, Engineers and Doctors, to serve as Members of the Board instead of nominating people who are great either by their riches or by their flattery. Good men will not care to hang on the officers, but they will have to be specially requested to sacrifice their time for the good of the public.

I beg to remain,

Sir,

Your most obedient servant,

G. L. NARASIMHAM.

No. G-12868 or 1913-1914.

From

THE EXECUTIVE ENGINEER,
Bombay Municipality;

To

THE MUNICIPAL COMMISSIONER.

*Bombay Municipality,
Bombay, 11th December 1913.*

Development of Bombay.

Sir,

In compliance with your No. 21893 of 23rd October 1913 requesting an expression of my views in connection with the development of the Town and Island of Bombay I have now the honour to submit the following note on the subjects to be considered by the Committee appointed under Government Resolution No. 7440 of 16th October 1913.

2. In my report to the Municipal Commissioner, dated 14th October 1913 (already forwarded), I have briefly reviewed the present situation in regard to the development of the City, pointing out the progress made and modifications proposed in the execution of the scheme formulated in the orders of 1909, in so far as the same pertains directly to the Municipality. I now propose to amplify the said report and to deal with the several subjects raised.

Road Communications.—The Governor in Council in 1909 after mature consideration came to the conclusion that adequate means of locomotion in Bombay demanded an Eastern, a Central and a Western trunk line of roadway and urged that the immediate needs of the City should be met by the provision of the following works :—

- (1) The widening of Abdul Rehman Street;
- (2) A satisfactory connection between Frere and Reay Roads;
- (3) The construction of a broad road from Bandra Causeway to Sankli Street; and
- (4) The provision of a road Northwards from Sandhurst Road in the line of Chunam Kiln Road (to be widened).

Minor proposals recommended for later consideration included—

- (1) A broad road from Ballard Pier to Hornby Road;
- (2) The widening of Victoria Road from Mount Road to Parel; and
- (3) A road from Sewri Village to the New Sewri Road.

Although the programme above outlined has not been completed a good deal has been done towards its fulfilment and many other works of utility have been initiated or executed.

Since the foregoing proposals were formulated, the Improvement Trust Memonwada Scheme has taken shape and the route of the Eastern Avenue (or more correctly Central Avenue) to run from opposite Palton Road nearly parallel to Abdul Rehman Street to Parel Road has been located and many properties already acquired.

The line adopted for the Memonwada Section of the Eastern Avenue has not however caused the Municipality to abandon the widening of Abdul Rehman Street to 60 feet. Setbacks continue to be enforced whenever opportunity occurs as the need for wide main thoroughfares is becoming every day more evident.

The expenditure incurred in taking up setbacks in this street during the past four years amounts to about Rs. 1,54,479, the total cost of widening 1,190 feet of frontage to date Rs. 3,27,106, and the estimated cost of acquiring the remaining 2,488 feet of frontage under the existing provisions of the Act, approximately 15 lacs.

Considerable progress has during the same period been made in widening Masjid Bunder Road, another busy thoroughfare, which runs at right angles to Abdul Rehman Street towards the Harbour. The expenditure already incurred in widening amounts in this case to about Rs. 3,95,530, and the cost of completing the improvement may entail an additional outlay of about Rs. 17,81,390.

Shaik Memon Street, another congested thoroughfare, west of, but parallel to, Abdul Rehman Street, is also being dealt with under the Setback Clauses of the Act. Here again the cost is very great. About 654 feet of frontage have been taken up at an expenditure of Rs. 2,35,611. The frontage still to be acquired extends to 2,072 feet and the estimated outlay under existing powers to about Rs. 11,66,520.

Frere Road and Reay Road have now been connected by a satisfactory thoroughfare 90 feet in width. The widening of Reay Road from 60 feet to 90 feet is to be undertaken partly by the Municipality and partly by the Port Trust.

An Eastern trunk line of roadway will thus be provided from the Fort as far as Kalachanki Road. A proper outlet to this main thoroughfare is however required and I would suggest its continuation northwards, absorbing Parel Tank Road for a length of 540 yards thence diverging and crossing the line of a proposed wide East and West road which should be constructed from the Reclamation near Jackeria Bunder to Sopari Bag Road opposite Currey Road, and continuing to and terminating by a junction with the new cross road about to be constructed by the Port Trust, Municipality and Improvement Trust, between the Harbour Reclamation near Sewri Village and Sopari Bag Road where it joins Elphinstone Road, at a point near the Parel Laboratory and adjoining the New King Edward Memorial Hospital site.

A subsidiary, though important, road 60 feet in width branching off the Eastern trunk road is about to be constructed at the joint expenses of the Port Trust and the Municipality from near Jackeria Bunder Road to Old Sewri Road. The Municipality have approved of the lines laid down for the construction of the said road Northwards partly by the widening of Old Sewri Road and partly by diversion through Waddalla Village to join the Matunga Road at the Preventive Station, thus linking up with the Improvement Trust Scheme and completing the Eastern circuit of the City.

The necessity of providing suitable East and West connecting roads from the Harbour has also received consideration. The opening up of Victoria Road to Parel Road is practically

completed. Mount Road has been partly widened whilst the construction of a new street in line of Rose Cottage Lane has been sanctioned. The acquisition of the vacant land for widening Love Lane and Nesbit Road with its extension to Dockyard Road is being proceeded with, whilst the widening of Mazagon Road, Hancock Bridge, Elphinstone Road Bridge, Ollivant Bridge and Byculla Bridge are receiving attention.

In view of the enormous traffic of all kinds which will inevitably converge to and diverge from the new Alexandra Dock soon to be opened, the suitability and sufficiency of the means of communications and facilities for transaction of business in the vicinity, constitute subjects deserving of careful enquiry and investigation.

The situation of the new Dock is in close proximity to the Fort, which is at present and will in the future become to an even greater degree the chief business centre in the City.

The area comprised by Rampart Road, Hornby Road, Fort Street, Mint Road, Custom House Road and Apollo Street is seriously deficient in means of communication.

The Southern outlet to the Eastern trunk line of roadway from Frere Road has still to be tackled. The projecting corners of the Town Hall grounds require to be rounded off and Custom House Road and Apollo Street widened as far as Rampart Row.

Church Gate Street, which is practically the only cross street in the area mentioned, is obviously insufficient now and even if widened to 60 feet as proposed will still be too narrow to carry the increasing traffic of the future.

Apollo Street could well be made of uniform width from Elphinstone Circle to Custom House Road.

Dalal Street might with advantage be widened and extended to meet Meadow Street opposite Bell Lane and Bell Lane increased so as to provide a good cross thoroughfare from Hornby Road just opposite the University Gardens. A better outlet to Meadow Street towards Rampart Row would also be a desirable improvement.

Coming now to the area between Church Gate Street and Fort Street a more serious problem presents itself. A main thoroughfare from the neighbourhood of Ballard Pier to Hornby Road is doubtless required, but this alone will not meet the needs of the case. The whole area is congested and insanitary, with houses dumped down regardless of alignment or air space and means of communication chiefly confined to narrow, dirty and irregular lanes.

A comprehensive scheme of development should be evolved for the district. Large areas should be cleared and spacious streets laid out so as to admit of properly equipped up-to-date buildings being erected to supply the want for first class shop and office accommodation and to provide for the expanding necessities of the business centre.

The alignment of the various streets and the planning scheme will to a considerable extent be dependent on the avoiding of the numerous temples, mosques and Agaries dotted over the area. The difficulty of securing good thoroughfares under the conditions stated is not insurmountable, a though greater expense may be incurred in overcoming such obstacles.

The scheme is one which should naturally devolve on the Improvement Trust. The questions of adequate and convenient access to and the provision of ample accommodation for business premises in the vicinity of the harbour are however of such vital significance when considered in relation to the efficient working of the New Docks, that the Port Trust may justly be expected to make a substantial contribution in aid of the scheme.

The opening up and laying out of a new wide street or square, to the North of Ballard Pier Road and extending Eastwards from Frere Road through the Harbour precincts, in order to give traffic facilities and secure ample room for the parking of motors and carriages for the convenience of passengers and the conveyance of goods to and from the New Dock and Ballard Pier may also be taken in hand by the Port Trust.

Whilst the initial cost of the scheme suggested will necessarily be great, it should be noted that by the conversion of back lying areas of comparatively low values into front lands abutting on wide streets and capable of yielding greatly enhanced prices, the increased return which will accrue will go a long way towards meeting the outlay.

Health considerations alone would justify the breaking up of this congested locality, but when in addition it is recognized that better means of communication to the Docks is indispensable and that central provision for the expanding needs of business and trade is daily becoming more pressing the solution of such problems cannot well be postponed.

Fort North is becoming more and more a business centre and less and less a residential quarter. The early removal of the Cotton Green from Colaba to the reclamation will thus be most opportune, as the large area thereby set free, will at the proper time not only be made available for the healthful housing of a proportion of the large population which may migrate or be displaced from the Fort North area, but will also provide easily accessible residences for the probable influx of labour consequent on the harbour extension, improvement works and centralization of business premises.

The main central trunk line of roadway from the Fort Northwards will extend from Hornby Road *via* Paltan Road through Memonwada by the new Improvement Trust thoroughfare to be named Sydenham Street and thence by Parel Road when widened to the Byoulla Bridge, where it will bifurcate into the Eastern and Western Avenues dividing and developing the Northern district of the City.

The Eastern Avenue, now under construction by the Improvement Trust, follows the line of Parel Road and Soparibag Road already partially widened to 120 feet and thence by Vincent Road or Kings Way of a width of 150 feet to Sion.

At present the Northern access to Sálsette at Kurla is by a narrow road and causeway running along the East side of and subsequently crossing the G. I. P. Railway by means of level crossings. This is now being improved upon by the formation of a causeway 60 feet in width along the West side of the Railway from Sion to Kurla, the connection to the Eastern Avenue being by an overbridge (now nearing completion) at the Sion Station.

The Western Avenue which corresponds with the Government requirement No. 3, *viz.*, "The construction of a broad road from Bandra Causeway to Sankly Street" has been aligned to a width of 100 feet and is proposed to be attained by the widening of Haines Road and DeLisle Road, the extension of DeLisle Road northwards through the Mahim Woods and the absorption of Lady Jamshedji Road from the Bombay Woollen Mill to Bandra Causeway.

The length of this avenue from Byoulla Bridge to the Municipal limits on Bandra Causeway will be about 5.53 miles.

The cost of acquiring the vacant land within the setback lines in DeLisle Road is estimated, if taken up immediately, at Rs. 1,86,318 and of securing the land required for the new section of road through the Mahim woods and for widening Lady Jamshedji Road at about Rs. 4,05,544.

This will leave a built upon frontage (exclusive of Municipal and railway property) extending to about 7,434 feet for subsequent acquisition, the land value of which (not including structures) will be about Rs. 4,15,018.

As the road communications between the Eastern and the Western Avenues have been severed by the Railways, overbridges have recently been provided at Clerk Road, Arthur Road and Elphinstone Road to relieve the dislocation of traffic. New overbridges are being erected at Currey Road, DeLisle Road and Clerk Road (B. B. & C. I. Railway), whilst negotiations between the Railway Companies, the Improvement Trust and the Municipality have resulted in an arrangement for the erection of a footbridge at the existing level crossings at Dadar and a 60 feet wide bridge to the north of the Dadar Station.

In place of the track or passage between the B. B. & C. I. Railway Station at Matunga and the G. I. P. Railway Matunga Station and severed by the extension of the G. I. P. Railway Workshops, a foot-overbridge has under award been provided approximately along the old line and a new road 60 feet in width following a somewhat more circuitous route to meet an Improvement Trust Road from Kings Way near the Mahim Chord Railway is about to be formed.

At the extreme north of the Island the alignment of a new road 60 feet in width connecting Bandra Causeway and Sion Causeway has recently been laid down and sanctioned by the Corporation whilst Mori Road and the road through Dharavi are being widened to 40 feet as opportunities occur.

The extensive low lying area to the south of Dharavi village and bounded by Dharavi Road, the G. I. P. Railway and the Mahim Chord Railway is wholly undeveloped and without road communication. This deficiency will be partially remedied by the construction of the new cross road above referred to, but at least two more main roads branching off the said cross road should be provided. These may preferably take off at the points where the new cross road cuts the existing Dharavi Road near Sion and Mahim respectively and should converge and combine towards the South so as to form a single road to be carried under the Mahim Chord Railway to join the road leading from the Matunga Station, B. B. & C. I. Railway, to Kings Way. After the level of the area in question is raised it will become a most desirable residential area for the large number of workers engaged at the Railway Workshops, tanneries, boot factories and other businesses in the vicinity.

Under Schemes V and VI of the Improvement Trust a very large section of the Northern district East of the G. I. P. Railway and North of Dadar is being reclaimed and developed. The widening of Bhoiwada Road, which is not included in the said schemes, will however have to be widened by the Municipality in order to maintain a continuous thoroughfare 60 feet in width and a proposal therefor has been submitted to the Corporation for sanction.

Additional means of communication will ere long require to be made in the neighbourhood of Wadala Village, Antop Hill and Rowlee Hill, but consideration may be deferred until the Railway works now being carried out in this district have been further advanced.

Dealing now with the North and South communications occupying the Western side of the City, we have Cruickshank Road and Kalbadevi Road forming an alternative route to

Parel Road, Colaba Causeway, Esplanade Road, Girgaum Road and Gowalia Tank Road extending from the Southern extremity of the Island to Cumballa Hill and Cuffe Parade and Queen's Road connecting the Colaba district with Chaupati Parade, Walkeshwar and Malabar Hill.

Kalbadevi Road is much too narrow for the existing traffic. Setbacks are however gradually being taken up and improvements effected.

Colaba Causeway requires widening at various points and where vacant land occurs will receive early attention.

A few stretches of Girgaum Road still require to be put back to the regular lines. These projections will soon be removed. The traffic is heavy and demands further widening where practicable. A proposal with this end in view is under consideration.

Queen's Road from Church Gate Station to Lamington Road carries during the morning hours and more noticeably in the evening, a vast amount of fast going motor and carriage traffic.

Consequent on the Railway occupying the whole of one side of this busy thoroughfares there is an entire absence of cross vehicular traffic and hence a high rate of speed can with safety be permitted. This admits of a very large number of vehicles being accommodated without congestion and indeed this road is capable of conveying still greater numbers.

The chief difficulty and danger lie in conducting the pedestrian traffic. Large streams of people flock to the several stations and to the sea front from the densely populated Girgaum district and to reach their objective must necessarily cross the lines of fast vehicular traffic in Queen's Road at much personal risk and danger and to the annoyance and delay of drivers.

To obviate these disadvantages a scheme has been devised for the provision of footbridges spanning both Queen's Road and the Railway, the giving of access to each side of the road and Railway and the abolition of the existing level crossings at Chaupati and Princess Street.

The sites for these overbridges which need not be unsightly have been selected at the points where traffic concentrates, so as to afford the maximum of convenience and relief.

It is proposed to increase the bell-mouthed junctions at Charni Road and Thakurdwar Road and therein to provide large refuges, clear of Queen's Road line, from which access to the overbridges thereat can be had. Suitable stairs or ramps would lead to both sides of Charni Road Station and to the gardens and sea front.

Similarly from the vacant land at the south-west corner of Princess Street a footbridge would be carried over Queen's Road and the Railway with connecting stairs or ramps to both sides of Marine Lines Station and to the Gymkhanas and Kennedy Sea Face.

The advantages to the Railway Company being obvious their co-operation in constructing the overbridges is anticipated.

In addition it is proposed to improve the footway, where existing, along the West side of Queen's Road and to make it continuous opposite the Stations. This can be effected without unduly curtailing the carriage-way, by lopping off various projecting portions of disused railway ground and by laying down regular lines and acquiring a few frontages on the East side of the road where the width is somewhat restricted.

Beyond these minor improvements I do not think it necessary to suggest any extensive scheme for the widening of this road. The natural line for the main Western trunk road is undoubtedly along the sea front from Colaba to Chaupati and eventually to Bandra Causeway.

The lack of good East and West communications in the Western district, North of Church Gate Street, is very evident. Princess Street and Sandhurst Road are the only good thoroughfares.

The Municipality have in contemplation the construction of a low level road 50 feet in width from the common junction of Carnac Road, Cruickshank Road and Esplanade Road to Queen's Road at 1st Marine Street and parallel thereto an approach road 60 feet in width leading to the carriage bridge proposed to be constructed over Queen's Road and the Railway to give access to the fore-shore new road. A number of properties have already been acquired along the route of these roads.

The widening of Charni Road and Thakurdwar Road should be continued and the opening up of Cavel Street completed.

Many improvements might be suggested in the crowded Bhuleshwar district, but these may be deferred until the main lines of communication have been secured.

The opening up of Lamington Road to 80 feet and the intended continuation of this wide thoroughfare along Arthur Road across the Western Avenue at DeLisle Road to meet the Eastern Avenue near Government Gate House, Parel, will give a splendid connection to the central area of the city so well served by the roads radiating from Jacob's Circle and direct communication from Queen's Road to the districts of Worlee, Mahim and Parel.

The sanction accorded to the widening of Clare Road to 80 feet between Bellasis Road and its junction with the Eastern and Western avenues at the Byculla Bridge secures a necessary link in the chain of road communications.

Schemes for widening Kennedy Bridge and Tardeo Road and the development of the Chikhalwadi area have been prepared and are now the subject of negotiation.

Suitable communication will thereby be provided from Sandhurst Bridge to Hornby Vellard and in addition it is proposed in place of the level crossing at Arthur Road, to construct a new road with bridge over the B. B. and C. I. Railway in continuation of Club Road to meet Arthur Road and to extend thence through the reclaimed ground at Tardeo to meet the Hornby Vellard at its junction with Clerk Road and Tardeo Road.

Hornby Vellard, including the ride, is 75 feet in width and is sufficient for present requirements. Should it be found necessary, when adequate through means of communication have been established, to obtain increased width, this can easily be secured by reclaiming a portion of the storm water reservoir.

The re-alignment and regrading of Love Grove Road from Hornby Vellard to Worlee Road are now before the Corporation for sanction.

During the past year a considerable number of properties were acquired and the first section of Worlee Road from Haines Road Northwards widened to 60 feet. The rise in value of the adjoining ground is already most marked. Provision has been made in the next year's budget for the regrading and completion of this road to Worlee Storm Water Channel.

A number of mills have been erected and new mills are being erected in the area North of Ferguson Road and between DeLisle Road and the Worlee Storm Water Channel without adequate means of communication or drainage facilities. It has therefore been proposed to lay out a road 50 feet in width between DeLisle Road and Worlee Road.

A scheme for the development of Worlee Village has been submitted and is being considered by the Municipal Commissioner. The present state of the village is deplorable and cannot be effectively dealt with under the powers of the Bombay Municipal Act. Under an Improvement Trust Scheme or the Town Planning Act the existing huddled together dwellings could be swept away and an ideal fishing village established.

The scheme for the development of Mahim, which has been remitted to a Committee of the Corporation for consideration, is fully explained in my report to the Municipal Commissioner of date 2nd July 1913 (already forwarded).

Since the above date the Corporation have sanctioned the construction of a cross road 60 feet in width from Matunga B. B. & C. I. Railway Station to Mahim Bazar Road and of another road of the same width from the newly constructed bridge over the Railways at Elphinstone Road to the junction of Dadar Road and Lady Jamshedji Road. The land for the first mentioned road has been acquired and the work of formation is well advanced. In the latter case preparations are in progress for the acquisition of land and frontages.

When it has been decided that certain main lines of communication are necessary and when regular lines have been laid down to secure the desired width it is very essential that funds should be made available for the immediate acquisition of all the vacant land within the setback lines, as otherwise each setback taken up merely enhances the value of the adjoining land which has subsequently to be paid for. Setback lines should only be laid down where prompt action is intended or where there are specially obstructive buildings and should not be applied to the gradual widening of built-upon streets. Such a procedure is much too expensive, and where it is necessary to deal with existing built-upon areas these should be taken up by the Improvement Trust as Deferred Street Schemes.

Prints of the large scale plans of the several street schemes under review have been prepared, as per list appended and will be available for reference.

Maintenance of Roads.—Most of the main thoroughfares in Bombay are now proving entirely inadequate to withstand the demands of modern traffic conditions. This is in great part due to the absence of a sufficiently rigid foundation; indeed few of the roads have any suberust and many are devoid of surface and sub-soil drainage. Weather conditions are among the most powerful influences which cause the deterioration of roads. The destructive effect of the weather can however be minimized by effective water proofing and by properly draining the foundations. Any considerable volume of traffic, either by heavy motor vehicles or high speed light motor cars has a seriously damaging effect on water-bound macadam roads.

Considerable expenditure will necessarily be incurred in providing solid and sufficient foundations to the roads but this in the end will be found to be the cheaper course.

Mechanical appliances for tarring the surfaces and coating the metal are being obtained and by these means it is hoped to reduce maintenance charges and provide better and cleaner roads.

It may be noted that while the revenue of the City has increased by about 55 per cent. within the last 10 years the cost of road maintenance has only increased about 25 per cent.

Means of Traction.—The Railway Companies should be urged to expedite the electrification of their systems for the conduct of suburban passenger traffic as this will do more than anything else, towards the spreading of the population and the development of the Northern districts of the City and Salsette.

Tramways can never compete with railways where long distances are involved and speedy transit at low fares demanded. Tramways are designed to meet the requirements of local traffic.

The construction of an elevated electric railway from near Marine Lines Station to Wodehouse Road would obviate the construction of a number of road overbridges and give continuous access to the reclaimed area and the foreshore road. A branch elevated line could also take off at Marine Lines station for the Bori Bandar and Fort.

The Railway from Ballard Pier to the Victoria Terminus should preferably be bridged over Frere Road.

With regard to Tramway extensions these should in general be confined to roads of not less than 80 feet in width and the traffic on narrower roads be developed by means of the trackless trolley or self-contained motor omnibus.

In the "United Kingdom" report to the Third International Road Congress held recently the author points out that at the end of December 1909, the street mileage served by motor omnibuses in London was 115 and at the end of November 1912 the mileage was 337. The maximum intensity of motor-omnibus traffic was in Oxford Street, between Bond Street and Oxford-Circus where 248 omnibuses passed each way per hour and the number of passengers carried was as high as 8,432 in each direction per hour. The low running cost per mile, the greater frequency of the service, and the superior mobility of the motor omnibus are factors which have enabled the 34 seated vehicle to compete with the 78 seated tramcar throughout Greater London. With respect to accidents it is pointed out that the tramcars are not allowed to run through the busiest streets in the central part of London, though motor omnibuses are employed where the traffic is most dense. The street mileage run by motor omnibuses in the London County Council area is nearly double that worked by tramcars. As regards obstruction the official decision of the traffic branch of the Board of Trade was that the obstruction to traffic caused by a tramcar compared with that caused by a motor omnibus is as 10 to 3. The losses sustained by the owners of vehicles obstructed by tramcars is therefore very great.

The traffic problem is becoming a serious one as is evidenced by the congestion at the docks and in many of the adjoining streets. No doubt motor vehicles will soon help to relieve the situation, but I think it is worthy of consideration, whether the existing tramway system might not during the quiet traffic periods of the day, be employed for the conveyance of merchandise to and from the docks and whether special lines might not with advantage be laid to the manufacturing centres.

As an incentive to carting contractors to provide more up-to-date vehicles than the present bullock carts, the experiment might be tried of remitting half the vehicle tax in the case of carts constructed with approved springs. The result would be to decrease the tractive force required, to minimize the noise, to reduce the destructive action on road surfaces, to prolong the life of the cart and to greatly relieve the bullocks' necks from shocks and sores.

Industrial and Residential areas.—A glance at the general map of the City on which the position of the various mills has been indicated, shows that these are scattered over a very wide area. The tendency of late has, however, been to concentrate more in the DeLisle Road and Parel districts no doubt with a view to easy access to the Railways and docks. There are still very large areas in those localities available for future expansion.

In view of the adoption of electric power and the mitigation of the smoke nuisance, it does not seem necessary to make restrictions except in the case of offensive trades which may be provided for in the extreme North-East of the Island.

Operatives will always reside in close proximity to their work and there is ample space surrounding the various works to provide accommodation for many years to come.

Mahim and the Trust Schemes at Matunga will provide excellent residential facilities for the middle and better classes and will doubtless develop quickly where roads and drains are constructed and means of rapid transit provided.

The wealthy classes will continue to occupy Malabar Hill, Cumballa Hill and the Fort, but I do not think they will go to Worlee Foreshore even after the Love Grove nuisance is remedied. Before the Worlee foreshore can be made fit for habitations a sea wall and roadway must be constructed and the whole area which consists of bare rock coated to a depth of several feet with imported soil.

It is not very likely that a large number of persons will migrate to Salsette even after improved railway facilities are provided.

Open Spaces.—The subject of providing additional open spaces and of utilizing to the best advantage the existing spaces is at present engaging the attention of the Municipal Commissioner.

The cost of acquiring areas for recreation purposes in densely populated localities is prohibitive. Here and there it may be possible to pick out a few old buildings and provide play-grounds and gymnasia. When selecting sites for new schools large areas should be enclosed so as to provide play-ground accommodation which the children can also use at other than school hours.

The following statements relating to open spaces are appended hereto :—

A.—Statement showing existing open spaces belonging to the Municipality 314.74 acres.

B.—Statement showing (1) open spaces which will be created by filling in tanks 18.57 acres, (2) open spaces to be provided by the City Improvement Trust in Schemes Y and VI 52 acres, and (3) recreation grounds suggested in the Mahim Scheme and open spaces proposed to be acquired at DeLisle Road and Love Lane 89.33 acres.

Plans showing the open spaces in the various Wards have also been prepared and by reference to these the inadequacy of the provision will be demonstrated.

In addition to the Maidan (39.02 acres), Marine Lines (33.59 acres), the Oval (25.45 acres) and the Cooperage (13.67 acres,) there is need for a large area in extension of these to meet the urgent demand for Recreation Ground facilities.

Government Buildings.—Not being fully acquainted with the Government Institutions, their present needs and possible future expansion I can only refer to them in general terms.

It appears however to me that the University with its appendages and colleges will when fully equipped be able to utilize the whole of the Government Buildings from the Telegraph Office to the Secretariat with the exception of the High Court which might be retained.

To remove the University to the Northern district of the City would destroy the Educational Centre already established by the erection of the College of Science, the Elphinstone College and the Museum.

The Telegraph Office and the Secretariat should therefore be provided for elsewhere.

The natural site for the Telegraph Office would be in Fort Street in the vicinity of the New Post Office and this locality would be greatly improved by the erection of another handsome building.

The Secretariat must necessarily be near the centre of business and the only available space of adequate dimensions in the vicinity is the Oval and this I do not think should be encroached upon. By Reclamation of Back Bay the difficulty can easily be surmounted and an admirable site within easy reach secured. The difficulty of obtaining sites for St. George's Hospital and other Institutions would also be thereby solved.

Reclamations.—The information I have regarding the proposed Back Bay Reclamation has been gathered from the public prints.

The sea-wall is, I understand, intended to be constructed from the extreme South of the Island and to be so aligned as to enclose the extensive area of rock-bed opposite Colaba and lying between the Light-house and Cuffe Parade, to curve gradually shorewards to meet the promontory opposite Marine Line Station and to continue along the foreshore to Chaupati.

If this is the project still under contemplation I should very strongly recommend its adoption subject to the slight modifications after stated.

On inspecting the site of the reclamation at low water I was greatly impressed by the vast expanse of black rock exposed and the tremendous amount of heat which was being absorbed and radiated from its surface. The rock was almost too hot to touch and the pools of water left by the receding tide were being evaporated with astonishing rapidity.

The fact that radiant heat traverses the air without heating it but at once raises the temperature of solids was well exemplified.

The air coming in contact with the sun-baked rock soon rose in temperature and passing over the water-pools became moisture-laden. Such air with an excess of heat and moisture is now recognized to be even more injurious and enervating than that due to carbon dioxide in an overcrowded room.

This humidified atmosphere is during the greater part of the year borne citywards, as, with regard to frequency, 73 per cent. of the winds in Bombay are from a Westerly direction.

The effect can only be to lower the vitality and capacity for work in those compelled to live and labour under such conditions in Colaba and the Fort.

This reclamation will, in my opinion, cause a marked reduction in temperature and reproduce the climatic conditions obtaining at Bandra.

The beneficial effect may to a considerable extent be secured before the reclamation works are completed by constructing a section of the sea-wall with a sufficient backing of earth for stability and connecting the sea-wall to the shore by a low temporary break-water of sufficient height to retain the water so as to cover the rock-bed between tides. This would, as I have experienced in a similar case, obviate nuisance during reclamation operations and give a pleasing outlook while the works were under construction.

The sea-wall should by a graceful curve from Marine Lines out off and reclaim a sufficient portion of the Bay at Chaupati to form an open space and admit of the road crossing Sandhurst Bridge being carried in an approximately straight line to meet Walkeshvar Road and meantime terminate by a junction with the low-level road to Government House.

This reclamation scheme, if given effect to, will provide ample room for Government Military and private institutions as well as residential areas for the wealthier classes, and large recreation grounds for the general public, the University and various Gymkhánas. Public baths and hydropathic establishments may be established and no doubt large areas will be taken up by the leading clubs and societies.

The presence of abundant foliage and vegetation on the reclaimed area will tend towards a further decrease in humidity and reduction in temperature.

The benefits of the scheme are many; the allocated cost should not be prohibitive and the widespread advantages cannot be reckoned in rupees per square yard.

Other reclamations from Malabar Hill to Worli, Mahim Bay and Mahim Creek may afterwards be considered. If the foreshore road at Worli is not to take shape soon it might be better to increase the width of the road from Tardeo to Worli to 80 feet.

Additional Legislation.—The amendment of the Municipal Act and Bye-laws is at present engaging the attention of a Government Commission as well as the Corporation. Provisions relating to open spaces, means of access, height and stability of buildings, fixing of lines and construction of streets, prevention of *cul-de-sac* streets, ventilation of hollow squares and kindred subjects are under consideration.

In conclusion, I may affirm that if the Corporation members continue to support in the future, as they have in the past, the numerous carefully devised schemes presented with so much foresight and fortitude by our present Municipal Commissioner Mr. Cadell, the development of Bombay will make rapid progress along safe lines, and the health, comfort and convenience of its inhabitants be greatly advanced.

I have the honour to be,

Sir,

Your most obedient servant,

JAMES W. MACKISON, B.Sc., M.Inst.C.E.,
Executive Engineer.

Forwarded with compliments to the Secretary of the Bombay Development Committee with reference to his letter of 22nd October 1913.

H. B. CLAYTON,
Acting Municipal Commissioner.

No. on plans.	Names of the mills.
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A Ward.

1. The Colaba Land and Mill Co.
2. Jehangir Wadia Mill.

D Ward.

3. The Alliance Cotton Mill.
4. Sir Adamji Peerbhai Mills.
5. The Bombay United Mills.
6. The Jivraj Balloo Mill.
7. Motilal Petty Spinning and Weaving Mill.
8. Maneckji Petit Mill.
9. Maneckji Petit Bleaching Mill.
10. Victoria Mill.
- 10A. Wallace Flour Mill.

E Ward.

11. The Alexandra Mill.
12. Bomanji Petit Mill.
13. The Bombay Cotton Manufacturing Co.
14. The E. D. Sassoon Mill.
15. The Framji Petit Mill.
16. The Hindustan Mill.
17. The Hongkong Mill.
18. The Emperor Edward Mill.
19. The Indian Manufacturing Co.
20. The Khatau Makanji Mill.
21. The Kaisar-i-Hind Spinning and Weaving Mill.
22. Madhavji Dharamsi Mill.
23. New Great Eastern Mill.
24. New City of Bombay Mill.
25. Ripon Manufacturing Mill.
26. Rachel Sassoon Mill.
27. Sassoon Silk Manufacturing Mill.
28. Sassoon Spinning and Weaving Mill.

F Ward.

29. The Choi Silk Mill.
30. The China Mill.
31. The Finlay Mill.
32. The Gold Mohor Mill.
33. The Islam Mill.
34. The Indo-China Manufacturing Mill.
35. The Jacob Sassoon Mill.
36. The Jubilee Mill.
37. The Jam Manufacturing Mill.
38. The Kohinoor Mill.
39. The Morarji Gokuldas Mill.
40. The Maneckji Petit Mill.
41. The Moon Mill.
42. The Matunga Cotton Mill.
43. The Naigaum Mill.
44. The Lord Reay Mill No. 2.
45. The Sarasvati Mill.
46. The Swan Mill.
47. The Spring Mill.
48. The Western India Mill.

G Ward.

49. The Assur Virji Mill.
50. The Apollo Mill.
51. The Bombay Woollen Manufacturing Mill.
52. The Coronation Mill.
- 52A. The Coronation Woollen Mill.
53. The Crescent Mill.
54. The Century Mill.
55. The Currimbhai Mill.
56. The Connaught Mill.
57. The David Mill No. 1.

No. on
plans.

Names of the mills.

G Ward—continued.

58. The David Mill No. 2.
59. The Crown Mill.
60. The New Empress Spinning and Weaving Mill.
61. The Empress Spinning and Weaving Mill.
62. The Elpinstone Mill.
63. The Fazalbai Mill.
64. The Globe Mill.
65. The Howard & Bullough Mill.
66. The Ibrahimbhoy Pabani Mill.
67. The Imperial Cotton Mill.
68. The Hope Mill.
69. The James Greaves Mill.
70. The Jamshed Mill.
71. The Lord Reay Mill.
72. The Dawn Mill.
73. The Mahomedbbai Mill.
74. The Meyerbhoy Sassoon Mill.
75. The Phoenix Mill.
76. The Presidency Mill.
77. The Queen Spinning and Weaving Mill.
78. The Rehimani Mill.
79. The Sun Mill.
80. The Standard Mill.
81. The Sorab Mill.
82. The Edward Sassoon Mill.
83. The Textile Mill.
84. The Union Mill.
85. The Victory Mill.
86. The E. D. Sassoon Turkey Red Mill of Dye Works.
87. The Bombay Dyeing Mill.
88. The Indian Dyeing and Bleaching and Printing Works.
89. The Diamond Mill.
90. The Kastoorchand Mill.
91. The Dhun Mill.
92. The Pearl Mill.
93. The Empire Dyeing Manufacturing Co.
94. The Leopold Spinning, Bleaching and Manufacturing Co.
95. The Soonderdas Mill.
96. The Bombay Flour Mill.
97. The Western India Boot and Shoes Factory.
98. Soap Factory at Matunga (*F Ward*).
99. Do. at DeLisle Road (*G Ward*).
100. Brush Factory at Dadar, Kumbharwada (*G Ward*).
101. The Indian Felt and Cap Factory at Parel, Government Gate Road (*F Ward*).
102. Wood Sawing Factory, Sewri (*F Ward*).
103. Glass Factory, Sewri Road (*F Ward*).
104. Safe Factory, Arthur Road (*F Ward*).
105. Mackenzie Saw Mill, Sewri (*F Ward*).
106. Stone Crushing Factory, Sewri (*F Ward*).
107. Chemical Works, Shaik Misri (*F Ward*).
108. Chotani Saw Mill (*F Ward*).
109. The Pioneer Ammonia Works (*F Ward*).
110. The Pioneer Alkali Works (*F Ward*).

JAMES W. MACKISON, B.Sc., M.Inst.C.E.,
Executive Engineer.

List of plans accompanying report No. 12868 of 1913 of the Executive Engineer, Municipality.

1. Kennedy Bridge Road between Sandhurst Road and Gamdevi Road.
2. Tardeo Road from Sleater Road to Falkland Road.
3. Tardeo Road from its junction with Arthur Road to Clerk Road.
4. Love Grove Pumping Station Road between Hornby Vellard and Worli Road.
5. Worli Road from Love Grove Pumping Station to Low Level Channel.
- 5A. Proposed Cross Road between DeLisle and Worli Road.
6. Worli Village from Low Level Channel to Worli Fort.
7. Mahim Bazar Road from Parbhadevi Road to Bandra Causeway.
8. Clare Road between Ripon Road and Byculla Bridge.
9. Byculla Bridge.
10. Haines Road from Byculla Bridge to DeLisle Road and thence along DeLisle Road to Elphinstone Road.
11. Parbhadevi Road from Elphinstone Road to Mahim Portuguese Church.
12. Dadar-Kumbharwada Road.
13. Extension of Frere Road from Frere Road to Wadi Bunder Road.
14. Extension of Reay Road from Wadi Bunder Road to Dockyard Road.
15. Widening of Reay Road from Dockyard to Kalachauki Road.
16. Sewri Old Road from Jackeria Bunder Road to Port Trust Overbridge.
17. Sewri Cross Road from Port Trust Overbridge passing Wadalla Village to Matunga Road.
18. Bhoiwada Road from Governor's Gate Road to Matunga Road.
19. Customs House and Dalal Street Roads.
20. Proposed Road from Ballard Pier across Fort North to Hornby Road.
21. Widening of Abdul Rahiman Street from Carnac Road to Parel Road.
22. Widening of Masjid Bunder Road from Mumbadevi to Masjid Bridge.
23. Marine Line Overbridge from Marine Line Bridge from FitzGerald Fountain along first Marine Street across Wellington Street, Queen's Road, the B. B. & C. I. Railway to Backbay.
24. Lamington Road from Bellasis Road to Arthur Road.
25. Olivant Bridge from Parel Road to St. Mary's Church.
26. Nesbit Road from St. Mary's Church across Mazagaon Road, Mingalwady property along Dockyard Road to Reay Road.
27. Mount Road from Love Lane to Victoria Road.
28. Love Lane from Parel Road to Mount Road.
29. Rose Cottage Lane from Mount Road to Mhatarpakhadi Road.
30. Victoria Road from Parel Road to Reay Road.
31. Proposed Road between junction of Soparibag Road and Currey Road across Government Gate Road, Parel Tank Road to Sewri New Road near Jackeria Bunder.
32. Proposed Road from the junction of Soparibag Road and Elphinstone Bridge Road towards the East across Government House property past Parel Tank Road through Golangi Hill Road across Sewri New Road and Sewri Old Road to Port Trust Railway Overbridge leading to Reclamation.
33. Matunga Road between B. B. & C. I. Railway Station to Mahim Bazar Road.
34. Dharavi Road from Bandra Causeway to Sion Station.
35. General plan of Mahim Woods.
36. Proposed road line at Parel Tank Road between Kalachauki to Governor's Gate Road.
37. Widening Shaik Memon Street from Carnac Road to Kalbadevi Road.
38. General plan of the existing and the new proposed outfall sewer at Love Grove.
39. Longitudinal section of the new proposed outfall sewer at Love Grove.
40. Type cross section of the new proposed outfall sewer at Love Grove.
- 41 to 51. Plans of open spaces in A to G Wards (11 Nos.).

JAMES W. MACKISON, B.Sc., M.Inst.C.E.,
Executive Engineer.

STATEMENT A.

Statement showing existing open spaces belonging to Municipality in A to G Wards.

No.	Ward.	Names of roads.	Area in square yards.	Remarks.
1	A	King Lane between houses Nos. 255-257 and 263-265.	78	Partly used as depôt ground.
2	A	Ghogha Street between houses Nos. 62-64 and 76.	550	
3	A	Bhatia Bagh at the junction of Hornby Road and Fort Street.	4,000	
4	A	Elphinstone Circle Garden ...	12,081	
5	A	A plot in front of Customs House Road ...	2,569	Partly occupied by police chaw partly by urinals and partly vacant. Partly built over (night-soil depôt). Sometimes used as depôt ground.
6	A	Open space near Gun Carriage ...	3,065	
8	B	Mazagaon and Wadi Bunder Road near Hancock Bridge.	838	
11	C	Northbrook Garden at Northbrook Street...	12,085	
12	D	Gowalia Tank ...	25,322	Recently filled in for use as recreation ground.
13	D	Malabar Hill hanging Garden ...	52,675	
14	D	Chauapati Bandstand ...	1,772	
15	D	Mahalaxmi flats at Arthur Road ...	31 acres.	
16	D	Land 50 feet on either side of the old main drain from Bellasis Road to Clerk Road.	39,727	
17	E	Gilder Tank near Grant Road Station ...	8,865	Partly used as health camp partly used as depôt ground.
18	E	Nagpada recreation ground at Nagpada ...	2,821	Used as recreation ground.
19	E	Mhatarpakhadi Tank ...	978	Used as play ground.
23	E	Arthur Road health camp at the junction of Arthur Road and DeLisle Road.	32,827	Partly occupied by health camp partly by biggaris' huts and partly used as depôt ground.
24	E	Foras drinking water fountain at the junction of Foras Road and Falkland Road.	1,422	A triangular piece of ground partly occupied by drinking fountain partly used as depôt ground.
24A	E	Bhandarwada Reservoir Gardens ...	9,600	
25	E	Tank Street Garden at Khara Tank ...	2,489	
26	E	Foras Road Garden at the junction of Foras Road and Falkland Road.	3,005	
27	E	Dick's Garden at Parel Road opposite J. J. Hospital.	2,740	
28	E	Victoria Gardens at Parel Road ...	215,552	
29	E	Old Foras Tank at DeLisle Road near Sheep and Goat Markets.	11,235	Partly occupied by zhávli sheds.
35	G	Hornby Vellard (Storm-water Reservoir)...	136 acres.	
36	G	Low ground to the North of Haines Road and Arthur Road junction.	150,000	Drying ground for dhobis.
37	G	DeLisle Road at its junction with Purbhadevi Road in rear of G Ward Offices.	6,112	Vacant.
38	G	Worli Road, Middle Pakhadi ...	1,212	Partly occupied by Municipal lat
39	G	Dadar, Kumbharwada, on the North of Crown Mills.	2,674	Oart with cocoanut trees.
40	G	Dadar, Kumbharwada, on the North of Crown Mills.	3,509	Oart with cocoanut trees.
41	G	Mori Road Gardens at the junction of Mori Road and Lady Jamshedji Road.	5,272	
42	G	Land under cultivation at Mori Road ...	30,313	
43	G	Sweeping ground for reclamation near Sion Station.	35,470	
44	G	Sweeping ground for reclamation near Sion Station.	29,551	
44A	G	Open space at Cleveland Bunder on Cleveland Road near Channel No. 1.	4,666	
			714,875 sq. yds. or 147.74 acres.	
			+ 31.00 " Item No. 15	
			+ 136.00 " Item No. 35	
Total ...			314.74 acres.	

JAMES W. MACKISON, B.Sc., M.Inst.C.E.,
Executive Engineer

STATEMENT B.

Showing open spaces that will be created by filling in tanks as sanctioned by the Corporation from time to time.
Also showing the open spaces proposed to be provided by City Improvement Trust in Schemes V and VI
as also in Mahim, DeLisle Road and Love Lane.

No.	Ward.	Names of Roads.	Area in square yards.	Remarks.
7	A	Nakhoda Tank at Carnac Road ...	6,890	Not filled in.
9	C	Dhobi Talao Tank ...	2,759	Filled in.
10	C	Cawasji Patel Tank at Girgaum Back Road and C. P. Tank Road.	868	Sanctioned to be filled in.
20	E	Mustan Tank at Bellasis Road and Huzeria Street junction.	4,597	Being filled in.
21	E	Nanabhoy Tank at Mazagon ...	520	Do.
22	E	Nawab Tank at Mazagon ...	3,283	Partly filled in.
30	F	Naigaum Tank at Naigaum Cross Road ...	32,562	Being filled in.
31	F	Footka Tank at Matunga Road ...	3,499	Not filled in and is very close to the King's Circle formed by the Improvement Trust.
32	F	Gowari Tank at Gowari Village ...	4,487	Not filled in.
33	F	Satgar Tank at Sion Road ...	6,621	Do.
34	F	Buran Tank at Buran Tank Road ...	1,509	Do.
45	G	Sambhoo Mahadev Pakhadi Tank at Warli Road.	2,788	Do.
46	G	Saoli Tank, Purbhadevi Road ...	5,302	Do.
47	G	Jambli Tank, Mahim Bazar Road ...	8,857	Being filled in.
49	G	Hassali Tank at Lady Jamshedji Road ...	5,371	Not filled in.
			sq. yds. 89,913 or 18.57 acres.	
		<i>Open spaces within Mahim Scheme proposed by the Executive Engineer.</i>		
	G	Open space between sea shore and Lady Jamshedji Road surrounding the Jambli Tank.	66 acres.	Includes Jambli Tank.
	G	Dighee Tank at Upper Mahim Road ...	13,832	} = 12.91 acres. Includes Sowli Tank.
	G	Open space to the East of Purbhadevi Road and surrounding Sowlee Tank.	48,700	
		<i>Open spaces to be acquired at Love Lane and at DeLisle Road.</i>		
	E	Love Lane ...	4 acres.	Proposed to be acquired.
	G	DeLisle Road ...	6.42 acres.	Do. do.
			89.33 acres.	
		<i>Open spaces to be provided by the Improvement Trust in their Schemes Nos. V & VI.</i>		
		Scheme No. V, Matunga Scheme, as scored yellow on the plan.	18 acres.	
		Scheme No. VI, Sion Scheme, as scored yellow on the plan.	34 acres.	
			52 acres.	

JAMES E. MACKISON, B.Sc., M.Inst.C.E.,
Executive Engineer.

WRITTEN STATEMENT OF NAROTTAM GOKULDAS, Esq., RECEIVED WITH HIS
LETTER OF DECEMBER 12TH, 1913.

Before entering upon the question of additional areas it is desirable that I should first deal with the Railway question, for thereupon depends the utility of the Cotton Green area. It will be difficult to remove the terminus of the B. H. & C. I. Railway from Colaba to Church Gate, for in that case space will have to be made at Church Gate for sidings, which, at present, seems impossible, unless some portion of the sea is reclaimed. However, if sidings can be made at Church Gate, then the Colaba Terminus can be removed. The local service being popular, and as it is impossible to replace same, it ought to be preserved, and between Andheri and Church Gate or Colaba (whichever is the terminus) should be electrified. There should be more frequent and faster services in order that the congestion in the City can be relieved by the population moving more into the outer suburbs. The relieving of the City of its congestion is the primary question and therefore every facility which is practical and feasible should be taken in hand at once. The long-distance traffic must remain as at present and with interchange at Dadar both for local and long-distance traffic.

2. I understand that an enormous area of vacant land will be available when the Cotton Godowns and Jethas are removed from the Colaba Green. This space should be utilised for all Government Offices, *viz.*, the Secretariat, Public Works, Record, and so on, and also for official residences, and for other similar purposes. As for the European General Hospital, it should not be located on the Colaba Green. It might be removed to some northern part of the Island, say, Tardeo, Cumballa Hill, Worli, or any such similar vacant place. There are any number of vacant places in the Island of Bombay, such as Cumballa Hill, Tardeo, Pedder Road, and near the Flats. These lands should also be utilised for institutions and residences, which need not all, or cannot, be located at the Colaba Green. In connection with this, I feel no doubt that the outfall of the sewer at the Love Grove Pumping Station should be forthwith either improved, as already suggested by the Corporation, or that it should be removed from there to some other part, to be fixed after due and proper considerations, so that Worli and the outlying vacant places may be utilised for residential purposes.

As for Educational Institutions, it would be a pity to remove them, now that they have all been centred in the Fort. Specially the Museum cannot be removed, and it is but fitting that as the Museum will be a great educational factor, and as all the institutions, *viz.*, Senate Hall, University Library, Elphinstone College and the Science College, are already grouped around and in the vicinity of the Museum and the Sassoon Institute and Library, to remove and uproot all these will be costly and a great pity. I would on the contrary suggest that if the Secretariat is removed to the Cotton Green, as also the Public Works Department Offices and the Records Offices from the rear of the Elphinstone College, utilised for educational purposes, with Watson's Hotel which stands on Government land, we can have all the Educational Institutions without any more trouble grouped together.

I do not, therefore, think it is at all necessary at present to reclaim Back Bay. I cannot say whether it will be necessary for many years to come. What I am afraid is it will depreciate the value of the Improvement Trust properties, as well as the value of other properties in Bombay. Proper consideration should be given to this question before embarking upon this scheme. Besides, there is no necessity for expansion on that side. There ought, however, to be a carriage drive and a walking road from Cuffe Parade, along Kennedy Sea Face, upto Chowpaty Road. Before launching into the Back Bay Scheme a full enquiry should also be made as to its effect on the Western foreshores, specially the Mahim Bay.

But what I suggest is that instead of reclaiming Back Bay the following available sites or reclamations should be taken up, on the score of these being available, and secondly, as the reclamation will be much less expensive:—

- (1) There is the Cotton Green, an area of 170,000 square yards.
- (2) Numerous vacant plots at Tardeo, Cumballa Hill (Gamadia's property, etc.), the Flats, right upto Worli.
- (3) The whole of Mahim—a very vast salubrious area which can be well utilised for residential purposes.
- (4) If reclamation is still necessary, then the following foreshores between Petit Hall and Meher Mansions on Nepean Sea Road and from Dr. Edaljee's bungalow to Scandal Point on Warden Road and from the Swimming Bath to Mahalaxmi Temples, and from Worli Fort to Lands End—Bandra, and again, from Lands End, Bandra to Versova should be reclaimed in the above order. This will make a splendid site open to Western wholesome breezes without in any way disturbing present values or congesting the business parts of the City.
- (5) If still more space is wanted, the creek between Bandra and Coorla might be reclaimed.
- (6) In connection with these areas being opened up or filled up, it is necessary that the Slaughter House from Bandra and the Tanneries at Dharavi should be removed further North.

Thus we shall have Colaba for Government Offices, etc., the Western foreshore upto Bandra and even as far as Juvem for upper and middle classes.

The Eastern shores for industrious and poorer classes.

By reclaiming Back Bay we get a very small area at a very heavy cost, while by making extensions northwards we get more area at much less cost. And secondly, it will be a nice thing to have a road from Cuffe Parade, Chowpaty and Walkeshwar and Nepean Sea Road from Vellard to Mahim along the sand, and then from Bandra running upto Versova.

As regards throwing the burden on mill-owners to provide accommodation for mill-hands, the present sites where the mills are situated are too costly and therefore it is impossible for them to make any such provision. However, if the Government will be pleased to remit the present $3\frac{1}{2}$ per cent. Excise Duty which falls so heavily on the Mill Industry in Bombay, the mill-owners might consider this matter. But I think if Mahim is opened up and the Railway Service electrified with more of cheap workmen's trains, accommodation for workmen will follow as a matter of course.

Proper accommodation for Railway workmen might be provided near the workshops or not far from the workshops, provided the Railway Companies provide very cheap workmen's trains so that congestion from the heart of the City may be relieved.

3. Before we enter upon these big and grand schemes for the development of Bombay, it is absolutely necessary and very urgent that immediate and prompt steps should be taken for the improvement of crowded localities in the heart of the City, such as Mandvi, Vithalwady, and Hanuman Gully, and other similar crowded spots. These localities are a crying shame to the City, and when colossal schemes are talked of, it behoves that those who are responsible should not lose sight of these over-crowded localities, the improvement of which should be taken in hand as it has long been hung up. For with these plague spots all so-called improvements will be a sham.

4. As motor-buses will be the future modes of locomotion, it is absolutely necessary that all roads should have proper footpaths, free of incumbrances, and that the roads should be paved in such a way that there should be no dust nuisance which is certain to arise if motor-buses are introduced.

5. It may be stated here that in the vicinity of the Railways and elsewhere are large pools of water or marshy grounds, which at present are a source of mischief to public health, that need to be filled in so as to afford further room and at the same time remove their insanitary character.

6. Lastly, as regards road communications, I agree that there should be broad thoroughfares—one on the West, one Central and one on the East—from South to the North. At present very little is required to be done to link up the present existing roads right upto Bandra and Sion Causeways. When the Western foreshores are filled up, a fine carriage drive can be made from Worli to Mahim and thence to Bandra and from Bandra to Versova.

As for cross-roads, I do not think any more roads are necessary at present, except that where the two Railways join without having any space as at Dadar and Mahim. Roads or bridges should be provided from East to West.

BOMBAY ELECTRIC SUPPLY AND TRAMWAYS COMPANY, LIMITED

COLABA CAUSEWAY, FORT,

Bombay, 15th December 1913.

No. 9497.

THE SPECIAL OFFICER AND SECRETARY,
to the Committee for the Development of the
Town and Island of Bombay,
Secretariat, Bombay.

Sir,

I have the honour to acknowledge receipt of your letter, dated 1st November 1913 (handed to me to-day on my arrival at Bombay), inviting me to give evidence before your Committee and requesting me, preliminary to my doing so, to submit my views in writing regarding potential extensions of the electric tramway system here. I have now the honour to comply with the latter portion of this request, and I shall have much pleasure in appearing before your Committee, when asked to do so, and replying to any questions which they may desire to put to me.

And, first of all, I should like to refer to a remark made by Major Hepper in his evidence. Speaking, with very natural bias, he stated that, in his view, railway extension was preferable to all other methods of urban transportation because of the greater speed obtainable by it.

It is true that the speed of the tramway service *within the city* only averages $6\frac{1}{2}$ miles an hour in consequence of the very frequent stopping necessitated by the density of the population, and the narrowness and crowded condition of many of the streets. But upon routes *outside of the city*, where these conditions do not prevail, there is nothing to prevent that speed being accelerated up to a maximum of 15 miles an hour.

But, apart from this question of comparative speed, the tramway service possesses, for urban transportation, two important advantages, from the standpoint of public convenience, over those which can be claimed by the railway service, and these are:—

(1) *Its greater frequency of running.* On several of our lines we run cars for many hours daily at 2 minutes' intervals, and there are none of our lines where for many hours daily we run them at less than 5 minutes' intervals.

(2) *The fact that we carry passengers by means of our net-work of lines through and into a very much wider urban area than that served by the railways.* Whatever a passenger's destination within the city we can, with few exceptions, set him down at or in close vicinity to that destination. The saving of time thus secured more than offsets, in the great majority of cases, any advantage in actual running speed on the side of the railways.

With these preliminary remarks, I will pass on to deal with the question of potential tramway extension at Bombay. Speaking on behalf of my colleagues on the Company's Board I desire to say that we are willing to make the following extensions of our lines in the near future, after the removal of existing physical or other obstructions renders their construction practicable.

(1) An extension along the Sandhurst Road from its junction with Frere Road, over the Elphinstone Bridge, to its intersection at Khetwadi with Falkland Road.

(2) An extension along the DeLisle Road, from the junction of that street with Clare and Parel Roads, up to a point close to the Mahim Woods, and ultimately to further prolong this extension for a further distance along the proposed Municipal road following the line of the Tulsi pipe (if and when the latter road is constructed) to a point close to Dadar.

(3) An extension from the present Wari Bunder Terminus of our Frere Road line along the Reay Road and over the proposed new overbridge opposite Victoria Road into the centre of the Sewri Reclamation (so soon as that Reclamation is opened to the Cotton and Grain trades).

(4) An extension from the said overbridge along the Victoria Road to its junction with the Parel Road.

(5) An extension from our present Tardeo Terminus along the Mahalaxmi Road to the Hornby Vellard, and ultimately (after the present Love Grove Pumping Station nuisance has been removed) along one side of that Vellard, and along the Love Grove Road and Worli Road to a point near to the Mahim Woods.

(6) An extension from our present Girgaum Terminus along the Girgaum Road, over the Kennedy Bridge, to the site of the Gowalia Tank.

(7) An extension from our present Terminus at Vincent Road along that road and Kingsway to the proposed new Kingsway Circus.

I will now, in as few words as possible, explain the advantages to the city, and to the objects which your Committee have in view, which will result from the making of these extensions as soon as they become feasible.

Extension No. 1 will place the central and western districts of the city in direct tramway communication with the Docks and Frere Road. That communication is now by the circuitous route *via* Abdul Rahiman Street and Carnac Bridge.

Extension No. 2 will provide an important north and south line serving a populous district but which still retains a considerable unoccupied building area.

Extension No. 3 will provide the much-needed extension of our lines along the eastern foreshore, and will give a direct tramway service between the new Sewri Reclamation and the Fort.

Extension No. 4 will place the northern district of the city in direct tramway communication with the Sewri Reclamation, and will also provide the shortest route, in conjunction with the Reay Road extension, between that district and the Docks.

Extension No. 5 will, when carried along the Worli Road, serve and materially assist the development of a district which possesses very large free areas for building purposes. As pointed out by the Municipal Commissioner in his Memorandum, so soon as the Love Grove Pumping Station nuisance is removed or remedied, this portion of the western foreshore offers exceptional attractions for the erection of residences for the upper classes, while the very large extent of empty land to the east of the Worli Road "can easily be raised sufficiently to accommodate Mills and chawls for the classes working there." An accelerated service of electric trams could be run from the terminus into the city, and so supply the required facilities of rapid transportation, the nearest railway line being distant.

Extension No. 6 will provide tramway communication from a point not much below the saddle which unites Malabar and Cumballa Hills at the junction of Gibbs, Pedder, and Hughes Roads, and will also serve the Chowpatti and Gamdevi districts now so extensively built upon and at present inconveniently far from the nearest tramway terminus.

Extension No. 7 will of course play an important part in assisting the development of the northern suburb embraced in the Improvement Trust's Scheme No. V. As it is proposed that a portion of the new Kingsway Boulevard shall be specially demarcated from the remainder of the roadway for the use of the tramway lines, an accelerated service of electric cars could also be run along this route into the city.

As I have already stated there have existed, and still exist, obstructions, beyond our control, to the immediate construction of any of these extensions. It depends upon the Authorities concerned how soon these obstructions are removed. I will briefly detail them.

Extension No. 1 awaits the completion of the Sandhurst Road by the Improvement Trust, and the widening of the Elphinstone Bridge.

Extension No. 2 awaits the completion by the Municipality of the overbridge, at the junction of DeLisle and Ferguson Roads, across the B. B. & C. I. Railway lines.

Extension No. 3 is blocked by the existing level crossings of the G. I. P. Railway at Wari Bunder, connecting with their Clerk Bunder Stores Yard. The question of the removal of these crossings or the alternative construction of an overbridge has been under discussion between the Authorities concerned for the last 30 years. It is extremely regrettable—to put it mildly—that this great inconvenience and obstruction to all vehicular traffic along the eastern foreshore continues unabated. Until these railway crossings are removed or bridged, or until the Railway shunting over them is restricted to the night time, the extension of the tramway along that foreshore will remain impracticable.

Extension No. 4 awaits the Municipal widening of the Victoria Road. The making of this extension would of course be contemporaneous with No. 3.

Extension No. 5 awaits the Municipal widening of the Mahaluxmi, Love Grove, and Worli Roads, and the development for building purposes of the area it will serve.

Extension No. 6 is dependent on the widening and strengthening of the Kennedy Bridge which, I understand, it is proposed shall be undertaken in connection with the quadrupling by the B. B. and C. I. Railway of their tracks.

Extension No. 7 awaits the completion of Kingsway by the Improvement Trust, and is also dependent upon our obtaining statutory protection—pursuant to the pending amendment of the Bombay Tramways Act—to the erection of a Car Depot and Workshops upon a site immediately north of the Kohinoor Mills.

As under the terms of its Concession from the Municipality the fares to be charged upon extensions of the Tramway, are to be the subject of agreement between the Corporation and the Company, the making of the above extensions is necessarily conditional upon such agreement being arrived at. There appears, however, no reason to anticipate that a mutually acceptable settlement of this matter cannot be reached.

The question of the inauguration of Motor Omnibus services upon some routes within or outside of the city having been referred to by some of the witnesses before your Committee, it is perhaps desirable that I should submit my views thereon. My Company is, I think, clearly in a more favourable position to start and work such services than anyone else, and did we regard them as a practical commercial proposition, would offer to introduce them. In a letter I am addressing to the Commissioner of Police, and also forwarding to the Corporation, I have submitted our views and asked to be favoured with theirs regarding certain aspects of this question with a view to its further consideration. Personally, as the result of much careful study of the matter in England, I am convinced that, upon anything like the same basis of fares as those charged upon the Railways and the Tramway, motor buses could be operated in Bombay only at a loss. I think that the consideration of a few figures will demonstrate this. Mr. J. B. Hamilton, a well-known expert, in a paper upon

"Urban Transportation" recently read by him before the "Light Railways and Tramways Association" places the present cost of operating motor buses in England at 10 pence per mile, and a careful consideration of what the operating costs would amount to at Bombay (where traffic wages would be lower but consumption of petrol, depreciation, and some other charges higher) affords, in my opinion, no likely prospect of this figure being reduced out here. If it cost us 10 pence (10 annas) per mile to run our tramcars, the Tramway would be working at a loss. And yet the average carrying capacity of our trams is 53 passengers per unit, whereas the average carrying capacity of the motor buses would not exceed 30 passengers per unit, top seats being unusable here during the monsoon. Stated otherwise, the potential earning capacity of our tramcars, on the same scale of fares, is nearly double that of the motor bus, while their operating cost is less by nearly half. If, therefore, the tramcars could only be run at a loss at an operating cost of 10 annas per mile, that loss, on the assumption that that would be the cost per mile of running motor buses here, would in their case manifestly be much larger. Apart from this financial aspect of the question, the objections from the point of view of public safety to the introduction at Bombay of motor buses are very weighty. In England the number of accidents caused by these vehicles largely exceeds those caused by any other class. If this be so in London and other British cities where pedestrians keep to the pavements, and vehicular traffic is very efficiently controlled by the police, the danger to life, limb, and property in an Eastern city where the people scatter all over the roadway, and where traffic cannot be regulated in the same way, would be enormously increased. The fact that motor bus services have taken a grip on London, and are supposed to be operated at a satisfactory profit there, is often misconstrued in its application to other cities where the conditions are widely different. At London these buses serve the largest and highest wage-earning population in Europe, they run upon the finest road surfaces in the world, they work upon a tariff of fares at least twice as high as that which could be imposed or paid at Bombay, and they have no tramway competition to meet on most of the main arterial routes. Any analogy drawn from London results is therefore exceedingly misleading. And, although accepted in England, these vehicles are by no means popular on the Continent. In many of the large cities there they are prohibited, and when an English Company recently applied for a Concession to run them, as feeders to the tramways, in the suburbs of Munich, their introduction was strongly opposed, and although the Municipality finally granted sanction, the services are languishing for want of public support, and are, I hear, likely to be withdrawn.

It remains for me to submit a few remarks on the alternative method of urban transportation, referred to by the Municipal Commissioner in his Memorandum, namely, the trackless trolley system. Although free from many of the objections which apply to motor omnibuses these trackless cars are not free from all of them. Their carrying capacity is limited to about 30 passengers. As a pioneer for tramway extensions in districts where the much heavier first capital cost of the latter renders it doubtful whether the potential traffic earnings would justify their construction, this system has much to recommend it. On account of their flexibility in steering their way amidst other vehicles these railless cars are also well adapted for operation in urban streets of insufficient width to render the laying there of tramway lines admissible. My Company is quite willing to entertain the introduction of this system on certain routes if it can be shown that there is a public demand for it. But I have no hesitation in stating that, wherever the traffic obtainable and the width of the streets or roads warrant the construction of tramway extensions, it will be found that they provide a more efficient service, and, as a means of urban transportation, fuller facilities and greater convenience for the travelling public, than any other method.

I have the honour to be,

Sir,

Your most obedient servant,

The Bombay Electric Supply and Tramways Co., Ltd.,

By

F. C. RIMINGTON,

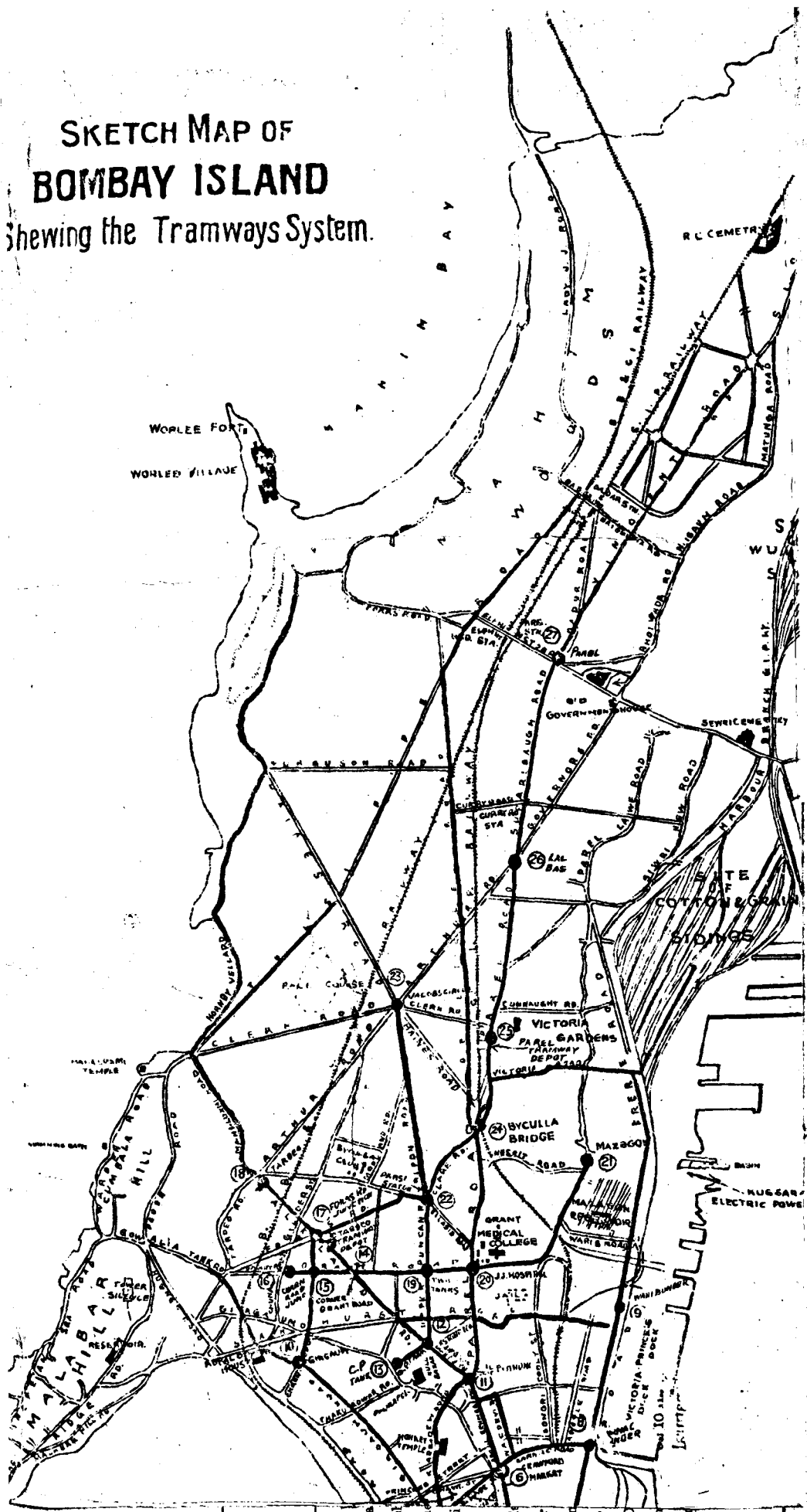
Managing Director.

P. S.—For the convenience of the Committee in following my above remarks I attach hereto a map of Bombay showing (in red) our existing tramway lines, and (in green) the proposed extensions of our lines to which I have referred.

F. C. B.

SKETCH MAP OF BOMBAY ISLAND

Showing the Tramways System.



- Colaba
- Church
- Marine
- Charni
- Grant
- Mahal
- Lower
- Elphinstone
- Dadar
- Vidya
- Madhur
- Mahim

FOUR STATEMENTS RECEIVED FROM MR. G. H. B. RADCLIFFE, SECRETARY TO THE AGENT, B. B. & C. I. RAILWAY, IN DECEMBER 1913, GIVING FIGURES TO SHOW
THE GROWTH OF SUBURBAN TRAFFIC.

Statement (i) showing the number of Season Ticket passengers and earnings of the Bombay Local and Suburban traffic from Stations south of Bandra to Stations Bandra to Borivli during the half year ended 30th June 1912.

From Stations.	To Stations.																	
	Bandra.		Santa Cruz.		Vile Parle.		Andheri.		Goregaon.		Malad.		Kandivli.		Borivli.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Colaba	5,735	1,145	2,193	487	235	64	1,851	567	99	33	264	86	17	4	452	202	10,846	2,588
Church Gate	21,768	4,353	7,332	1,430	2,080	463	7,203	1,940	618	141	2,014	542	872	217	2,231	760	44,118	9,846
Marine Lines	46,665	5,097	11,939	1,642	4,357	600	13,502	2,236	1,702	360	6,422	1,430	971	205	7,415	1,870	91,973	13,440
Charni Road	31,227	3,143	11,305	1,410	8,168	1,074	12,503	1,967	2,022	382	8,724	1,774	1,138	236	6,810	1,563	81,897	11,549
Grant Road	169,194	15,420	80,527	3,691	10,152	1,382	42,395	7,096	2,846	574	12,954	2,636	2,110	446	11,377	2,726	281,555	33,971
Mahalaxmi	47,659	3,372	4,326	426	2,017	214	9,949	1,203	625	94	2,420	420	508	95	1,676	366	69,190	6,190
Lower Parel	31,045	1,838	3,724	304	2,000	181	8,647	879	594	78	1,515	241	192	31	1,455	277	49,172	3,829
Elphinstone Road	47,481	1,963	3,579	253	2,680	173	6,925	700	534	71	2,471	368	331	52	1,449	260	65,460	3,840
Dadar	104,829	3,519	11,184	701	6,335	467	17,906	1,699	1,549	193	8,338	1,125	1,450	212	6,564	1,131	158,155	9,037
Vid Dadar	1,101	47	43	3	...	...	55	7	2	1	28	3	...	...	45	6	1,274	67
Matunga Road	8,710	283	2,522	108	968	57	2,667	215	285	34	1,191	145	294	37	609	96	17,236	975
Mahim	9,301	301	10,306	329	3,593	155	8,522	594	1,037	102	3,638	421	713	85	2,672	370	39,732	2,357
Total ...	523,665	40,481	98,986	10,784	42,585	4,620	132,185	19,103	11,913	2,063	49,979	9,191	8,586	1,620	42,755	9,627	910,648	97,639

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Statement (ii) showing the number of Season Ticket passengers and earnings of Bombay Local and Suburban traffic booked from Stations south of Bandra to Stations Bandra to Borivli during the half year ended 31st December 1912.

From Stations.	To Stations.																	
	Bandra.		Santa Cruz.		Vile Parle.		Andheri.		Goregaon.		Malad.		Kandivli.		Borivli.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Colaba	8,046	1,494	1,216	227	247	40	1,289	390	15	7	161	42	26	6	174	85	11,174	2,291
Church Gate	25,281	4,812	5,260	958	1,611	267	4,938	1,303	234	46	1,084	259	223	65	1,015	356	39,646	8,066
Marine Lines	49,049	5,469	9,963	1,812	3,926	550	10,891	1,776	807	179	8,516	731	635	131	4,108	1,020	62,595	11,168
Charni Road	31,691	3,224	8,081	957	6,106	765	8,323	1,262	1,134	216	4,834	966	788	160	3,844	914	64,866	8,498
Grant Road	178,333	16,145	24,366	2,828	9,146	1,189	31,797	5,184	1,915	351	8,658	1,725	1,422	300	7,178	1,701	262,615	29,423
Mahalaxmi	54,971	3,865	3,325	300	8,261	309	8,184	780	858	53	2,113	361	422	80	1,604	351	74,758	6,369
Lower Parel	33,365	1,997	3,294	268	4,210	379	10,584	1,041	481	63	1,628	255	221	36	841	161	54,624	4,300
Elphinstone Road	49,630	2,177	3,053	217	3,757	294	6,241	615	256	24	1,926	273	286	47	1,035	199	66,244	3,556
Dadar	114,435	8,780	7,846	490	6,458	455	15,354	1,437	938	124	6,726	901	1,262	183	5,128	1,003	159,005	8,373
Vid Dadar	1,555	63	19	1	...	...	63	8	...	...	21	2	...	...	4	1	1,662	73
Matunga Road	7,880	253	1,677	73	699	41	2,203	175	110	14	843	102	329	43	484	72	14,175	773
Mahim	7,900	261	8,865	281	3,532	149	7,333	512	1,225	117	2,748	817	280	85	1,747	248	33,729	1,920
Total ..	562,226	43,560	77,465	8,002	42,953	4,438	107,205	14,683	7,533	1,203	34,258	5,924	5,903	1,086	27,970	6,110	865,513	85,000

Statement (iii) showing the number of Season Ticket passengers and earnings of Bombay Local and Suburban traffic booked from Stations south of Bandra to Stations Bandra to Borivli during the quarter ending 31st March 1913.

From Stations.	To Stations.																	
	Bandra.		Santa Cruz.		Vile Parle.		Aldheri.		Goregaon.		Malad.		Kandivli.		Borivli.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Colaba	2,752	561	1,896	408	173	31	778	265	129	31	165	54	4	1	149	92	6,016	1,443
Church Gate	11,615	2,286	4,596	1,008	1,684	270	3,460	906	300	63	897	257	236	77	900	364	23,768	5,239
Marine Lines	22,835	2,577	7,895	1,954	3,501	473	6,938	1,134	822	146	3,236	769	360	74	2,725	922	49,432	7,149
Charpi Road	14,001	1,432	5,059	632	4,259	558	6,402	968	839	150	3,870	792	626	108	3,171	717	38,118	5,357
Grant Road	77,174	7,353	14,214	1,879	9,232	1,224	20,459	3,461	1,391	255	6,095	1,265	1,168	251	6,512	1,567	136,245	17,255
Mahalaxmi	26,070	1,814	2,218	220	2,852	283	4,418	545	187	28	1,079	177	241	43	1,048	232	38,113	3,342
Lower Parel	16,538	986	1,872	154	2,796	262	4,614	463	366	48	898	144	615	27	696	136	28,445	2,225
Elphinstone Road	20,102	684	1,806	139	2,033	166	3,217	325	227	30	1,130	171	205	32	933	169	29,753	1,907
Dadar	53,240	1,753	5,024	321	4,006	331	9,202	871	454	58	4,655	626	799	117	3,044	529	81,024	4,606
Vid Dadar	235	11	6	1	...	...	23	3	2	2	4	1	...	...	4	1	274	19
Matunga Road	4,917	156	918	41	756	45	1,282	105	74	9	498	61	130	18	258	43	8,833	478
Malim	3,923	127	4,836	153	2,484	105	3,094	235	239	24	1,630	189	374	45	638	126	17,423	1,064
Total	253,547	19,940	50,250	5,999	34,426	3,758	63,937	9,286	5,021	844	24,307	4,506	4,708	733	21,278	4,898	457,474	50,024

Statement (iv).

SEASON TICKETS.

Stations Santa Cruz to Virar inclusive, to Stations south of Santa Cruz.

Half-year.	No. of journeys.	Amount.	Remarks.
		Rs.	
30th June 1899	733,900	63,972	<i>Note.</i> - Each season ticket holder is supposed to make 50 journeys per month. On this basis these figures have been calculated.
31st December 1899	413,250	33,621	
30th June 1900	882,150	71,385	
31st December 1900	367,850	31,279	
30th June 1901	785,200	70,436	
31st December 1901	403,450	34,207	
30th June 1902	812,350	70,749	
31st December 1902	412,400	34,405	
30th June 1903	953,450	81,926	
31st December 1903	434,350	36,369	
30th June 1904	911,100	80,148	
31st December 1904	459,450	38,939	
30th June 1905	1,160,850	1,01,116	
31st December 1905	524,650	45,436	
30th June 1906	1,279,200	1,12,127	
31st December 1906	631,350	54,289	
30th June 1907	1,351,350	1,19,548	
31st December 1907	757,300	61,617	
30th June 1908	1,401,550	1,20,578	
31st December 1908	826,050	66,339	
30th June 1909	1,534,500	1,30,271	
31st December 1909	841,500	67,286	
30th June 1910	1,301,300	1,03,523	
31st December 1910	867,350	69,547	
30th June 1911	1,433,100	1,20,924	
31st December 1911	960,550	77,835	
30th June 1912	1,360,950	1,04,586	
31st December 1912	990,800	71,327	

NAVSARI BUILDINGS, FORT,
Bombay, 16th December 1913.

To

B. W. KISSAN, ESQUIRE, I. C. S.,
Secretary, Bombay Development Committee,
Secretariat.

Sir,

As arranged at my examination before the Committee on the 12th instant, I have the honour to forward herewith the following papers:—

- (1) Copy Report of Messrs. Jacob, Davies and Company to Mr. Ratan Tata on the Back Bay Reclamation Scheme.
- (2) Copies of correspondence on the Reclamation Scheme.
- (3) Comparative Statement of rents in some buildings in the Fort, on the Apollo Reclamation, Cooperage, etc.
- (4) A print of the late Mr. J. N. Tata's Mahim Reclamation Scheme.

I also take this opportunity of forwarding the second part of my written statement supplementary to the first part dealing with Reclamation. I have already been examined on various points mentioned in the supplementary statement.

I have the honour to be,

Sir,

Your most obedient servant,

A. J. BILIMORIA.

Mr. A. J. Bilimoria's written statement supplementary to his statement on reclamation.

Roads.—I generally approve of better roads, particularly for opening up of Mahim Woods for the provision of residential quarters on Worli foreshore, Mahim and the North of the Island.

As to particular roads I strongly approve of a good road connecting the Ballard Pier and Hornby Road. I think that this road will be very useful in improving the insanitary area and will provide suitable sites for business offices and shops in the vicinity of Hornby Road. I am also of opinion that some steps ought to be taken for the improvement of this district as originally intended by the Improvement Trust.

Industrial Buildings.—The future Industrial Buildings should be restricted to the North-East of the Island, and if more space is required I would even locate them so far away from the City as Salsette and even towards Trombay. I am informed that a causeway has already been constructed between the point near Sewri Fort and the Mahawal Hill near the village of Anik. The extensive swamp lying between this new causeway and the Chembur Causeway can be brought into use for location of mills and other factories. The tanneries at Dharavi and similar trades might be removed to the eastern side of Trombay. The brick kilns at Dharavi and Sion should also be removed as they cause the lowering of the land and create holes and pits which become waterlogged and breed mosquitoes.

I am of opinion that the operatives in industries should be housed as far as possible in the same neighbourhood as the industry itself.

Provision for residential areas.—I believe the higher classes will prefer to live to the West of the Island and in Salsette. The other classes will concentrate more towards the middle of the Island, *viz.*, near Parel, Elphinstone Road, Dadar, Upper Mahim, Naegam and Matunga. As to the provision for the residential areas one of the most important measures that should be taken in hand is the removal of the sewage pumping from Love Grove. This would enable the area along the Worli shore to be utilized for residential purposes. As to the utilization of the Mahim Woods, I am of opinion that if the cost is prohibitive and the loss of revenue to Government is very considerable, a wholesale development of this area should be avoided in favour of a scheme of gradual development by private individuals, and by construction of roads. To these areas have to be added the vacant land that will be available at Colaba by

the removal of the Green and probably of the Colaba Terminus and the large area of land belonging to the Improvement Trust under schemes V and VI. I would like here to make a reference to the Mahim Reclamation Scheme formulated by the late Mr. J. N. Tata in 1903 of which I enclose a printed copy. As originally intended, it would have made an area of about 1,500 acres of land available for fishery, grazing purposes, milch stables, dairy, poultry farms and for building sites. After Mr. Tata's death, Mr. Ratan Tata has taken up the scheme, but I am sorry to say that owing to various conflicting interests, it has now dwindled down to a petty 50 acres. I may here shortly state the objects which the late Mr. Tata had in view in formulating the scheme. He claimed that the chief advantage that he looked forward to was the improvement in the health of the citizens of Bombay consequent on the reclamation of drowned lands, the malarial exhalations from which are carried to the Island by the North wind. He proposed to clear the swamps of the growth of mangrove and to convert them into a pasture ground for milch cattle. Some bushes that thrive on salt water yield a valuable fodder for cattle, and this vegetation would absorb the salt water flowing over the ground at high tides once a fortnight and thus Bombay would be free of the nuisance of unhealthy winds that pass over tracts which are alternately dry and under water. The pasture ground would help the health of Bombay, not only by contributing to check malarial breezes, but would also improve the quality of meat by permitting superior grazing to the cattle brought for slaughter.

Mr. J. N. Tata also thought that it would also be not unprofitable later on to construct on a larger scale milch stables on reclaimed ground as he considered that their accommodation in the city appeared to him to be injurious to the health of the city. In his application to Government, he stated that he was ready to put capital in the enterprise although it was not expected to yield a good return, as he would consider himself adequately compensated by the resulting improvement in the health of the city, which would mean an improvement in the value of property in the city in which he had large landed interests. He added that if Government considered that the objects which he aimed at fell more properly within their own province, and they themselves wished to undertake his reclamation scheme, he was quite content and ready to retire from the field.

I may here also make a passing reference to the Venice Scheme of Mr. Tata at Versova, which after being unofficially submitted to Government had to be dropped by him as he understood that Government themselves would like to take it up later on.

In developing new residential areas, no particular distinction need be made between areas for the different classes as this question will be naturally solved in the course of time by the advantages of the areas developed and their price.

If the land tax policy at Salsette is relaxed and rapid transport by electric railways is provided for, I believe the public would like to live at Salsette and the North of the Island. The present meagre population at Salsette is in my opinion mainly due to the unfortunate and stringent land-tax policy of Government that prevailed some years ago and to which the attention of Government was drawn time after time. I am glad to say that that policy has now been changed.

I am of opinion that the Slaughter House at Bandra should be removed.

In connection with the subject of providing for residential areas, I should like to point out that there is no crying want in Bombay of land for residential purposes. It is well known that the Improvement Trust found it so very difficult to dispose of their plots at New Gamdevi and Sandhurst Road, that they had to let them for temporary purposes. When I had a talk with Mr. Orr about this matter some 2 or 3 years ago, he agreed with me that the letting of these plots for temporary purposes was very objectionable, but subsequently the Improvement Trust was so hard pressed for revenue that it had let out for these purposes some of the plots for the long period of five years, instead of on the usual short notice. I am also of opinion that there are still large areas of land which can be built upon at Malabar Hill.

Office accommodation in Fort.—I believe that when the Cotton Green is removed, some portion of that locality will supply the demand for office and shop accommodation in the Fort. The buildings between Hornby Road and Waudby Road will also be mostly taken up for this purpose, and after the construction of the road between the Ballard Pier and Hornby Road, that locality will also be useful for the same purpose. With the above increased areas I do not think that there will be much pressure on the residential accommodation in the neighbourhood of these localities.

Provision for Government and Educational Buildings.—The Secretariat, High Court and other Government Institutions should I think remain in the Fort. The University Hall and buildings should, if possible, also remain in their present position, but I am of opinion that the Elphinstone College and the College of Science, etc., should be removed from the Fort to some other locality—say the Northern part of the Island or even Salsette—where ample playgrounds could be available. In the same locality and vicinity the proposed new Educational Institutions should be provided for, thus turning it into a more or less University Quarter.

The Elphinstone College and the College of Science, etc., could then be used for Government offices. If need be, a few other buildings in the neighbourhood could be acquired for the same purpose. Further, I am in favour of utilizing a part of the University Gardens for Government building purposes if required. Lastly, if the B. B. & C. I. Railway is not continued beyond the Church Gate Station there will be some land available for Government buildings.

Railways.—The removal of the Cotton Green from Colaba would make unnecessary any extension of the B. B. & C. I. Railway south of the Church Gate Station, which should be made a terminus Station.

As regards Major Hepper's suggestions of an overhead electric railway from Sandhurst Road, I am advised that the railway as proposed by him would be a nuisance and unsightly and that the better method would be to carry it further West into the sea with small piers opposite to the present Charni Road, Marine Lines and Church Gate Stations to which Stations they would branch off. Cars would run to each of the Stations intermittently and the piers might be found useful for recreation purposes. But on the whole I do not think that this railway is necessary.

Rapid Transport and Electrification of Railways.—I cannot lay too strong an emphasis on the need of rapid means of locomotion as a necessary complement of the proposed development scheme for residential purposes at Worli, Mahim and Salsette. I think such means could only be provided for by electric railways, as trams and motor buses would be too slow for the purpose required. The existing local service of the B. B. & C. I. Railway, and the G. I. P. Railway, is not fast enough, especially that of the latter. To induce a larger public to live in the suburbs a frequent service of trains and especially of express non-stop trains between the suburbs and the City are highly necessary.

I approve of Major Hepper's suggestion that local and long distance traffic should be dealt with separately as this would make the local service more efficient. Most of the evils of our suburban railways would be remedied when they adopt the electric traction, which I hope will not take long.

Chawls for Workmen.—I approve of new chawls being built in the E, F and G Wards of the City. I do not think it is desirable that chawls for workmen should be confined to any one particular locality. I think the millowners of Bombay should be more alive to their duty of making suitable provision for the housing of their workmen in the neighbourhood of their mills. If the mills cannot spare the necessary capital for such buildings, I think the Improvement Trust should arrange with them, as they have already done with some Companies, by which the property would ultimately revert to the Companies.

A. J. BILIMORIA.

[RECLAMATION.]

Correspondence with Messrs. Jacobs & Davies of New York.

23, RUE DE LA PAIX,
Paris, the 11th March 1910.

RATANJI TATA, Esq.,
Fort, Bombay.

Dear Sir,

In accordance with the arrangement agreed between us, through Messrs. Kennedy Sahlin & Co., we have now the pleasure to present to you Mr. B. H. M. Hewett, one of our chief and trusted resident engineers, and in doing so we beg to state that Mr. Hewett has been on our staff a number of years and during the whole of that period he has proved that absolute confidence can be placed in his reports and investigations. We therefore believe, in sending him to you, that whatever statements he may make you can most fully trust in the correctness of the same. We sincerely hope that the work that we are about to undertake with you may prove of high value and that our connection may be maintained for some time to come.

Yours very truly,
(Signed) JACOBS & DAVIES.

July 27th, 1910.

R. J. TATA, Esq.,
York House, Twickenham, Middlesex, England.

Dear Sir,

In accordance with your request at the interview between yourself and Mr. Jacobs at Twickenham on the 5th instance, I send a revised set of costs of the various schemes, in which revision the "loss of interest" item has been recalculated on the basis of the probable amount expended each year in carrying out the work. In all cases, two years' loss of interest beyond the actual time required to carry out the work has been added, as it is likely that some such period would elapse between the completion of the work and the realization of any return for the outlay.

The following is a list of revised costs:—

Duration of work.	Scheme.	Cost of work.	Loss of interest.	Total.	Cost per square yard.
Years.		Rs.	Rs.	Rs.	Rs. a. p.
4	A	3,736,608	678,660	4,410,268	19 1 2
6	B (a)	7,317,450	2,072,616	9,390,066	17 3 10
6	(b)	8,380,450	2,382,066	10,762,516	19 8 10
4	C (a)	21,735,000	4,910,250	26,645,250	13 5 10
8	C (b)	24,847,935	8,102,185	32,950,120	16 7 10
4	C (c)	24,094,455	5,428,320	29,522,775	15 0 0
8	C (d)	16,905,000	5,632,250	22,537,250	11 4 10
4	C (e)	17,508,750	4,027,200	21,535,950	10 9 10
4	C (f)	19,923,750	4,488,570	24,412,320	12 4 10
4	D (a)	21,435,000	4,910,250	26,645,250	17 6 10
8	D (b)	24,847,935	8,102,185	32,950,120	21 1 10
4	D (c)	24,094,455	5,428,320	29,522,775	19 5 10
8	D (d)	16,905,000	5,632,250	22,537,250	14 8 10
4	D (e)	17,508,750	4,027,250	21,535,950	14 2 10
4	D (f)	19,923,750	4,488,570	24,412,320	16 1 10
3	F	4,334,925	875,235	5,210,160	16 4 10
4	E & F	17,400,000	3,955,000	21,355,000	12 9 10
4	E & F	24,150,000	5,445,000	29,595,000	18 0 0
4	E & F	21,735,000	4,910,250	26,645,250	16 2 10
3	G (1)	1,490,720	358,605	2,149,325	19 2 10
1	G (2)	1,749,945	262,500	2,012,445	18 0 0

With regard to the other item as to which you needed information, *viz.*, the relative cost of the wall work in schemes A and B, I would say that it is not only a question of relative volumes of masonry that affects this item but also that of the probable foundation work needed and the apparently extra cost in the one case is due to an allowance having been made for this.

As requested by you I would put on record here the fact that a good quarry site for stone would seem to be on the east side of the road from Kurla to Vehar Lake, just North of the small hamlet of Saki and South of the similar hamlet of Vilapada. This site is quite close to the road leading from the Kurla-Vehar Road to Andheri Station. The stone here seems to be of good quality and well situated on good roads, which is not the case (as far as roads are concerned) with either Parjapur or Karodi quarry sites.

I would also add that the best available supply of sand in the vicinity of Bombay is that in Mahim Bay, and if any reclamation work involving the dredging of sand at a point away from the site to be filled and transporting the sand to the area of reclamation be contemplated—Mahim Bay contains the best material I was able to find.

This condition would also make reclamation of the east side of Mahim Bay itself comparatively simple and inexpensive if ever a time should come when the growth of the city seemed to make an extension of area in this locality advisable.

Yours truly,
JACOBS & DAVIES (Inc.),
(Signed) B. H. M. HEWETT.

March 21st, 1911.

RATAN TATA, Esq.,
Hotel Winter Palace, Menton, France.

Dear Sir,

We must thank you for your courtesy in allowing us to see the latest Government scheme for the increase in the available area at Bombay by reclamation. The pressure on the available area at Bombay is in our opinion somewhat severe; and yet we are inclined to think that local opinion rates this pressure as more severe than it would appear to be to a disinterested outside observer. In illustration of this we have prepared the following table, giving a comparison of the density of population in a few large cities chosen for their general familiarity:—

City.	Population.		Population per
	Number.	Number.	square mile.
Bombay	800,000
Calcutta	1,027,000
London (Country)	6,300,000
Paris	2,800,000
Berlin	2,100,000
New York (Manhattan)	2,365,161
			38,100
			42,800
			46,700
			90,000
			95,000
			108,000

Although this was not known when choosing the examples, it is seen that Bombay has the lowest density of population of any, even though the great bulk of the inhabitants are natives of the country, who can live in comfort under conditions of crowding that would be intolerable to persons of other nationalities.

In our opinion land values in Bombay do not really reflect local conditions of congestion, and we believe there is still plenty of room for expansion within the present city limits. Very few cities in America where land values are higher than at Bombay, and whose populations are increasing at a vastly higher rate than Bombay's, have gone to the expense of adding to their areas by reclaiming land from the water-fronts on which they usually lie, and which are also the sources of their importance and growth.

To add a few acres here and there as opportunity serves and in places where exceptionally favourable conditions exist, is one thing; but at one fell swoop to alter entirely the whole layout of an important city and add large acreage in the way proposed, serves only to dislocate and depreciate present land values of numerous landowners, and to create chaotic general conditions which are likely to do much more harm than good. In our opinion this huge scheme is unnecessary and chimerical to the last degree.

All this is entirely beside the question of whether the work can be done for the sum estimated by the Government Engineers, which from the data collected on the ground last year by our representative we consider is in the highest degree improbable, and we may even say impossible.

During the progress of the work, which it is safe to say will take much longer than the estimates would lead one to believe, the extremely unsightly appearance of the whole area undergoing reclamation will spoil the entire appearance of the city, in which her more enlightened citizens take so much just pride, and will defeat its very object until Nature has had time to cover up the traces of man's handiwork.

As pointed out to you in our report of last May, the large Sewree reclamation will remove from Colaba much of the objectionable business now carried on there, leaving this section free for its orderly and natural development as a residential locality.

We think that Government has got hold of the reclamation idea and has run it to death, without fully balancing in all their aspects what benefits and what harm will accrue to the city by this gigantic piece of meddling with the natural situation.

We have spoken our minds quite unreservedly on this matter, and perhaps more forcibly than we would have done in an official and formal report, believing that what you desired was not such a report, but merely a personal and thoroughly frank expression of opinion.

Yours faithfully,
JACOBS & DAVIES (Inc.),
(Signed) CHARLES M. JACOBS,
President.

Note.—Mr. Jacobs sails for England tomorrow.

THE HOMESTEAD,
Matheran, 20th October 1912.

My dear Ardeshir,

I wish to send the enclosed cutting *re* the Bombay Reclamation Scheme to Messrs. Jacobs & Davies. As you will see in the statement by Government, their Engineers, after careful revision, make out the cost of reclamation to be Rs. 5.87 per yard as against Rs. 6.04 and 6.30 of the two previous estimates.

The estimate given to me by Messrs. Jacobs & Davies' expert, Mr. Hewett, was somewhere near Rs. 20 per square yard. In introducing to me Mr. Hewett, Messrs. Jacobs & Davies had particularly said that whatever Mr. Hewett reported, should be accepted by me with absolute confidence. If, now, the Government's estimates are true and reliable, I think a full explanation is due to me from Messrs. Jacobs. Will you, therefore, kindly have a letter drafted to Messrs. Jacobs which will embody the ideas I have stated above and any other arguments that may strike you.

Yours sincerely,
(Signed) RATAN TATA.

A. J. BILIMORIA, Esq.,
Bombay.

25th October 1912.

MESSRS. JACOBS & DAVIES,
New York.

Dear Sirs,

You will remember my having drawn your attention in March 1911 to the Back Bay Reclamation Scheme, as then proposed by the Government of Bombay. Since then, it seems that the scheme has considerably matured and in the enclosed cutting from a local newspaper, you will find further particulars of the revised scheme, as published in one of the recent Bombay Government Press Notes. You will see from this that the Government have had figures of the various items of work connected with reclamation thoroughly investigated and their cost per square yard gross works out at Rs. 5.87. In the report which your expert Mr. Hewett made to me, the cost per square yard was put down somewhere near Rs. 17 for the reclamation in this particular locality; I must say that in this matter, I was entirely guided by Mr. Hewett's report, and as you had particularly said in your letter, introducing him to me, that I could treat his report and investigations with absolute confidence, I had no hesitation in taking all his statements as correct. In view, therefore, of the high rate per square yard of reclaimed land as worked out by Mr. Hewett, it seemed to me absolutely impossible to launch forth any scheme. Even in your letter of the 21st March 1911, in reply to mine of the 1st of that month, with which I sent you a sketch and particulars of the Government scheme as then suggested, you emphatically stated that from the data collected on the spot by your representative (Mr. Hewett), you considered that it was in the highest degree improbable—nay even impossible—that the work of the reclamation could be done for the sum estimated by the Government Engineers. In the accompanying Government Press Note, however, they seem to say—with almost equal confidence—that their estimates of cost are completely trustworthy. I think that in view of the above, a full explanation in the matter is due to me by yourselves and I shall be glad to have it at an early date.

I may even offer a few direct questions for elucidation besides your general explanation as desired above:—

On 1st March 1911, I had sent you the Government of Bombay's preliminary report. In this report paragraph 5, it is distinctly pointed out that the actual cost of the experimental reclamation on the Colaba foreshore had worked out at Rs. 5.55 per square yard, though it is admitted that the work was carried out on the most favourable part and on a small scale. Do you still believe the difference of conditions between this reclamation and the proposed scheme to be as great as to make the latter three times as costly per every square yard?

For this large scheme, your Mr. Hewett emphatically and repeatedly denied the existence of sufficient filling material in the neighbourhood, and reported that the only solution would be carrying of required material from Uran and other neighbouring places, at a very high cost of transference. The Government experts now declare that after reliable and extensive borings, they have satisfactorily proved the existence of three times the required quantity of filling moorum in the vicinity of the Colaba Peninsula. Mr. Hewett's comments on this point will be very valuable, for his schemes C and E were a third in area of the Government scheme and he did not think there was enough filling material for either.

The present Government scheme corresponds to schemes C, E and F of your Mr. Hewett's report. Your report gives 6½ million rupees as the minimum cost of wall work alone for scheme C, and 6½ million rupees for schemes E and F combined. Hence the expenditure on the wall work alone for Government scheme should run up to at least 13 million rupees for a reclamation of less than 5 million square yards, which gives per square yard Rs. 2-6-0 to the wall work account only. In a similar manner the capital cost of the plant alone should come to 7½ million rupees or Rs. 1-5-0 per square yard of the Government reclamation. If you consider that you could not have made any serious errors in the above cost, what is your view of the Government's present estimate of completing the whole of the huge scheme under Rs. 6 per square yard, including the interest on capital for the period of construction at the rate of 3½ per cent. per annum?

If you think that the Government of Bombay are really undertaking a ruinous scheme at the expense of the public, would you give publicity to your views with your calculations and explanations, taking the full responsibility of the correctness of your work and judgment? If you take such a step, and if the Government experts fail to successfully disprove your contention, I will consider your weighty warning to the public some compensation for all the trouble and expense I have gone through in this matter.

Yours faithfully,
(Signed) RATAN TATA.

30, CHURCH STREET,
New York, November 16th, 1912.

RATAN TATA, Esq.,
Navsari Buildings, Fort,
Bombay, India.

Dear Sir,

We beg to acknowledge the receipt of your favour of the 25th October with regard to our estimates on the Back Bay Reclamation Scheme.

Mr. B. H. M. Hewett is now in charge of work for us in Mexico and we desire to consult him on certain matters and there will consequently be a few weeks' delay in making reply to your letter.

Yours truly,
JACOBS & DAVIES (Inc.),
(Signed) J. DAVIES,
Vice-President.

JACOBS & DAVIES,
CONSULTING ENGINEERS, HUDSON TERMINAL.

30, CHURCH STREET,
New York, January 8, 1913.

RATAN TATA, Esq.,
Navsari Buildings, Fort, Bombay, India.

Dear Sir,

We must immediately apologize to you for what must seem unnecessary delay in replying to your esteemed letter of October 25th, 1912, stating in unmistakable terms your disappointment at the comparison between the figures as submitted to you by our Mr. Hewett's report and those recently obtained by the Government. The reason for this delay is that Mr. Hewett is located at the present time in the wilds of Mexico on some very arduous work and it takes considerable time to communicate with him and obtain satisfaction. In addition to this, Mr. Hewett has been engaged in a very strenuous struggle in the reorganization of some work which has been handed over to us, and recently has not enjoyed very good health.

Mr. Hewett has sent us notes on your letter, but has not gone into the amount of detail we should have preferred him to go into under the circumstances, so that it is again incumbent upon us to give our ideas to Mr. Hewett as to what we desire to know regarding this matter, and also have him get up a statement satisfying us as clearly as possible as to the merits of various statements.

With all the knowledge we possessed through Mr. Hewett, we wholly endorsed his report as a thoroughly conservative document, and one which in itself is highly explanatory, even to a layman, though of course there are many technical details which necessarily only an engineer may understand to the fullest. As a result of this unfortunate delay, and being unable to send you a final reply, we feel it is necessary to make a few tentative observations meantime on your letter and our report and the report of the Government, as per the cutting from the *Times of India* dated October 19th, 1912.

(1) Not knowing the details of the scheme, we are in no position to criticize the figures as given by the Government, *viz.*, the figures 5.87 rupees to 6.30 rupees per square yard as given by the Government for a reclamation of 1,145 acres.

(2) We do not know the nature of the wall with which they propose to retain this reclamation.

(3) We do not know whether they presume on the cost of a new plant or on the use of an existing plant. Our estimates provide for the entire absorption of a new plant upon the specific work reported on.

(4) The area of the Government scheme as one improvement is 1,145 acres. The combined area (747 acres) of our schemes C, E and F, which you mention as being equivalent to this Government scheme, includes three separate improvements, with three distinct walls, three distinct provisions for plant, and three distinct allowances for contingencies, engineering and interest on construction, and estimated as though they might be executed at different times, each carrying its own overhead charges.

(5) We do not know the length of the wall to retain the Government scheme, but from the topography it is possible this wall may be 50 per cent. shorter, or it may be even the same length as the combined lengths of the walls of the three separate schemes C, E and F. The cost of a wall to retain 1,145 acres of improvement, it is needless to point out to you, must surely be a smaller expense per square yard of area reclaimed—other things being equal—than three separate walls to retain three separate reclamations of 407, 249 and 91 acres each, a total of 747 acres. In general terms the cost of such a wall per square yard of area to be retained would be in the ratio of 1,145 to 747, or some 50 per cent. more, and in this particular case the contrast would be still greater inasmuch as 747 includes not one, but three separate schemes. The sea-wall we allowed for was a heavy concrete structure, designed with allowance for doubt as to the character of the foundations owing to the lack of definite borings information, in which there may be some saving possible with definite information such as the Government has acquired. The costs for this sea-wall were derived from absolutely local information and with due regard to delays and possible damage incidental to heavy seas. The tide here has a rise of from 16 to 17 feet and the south-west monsoon lasts four months a year and directly attacks this bay.

(6) Our report very plainly gives the addition of extraneous costs:—

(a) Contingencies, 15 per cent. which there is every reason to impose on sea work in this case.

(b) Engineering, 5 per cent.

(c) And again 5 per cent. during construction, plus two years in addition, for a period of maintenance and obligation, as carrying charges.

We do not know what the Government may have done with regard to such provisions.

Our letter of July 27, 1910, as appendix to and part of the report shows these interest charges separately.

The total of the three items dealing with contingencies, engineering and interest, alone form in the cases you have cited Schemes C (a) and E and F—60 per cent. and 48 per cent. respectively of the net cost and 37 per cent. and 32 per cent. respectively of the total cost.

(7) Such an estimate as was submitted to you under the conditions made had to be liberal rather than cut down to a minimum, and on the other hand it is well known that estimates made by Government are frequently much lower than actual bids which may be received from responsible contractors, and in this case it is not likely to be different from most others.

(8) Owing to the conditions laid down by you that the investigation was a private and confidential one, it was not possible to make the extensive series of borings made by the Government, and as such soundings as were made showed a lack of material available for some of the larger schemes, it was impossible to do otherwise than estimate for the bringing of the necessary fill from elsewhere. While we consider the Government cost figures as impossible on such a scheme as we deem proper and sufficient, they nonetheless had 1,300 borings from which to judge of the nature and quantity of material available.

(9) You will also observe that an item called "finishing" has been allowed in each estimate—an allowance sufficient to make the land and its amenities in 6t condition for sale, including drainage and such like.

If some of the items mentioned above could be cut down or removed, it will be seen that a large decrease in our estimate is possible, but the great contrast with the Government figures will still remain.

We believe we have made it plain to you that our three schemes, if considered in one, do not by any means involve three times the amount of wall work or plant; or, more strictly, do not involve the sum total of the amounts of the items for three separate schemes.

We beg to point out that our lowest figures quoted for the schemes you refer to—C, E and F—are respectively given in the report as:—

C (D)—11.4 rupees per square yard.

E and F—12.9 rupees per square yard.

(This as per appendix to report dated July 27, 1910.)

We have in mind three reclamation cases where the actual work has very greatly exceeded to the extent of 2 to 1 and more, the estimates made by engineers.

The report stated very plainly in page 8 that the figures given were outside figures.

It is needless to state that an estimate can never be more than the best judgment of engineers experienced in the particular class of projects under consideration.

It goes without saying we gave you the best possible advice, not only with regard to yourself, but presumably with regard to the investing public, and stated we believe that the pressure on the available area of Bombay did not warrant any such scheme of reclamation, the return from which would seem to be highly doubtful, to put the case mildly. If the Government is willing to tax the people in favour of such a scheme, the matter assumes an entirely different aspect and puts a burden on the public. This we covered more fully in our letter of March 21, 1911.

In conclusion we beg to state that our experience has been altogether too great with aqueous work and its uncertainties, to put in the hands of a client an estimate which might put him in financial embarrassment—personally or with the public. A financial return as shown by the newspaper cutting on the Government scheme does not in itself by any means show that it is a proper public improvement to take up if it is to be considered self-sustaining—far less so improvements which may be presented to a private individual or to the public as an investment.

Within the limits of the conditions as presented to us—or more strictly, to Mr. Hewett—in making up the report, we do think the Government of Bombay, if our schemes are alike, is considering a project that does not appear to be self-sustaining and may on the other hand even depreciate the value of existing property. (See our letter to you of March 21, 1911, copy attached.) It may be, however, that additional revenue is anticipated through taxation of the improvements.

On the other hand, as we have stated, it would be quite improper for us to criticize the Government estimates, not knowing fully the conditions under which they are made; and the only alternative we could suggest is simply the publication of our report. It belongs to you and it lies with you to do with it as you think best.

Again kindly observe that this letter is to some extent naturally tentative and may be in some respects inaccurate, but we have felt it desirable to address you to this extent until we are able to send you our final observations after again consulting with Mr. Hewett.

Yours very truly,
JACOBS & DAVIES (Inc.).

NAVSARI BUILDINGS, FORT,
Bombay, 7th February 1913.

MESSRS. JACOBS & DAVIES,
30, Church Street, New York.

Dear Sirs,

I thank you for your letter of the 8th ultimo, which, as you say, is somewhat tentative and which also may in some respects be inaccurate. As you have written to Mr. Hewett asking him to get up a comprehensive statement, I think it unnecessary to make any remarks until I have been able to see a copy of that statement, together with your own final observations.

Yours very truly,
(Signed) RATAN TATA.

March 13th, 1913.

RATAN TATA, Esq.,

Navsari Buildings, Fort, Bombay, India.

Dear Sir,

We are pleased to have your letter of February 7th, acknowledging ours of January 8th. We have now received a reply from Mr. Hewett verifying or correcting, as the case may be, our letter to you, and copy of Mr. Hewett's letter is attached hereto. You will readily understand the unavoidable delay which has been occasioned by Mr. Hewett's being so far from our base, and in addition to this the troubles in Mexico have delayed communication with him.

In view of Mr. Hewett's observations it only remains for us to practically repeat our letter to you of January 8th, with slight addition thereto.

We have the following observations to make on your letter, our report, and the report of the Government as per newspaper cutting from the *Times of India* dated October 19th, 1912—

(1) Not knowing the details of the scheme, we are in no position to criticize the figures as given by the Government, *viz.*, the figures 5.87 rupees to 6.80 rupees per square yard as given by the Government for a reclamation of 1,145 acres.

(2) We do not know the nature of the wall with which they propose to retain this reclamation.

(3) We do not know whether they presume on the cost of a new plant or on the use of an existing plant. Our estimates provide for the entire absorption of a new plant upon the specific work reported on.

(4) The area of the Government scheme as one improvement is 1,145 acres. The combined area (747 acres) of our Schemes C, E and F which you mention as being equivalent to this Government scheme, includes three separate improvements, with three distinct walls, three distinct provisions for plant, and three distinct allowances for contingencies, engineering and interest on construction, and estimated as though they might be executed at different times, each carrying its own overhead charges.

(5) We do not know the length of the wall to retain the Government scheme, but from the topography it is possible this wall may be 50 per cent. shorter or it may be even the same length as the combined lengths of the walls of the three separate schemes C, E and F. The cost of a wall to retain 1,145 acres of improvement, it is needless to point out to you, must surely be a smaller expense per square yard of area reclaimed—other things being equal—than three separate walls to retain three separate reclamations of 407, 249 and 91 acres each, a total of 747 acres. In general terms the cost per square yard of area to be reclaimed of such a wall would be in the ratio of 1,145 to 747, or some 60 per cent. more, and in this particular case the contrast would be still greater inasmuch as the 747 includes not one, but three separate schemes.

The sea-wall we allowed for was a heavy concrete structure, designed with allowance for doubt as to the character of the foundations owing to the lack of definite borings information, in which there may be some saving possible with definite information such as the Government has acquired. The costs for this sea-wall were derived from absolutely local information and with due regard to delays and possible damage incidental to heavy seas. The tide here has a rise of from 16 to 17 feet, and the South-west monsoon lasts four months a year and directly attacks this bay.

(6) Our report very plainly gives the addition of extraneous costs:—

(a) Contingencies 15 per cent. which there is every reason to impose on sea work in this case.

(b) Engineering, 5 per cent.

(c) And again 5 per cent. during construction, plus two years in addition, for a period of maintenance and obligation, as carrying charges.

We do not know what the Government may have done with regard to such provisions. We feel that we cannot advise you as to the cost of financing, but could merely draw your attention to what might or might not be a material charge according to the financial plan adopted.

Our letter of July 27th, 1910, as appendix to and part of the report shows these interest charges separately.

(7) Such an estimate as was submitted to you under the conditions made had to be liberal rather than cut down to a minimum, and on the other hand it is well known that estimates made by Governments are frequently much lower than actual bids which may be received from responsible contractors, and in this case it is not likely to be different from most others.

(8) Owing to the conditions laid down by you that the investigation was a private and confidential one, it was not possible to make the extensive series of borings made by the Government and as such soundings as were made showed a lack of material available for

some of the larger schemes, it was impossible to do otherwise than estimate for the bringing of the necessary fill from elsewhere. While we consider the Government cost figures impossible on such a scheme as we deem proper and sufficient, they none the less had 1,800 borings from which to judge of the nature and quantity of material available.

(9) You will also observe that an item called "finishing" has been allowed in each estimate an allowance sufficient to make the land and its amenities in fit condition for sale, including drainage and such like.

If some of the items mentioned above could be cut down or removed it will be seen that a large decrease in our estimate is possible, but the contrast with the Government figures will still remain.

We believe we have made it plain to you that our three schemes if considered in one (as by the Government) do not by any means involve three times the amount of wall work or plant; or in other words does not involve the sum total of the amounts of the items for three separate schemes.

We beg to point out that our lowest figures quoted for the schemes you refer to C, E and F are respectively given in the report as:—

C (d) 11.4 rupees per square yard.

E and F 12.9 rupees per square yard.

(This as per appendix to report dated July 27th, 1910.)

We have in mind three reclamation cases where the actual work has very greatly exceeded, to the extent of 2 to 1 and more, the estimates made by engineers.

The report stated very plainly in page 8 that the figures given were outside figures.

It is needless to state that an estimate can never be more than the best judgment of engineers experienced in the particular class of projects under consideration.

It goes without saying we gave you the best possible advice, not only with regard to yourself, but presumably with regard to the investing public, and stated we believed that the pressure on the available area of Bombay did not warrant any such scheme of reclamation, the return from which would seem to be highly doubtful, to put the case mildly. If the Government is willing to tax the people in favour of such a scheme, the matter assumes an entirely different aspect and puts a burden on the public. This we covered more fully in our letter of March 21st, 1911.

In conclusion we beg to state, that our experience has been altogether too great with aqueous work and its uncertainties, to put in the hands of a client an estimate which might put him in financial embarrassment personally or with the public. A financial return as shown by the newspaper cutting on the Government scheme does not in itself by any means show that it is a proper public improvement to take up if it is to be considered self-sustaining far less so improvements which may be presented to a private individual or to the public as an investment.

Within the limits of the conditions as presented to us, or more strictly, to Mr. Hewett in making up the report, we do think the Government of Bombay, if our schemes are alike, is considering a project that does not appear to be self-sustaining and may on the other hand even depreciate the value of existing property. (See our letter to you of March 21st, 1911.) It may be, however, that additional revenue is anticipated through taxation of the improvements.

On the other hand, as we have stated, it would be quite improper for us to criticize the Government estimates, not knowing fully the conditions under which they are made; and the only alternative we could suggest is simply the publication of our report. It belongs to you and it lies with you to do with it as you think best.

If you publish our report, it would be helpful also to publish these letters, and also the costs of the parallel schemes contemplated by you and the Government one, at the same time drawing attention to the significant fact that the former are two separate schemes of 407 and 340 acres, a total of 747 acres, and the latter 1,145 acres:—

Government Scheme.

In one scheme of 1,145 acres.

(Exact location and form of reclamation not known by us.)

Rates (we do not know if Net or Gross) per square yard of reclamation as per cutting from the "*Times of India*."

On total reclamation, 5.87 rupees per square yard.

On area available for leasing, 10.91 rupees per square yard.

Mr. Tata's Schemes.

In two schemes of 407 and 340 acres respectively named C (d), and E. and F.

Rates per square yard of reclamation.

Gross rate C (d) ... 11.4 Rupees.

Gross rate E. and F. ... 12.9 Rupees.

Net rate C (d) ... 7.106 Rupees.

Net rate E. and F. ... 8.75 Rupees.

We trust that this further explanation and Mr. Hewett's letter hereto attached, you will be better able to appreciate our report.

Yours truly,

(Signed) JACOBS AND DAVIES, Inc.

TEPEIXCO, February 5th, 1913.

MESSRS. JACOBS AND DAVIES, Inc.,
30 Church Street,
New York City.

Gentlemen,

I must answer your letter of January 8th, dealing with the Bombay report. You are correct in stating that the prices (including interest and other charges) for the work, based on dredging in Back Bay itself, work out to costs of from 11½ to 12-8 rupees per square yard. I consider that your letter is the best answer that could have been made under the circumstances. To confirm your several numbered inferences in their order:

1. The entire cost of the plant has been absorbed and completely new plant has been figured on, with a good reserve fund for repairs and additional plant. As we know, the repair item for dredges is always a very heavy one, and also that even under favourable conditions of weather, material, etc., the proportion of idle time in a suction dredge is very large. This led to a liberal allowance for duplicate plant, etc. The Siwri reclamation dredges are, or were, worked eight hours only per day and even at that were not expected to last three years more, when I was at Bombay.

2. The operation of the plant, as you infer, refers solely to the reclamation and contains all items as materials, supplies, wages and provisions.

3. The height of the outside retaining wall varies with the different schemes. An average height is about 20 feet from top to bottom of foundation and a base width of 10 feet. One price taken for concrete was 100 rupees per 100 cubic feet. Mr. Rowden, of Price, Wills and Reeves, also gave me a price based on their own costs, which I believe was more than this, but I cannot find it among my notes.

4. The general sequence of operations, should work have been decided upon, was assumed to be about as follows:

The first year would be spent in ordering the plant abroad, to taking detailed borings along the site of the wall and thereby making its detailed design possible, and in building a coffer-dam. This dam would have to stand against a monsoon and must be a strong piece of work, which also must be removed when its purpose has been accomplished. It would preferably be built in sections corresponding to each year's progress on the filling. Also, offices, repair shops and other buildings would be provided. During the second season a trestle would be built alongside the line of the permanent wall and within; the coffer-dam and the first section of sea wall would be built. The coffer-dam for the second section to be reclaimed would be built, and the machinery from abroad will come in. The third year would see the start of filling and by the end of this season the first section should be filled. The building of the permanent wall for the second section will be done, and the third section will be coffer-dammed. This process would be repeated until the area was completely filled; for example, in the fourth year the work would consist of: fill second section; build sea wall of third section; coffer-dam fourth section. Meanwhile, as the further sections are filled, settlement will have to be taken up in the first sections and the surface made good with soil; the drains, sewers, sidewalks and other surface arrangements put in and the area prepared generally for putting into saleable or rentable condition.

5. I have not seen the storms which are referred to in the report, but received considerable information to the effect that for four months rough weather generally prevails. Price, Wills and Reeves had much trouble with these storms and, in fact, I believe that even before I left—which was before the regular beginning of the monsoon—their drill barge, which was used for drilling the rock at the entrance to the new dry dock, was blown over and sank, drowning several men. Even on the other side of the harbour, at Sewri, the monsoon gives much trouble to the dredges, and here they are comparatively sheltered.

6. The dividing walls were intended to fulfil the following function: It was supposed from the information I got from people familiar with the place, that continuous work would be possible for eight months and that for the four monsoon months work would have to be entirely, or mostly, at a standstill. Depending on the amount of plant provided, the work would take say three, four or more years to complete. The masonry dividing walls were intended to divide the area to be reclaimed into as many sections as the number of seasons the work was expected to take, so that in each season's work a complete section could be filled. This was supposed to be a better method of working than by partly filling the whole area the first season, putting on more the next and so on, as the component areas might be available for disposal prior to the completion of the entire work.

7. The item for finishing was intended to include all work necessary to make the surface of the ground in condition for disposal. The filling material used in the reclamation would be partly sand, partly mud and this would need covering with a top dressing of hard material and soil; the provision of roads and streets, sewers and drains, and so on. It was rather difficult to know how much to allow for this item, as no one knew exactly to what uses the reclaimed areas would be put whether for buildings (residences, or offices, or shops) or open park spaces. This item is explained in the report itself.

8. The loss of interest item was added because, as I remember it, Mr. Tata's partner in Bombay asked to have this item shown in the estimates. The loss of interest—as shown in the revised statement of July 27th appended to the original report—was figured by counting the purchase cost of the plant and the cost of the amount of work which could probably be done during the first year, and allowing interest on this at five per cent. per annum; the next year, taking the amount of money likely to be expended and allowing interest on that; and so on. Possibly Mr. Tata may be able to get money at a lower rate than 5 per cent and if so, this would mean that a too high allowance on this head had been made in the estimates. However, the report was shown to Mr. Tata's partner before I left Bombay and he raised no objection on this score, though of course this does not necessarily mean that he approved of it. I note that the cost of money, as given in one of the newspaper cuttings I have, to the Port Trust, including sinking fund, is 4.61 per cent. per annum.

9. The question of the time taken for the work was based on the amount of material calculated for each scheme, divided by the probable output of the plant assumed as dealing with the scheme. In some cases alternative methods of dealing with the same scheme are presented, *i. e.*, the cost is first worked out with a comparatively small plant and thus taking a long time, and then worked out again with a large plant thus taking a shorter time. As stated above, the working time per annum was taken as eight months. The pay of the European staff on the floating equipment was assumed to be continuous over twelve months.

10. I again note that you approve of the 15 per cent. of the net cost as a proper allowance for contingencies, and that you have again gone fully into this and kindred matters of engineering and interest during construction, in your letter to Mr. Tata.

11. The point which Mr. Tata makes as to E and F schemes is that, I believe, the present Government scheme embraces these two Colaba schemes, and with regard to these two schemes the report states that dredging in the Oyster Rock neighbourhood would lead to disappointment. I took soundings all along here and found considerable depths and rocky bottom in a great many places; hence I judged it inadvisable to reckon on the successful use of direct sand pumping for these schemes.

12. In answer to your postscript as to frontage rights; I do not know the status of these rights. The extreme end of Colaba point is occupied by an old burial ground for Europeans, now disused I think. Next come the grounds occupied by the military station, and then comes the present shore running parallel to the Queen's Road and which seems to be public property, *i. e.*, anyone can walk or ride on the fore shore at will

As to the way in which the reclamation would be used, I have seen a cutting from the "Times of India Illustrated Weekly" of February 1st, 1911, which has an illustration of a very large reclamation scheme reaching from Colaba Point to Marine Lines, with a proposed lay out of "An immense new residential area parallel with Colaba, as it exists at present, and huge recreation grounds lying off what is now the Kennedy Sea Face. Allowance is made for the taking up of 40 acres at Colaba Point for a new Government House and grounds, 20 acres of open space in the residential area, and 100 acres for military purposes; the proposal being to concentrate all the military forces in Bombay at Colaba." As I have said before both in the report and in letters to you I cannot for the life of me see the slightest call for all this immense reclamation. Bombay has plenty of available area (except in the Native town); its population density, including the native City where congestion is great, is comparatively slight, being but 38,100 of population per square mile, as against 46,700 for London County, 90,000 for Paris, 95,000 for Berlin and 108,000 for Manhattan. Any scheme of reclamation cannot be financially productive for many years (calculated at 31 years I believe), even at the low cost of reclamation which the Government arrives at, and even on the assumption that considerable blocks of land are taken up at rates of Rs. 25 per square yard per annum, every year while the reclamation process is still going on. This, I believe, is a far fetched assumption and not likely to be realised, and I should think that Government would, or should, hesitate considerably before embarking on such a scheme, to find that the cost were higher than estimated or allowed for, which I believe would inevitably be the case, and finally to be compelled to leave it partly done or to have it drag on over much more time than was expected, or not have the land taken up in the quantities or at the rates assumed, would be a disastrous affair for a town like Bombay. I still think that the place is "reclamation crazy," if I may use the term, and that my careful utilization of the space already at disposal combined with some vastly more modest scheme of reclamation, a great deal of disappointment would be avoided. The disturbance to existing property values would be enormous and impossible to calculate. We do not hear much in New York as to the reclamation of the space between the Battery and Governors Island, and yet this would be a bonanza proposition of the first order compared with this Bombay Scheme.

My figure seemingly comes to over twice that of the Government and my figure has large allowances which they may not have taken into account for all that I know. Mr. Tata, I believe, will live to congratulate himself on having been persuaded from going into this thing, and the project ever comes off.

The Government seems to have been investigating this affair in general for about six years, and in much detail for about one year, and one feels naturally at a disadvantage after only six weeks solitary investigation. However, if there is a will to produce low estimates

there is almost a way, and I feel much tempted to quote a sentence or two from a letter of Gustav Linden-thal's in the January 16th "Engineering News": he says, "there is need of warning against a common error. That is estimating the cost of construction too low, and with insufficient allowance for contingencies and delays, interest during construction, cost of administration and right of way, and the connections and approaches, without which bridge is not complete. It produces false notions of what such a large work really costs and as to the amount of money which must be provided. That has happened thus far with every engineering work of unprecedented magnitude."

While the Bombay dredging scheme is not of unprecedented magnitude it is yet of considerable size, and in fact is really huge, and I feel that these remarks apply. On these very tunnels here, an estimate made only twelve months ago showed that three million persons would finish the work. We are asked to take an estimate of the amount needed to finish, and it is still three millions:

There does not seem any way of *proving* one estimate right or wrong in advance of actual work. My conception of the lack of available dredging material in the vicinity of Oyster Rock for the Colaba reclamation may have been erroneous, and if 1,300 borings 70 feet deep have been made, it seems possible that I have been wrong.

However, even in my estimates, based on dredging in Back Bay itself come to a good deal more than the Government's, and their estimates I can only look upon as optimistic.

I have been through all the notes you sent, and have read the report very carefully. The figures all seem consistent and to agree fairly well with one another, and I don't see what more I can say, except that the wall work, including the dam, was calculated at prices which were given me on the spot and which I believe to be correct. That the quantities of the fill were calculated, and the cost of the plant needed to make the fill was figured on the basis of the cost of the Newark Meadows plant and also on the basis of such other information that I had on the cost of dredging plant. The time taken to make the fill was estimated by dividing the amount of fill by the capacity of the plant taken as working eight months in the year. The cost of this operation was found by taking the working force necessary and multiplying their time by their approximate wages, allowing a twelve months year to Europeans, and that the coal, oil, waste and other supplies were calculated and allowed for in the same way. The engineering and contingencies were added to the total and finally the interest charge during construction.

Yours very truly,

(Signed) B. H. M. HEWETT.

PROPERTIES OF THE BOARD OF MANAGEMENT OF THE INDIAN INSTITUTE OF SCIENCE.

Comparative Statements.

Buildings.	Locality.	Rents in 1907.	Extra charge for Electric Installation at about 15 per cent. on cost.	Rents in 1913.	Extra charge for Electric Installation at about 15 per cent. on cost.	Rents.
		Rs.		Rs.	Rs.	
Jenkins House ...	Merewether Road ...	1 650	No electric installation.	1,520	80	
Sargent House ...	Do. ...	1,565	Do. ...	1,605	80	
Sandhurst House ...	Do. ...	860	Do. ...	905	80	
Reay House ...	Do. ...	850	Do. ...	915	80	
Candy House ...	Do. ...	890	Do. ...	850	40	
Roosevelt House ...	Do. ...	725	Do. ...	759	40	+ Rs. 18 for Improvements.
Albert Building ...	Hornby Road ...	2,540	Do. ...	2,595	75	Second floor bearing rent Rs. 375 was vacant for six months.
Victoria Building ...	Parsee Bazaar Street...	720	Do. ...	680	26	
Gymkhana Chambers ...	Waudby Road ...	1,795	Do. ...	1,955	145	Question of reducing the rents in this building has been pending before the Board for some time.

THE BOMBAY UNITED BUILDING COMPANY, LIMITED.

Comparative Statements.

Buildings.	Locality.	Rents in 1907.	Extra charge for Electric Installation at about 15 per cent. on cost.	Rents in 1913.	Extra charge for Electric Installation at about 15 per cent. on cost.	Remarks.
		Rs.	Rs.	Rs.	Rs.	
Arthur House	Wellington Lines	1,250	.....	1,300	80	
Wellesley House	Do.	1,255	.....	1,315	80	
Brightlands	Marine Lines	650	.....	600	50	
Redlands	Do.	435	.....	715	.....	Rent increased in 1908 on renewal of an old lease which expired after five years to Rs. 650.
Holland House	Colaba Causeway	840	.....	825	40	
Navsári Buildings	Hornby Road	4,144	120	4,219	120	
Janjira Chambers	Wodehouse Road	1,793	75	1,895	75	
		Rents in 1908.				
Waterloo Mansions	Mayo Road	6,072	107	5,527	107	
Rafiya Munzil	Wodehouse Road	3,060	100	2,780	100	
York Building	Hornby Road	8,490	87	3,500	87	
Taj Building	Do.	3,405	90	3,215	90	Ground and top floors in this building lay vacant for 1 year and 2 years, respectively, after the building was finished.

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16th December 1913.

A. J. BILIMORIA.

THE CITY OF BOMBAY BUILDINGS COMPANY, LIMITED.

Comparative Statements.

H 988-50

Building.	Locality.	Rents in 1908.	Extra charge for Electric Installation at about 15 per cent. on cost.	Rents in 1913.	Extra charge for Electric Installation at about 15 per cent. on cost.	Remarks
		Rs.	Rs.	Rs.	Rs.	
Empire Building ...	Hornby Road ...	3,212	220	2,956	220	
Clarke House ...	Wodehouse Road ...	1,905	110	1,550	110	Some flats in this building remained vacant for 8 months.

16th December 1913.

A. J. BILIMORIA.

REPORT ON RECLAMATION SCHEMES IN BOMBAY.

By Jacobs and Davies (Inc.),

New York City,

per B. H. M. Hewett.

BOMBAY, May 1910.

Bombay Reclamation and other Improvement Schemes.

Sir,

In accordance with your request, I have the honour of submitting the following report upon the abovenamed subject on behalf of, and subject to the approval of, Messrs. Jacobs and Davies of New York City.

2. These schemes fall naturally into two main divisions (a) Reclamation and improvements of a more or less public nature with a view to increasing the area of the City at the point where present and future development is likely to be most pressing and (b) Reclamation and improvements of property either already owned by you or which might be acquired by you for the purposes of development in the more Northerly section of the Island and in the Salsette District. Two maps on which are indicated the locations of the various schemes are appended to this report and are marked Plan No. 1 and Plan No. 2, respectively.

The following table is a list of the various schemes dealt with in this report and the list indicates on which plan each particular Scheme will be found. Reference should be made to the plans in order to gain a clear idea of what is involved in each scheme.

List of Improvement and Reclamation Schemes for Bombay Island mentioned in this report.

Reference letter.	Description.	Shown in Plan.
<i>Schemes of a "Public" Character.</i>		
		No.
Scheme A	... Small Chaupati Reclamation ...	1
" B	... Marine Lines to Back Bay Baths ...	1
" C	... Marine Lines to Colaba Sanitarium ...	1
" D	... Marine Lines to Malabar Hill ...	1
" E	... Colaba Sanitarium to Colaba Point ...	1
" F	... Reclamation at Colaba opposite Oyster Rock ...	1
" G	... Petit Hall to Beehive Reclamation ...	1
" T	... Malabar Hill Cutting and Tunnel ...	1
" Q	... Improvement of Love Grove Sewer Outfall ...	1

3. Very careful consideration has been given, after taking soundings and borings at the various localities, to both these kinds of reclamation as the problem is presented at Bombay, and an endeavour made to frame estimates which will be likely to cover the cost of carrying out the various schemes should at any time any such definite action be taken on them.

Public Schemes.

4. First of all some general consideration must be given to the conditions which affect the question of the reclamation of the first or public character.

5. This part of the reclamation schemes must necessarily centre around the "Back Bay" district, as this is the centre of the best business section of the town and the only part of the city in which any immediate expansion of area can take place, as the entire Eastern Fore Shore of Bombay Island is in the hands of the Bombay Port Trust. Not only so but in itself Back Bay is the best part of the City both as regards the character of the buildings and in the fact that it gets the full benefit of the prevailing westerly ocean-breeze.

6. The Back Bay is a shallow sheet of water, the greatest depth sounded at high water being 29 feet. At extreme low water the water recedes from 2,000 to 3,000 feet from the shore and gives a large area of very shallow water beyond that.

7. The floor of the bay as disclosed at low water is a practically level sheet of very fine sand with rocky reefs at places. These reefs cover a large proportion of the bay and extend to about 4,000 feet from the shore line all the way from Colaba Point to the New Colaba Reclamation. There is then a short gap with no rock visible at low water until the Back Bay swimming baths are reached and from here to about half way between Church Gate and Marine Lines Stations the ledge is continuous and is about parallel to (on its inner face) and

some 550 to 600 feet from the present sea wall. The width varies greatly and is widest opposite Church Gate Station, where it is at least 2,000 feet in width.

8. These facts, though no doubt familiar to you, are set out here to show that suction dredging in the Back Bay area itself, with a view to setting the shore line further into the bay has several local features somewhat against it, *viz.*, the dredges could only work in certain places, and even so, until they had cut channels of sufficient depth and width to give themselves room for flotation and handling, work could be done only when the tide was high enough to float the plant; also the depth of fill averages 20 feet, so that not only is there a considerable head gainst which to pump but also a comparatively large quantity of fill is required for every unit of area reclaimed. The fact that a rise and fall of tide of some 16 to 17 feet is found here also has a bearing on this question. The South West Monsoon which lasts 4 months a year also comes directly into this Bay, which faces due South-West.

9. Keeping these facts in view, estimates have been made on the basis of obtaining the filling material from elsewhere for the purposes of filling large areas and depositing it in several different ways which will be described later.

10. Some attention was given to a proposal to dredge the filling material from the flats of Uran on the eastern side of the Harbour, tow the excavated material round in barges, deposit it in the Back Bay and re-pump it, by suction dredges, behind sea walls previously built to retain it.

This Scheme appeared attractive at first but there would be many difficulties connected with the towing of the barges into the Back Bay; the low water difficulty would still have to be got over, and it is likely that many delays would arise owing to the difficulty of entering the bay, as there is a reef extending from Colaba Point to Malabar Point with only one narrow entrance near Malabar Point.

Another scheme which has been worked out is to dredge the Uran mud flats, as before, bring the material to the Sassoon Dock, elevate it and re-pump it across the spit and along the present shore front and finally discharge it at the required point behind retaining walls previously built. This is perhaps a more practicable method than the first mentioned one, though the expenses of the relay pumping is high.

11. Yet another plan has been considered as an alternative to the Back Bay dredging. This is to obtain earth from hills (such as those at Andheri) near the B. B. & C. I. Railway. This earth would be excavated by steam shovels, loaded direct into wagons and brought down on the Railway, diverted on to a specially built siding and then dumped by means of automatically acting "bridges" or other such contrivance. This Scheme has several points in its favour. The work need not be stopped altogether for the four monsoon months and the work in general is free (except for the bulk head wall) from the uncertainties of marine work.

12. There remains yet the question of dredging the Back Bay itself and making the fill with the dredged material. There is no doubt that if the supply is sufficient (which it would be for the moderately sized reclamation) the quality of the material is excellent, far better than anything which would be got from Uran, as the latter is a thick black sticky mud which would need mixing with something more solid and probably a liberal topping of Mooram before the filled in area could be used, while the Back Bay material is a good fine sand which would need much less finishing off. As a result of borings taken in the Back Bay it is estimated that there are 12,500,000 cubic yards of material which could be dredged.

13. The different methods of making the fill have been worked out as to cost and it appears that they all seem to give figures which closely resemble each other and seem to be (for comparatively small areas) about Rs. 20 per square yard of area recovered. Small areas are relatively more expensive than large as the wall work then begins to take up a greater percentage of the whole cost.

14. The wall work is not the smallest part of the problem and in the estimates it has been assumed that it would be necessary to provide a temporary dam wall round the site to be reclaimed. This wall would keep out the water and the work of building the permanent sea wall would go on inside this dam, which would not be removed until the fill was finished and would protect the work before it was completed against the monsoon. This makes the wall work comparatively expensive and it might be cheaper if there were a sufficient depth of sand (as there is at Chaupati) to drive steel sheet piling or concrete piles as a core and build the permanent wall direct around this core. A great deal would depend on the depth of rock below the present sand surface on the wall line. The depth of sand is greatest at Chaupati where the borings went to 25 feet without trouble and gets less and less as one gets further south. At Church Gate only 8 feet is found; to south of that the wall would be on rock. Reliance cannot be placed on steel alone for the wall, as experience shows that its decay is extremely rapid in the water of Bombay.

15. Several different schemes of reclamation, *i. e.*, different as to the area to be reclaimed, have been worked out for the Back Bay district and the best method or combination of methods which it would be best to adopt would depend to a great extent on what area was to be reclaimed and the locality of the area. For example, a large area of reclamation at Colaba would need different treatment from a small area at Chaupati.

16. It would seem that generally speaking it would be wise (if a decision to proceed with reclamation in the Back Bay district be reached) to start with a comparatively small project and one having as many points in its favour as possible and then by gaining experience on this piece much useful data for the carrying out of a large piece of work would be provided.

17. This report contains a number of estimates worked out on the lines already indicated. It is believed that the figures are sufficiently broad to cover the situation in each case and that in point of fact it is more likely that the work would be carried out for rather less than the estimates show than more. All plant is assumed new and no doubt it may be possible to purchase some good plant second hand and save in various ways. It will be noted that these estimates are estimates for the actual carrying out of the work only, and the supply of dredging material is assumed to be free, and in fact the estimates are framed on the basis that no royalties have to be paid either for the filling material or on the land recovered.

18. The cost and areas of the various different schemes may now be given so that a general idea of the magnitude of the outlay needed for each separate scheme can be seen and it may be stated that an amount of 15 per cent. of the estimated cost of work and plant has been added in each case for contingencies, which is to be taken to apply to numberless unforeseen matters which always develop on large works, especially marine work, to cover loss caused by accident and in general all items which cannot be figured. To the sum thus obtained 5 per cent. is added to cover the cost of engineering the work and the total sum thus obtained has added to it the loss of interest on that total sum for a period about two years longer than the estimated period of carrying out the works at the rate of 5 per cent. per annum. Of course this method of counting the loss of interest gives a result in excess of the probable amount but it has been adopted as a further provision against contingencies, and is on the assumption that no return be obtained from the reclaimed area until a year or so after the work has been finished. All work is supposed to be carried out continuously night and day except for repairs and during monsoon weather in case of floating equipment.

The details of the Schemes now follow :—

SCHEME A.

(See Plan No. 1.)

19. *Chaupati*.—This is the scheme which, unless other conditions have more weight, would be recommended as initial one to take up, as it is on the lines of a reclamation laid out by the Improvement Trust and is not very extensive but sufficiently so as to give good experience to be used in later work, and does not interfere with the other larger schemes between Marine Lines and Colaba. The proposal is to build a wall some 4,000 feet long in a curve line as shown on Plan No. 1 from a point on the present sea wall about opposite the Charni Road Station and finishing near the foot of the Malabar Hill at Siri Road. The area recovered would be 240,000 square yards and the volume of the fill about 1,600,000 cubic yards. The work with one dredge operating in the Back Bay itself is estimated to take 3 years to do, working 8 months a year. The estimate works out as follows :—

SCHEME A.

			Rs.
Wall work (including dam)	...	...	11,25,000
Prime Cost of Plant	...	...	10,60,000
Operation of Plant	...	...	7,09,000
Finishing	...	...	2,00,000
15 per cent. Contingencies	...	...	4,64,175
5 per cent. Engineering	...	...	1,77,933

Total cost of work	...	37,36,608
Loss of interest 5 years at 5 per cent. per annum	...	9,34,150
Cost	...	46,70,758

Or, cost per square yard, Rs. 19½.

SCHEME B.

Marine Lines to Back Bay Baths.

(See Plan No. 1.)

20. (a) This has been worked out on the basis of dredging in the Back Bay and it is suggested that this reclamation would be the one to follow the Chaupati Scheme if the reclamation work were actually done.

The length of wall is 7,500 lineal feet.

The area reclaimed 542,777 square yards (112½ acres).

The volume of fill 4,000,000 cubic yards.

Estimated time to do work 6 years, working for 8 months a year.

The estimate works out as follows :—

			Rs.
Wall work (including dam)	...	...	28,00,000
Cost of plant	...	...	11,60,000
Operation of plant	...	...	16,00,000
Finishing	...	...	5,00,000
15 per cent. Contingencies	...	...	9,09,000
5 per cent. Engineering	...	...	3,48,450
Total cost of work			78,17,450
Loss of interest 8 years at 5 per cent. per annum...			29,26,160
Total			1,02,43,610

Area reclaimed, 542,777 square yards.

Cost per square yard, Rs. 18 $\frac{8}{10}$.

(b) Marine Lines to Back Bay Baths—continued.

On the basis of excavating earth from Andheri hills, bringing it down on the B. B. & C. I. Railway and spreading the filling material by means of dumping bridges.

The quantities are as before.

Length of wall, 7,500 lineal feet.

Area of reclamation, 542,777 square yards (112 $\frac{1}{2}$ acres).

Volume of fill, 4,000,000 cubic yards.

Time estimated, 6 years.

The cost works out as follows :—

			Rs.
Cost of wall	...	...	28,00,000
Cost of plant	...	...	8,00,000
Operation of shovels	...	...	4,05,000
Operation of bridges	...	...	6,75,000
Engineering staff	...	...	4,00,000
General labour	...	...	5,60,000
Cost of land	...	...	5,00,000
Repair shops	...	...	2,50,000
Total			63,90,000
10 per cent. contingencies			6,39,000
5 per cent. Engineering			3,51,450
			73,80,450
Loss of interest for 8 years at 5 per cent. per annum			29,52,180
			1,03,32,630

This cost does not include the Railway freight on the excavated material and this would have to be added, but without this item the cost works out at Rs. 19 per square yard.

If the freight rate be taken as 1 Rupee per brass or say Rupee 1 for 4 cubic yards, then on the 4,000,000 cubic yards the freight would be Rs. 1,000,000. This would bring the cost to Rs. 11,949,630 or Rs. 22 per square yard.

(c) Marine Lines to Back Bay Baths—continued.

This was worked out on the plan of excavating at Uran and bringing the material across to Sassoon Dock and thence by relay pumping. The cost however came very high, viz., Rs. 18,817,370 or Rs. 34 $\frac{3}{4}$ per square yard on a liberal estimate and Rs. 1,69,76,100 or Rs. 31 $\frac{1}{10}$ per square yard on a close basis.

SCHEME C.

(See Plan No. 1.)

21. (a) We now come to a larger area of reclamation than either of those yet considered, namely, one bounded by a wall built from Marine Lines to the Colaba Sanatarium. The quantities in this area are :—

Length of wall, 10,900 feet.

Area to be reclaimed, 1,970,000 square yards (407 acres).

Amount of fill, 12,000,000 cubic yards.

Time to do the work, 4 years.

The estimate worked out as follows :—

(a) By dredging at Uran, bringing the material to Back Bay, dumping it there and re-dredging.

			Rs.
Building and removing temporary dam	...	...	20,00,000
Excavations for wall foundations	...	...	20,00,000
Rubble masonry wall	...	...	20,00,000
Rubble masonry dividing walls	...	...	5,00,000
Prime cost of plant	...	...	50,00,000
Operation of plant	...	...	55,00,000
Finishing off top	...	...	10,00,000
15 per cent. Contingencies	...	...	27,00,000
5 per cent. Engineering	...	...	10,35,000
		Total	2,17,85,000
Loss of interest 8 years at 5 per cent. per annum	...	...	87,14,000
		Grand Total	3,04,49,000

Or, Rs. 15½ per square yard.

(b) It was desired to see whether by getting less plant and letting the work take longer a gaining in original outlay and perhaps ultimate economy would be obtained.

The following is the estimate.

Bringing material from Uran and re-pumping as before but using less plant and taking longer (8 years), all the quantities as before. The estimate is :—

			Rs.
Wall work	...	...	68,00,000
Prime cost of plant	...	...	35,00,000
Operation of plant	...	...	1,18,86,700
Finishing work	...	...	10,00,000
15 per cent. Contingencies	...	...	34,78,000
5 per cent. Engineering	...	...	11,83,235
			2,48,47,938
Loss of interest for 10 years at 5 per cent. per annum	...	...	1,24,23,962
		Total	3,73,12,897

or a cost per square yard of Rs. 19.

(c) Estimate based on plan of bringing mud excavated by a suction dredge at Uran to the Sassoon Dock and thence pumping across the spit and along the sea front of Back Bay to the point of fill.

This estimate is as follows :—

Work to take 4 years.

			Rs.
Building and removal of temporary dam	...	...	20,00,000
Excavations for wall foundations	...	...	20,00,000
Building rubble wall	...	...	20,00,000
Building dividing walls	...	...	5,00,000
Prime cost of plant	...	...	50,00,000
Operation of plant	...	...	74,54,000
Finishing off top	...	...	10,00,000
15 per cent. Contingencies	...	...	29,93,100
5 per cent. of Engineering	...	...	11,47,355
		Total	2,40,94,455
Loss of interest 6 years at 5 per cent. per annum	...	...	72,28,320
		Total	3,13,22,775

As the area recovered is 1,970,000 square yards, the cost per square yard Rs. 17 $\frac{1}{2}$.

(d) Based on dredging operations in Back Bay itself. This is based on the assumption that 2 suction dredges are used and the work done in 8 working seasons.

The cost would be as follows :—

			Rs.
Wall work, including dam	...	...	65,00,000
Cost of plant	...	...	25,00,000
Operation of plant	...	...	40,00,000
Finishing work	...	...	10,00,000
15 per cent. Contingencies	...	...	21,00,000
			<u>1,61,00,000</u>
5 per cent. Engineering	...	...	8,05,000
Actual cost of works	...	...	<u>1,69,05,000</u>
Loss of interest for 10 years at 5 per cent. per annum	...	...	84,52,500
			<u>Total ... 2,53,57,500</u>

As area 1,970,000 square yards, the cost per square yard comes to Rs. 12 $\frac{8}{10}$.

(e) By dredging in Back Bay itself but getting twice as much plant and doing the work in 4 years.

			Rs.
Wall work cost	...	...	65,00,000
Plant	...	...	50,00,000
Operation	...	...	20,00,000
Finishing	...	...	10,00,000
			<u>1,45,00,000</u>
15 per cent. Contingencies	...	...	21,75,000
			<u>1,66,75,000</u>
5 per cent. Engineering	...	...	8,33,750
			<u>Total ... 1,75,08,750</u>
Loss of interest at 5 per cent. per annum for 6 years	...	...	52,52,625
			<u>Total ... 2,27,61,375</u>

Or, cost per square yard, Rs. 11 $\frac{1}{2}$.

(f) Based on excavating an earth hill at Andheri hill at Andheri by steam shovels, bringing the material in by rail, having sidings at Marine Lines and Church Gate Stations, and dumping by means of "dumping bridges".

These costs would be as follows.

If freight charges are taken as 1 rupee per 4 cubic yards, then Rs. 30,00,000 will have to be added to cover this.

The total cost will then be as shown below :—

(With freight charges of 1 rupee per 4 cubic yards.)

			Rs.
Wall work	...	...	65,00,000
Cost of plant	...	...	25,00,000
Operation plant	...	...	85,00,000
Finishing work	...	...	10,00,000
Freight	...	...	30,00,000
15 per cent. Contingencies	...	...	24,75,000
5 per cent. Engineering	...	...	9,48,750
			<u>Total ... 1,99,23,750</u>
Loss of interest at 5 per cent. per annum for 6 years	...	...	59,77,125
			<u>Total ... 2,59,00,875</u>

The cost per square yard comes to Rs. 13 $\frac{1}{2}$.

The costs per square yard of reclaimed area for Scheme C may be recapitulated as follows:—

(a) By excavating mud at Uran, dumping in Back Bay and dredging; 4 years' time. Total cost Rs. 3,04,49,000. Cost per square yard, Rs. 15½.

(b) By excavating at Uran, relaying it from Sassoon Dock and taking 8 years. Total cost Rs. 3,73,13,000 and cost per square yard Rs. 19.

(c) Same as (b), but using more plant and finishing in 4 years. Total cost Rs. 3,13,23,000. Unit cost Rs. 17½ per square yard.

(d) Dredging in Back Bay and taking 8 years. Total cost Rs. 2,53,60,000 or Rs. 12½ per square yard.

(e) Same as (d), but using twice as much plant and finishing in 4 years. Total cost Rs. 2,27,60,000. Cost per square yard, Rs. 11½.

(f) Excavating at Andheri and bringing earth down by rail and filling by "bridges"; total cost (without railway freight charges) Rs. 1,98,92,000 or Rs. 10½ per square yard.

With, railway freight charge taken as 1 rupee per 4 cubic yards the cost comes to Rs. 13½ per square yard.

These estimates show that the two most economical ways of making the fill are by Back Bay dredging or by earth removal of convenient hills on a large scale by steam shovels, the full data for the latter method being incomplete on account of the probable or possible freight charges not being known though assumed at 1 rupee for 4 cubic yards. If these freight charges were at all favourable it would seem to make this method the rather more attractive of the two as the work would be carried on more independently of the monsoon.

SCHEME D.

(See Plan No. 1.)

22. The quantities for the wall in Scheme D are very much the same as those in Scheme C. The area is less but the depth is rather more. The conditions (except that the situation puts the "relay" method out of the question) are so alike that the total cost of each method would be for the purposes of preliminary estimates the same as for Scheme I. As the area is less the cost per square yard of reclamation will be greater. Chaupatti where Scheme D is situated is the well adapted for reclamation by dredging in the Back Bay as there are no rock reef opposite this point.

SCHEME D.

The quantities in this reclamation are as follows:—

Length of wall, 10,800 feet.

Area of reclamation, 1,514,000 square yards (313 acres).

Amount of fill, 10,600,000 cubic yards.

The different methods would cost thus:—

(a) By excavating mud at Uran, dumping in Back Bay and dredging; 4 years' time. Total cost Rs. 3,04,49,000 or cost per square yard Rs. 20½.

(d) Dredging in Back Bay and taking 8 years. Total cost Rs. 2,53,60,000 or Rs. 17 per square yard.

(e) Same as (d), but using twice as much plant and finishing in 4 years. Total cost Rs. 2,27,61,000 or Rs. 15 per square yard.

(f) Excavating earth hill at Andheri (say) and bringing it down by railway and distributing by dumping bridge. Total cost Rs. 2,60,00,000 or cost per square yard Rs. 16½, allowing for a freight charge of 1 rupee per 4 cubic yards.

SCHEMES E AND F.

(See Plan No. 1.)

23. This provides for reclamation on an extensive scale at Colaba and extending from the extreme Colaba Point to near the Sanitarium near the Colaba Railway Station. This scheme has the following quantities:—

Length of wall, 10,200 feet.

Area of reclamation, 1,207,000 square yards.

Volume of fill, 5,000,000 cubic yards.

This is the portion called Scheme E. Scheme F is the much smaller area situated between the Sassoon Dock and the Pilots Bunder on the Harbour side of the Colaba spit. The quantities of this scheme are as follows :—

Length of wall, 4,100 feet lin.

Amount of fill 2,640,000 cubic yards.

Area of reclamation 440,000 square yards.

It would be suggested that these two schemes be considered more or less together as with a plant assembled for doing one, say E, it would be most natural to proceed simultaneously or subsequently with F.

Owing to the very rocky nature of the ground all round this section no hopes of making the fill entirely from dredging within Back Bay should be entertained, though if plant were available a certain amount of fill might be done in this way by a dredge working between the Back Bay baths and the present Colaba reclamation where there appears to be a break in the reef. No hopes of doing any extensive dredging in the Oyster Rock neighbourhood in the Eastern Harbour should be entertained: not only is the depth of water generally excessive but actual soundings show rock at frequent places and to put a dredge here would only lead to disappointment and constant trouble with no results.

For this filling the most promising method seems to be by dredging at the Uran flats, bringing the material to Sassoon Docks and thence pumping into the area to be reclaimed, or by dredging at Uran, dumping into the sea and thence re-dredging or by bringing earth excavated from hills somewhere near the B. B. & C. I. Railway in the Andheri District and bringing it down the line to Colaba Station, from which point sidings could be constructed along the shore line and the material taken to the point where filling was in progress. This section feels the force of the monsoon probably rather severely, but as the rock is exposed on the line of the wall it could be built sufficiently strong to withstand this. There is (probably) less urgency for the reclamation of this area than the others in Back Bay unless the present military occupation of this area be removed or be under consideration of removal.

An estimate will first be given for Scheme F alone in case it should be desired to think of starting on a smaller scale in the Colaba District. The basis of operation would be that a dredge would work at Uran or other place where filling material could be dredged, filling the material into barges which would bring it over to Sassoon Dock and then it would be unloaded by Clamshell cranes and put on a dumping bridge and spread in this manner.

One dredge would make this fill in 3 seasons work and the estimate works out as follows :—

					Rs.
Wall work ...	...	...	...	...	6,00,000
Cost of Plant ...	...	...	...	...	11,50,000
Operation of plant ...	...	...	...	...	9,10,000
Finishing ...	...	...	...	...	5,00,000
Installation of Plant ...	...	...	...	...	2,50,000
Engineering ...	...	...	...	...	1,80,000
					<u>35,90,000</u>
15 per cent. Contingencies ...	...	...	...	...	5,38,500
5 per cent. Engineering ...	...	...	...	...	2,06,425
					<u>Total works ... 43,34,925</u>
Loss of interest 6 years at 5 per cent. ...	...	...	...	...	13,00,500
					<u>Total ... 56,35,425</u>

As the reclamation is 317,000 square yards the cost per square yard is Rs. 17½.

Schemes E and F considered together and the estimates based on excavating earth at Andheri (say) and bringing it down by the railway and making the fill by dumping bridges. The time taken would be 4 years making the fill.

The estimate is :—

					Rs.
Wall work ...	...	...	...	...	55,00,000
Cost of Plant ...	...	...	...	...	25,00,000
Operation of plant ...	...	...	...	...	35,00,000
Finishing ...	...	...	...	...	10,00,000
Freight on material ...	...	...	...	...	19,10,000
15 per cent. Contingencies ...	...	...	...	...	21,61,000
5 per cent. Engineering ...	...	...	...	...	8,28,875
					<u>1,74,00,875</u>
Loss of interest 6 years at 5 per cent. per annum ...	...	...	...	...	52,20,000
					<u>Total ... 2,26,20,075</u>

As total area recovered is 1,647,000 square yards the cost is Rs. 13½ per square yard with a freight rate of 1 rupee per 4 cubic yards.

Schemes E and F considered together on the basis of procuring the filling material at Uran and distributing it by a system of relay pumping from the Sassoon Dock. This costs highly as the relay pumping is expensive. The calculation is based on making the fill in 4 seasons work.

The costs are :—

	Rs.
Wall work	65,00,000
Cost of plant	30,00,000
Operation of plant	95,00,000
Finishing	10,00,000
15 per cent. Contingencies	30,00,000
5 per cent. Engineering	11,50,000
	2,41,50,000
Loss of interest 6 years at 5 per cent. per annum	72,45,000
	3,13,95,000

Area reclaimed, 1,647,000 square yards or Rs. 19 per square yard.

On the basis of excavating at Uran, dumping on the East side of the Colaba spit and re-dredging thence across the spit.

The costs on this basis are :—

	Rs.
Wall work	65,00,000
Cost of plant	50,00,000
Operation of plant	45,00,000
Finishing	10,00,000
Spreading fill	10,00,000
15 per cent. Contingencies	27,00,000
5 per cent. Engineering	10,35,000
	2,17,35,000
Loss of interest 5 per cent. per annum 6 years	65,20,500
	2,82,55,000

Or, as reclamation area is 1,647,000 square yards cost per square yard is Rs. 17¼.

SCHEMES E AND F RECAPITULATION.

The various schemes for the Colaba reclamation may be summed up as follows :—

Scheme F alone.—3 seasons work ; area recovered 317,000 square yards ; dredge at Uran and unload at Sassoon Dock ; spread by bridges. Total cost Rs. 6,35,425 or Rs. 17¼ per square yard.

Schemes E and F.—Excavating at Andheri, bringing material by rail and filling by dumping bridges and taking 4 years to do the work. Cost Rs. 1,96,21,875. Cost per square yard (1,647,000 square yards), Rs. 13½.

Schemes E and F.—Excavating at Uran and relay pumping, 4 years' work. Cost Rs. 3,13,95,000 or Rs. 19 per square yard.

Schemes E and F.—By excavating at Uran, towing the material to as near as possible in dumping barges and re-dredging. Total cost Rs. 2,82,55,500. Cost per square yard, Rs. 17¼.

General results of estimates for Back Bay reclamation.—It would seem to be the case that for large areas of reclamation the cost may be taken as averaging from about Rs. 15 to Rs. 17 per square yard, for smaller areas the cost works out to somewhere in the neighbourhood of Rs. 20 per square yard. Of course much large outlay is needed for a larger reclamation than for a smaller one although the cost per unit of area is less.

The two best methods are :—

- (1) Dredging in Back Bay itself.
- (2) Excavating an earth hill and depositing by machinery.

Of course with a large scheme a combination of these methods could be used and work would thus be more or less continuous throughout the year.

25. If it be considered likely that reclamation on an extensive scale in the Back Bay district will be carried out by private interests in the moderately near future it would be well for those intending to take part in such work to acquire beforehand the rights of dredging in some area, as conveniently situated as possible, where there is an ample supply of dredgable materials and also to acquire the rights of excavating and removing some conveniently situated earth, or earth and boulder hills, and for the purpose of dredging it is strongly recommended that material of as sandy a nature as possible be used. Having seen the Port Trust Reclamation work at Siwri where some large areas have been filled with very wet mud, the opinion is forced on one that such mud should be avoided as filling if possible. While in shallow depths it will dry out and form a satisfactory fill, in such depths as Back Bay reclamation requires the drying process seems to be inordinately delayed and a heavy topping of mooram has to be spread over the surface, and even then it would not seem that a successful foundation for future structures had been assured. Sand on the other hand makes an ideal filling and the sand in Back Bay itself would be admirably suited for filling; the supply, however, is limited and should not be considered to be much in excess of $12\frac{1}{2}$ million cubic yards and for very expensive work cannot be regarded as sufficient. This however cannot be predicted unless the very action of dredging would cause fresh deposits of sand to be brought into the Bay; in which case there would be no limit to the supply.

If the required quantity of material exceeds the available supply, the filling material must either be dredged elsewhere, deposited in the Bay and re-dredged or else earth must be excavated (as from the hills at Andheri) and brought down by rail. The exactly best method of making the fill must depend to a great extent on the locality and extent of the area to be reclaimed, and there is no reason why a combination of suction dredging and filling brought in by rail should not be used in a large scheme.

26. After conversations with several persons engaged in works of an engineering nature on Bombay it seems certain that the estimates furnished of the cost of this reclamation work are not excessively high and that a cost of from Rs. 15 to Rs. 20 per square yard of area recovered must be expected, the cost depending to a certain extent on the area recovered. The supply of labour and materials at Bombay seems to be very limited, and as soon as any work of magnitude is inaugurated prices begin to rise. They are rising now and I am informed that labour on large works has risen 50 per cent. in the last 5 years and is still going up.

27. It must be remembered also that the Back Bay district is particularly exposed to the South West Monsoon as the bay faces directly in that quarter. Even at Siwri, protected as it is, the advent of the monsoon is looked for with great apprehension; and although with care such accidents may be safeguarded against to the utmost of human forethought, the possibility has to be faced of a season's work being destroyed in a few days or even hours.

28. Too much hope of using the present dredges of the Port Trust should not be indulged in. These dredges are being used with care and are only run for 8 hours a day, but there is a rumour (how well authenticated it is impossible to say) that it is not certain whether they will last out the three years more which the completion of the Siwri reclamation will take. It must be always remembered that suction dredging work is of a kind that throws enormous strains on the machinery used, and plant used continuously, notwithstanding frequent dry dockings and repairs of all kinds, becomes of such low efficiency after 5 or 6 seasons' work as to be no longer economical in use.

29. As to the sources of supply of material to be used for filling if brought from a distance.

With a view to obtaining material to be brought down by rail a careful examination has been made of the hills around Andheri about 10 miles out from Back Bay on the Bombay, Baroda and Central India Railway. Two hills which are very suitable are those on the West of the road from Andheri to Ghodbunder and which lie North of the Vesawa causeway and between the villages of Ambauli and Basavre. These hills are thickly wooded and consist of a mass of earth and boulders in which a steam shovel could well operate; a siding will have to be built to the Railway line at Andheri and the maximum length of this would be about $1\frac{1}{2}$ mile and crossing the road to Ghodbunder.

What seems a rather more suitable hill exists on the East of the Railway line just South of the cart road leading from the Ghodbunder Road towards Vehar Lake and near a small village called Mogra. This hill is better situated for shovel work and the siding to Andheri would be shorter, not more than one mile, and also would not have to cross the public road. There is a good well here and the jungle is much more open, consisting only of palms and mango trees. The ground consists of earth in which large and small trap rock boulders are embedded. The rock is much broken up as a rule. Altogether these hills would seem well worth acquiring; the Mogra hill especially for work in Back Bay and the Ambauli-Basavre hill especially for reclamation along the Vesawa causeway: which has not yet been discussed but will be later on in this report. There are also earth hills available in the Northern part of the Thana creek East of Ghodbunder but these are not nearly so conveniently situated for transport to Back Bay and if used the material would either have to come all the way by boat (which is undesirable on account of irregularity in arrival of material), or would have to be boated to the nearest point on the Railway and thence brought down by rail, though as the distance by rail is more than twice as far as from Andheri the rates would certainly be more and the material would have to be handled twice.

As to dredgable material an endeavour has been made to locate some extensive sand deposits but without such access. There are big mud flats at Uran which could easily be dredged and indeed with advantage to the port town of Mora, but the mud is of such a character that it would not afford very good filling unless used in conjunction with harder material. Visits were paid to the Panvel creek, but here also only mud was found. There is some sand at Mándwa near Karanja at the mouth of the Dharamtar creek, but the situation is very exposed and probably work would be considerably delayed on this account. Up the Dharamtar creek nothing but mud is found.

Some hope was entertained of sandy deposits being discovered up the Thána creek but nothing was found but mud, no better than that at Uran and further away :—

If reclamation work of this kind be done a large amount of stone will be needed and attention to this question has been given. The following seem the most promising sources :—

1. The Elephanta island quarries.
2. The Karodi quarries.
3. The Parsik Hill district.
4. The Marole and Parjapore quarries.
5. The Siwri Hill quarries, Bombay.

The first is being worked by the Port Trust and probably a similar arrangement would be made with the Trust as the present Dock Contractors have.

The second is also being worked by a number of small contractors.

The third is not being worked as far as I know, but the hills would afford good material and are well situated near the G. I. P. Railway, near Thána.

The fourth site is within three miles of Andheri Railway Station, on the B. B. & C. I. Railway, and is not now worked.

The fifth is right in the Town of Bombay on the Eastern side; the stone from this quarry would probably have to come all the way by road a distance of about 5 miles, unless it could be carted to a station on the Railway, such as Parel (which is about two miles off), and brought down thence by rail.

30. Before closing the report on the Back Bay reclamation, it may be permissible to make a few remarks (though perhaps these do not come strictly within the limits of the report) on the subject of the B. B. & C. I. Railway. This line, from rather North of the Charni Road station to Colaba Station, a distance of about 13,000 feet, runs approximately parallel to the shore line and a short distance from it, there being only a footpath and riding road between the railway and the sea wall.

The rails are laid directly on the surface and consequently all crossings between these points (except an overhead footbridge or two) are grade crossings. There is an overbridge available for carriages just North of the Colaba Station and near the New Colaba reclamation, a carriage level crossing at Church Gate and not another carriage crossing until the New Overbridge crossing between Charni Road and Grant Road Stations. This means that to a great extent the area on the seaward side of the railway is cut off from that on the landward side as far as vehicular traffic is concerned.

The existence of this railway in its present form must not be overlooked in any question of Back Bay reclamation and it would be a grave mistake not to take this factor into full consideration in drawing up any schemes for adding to the area of the City in this manner. Railways at street level running through cities of any magnitude are in many obvious ways a nuisance to be avoided. They are often built in this way in the early days of a city's development, but when the growth of the city has enveloped them they present a problem which often requires drastic measures to rectify.

The question of what to do with the B. B. & C. I. Railway if Back Bay reclamation (except beyond Charni Road at the North and Colaba Station on the South) is carried out, may be considered a detail, but it is a very big detail from the point of view of the City, and a few words here on the facts of the case will, it is hoped, not be thought altogether out of place.

31. If it be granted that to add a large block of land on to the seaward side of the Railway with extremely inadequate means of approach would be an unwise procedure three alternatives would be presented for solving the problem :

- (1) Terminate the Railway at Grant Road.
- (2) Re-locate the Railway so that it would again be on the (new) shore line.
- (3) Alter the level of the Railway so that it would not hinder road traffic across it.

As to No. 1. This seems in some ways the most sensible means of dealing with the question. When the Siwri reclamation is finished and the Cotton greens now at Colaba are moved to Siwri a great part of the use (for goods traffic) of Colaba Station will be removed.

Passenger traffic seeking the business part of the City (practically the Fort area) will however remain and it would be necessary to provide a tramway line from the Grant Road down to Colaba. This line could be laid on the present lines of the railway so that the character of Queen's Road would not be altered, but of course the fences along the present tracks would be removed. Whether this proposal would be enthusiastically received by the Railway is open to doubt and also whether the travelling public, especially the crowds of daily workers (mostly at low wages) to whom a change of car and possibly an extra fare would mean a great deal, would be in favour either is a question also open to discussion on the part of those familiar with local conditions.

As to the second alternative, to place the rails near the sea front. There would seem to be some serious objections to this. Of course it allows free access to land now cut off but it would seem a pity to mar the sea front with a railway when this is just that portion which should be entirely reserved for carriages and foot traffic. Anyone who has seen the throngs of carriages and pedestrian at Chaupati in the evenings cannot doubt for a moment that what Bombay wants is easy road access to the very edge of the shore and opportunity to walk and drive along the very edge. Not only this but a railway to serve its best purpose should lie as nearly as possible along the middle of the district which is to use it and not along the extreme edge.

The third alternative, namely, to place the railway at such a grade that street traffic is not interfered with, means that the line be either elevated above the surface so that traffic can pass below or that it be depressed so that traffic can pass above it, since on account of the long approaches necessary it would be impossible to provide over bridges except at a very few points which is just what it is desired to avoid. Of the two methods that of depressing the tracks either in an open cut or tunnel would seem to be the better way of the two though of course very costly. Probably the total cost would lie somewhere between Rs. 2,00,00,000 and Rs. 3,00,00,000. This general question of the railway is only touched on, as it is doubtless fully appreciated already by those who have given any consideration to the subject, but it would be a grave mistake from the point of view of the relief to be afforded to the City to go ahead with the reclamation of areas to the sea-ward of the railway without including some carefully thought out scheme as to how to afford access to such areas from the East as well as from the North and South which would not be the case with the railway as it is at present.

SCHEME G.

(See plan No. 1.)

32. *Napean Sea Road reclamation. "Petit Hall" to "Beehive".*—This piece of reclamation would be a useful one to do, that is to say the site is suited for a good class of residence and should find a ready sale. The only difficulty (of an engineering nature) is in bringing the filling material to the site economically.

33. The coast is very rocky here and the reef extends into the sea for some distance outside the line of the wall. This, together with the fact that the sea is often quite rough here, militates against transportation by sea while transportation by road is slow and costly. It may be taken as certain that dredging in the sea opposite the site is not feasible owing to the rocky bottom and the depth of water, which is too great.

34. The next scheme to be discussed is a road crossing Malabar Hill in cutting and tunnel and extending from the Napean Sea Road to the Chaupati Road. If this work were ever carried out, part of the soil could be used in making part of this fill though the entire tunnel and cutting excavation would only come to about half the fill required here.

35. Putting the above contingency out of the question two alternative sources of supply suggest themselves.

(1) To excavate the earth hills at Worli, load on to scows and tow them round to the site. This could be done at high tide and a dock or mole would have to be built to accommodate the scows and some blasting would have to be done to make a good channel for the tug and the scows. Sailing barges could not be used as the navigation on this part of the coast is quite tricky and dangerous.

(2) To use a suction dredge say in the Mahim Bay and load into barges as in Case 1.

36. The area of reclamation is 112,000 square yards, depth of fill is 5 yards. The volume of fill is 560,000 cubic yards.

37. *Method (1).*—If a 2½ cubic yard steam shovel be installed at Worli Hill it could handle about 45,000 cubic yards per month. So that the fill could be done in 13 months or say 1½ season counting on 8 months' work only per year. A pier would have to be built out into the sea at the Worli Hill and a contractors' locomotive and plenty of side dumping cars to fill into the barges. A tug is needed to tow the barges round and another pier is needed at the reclamation site and a Clamshell bucket crane or derrick to unload the barges into other side dump cars which would be dumped from temporary trestles or dumping bridges. The whole work would take something under three years to do.

The estimate works out as follows :—

	Rs.
Wall work	2,00,000
Plant cost	7,60,000
Plant operation	4,23,000
15 per cent contingencies	2,22,450
5 per cent. Engineering	85,270
	17,90,720
Loss of interest 5 years at 5 per cent. per annum	4,47,880
	22,38,400

or as the area is 112,000 square yards, the cost per square yard is about Rs. 20.

This is all on the basis of New Plant purchased for this job alone.

38. Although perhaps not strictly within the promise of this report it may be questioned whether it is wise to cut down the Worli Hills which in time, and especially if improvements are made at the Love Grove outfall, would seem likely to become a favourite residential district so that the spoliation of these hills might not in the long run be an advisable proposal. This is quite apart from the practicability of obtaining excavation rights on these hills about which there is understood to be some difficulty.

Method (2), viz., by using a sand pump in Mahim Bay and transporting the material by barge to the site.

The pump should handle about 100,000 cubic yards per month or 800,000 in a year so that the fill could be made in six months if the barges could take it away and be unloaded quickly enough. This is doubtful as the coast is bad for such work. Assume 8 months' work. The estimate works out thus :—

	Rs.
Wall work	2,00,000
Plant cost	8,40,000
Plant operation	4,08,400
15 per cent. contingencies	2,17,200
5 per cent. Engineering	84,283
	17,49,943
Loss of interest four years at 5 per cent.	3,49,980
	20,99,923

or cost per square yard Rs. 18-8-10.

39. Before the wall was built and if a dredge were available it would be well to see whether it were possible to make part at least of the fill by dredging in the sea opposite the site and pumping directly behind the wall. There is a great deal of rock here and nothing but an actual test would show if it were possible. If it were the cost should be brought down to the neighbourhood of Rs. 10 per square yard.

40. In these estimates new plant has been allowed for and if ~~all~~ some of the plant were available second-hand from other jobs the cost under the head of "cost of plant" would naturally be lowered. Too much stress however cannot be laid on the fact that old dredging plant is always of low efficient and a doubtful economy.

SCHEME T.

(See Plan No. 1.)

41. At your request attention has been paid to a proposal to provide, by means of a cutting or tunnel, some more direct access to the Western side of Malabar Hill this purpose being combined with the idea that such a cutting or tunnel would allow a certain amount of West wind to get into the old part of the City which is now cut off by Malabar Hill from this direction.

42. It would seem from a careful examination of the situation that a cutting for the whole way would be out of the question on account of the enormous interference with property which would be entailed.

43. The natural route for such a cutting is now closed. This route is the ravine which starts at the junction of the Napean Shore Road and the Mount Napean Road, runs North-Easterly for about 15,000 feet and then turns Eastwards ending just under the reservoirs. This ravine would have provided a ready made cutting which a comparatively slight amount of work would have converted into a good road and the portion under the present reservoirs

(a length of some 12,000 feet) would have had to be an artificial open cut. This route is now barred on the East by reservoirs and on the West by the work which the Nizam of Hyderabad is doing in the ravine which he is now filling up.

44. Another route has been selected as the most promising, though it would not seem practicable to have an open cut all the way. This route is as follows:—

Leave the Napean Shore Road at the back of Petit Hall and follow the ravine which extends from here for about 1,500 feet. A tunnel is suggested about 1,000 feet in length and passing diagonally under the Mount Pleasant Road and the house called IL. Pallaggio and the Gibbs Road. The tunnel's Eastern Portal would be situated near the Ladies' Gymkhana, East of Gibbs Road and an open cut would carry the road into the flat ground where the stables of the Governor's body guard are now situated.

45. The width of road way selected in making the estimates is 40 feet and the estimate works out as follows:—

Time required three years.					Rs.
Cost of Tunnel	...	...	...	...	27,90,000
Cost of cuttings	...	...	...	...	10,00,000
Engineering establishment	...	...	...	...	1,08,000
10 per cent. Contingencies	...	...	...	...	3,89,800
5 per cent. Engineering	...	...	...	...	2,14,390
					<hr/>
					45,02,190
Loss of interest for five years at 5 per cent. per annum					...
					<hr/>
					11,25,525
					<hr/>
					56,27,715

This does not include the cost of the land nor the making of the road nor the installation of electric light in the tunnel.

46. The excavation done at the Western end will be advantageously used in making or helping to make the Petit Hall to Beehive (Scheme G) reclamation, though it would not suffice for the entire fill which is 1,51,200 brass, whereas the total tunnel excavation is only 22,900 brass. The excavation done from the Eastern side, supposing work to be carried on from both ends might be used in helping to make Back Bay reclamation.

47. Speaking generally, and perhaps outside the scope of the report, it would not seem (from a purely utilitarian point of view) that the construction of such a means of crossing Malabar Hill is justified by the existing or even possible need of the traffic which must always be comparatively light. A narrow opening such as this would not let in any air worth speaking of to the native City, and finally the material excavated even if of the best quality (which it probably is not judging from what is exposed) could not pay for doing the work which cannot bring in any return when finished unless it is proposed to levy a toll on passengers using it, which would probably not be sanctioned, or if so, would no doubt limit the number of passengers to a very small number.

SCHEME Q.

(See Plan No. 1.)

48. At your request some notes are added here dealing with the question of the mitigation of the nuisance caused by the present Love Grove sewer outfall. It is believed that measures are now being taken to deal with this question though on what exact lines is not known.

49. It is certain that by spending the requisite amount of money on septic tanks the sewage now being discharged into the sea might be rendered innocuous before such discharge. The matter has been gone into and reported on several times and the result has always been that the cost has been considered prohibitive, *e. g.*, in 1904 the estimate was for first cost Rs. 13,50,000, and annual cost Rs. 1,65,000.

50. A proposal has been made to free the effluent at Love Grove of its fouler elements by not permitting the masses of night soil collected in the City to be placed in the sewers but to collect it at certain stations and compress it into sludge cake. The estimate for this is Rs. 2,90,000 first cost and Rs. 90,000 for annual upkeep.

51. It also seems the general opinion that the present outfall pipes are not carried far enough out to sea and that they should be extended to discharge into a minimum depth of water of 20 feet. This would make the discharge end 350 feet from shore. The pipes at present discharge into a minimum of only 6 feet of water.

52. A proposal was made by Mr. Santo Crimp to make a new outfall at Worli Point, at which spot the sewage would be discharged during ebb tide, the present Love Grove outfall

being used during flood tides. The idea was that the out rush of water from Mahim Bay and River would carry the effluent a long way out to sea.

53. It would seem, generally speaking, that it would be better to have only one outfall (as at present) than two, especially as the Worli point outfall might not be as successful as Mr. Crimp thought, and that if septic treatment be considered beyond the resources of Bombay attention be directed towards the minimizing of the foulness of the effluent at the present outfall in the cheapest possible manner, *viz.*, by the compressing or incinerating of the grosser forms of sewage instead of putting such into the sewers. While not so effective as the complete deodorization and purification afforded by thorough going septic treatment, this, combined with the lengthening of the discharge pipe into deeper water, should do a good deal towards mitigating the present nuisance at a much lower cost than the septic treatment could show.

APPENDIX D.

OBAL EVIDENCE.

CHAIRMAN'S OPENING SPEECH.

I think it may dissipate possible misunderstandings if, in initiating the proceedings of the Committee, I explain as briefly as possible the reasons for its inception and the motives underlying its organization. Perhaps members of the Committee are not all aware that the enquiries which resulted in the orders passed in 1909 proceeded on the assumption that a Committee would be appointed. Then no Committee was appointed because the material collected seemed sufficient for the formulation of certain principles of development.

The situation has changed somewhat since then, partly owing to the development of the plans connected with Salsette and partly through changes in conditions in Bombay itself. The latter are, it is true, so far as I am aware, more particularly acute in relation to the needs of Government, while the development of Salsette also has proceeded under a Government Officer to a certain extent independently of what is taking place at the hands of the three great interests in Bombay Island itself.

The interest of Government in forming this Committee is, I may say at once, very largely, if not mainly, to secure that their proceedings in Salsette shall be adaptable to the schemes in process of evolution in the Island of Bombay and to obtain opinions and advice generally as to the best methods for providing the necessary additional institutions and buildings within the area of the Island of Bombay.

I have been led to believe that the reference, in the orders appointing this Committee, to reclamation has been misunderstood and that by the word reclamation has been understood "*the* Reclamation scheme." Now this is not so. And I hope that the Committee in its deliberations will put aside the preconceived impression that we are asked to debate upon any particular scheme of reclamation whatever. It was impossible to avoid the use of the word reclamation altogether, because, when you live in an Island with circumscribed shores and discuss the subject of expansion, it is obvious that territorial expansion must be either by stepping off the Island to go elsewhere or by enlarging the Island. But I want the members of the Committee to approach the deliberations before them freed from the idea that we are tied down to a consideration of any specific scheme of reclamation whatever.

It will be clear to you from what I have now said that what Government desire in our deliberations and reports is that we shall elicit, and express to them for their information, the best opinions procurable regarding not only internal development but external expansion. Much that was laid down in 1909 has already been begun and some of it has been completed; some of the schemes have undergone modifications, others are still immature. But a perusal of the orders of 1909 will make it clear that, speaking generally, they concern themselves almost entirely with the question of opening up communications, chiefly between the north and the southern business part of the Island. As I have said, some of the projects indicated in 1909 are still to commence, while others have undergone modification with reference to changing circumstance and other necessities. But certain prime factors remain constant. If development is to proceed upon a logical basis and have due regard to the future, it must look ahead and concern itself with the proper location of various industries; and, especially in Bombay, of the mill industry and certain noxious trades such as tanneries. In the past, owing to a lack of foresight, mills have been permitted to grow up in all sorts of places, as for example the dyeing works on Mahim sands which by itself handicaps the progress of developing Mahim foreshore as a residential neighbourhood. It is as much to the interest of one body, for example, the Municipality, as another, for example, the Improvement Trust, to evolve some comprehensive scheme for laying out the greater Bombay of the future for both bodies, and Government also are animated by one object only, namely, the greater convenience, prosperity, and comfort of Bombay. The mill industry, wherever it is established, carries with it the construction of residences for the mill-hands and other employes. The residential areas require consideration from the point of view of the location of such industries and from that of climatic conditions. The great problem of communication is vitally affected also by the location of the industrial centres and the residential quarters. For example, every additional mill lodged on the north of Bombay Island, adds to the stream of daily emigrants from Salsette and burdens the line of communication, while every mill established in Salsette relieves congestion of traffic *pro tanto*. These observations are only thrown out to indicate, by way of illustration, how it is that Government in their plans for Salsette are vitally interested in knowing the plans of the Municipality and the Improvement Trust for the Island of Bombay. They are not meant to be suggestions. Indeed I want to make it perfectly clear that this Committee is not a Committee which Government desire shall submit a report to form the basis of definite action or orders by Government, but is designed rather as a recording or registering agency to bring into focus, for the information of Government, as well as of the public and the Municipality and Improvement Trust, the opinions of those best qualified to form them as to the best means of co-operation between the various interests concerned, and to indicate suggested lines of development.

EXAMINATION OF WITNESSES.

Thursday, the 20th November 1913.

PURSHOTAMDAS THAKURDAS, Esquire.

Questions by the Chairman.

Q.—Mr. Purshotamdas, you have not dealt with the matter of communications in any detail in your written statement; perhaps you will allow me to ask you one or two questions of general application relating to that.

The first question I would like to ask you is, have you any specific modification to suggest in the scheme for provision of three main arterial communications between the North and the South of the Island specified in the orders of 1909, viz.:—(a) Frere and Reay Roads to Sion, (b) The Kingsway to Sion, (c) Lamington Road through Mahim Woods to Bandra Causeway?

A.—No, I have no specific modification. I may say that I only touched on those points which I wanted to amplify in the report of the Chamber's Committee.

Q.—You have not in fact thought particularly about this matter of communications?

A.—I have only mentioned in my written statement what struck me as most important.

Q.—I think you as a business man are probably interested in the question of the East and West communications of the Fort, and for that purpose I would like to ask you whether you consider that a road from Hornby Road to Ballard Road would be a great convenience?

A.—I think it would be a very great convenience indeed.

Q.—As serving any particular purpose of communication, or ventilation, or trade?

A.—I expect it would serve the purpose of communication for passengers to Europe and back and in that respect it would be a very great convenience, but I do not think it would be of much use so far as trade is concerned, because it is a thoroughfare for mail passengers only.

Q.—Do you think that in the formulation of the scheme of the three main thoroughfares sufficient regard was had for the necessity, hinted at elsewhere in the Government Resolution, for the allotment of areas for the development of industries, that is to say, for allotting particular areas to industrial development? Does that in your opinion affect the adequacy or otherwise of these three lines of communication? For example, you recommend the location of the industries in the North of the Island. Does that affect the sufficiency of the Kingsway and Frere Road communications?

A.—I am afraid I do not know the figures of length and breadth. I have not thought of it. I would rather not express any opinion on that point.

Q.—But I daresay you have thought about what localities are suitable for industries?

A.—There I agree with what is said in the opinion of the Committee of the Chamber. I think they put it down in the Northern part of the Island.

Q.—That is a very general term.

A.—I think the main idea then was Kurla and beyond.

Q.—To the North-East of the Island, that is, into Salsette?

A.—Yes.

Q.—Where do you think that the various grades of residential quarters are likely to grow up, that is to say, for the different classes of inhabitants, of well-to-do, middle class, and less well-to-do, leaving aside the operatives of the mills who are presumed to be lodged in the neighbourhood where the mills are situated?

A.—I think the middle classes will go on further on the Andheri, Mahim, Borivli side; that is to say, the upper middle classes. And as to the lower middle classes, they will confine themselves to Bombay until they are accustomed to move out. The lower middle classes would like to be as near the places of business as they possibly can. I have not heard of many lower middle classes going out of Bombay.

Q.—Supposing there were tramway communications, would that affect the location of the lower middle classes?

A.—By degrees it might. I think it is only the upper middle classes that would be affected by such communications, because they have better ideas of the benefit of pure air than the lower middle classes.

Q.—Do you think the extension of tramways would affect the upper middle classes also?

A.—Certainly. The wealthy classes, I think, will try and keep in the better localities in Bombay, that is to say, Malabar Hill, Cuffe Parade; that is, I mean, the best localities in Bombay.

Sir Pheroseshah :—May I know whom you mean by the upper and middle classes ?

A.—By upper middle classes I mean clerks who draw Rs. 100, by the lower middle classes those who draw Rs. 20 or Rs. 30. People drawing Rs. 50 and under I would style as lower middle classes.

The wealthy classes will try and keep as near Bombay as possible. I do not think that there is a natural tendency to go out.

Q.—Having regard to the growth of demand for office accommodation and to recent tendencies in that respect, in what direction do you think that that demand for office premises will become most pressing ?

A.—I think at present the tendency is to go more towards the Bori Bunder side of the Fort owing to the proximity of the Docks.

Q.—That is to say the tendency is slightly towards the North-East.

A.—Yes, quite so.

Q.—Has that resulted in the desertion of any premises or in the reduction of rent ?

A.—I think rents in the Circle have gone down below what they were 10 or 15 years back. Of course prohibitive rents elsewhere make these buildings reoccupied, but on a lower basis.

Q.—It has been stated that the pressure on residential accommodation in the neighbourhood of the Apollo Bunder, the Cooperage, Marine Lines and Colaba is very great. It has been suggested that the demand for offices will invade this residential quarter. Do you agree with this suggestion ?

A.—I do not think so ; I think the tendency will be towards the north-east side. There will be very little business to be done on Apollo Bunder side when the Cotton Green is removed from the present position.

Q.—In your evidence, Mr. Purshotamdas, you refer to the needs of the University buildings and Colleges and so forth and you say "the Indian Merchants' Chamber and Bureau's Committee think that space necessary for extension to these institutions will be available when the Cotton Green is removed to Mazagaon", and then you go on to say that it is understood that a considerable part of the Cotton Green and adjacent land will be utilized for St. George's Hospital. The buildings for which Government are urgently in need of sites are as given in the list handed to you, and there may be others. Now speaking generally, the only sites for the erection of such buildings at present available, are the Maidan, the Oval, the Cooperage, the Kennedy Sea Face and (prospectively but not immediately) the Cotton Green measuring approximately 170,000 square yards. It is estimated that 200,000 square yards at least will be required. Do you recommend a departure from the hitherto fixed policy of not trespassing upon any of the spaces referred to, with the exception of the Cotton Green ?

A.—I do not. I think the Oval and the Maidans and the Cooperage must be kept.

Q.—And you suggest as an alternative a certain form of reclamation to be paid for by Government. Would you give us an idea where that reclamation should take place ?

A.—I only tell you what strikes me as a layman. I would have reclamation from Church Gate Station to the Wodehouse Bridge. If Government took up this part of the reclamation scheme and could show that it was a profitable concern the investing public might come forward and try other parts of the reclamation.

Q.—Now I come to the very important suggestion at the conclusion of your note. You say "it is desirable to devise measures for securing co-ordination and expedition in the carrying out of measures that Government may resolve on adopting now and hereafter. The landed interests in the Town and Island of Bombay are divided, broadly speaking, between (1) The Municipality, (2) The City Improvement Trust, (3) The Port Trust. All these three bodies work with either the Bombay tax-payers or the Bombay Merchants' money in the form of taxes, cesses or other duties. It is therefore most desirable that these institutions which control the development, sanitation and the trade of the city should co-ordinate in execution of whatever is decided upon as most necessary or suitable for the city's needs". And then you go on to say that you believe it would be best if a small Committee consisting of a representative from each of these three bodies be appointed for the purpose of reporting to Government every year how the progress of schemes sanctioned is going on, and you suggest that the Committee be presided over by one of the Secretaries to the Government of Bombay. Is it your suggestion that the Committee should have any sort of effective powers of advice ?

A.—I do not know how these three bodies would take it. But if there was a Committee like that it would see how these three bodies had progressed in the schemes, and then it would be decided upon by Government, and in that way the public would get much more information in a nut-shell.

Q.—You mean your Committee should be entirely without [status except as an effectively advisory body ?

A.—At the beginning it should be so.

Q.—Supposing the Committee reported certain suggestions to Government what would you suggest?

A.—Government then should address the various bodies concerned and bring those suggestions to their notice.

Q.—You do not suggest that this Committee should have any authority?

A.—I am afraid from a conversation that I had with some of the members of these bodies that these three bodies may not agree to this. It might be found difficult to get them to agree to any sort of check on them. But I think such a Committee may be given a trial for two or three years and then only it could be seen whether it does useful work or not.

Q.—Is it in other words your opinion that the work which we are trying to do now should be continued by that Committee?

A.—Of course after two or three years' experience Government would be able to decide better as to the powers to be given to that Committee. That Committee should be a continuation of the present Committee. The formation of such a Committee might be a step in the direction of co-operation of these three bodies.

Questions by the Hon'ble Sir Pheroze Shah Mehta.

Q.—You do not consider that the road from the Ballard Pier to Hornby Road is necessary for trade purposes, and you say that it should be made even without taking into account the cost of such a road?

A.—I never referred to cost. It is quite possible the cost of the road from Hornby Road to Ballard Pier would be prohibitive, having regard to the convenience it would give. But I expect in course of time it is bound to come.

Q.—Now I want to ask you a question as to the location of industries. How far is that feasible? The industries include not only mill industries but a variety of other industries.

A.—I request you to mention a few of them.

Q.—By industries I mean mills, factories of any size. Would it be feasible to transfer those to special locations?

A.—I mean, a sort of printing press would not be a factory. I really cannot think of any others until you specify.

Q.—What industries would you locate in special localities?

A.—Industries where more than 100 hands are employed.

Q.—Now take the mills. Would it be feasible to locate the mills in an appropriate part of the area of the town?

A.—I said you can locate them beyond the Kurla site of Salsette. We have at present mills at Dadar and at Kurla. So I do not see how it would not be feasible.

Chairman :—I understand Mr. Furshotanadas to refer to future mills.

Q.—Tell me, as a business man would you think it quite feasible that you could locate or compel the location of future mills in that portion of the Island?

A.—I myself am not aware of any serious difficulty that would arise in case Government decided that way.

The Hon'ble Mr. Sprott :—With regard to the location of industries do you not think it a matter of railway facilities? If you have more railway facilities would it not be possible to locate these industries?

A.—In that case you would be able to direct them better.

The Hon'ble Mr. Sprott :—Have you anything to suggest in the way of improving railway facilities?

A.—I say that the best place for the location of these industries is the North-East of the Island.

The Hon'ble Mr. Sprott :—Is there anything that you have to suggest to improve railway facilities?

A.—Railway facilities as they stand at present are very meagre in Bombay indeed and they are going to practically enlarge them considerably.

Sir Pheroze Shah :—Would it not increase the cost of working these mills until those railway facilities have been provided?

A.—I do not think so. As it is at present there are mills there and they arrange for themselves and it is quite possible that within 5 or 7 years the railway facilities will come.

Q.—Would not the burden of cost to some extent depend upon the railway facilities in the area in which the mills are to be located and it might make some difference particularly in competition with other mills?

A.—It might make some difference until railway facilities are available and that might be for 5 or 7 years.

Q.—Then till the railway facilities are forthcoming, would you insist upon locating all these future mills in the quarter?

A.—It won't pay them to shift them in future. If they begin they must begin now.

Q.—As a business man you consider it a very small matter?

A.—I am looking at not from a business point of view but from a citizen's point of view.

Q.—I am very glad that mill-owners are thinking of themselves as citizens also.

Then you are prepared to say that even before the railway facilities are provided you would insist upon refusing to allow mills to be built except in that quarter that is selected?

A.—Because I go on the assumption that railway facilities will be forthcoming within 5 or 7 years.

Q.—Take it that they are not.

A.—I think the best way will be to provide for railway facilities first.

Q.—Now I think your answers will be still more emphatic about dye-works, tanneries, etc. There will be no difference of opinion that they should be carried out of the city as far as possible?

A.—As near as the needs of the city would require.

Q.—But from a citizen's point of view do you think it desirable that dye-works and tanneries should be located at a considerable distance from the city?

A.—Yes, they must be located at a considerable distance from the city.

Q.—Then with regard to mill industries which may employ a hundred men, would you think it desirable to insist upon their being carried out of the city or upon providing a special location for them?

A.—I think those that employ a hundred hands or more can come into the category of factories.

Q.—Take the instance which you gave, *viz.*, a Press employing a hundred men; what would you say to that?

A.—A Press may find it very inconvenient, still in view of the railway communication that you may have, I do not think it would be difficult to have such a Press also located in that special locality.

Q.—Leaving mills, dye-works and tanneries alone, would you draw hard and fast lines with regard to the location of a small factory?

A.—I think it might be allowable if we did draw hard and fast rules.

Q.—You said in your written statement that it would be desirable if the B. B. & C. I. Railway stop their trains at Grant Road. Would you think it absolutely necessary?

A.—No, I said in my statement that long distance trains should stop at Grant Road. I am in favour of the lines upto Colaba being retained for local and suburban traffic because I place the convenience of passengers above everything else, and this would encourage middle class people to go and live in suburbs and would consequently relieve the congestion in the city.

Q.—In answering that question have you considered that a time may shortly come when both local trains and tramways may be displaced by motor buses? You are aware that in London motor buses have largely taken the place of trams. If motor buses might come within a reasonable time, would you still insist upon the local service?

A.—Would the motor bus service be as cheap as the local trains? Unless that was cheaper and unless the time taken by motor buses was less than the local trains I would insist upon the local train service.

Q.—Local trains have to stop at stations and have to run at stated times, while motor buses have no such restrictions.

A.—But fares are also a consideration.

Q.—If motor buses are provided at equal or lower rates, would they be preferable?

A.—Not until the public got accustomed to them. I would not make any experiment with the convenience of the public who go to live out of Bombay and who have to attend every day to their business in the town. I would like to attract people to go out of Bombay.

Q.—Now you may take it from us that the whole of the area occupied by the Cotton Green is 170,000 square yards, and if the whole of that area is available for the institutions requiring sites, would you recommend that the St. George's Hospital or the European General Hospital which it is proposed to remove to the Cotton Green site should have a site found elsewhere?

A.—Yes, I would have no objection provided there was a site within easy reach. The European General Hospital should be in a healthy part of the town.

Q.—There is a strong feeling among Europeans that the Cotton Green is not a very convenient site for the European General Hospital?

A.—I have not heard of it.

Questions by the Hon'ble Sir Ibrahim Rahimtoola.

Q.—You propose that no new factories or mills should be allowed to be erected in other parts of the town except in those that are specially assigned for them?

A.—Yes, I think I said that.

Q.—Would you do that in spite of the fact that the railway facilities were not available at the time? Would you force new industries to be erected in these special localities notwithstanding the fact that the railway facilities might take about 5 or 7 years to provide?

A.—I said that because I see there is a prospect of railway facilities being provided within 2 or 3 years, and so with that prospect in view I would not object to their being located in the special area.

Q.—Do you expect people to go in for new industrial enterprises when you admit that they will suffer from great disabilities through having to go to those special sites?

A.—They would not think much of these disabilities, because the loss would be for 3 or 4 years only.

Q.—Should people be prevented from choosing the best economic sites and going to more costly places?

A.—It is quite possible that we may be at a disadvantage for some time but my personal opinion is that it is a thing you cannot avoid.

Q.—Do you think that people would be ready in view of the disability which you admit to go in for new industries in competition with the industries already existing?

A.—As I said I do not think they will make much of it. I mean that those that want to start new industries will start them. I do not think that there will be any very great disadvantage.

Q.—What are your grounds for saying that?

A.—Cotton mills carry their cotton from Kurla to Dadar by carts. Even the present mills have got to do that. So I do not think that there is any very great disadvantage to the new mills.

Q.—The point comes to this. Should the promoters of new industrial concerns be made to go to the sites which at present seem to be less economical and detrimental to the success of their enterprise?

A.—For the time being until the railway facilities are available they would be at a certain disadvantage no doubt.

Q.—You feel that the extension of the tramway to Bandra would greatly encourage the migration of population from crowded localities towards the North of the Island?

A.—I said it would only be an attraction for the people to go there.

Q.—You require the arterial roads for what purpose?

A.—For thoroughfares, to carry manufactured goods backwards and forwards.

Q.—You say that putting the terminus at Grant Road there would be plenty of land available in that locality. Do you mean to say that the surrounding areas which are now occupied by residential quarters ought to be acquired and land made available for the purpose?

A.—Yes.

Q.—You say that you have not considered the cost involved?

A.—Yes, I have not considered the cost involved.

Q.—You do not think that great inconvenience will be caused to the large number of residents who have made Grant Road their residential quarters?

A.—I make the preference between the lesser of the two evils.

Q.—In the last paragraph of your statement you say that the object of having the Committee is that it would report to Government the progress of the scheme as it goes on. You have not stated that the Committee is required for any other purpose.

A.—Government should have the report of the Committee and if they publish it, it would be a great guide to the public of what is going on. The public would know how much remains to be done and what modifications are necessary.

Q.—So you would have this Committee consider the modifications?

A.—No. I would like the Committee to report the progress of works in the beginning and latterly to suggest modifications in the schemes.

Questions by the Hon'ble Mr. F. L. Sprott.

Q.—Does not the crowded state of Church Gate Street show how pressing is the need for a second road between Hornby Road and Frere Road?

A.—What other convenience would there be than that for the mail passengers? I am not aware of any trade traffic from Hornby Road to Frere Road.

Q.—But then that road also will connect with Frere Road as a means of communication?

A.—Yes, it would be very desirable to have it without any prohibitive cost. It would certainly beautify that part of the Fort.

Questions by Mr. Wittet.

Q.—Is it desirable to remove the Secretariat?

A.—The Secretariat is a place where people have to come to work.

Q.—Business people would like to have Secretariat close to them?

A.—From the citizen's point of view it is most desirable that the Secretariat should be as near to the town as possible.

Questions by Mr. B. W. Kissan.

Q.—You said the rents in the Elphinstone Circle have gone down?

A.—Yes, rents in Elphinstone Circle and round about have gone much cheaper than the rents in Hornby Road.

Q.—Then it is because of the new offices in Hornby Road that the rents in Elphinstone Circle have gone down?

A.—Yes, it is owing to that.

Questions by the Chairman.

Q.—As to the location of the mills, I take it that it is your opinion that they should be only permitted to grow in places which will not be detrimental to the interests of the city in its future development, and that as at present advised you think that the North-East corner of the Island will probably be the site most suitable?

A.—Yes.

Q.—Assuming motor buses replace the tramway to the South of the city, your opinion is that the existing railway to Grant Road will suffice for the traffic? I may give you the figures of railway passengers. There are 70,000 to Church Gate and 5,000 to Colaba. Do you think motor buses could conduct them?

A.—I think it is quite possible that further roadways might be necessary.

Q.—In other words, if the Queen's Road is broadened it is possible?

A.—Yes.

Q.—As regards your opinion as to rents in Elphinstone Circle, does that fall of rent apply to other portions of the Fort also, I mean portions such as Apollo Bunder?

A.—I have no information *re* rents in Apollo Bunder but in the part close to Sassoon's offices the rents had gone down, and the portion known as Military Lane where David Sassoons are situated.

Q.—Have the rents been falling to the North of the Museum where the P. & O. Company's offices are situated?

A.—Yes, in the lanes behind that. I do not think that they have been falling continually. This fall of rent is due to the tendency of shifting the offices to new buildings on the Hornby Road.

Q.—Are you personally aware of the tendency of the rents on the Apollo Bunder and on the Hornby Road?

A.—As to Hornby Road I know by experience.

Q.—Have you any concrete idea or impression as to Hornby Road?

A.—The tendency there is to rise. An office that used to cost Rs. 350 is now fetching Rs. 475 in some of the buildings.

Q.—They have risen more than double?

A.—In the last five years they have gone up more than 25 per cent.

Q.—What reason can you assign for the relative decline of the rents in Elphinstone Circle and the rise on the Hornby Road?

A.—Because offices on the Hornby Road are considered more fashionable and up-to-date.

Q.—Is it because offices in the Elphinstone Circle are considered less ventilated?

A.—Yes.

Q.—If that quarter is opened up would that not appreciate the rents there?

A.—Of course it would. But I am sure the cost of new buildings considering the present rents there would be prohibitive.

Q.—The offices would fetch higher rents if they were made more up-to-date. There is no reason why the depreciation should take place because of the locality?

A.—The only reason was that it was thought that the Bank of Bombay would be shifted to the Crescent site; but since that site was taken up for the Museum and it was considered certain that the Bank of Bombay must remain where it is at present, rents in the Circle have steadied.

Thursday, the 20th November 1913.

E. L. SALE, ESQUIRE, I.C.S., COLLECTOR OF BOMBAY.

Questions by the Chairman.

Q.—Have you any specific modification to suggest in the scheme for the provision of three main arterial communications between the North and South of the Island specified in the orders of 1909, *viz.*, Frere and Reay Roads to Sion, the King's Way to Sion, and Lamington Road through Mahim Woods to Bandra Causeway?

A.—No.

Q.—Do you think that those three main roads will suffice for the communication between North and South?

A.—I think they will for many years.

Q.—That is, you are speaking on the assumption that the enlargement and widening of those arteries are carried out?

A.—Yes.

Q.—Are you of opinion that the present East to West roads will be sufficient to provide communication with the new Port Trust grain and cotton depôts that are under construction? In replying to this question you may consider that the road from Sewri through the grounds of old Government House, Parel, has been constructed and the Victoria Road widened.

A.—I cannot say much about that. I do not know what they anticipate in the grain traffic. I am not in a position to give any opinion on that point.

Q.—Do you consider that a road from Hornby Road to Ballard Pier is an urgent necessity?

A.—Yes.

Q.—On what ground?

A.—Another road leading from Hornby Road in the direction of the Ballard Pier to the Frere Road is absolutely necessary as Church Gate Street is not sufficient to carry the present traffic.

Q.—Is that mainly the passenger traffic or industrial traffic?

A.—It is passenger traffic and carriage traffic and cart traffic. A good many business men and others use the road.

Q.—Do you think that in addition to the three roadways the projected widening of the alternative road to old Government House, Parel, should proceed north of the Kalachoki Road?

[The witness is asked to look at the map.]

A.—I do not think it is at present urgently needed.

Q.—In planning the three great thoroughfares, North and South, was sufficient regard had to the necessity of allotting specific areas for the development of industries?

A.—I fancy a part of the Matunga Scheme was laid out in a portion of the Improvement Trust scheme in the North of the Island. But I do not think sufficient provision was made for the entire demand of the Island.

Q.—Do you think that communications are sufficient, having regard to the development of industries?

A.—I do not think that was considered. I think you should have a large location of industries in the North-East of the Island and you should have further facilities.

Q.—Speaking generally, what areas do you think most suitable for the location of large industries growing up in future?

A.—The only possible remedy is going to the North-East portion of the Island.

Q.—And would you recommend that we should contemplate their location beyond the North-East portion of the Island?

A.—Yes, I should say some of them; for example, those of them which would be a nuisance to the neighbourhood, such as tanneries, dye-works, etc.

Q.—Then if that takes place and if, say, Kurla or its neighbourhood became a centre of industrial expansion, do you think there would be sufficient communication between the two Islands?

A.—No. There would have to be extension of communication between the two Islands.

Q.—You have not forgotten in connection with that question that to a certain extent the mill-hands will have to be located presumably in Salsette?

A.—I think still there will be need of widening the communication. There will still be an increase of traffic.

Q.—What is your opinion as to the direction in which the various grades of residential quarters are likely to grow up automatically, that is to say, the wealthy people, the upper middle class, and the lower middle class?

A.—I think the better class would go to Mahim and Worli, provided that the Love Grove pumping is more satisfactory than it is now.

Q.—You think that the removal of the Love Grove nuisance might turn that locality into a wealthy residential neighbourhood?

A.—Yes, certainly.

Q.—How far would that apply?

A.—I do not think it would go very far into Mahim. It might gradually extend up to the beginning of Mahim Woods. It might go to the foreshore to the North of Mahim Wood.

Q.—And what would happen to the upper middle classes, that is to say, people drawing about Rs. 100 and more?

A.—I think they would go to the Matunga side.

Q.—That would be therefore an automatic expansion. And are you relying in making that estimate upon the extension of tramway communication?

A.—Yes.

Q.—You think that will bring about an automatic filling up of that quarter by the upper middle class?

A.—I think so.

Q.—And the less well-to-do, *viz.*, those drawing Rs. 100 a month or less?

A.—I suppose they will go where the upper middle class lived, that is, they will possibly take their place.

Q.—What is "their place"?

A.—Round Tardeo and Byculla.

Q.—You think that the opening up of the Improvement Trust Matunga scheme will result in the migration of the well-to-do towards Matunga, their place being taken by the less well-to-do owing to the reduction of rent?

A.—Yes.

Q.—Having regard to the growth of demand for office accommodation in what direction do you think that demand will become most pressing?

A.—I do not think there is very much need of expansion in that direction.

Q.—But assuming it has to expand, what do you think will be the natural tendency, that is to say, must it grow either towards North, South or West? What is your opinion? Will it grow towards the North of Carnac Road, or will it grow towards the South of the Museum, or will it grow towards the West?

A.—It will not grow towards the North and the tendency will be to the South.

Q.—A previous witness remarked that it will be deflected by industrial activities.

A.—Some business men might go to be near these. In any way it would not be North or North-East, towards the Docks.

Q.—Is there any available space in that direction ?

A.—They could build towards that direction, I suppose on the Mandvi side. All that depends upon the business.

Q.—What is the value of the property on that side ?

A.—Something about 130 or 140 rupees a square yard.

Q.—How does that compare with the land in the South ?

A.—At present it is not so high in the South.

Q.—Then on the whole, would the ordinary pressure of the expansion of offices in the centre of the Fort tend to the establishment of offices in the South of the Esplanade, taking into account the prices and the facilities and anything else ?

A.—If you went far to the South end you would be getting very far away from the business part.

Q.—Have any offices extended to the southward ?

A.—Cotton people have. I do not know of any other.

Q.—It has been suggested in some of the written evidence that possibly some of the residential quarters might be converted into offices.

A.—That depends upon the pressure for accommodation for business houses, whether those would be the houses they would take.

Q.—Assuming that there is no sufficient room and a particular office has to move for want of room, would it be more likely to go to the existing buildings in the South or to the existing buildings in the North ?

A.—They would buy some other building in the heart of the Town and would prefer to go there than to the North. There is scope for expansion generally towards the east of Hornby Road and the Custom House.

Q.—It was at one time a very crowded business locality ?

A.—It was at one time, but owing to the improvement of Hornby Road it has ceased to be so.

Q.—If the rents there have deteriorated, is it because of the improvement of Hornby Road ?

A.—Yes, there is less demand there owing to the improvement of Hornby Road.

Q.—Assuming for a moment that the offices overflow on the Cooperage or Apollo Bandar side, where would the residents from these places tend to migrate ?

A.—I should think under the existing circumstances they would go out to Salsette—Bandra and so forth.

Q.—Where would they wish to go ?

A.—I suppose if residential buildings were built further South they would go there.

Q.—That would be, you think, the tendency of the wealthy classes ?

A.—Yes.

Q.—You have a list of the buildings for which sites are required by Government. Speaking generally, the only sites for the erection of such buildings at present available are the Maidáns, the Oval, the Cooperage, Kennedy Sea Face and (prospectively but not immediately) the Cotton Green measuring approximately 170,000 square yards. For the buildings specified at least 200,000 square yards will be required. Do you recommend a departure from the hitherto fixed policy of not trespassing upon any of the spaces referred to, with the exception of the Cotton Green ?

A.—No, I do not recommend a departure.

Q.—Then where do you suggest putting these Government buildings ?

A.—I should think some of them should be located out of Bombay, for example, the Home for Incurables, the Elphinstone Middle School, etc. So far as educational buildings are concerned, I do not think they should necessarily be in the heart of the City.

Q.—But assuming for a moment that the majority of them should not on grounds of educational policy be removed from the heart of Bombay, have you any suggestion to make as to where they might be placed in Bombay ?

A.—I do not think that in Bombay as it stands there is any place for them.

Q.—You state in paragraph 5 of your letter recording evidence—“ At present section 348 of the City of Bombay Municipal Act gives the Municipal Commissioner some power to control the erection of buildings in such localities and section 390 gives him the power to prohibit the establishment of a factory in any quarter where it seems undesirable. More general powers are

however, required. The constitution of some authority is necessary to settle upon a definite scheme of development of such localities as Mahim, etc." What authority have you in mind?

A.—I think some authority will have to be constituted unless it is carried out jointly by the Municipality and the Improvement Trust.

Q.—Then you go on to say—"If such a scheme were to be settled by anticipating the wants of the Island and allotting spheres for residential and industrial purposes and suitable sites for recreation and public buildings, it could only be carried into effect by one of two methods, either by acquisition on the lines adopted by the Improvement Trust or by a Town Planning Bill, etc." Which of those methods you advocate?

A.—I advocate a Town Planning Bill.

Q.—In your written evidence, paragraph 6, after discussing the removal of Government buildings you say—"If further space after such extension is still needed for the public institutions referred to or for open spaces for recreation it will be necessary to carry out a reclamation scheme. The extent of such a reclamation scheme should, in my opinion, depend on the area likely to be required in the next fifty years for the purposes referred to above and for residential buildings." Do you mean by that that Government should undertake a small reclamation scheme?

A.—Government should undertake it for public buildings.

Q.—You include in it the suggestion that it ought to provide for residential buildings if necessary, and would you advise that Government should incur expenditure on reclamation to provide for residential buildings?

A.—I think that that could be done by private enterprise.

Q.—Then you think that the migration from existing residential quarters in the South of the Island would be so reluctantly towards the North of the Island that they would prefer to migrate to reclaimed ground?

A.—I think a large number of people would rather live close at hand than migrate to somewhere out of Bombay and suffer the inconvenience of going and coming every day to office.

Questions by the Honourable Sir Pheroze Shah Mehta.

Q.—You said that the migration of the wealthier classes will be towards Worli and that quarter near Mahim. Does that opinion of yours depend upon the removal of the Love Grove Pumping Station?

A.—It should not be as it is at present.

Q.—You are aware that the Municipality has undertaken to go into that question and the work is in progress. Do you think the wealthier classes will migrate to that locality if the scheme of the Municipality proves successful?

A.—Yes, I think so, but not if it does not prove successful.

Q.—Then, that being so, I should like to know your view as to where that Station should be removed.

A.—It would be a very good thing to remove it, but the cost is very large.

Q.—You are aware that the Corporation have on more than three occasions asked Government to remove it?

A.—I do not know that.

Q.—You know that the only drainage of the Island is towards the South?

A.—Yes.

Q.—If the Love Grove Pumping Station is removed it will afford the finest residential area?

A.—Yes.

Q.—Naturally that would open up a way to proceed towards the Mahim Woods?

A.—Yes.

Q.—How would you prepare the Mahim Woods for residential quarters? Would you have it done by the Improvement Trust or by a Town Planning Act?

A.—I do not see it makes much difference so long as it is carried out.

Q.—Which way would you prefer?

A.—From what point of view do you ask?

Q.—To prepare the way for building sites.

A.—I think it depends upon whichever way is quicker. The main object is to open it and I should adopt the cheaper method, which is developing by the Municipality.

Q.—Under the present powers of the Municipality?

A.—Are you referring to the powers of the Municipality?

Q.—I am referring to the opening up of Mahim Woods for residential purposes.

A.—Personally I think it would be better if it is carried out by the Improvement Trust, provided the cost is not prohibitive.

Q.—But supposing the cost is prohibitive, then would you resort to a Town Planning Act?

A.—I should think it would be better to resort to a Town Planning Act.

Q.—Would not a Town Planning Act be a more equitable way of acquiring property?

A.—Yes.

Q.—Then with regard to the sites required for Government institutions, you are aware that when the Cotton Green will be removed an area of 170,000 square yards will be available?

A.—That will include a large amount of land occupied by private buildings connected with the cotton trade.

Q.—It is suggested, or something more than suggested, that the European General Hospital should be located in that area. I should like to know what is the European feeling on that point. Would they like that site?

A.—I have not heard any opinions on that point. I do not think it is very generally known in Bombay that that is the idea. I think it would be rather a noisy locality and another site would be preferable, if you could get it of course.

Q.—Some of the institutions might be located in that area of 170,000 square yards? It would be a desirable locality, or at least not an undesirable locality, for such institutions?

A.—Yes.

Q.—What would you say as to removing the B. B. & C. I. Railway stations South of Grant Road? That would open up a large space, would it not?

A.—Yes. But to build there would create the same difficulty as is now experienced. It would cut off the public from the sea.

Q.—Would that be the only objection?

A.—Yes.

Q.—What would you think of removing the Secretariat from its present site?

A.—I personally think that the Secretariat is very well placed as it is at present.

Q.—Supposing that owing to some necessity we are obliged to remove it, would not the space obtained by moving the railway line be a suitable site?

A.—I do not think the width of the strip would be sufficiently large.

Q.—And we might add to it a Hall for the Legislative Council?

A.—I very much doubt whether the site would be sufficient for the purpose.

Q.—Suppose we acquire all that area from Charni Road up to the Gymkhanas?

A.—Still it will be a very narrow strip.

Q.—But the length would be enough?

A.—It will be too cramped for the buildings.

Q.—Take up the railway line, and suppose the whole space is realized, from the railway line.

A.—You are including part of the Sea Face. There you have to do something to prevent the sea coming in.

Q.—Suppose that space is made available and the sea-wall built. With that sea-wall would it not be a good site for the Secretariat?

A.—I do not think so. It would not be a favourable site.

Q.—The distance would not be very much greater.

A.—No.

Q.—Then again, the Public Works Department might be taken to the Cotton Green site?

A.—I should say so; otherwise I myself see no objection to it.

Q.—When you talked of migrating to the North for the middle class, have you considered the question of the cost of travelling, I mean, the tram fares?

A.—Yes, I think even with that they would migrate.

Q.—I mean taking the ordinary fare to be about one anna?

A.—The Tramway Company might allow cheap rates.

Q.—But the Tramway cannot reduce their rates very low. What do you call the upper middle classes?

A.—Those drawing salaries from Rs. 600 to 400 per month.

Q.—They would hardly use tramways?

A.—I think they would.

Q.—Have you considered the question of the probable substitution of motor-buses for tramways?

A.—I think the tramway system is always cheaper. I think it is cheaper to run a tram than to run a motor-bus.

Q.—In London they have found it to the contrary, and tramways have been obliged to give way to motor-buses. Supposing that it was found that motor-buses were cheaper than tramways, then would you say that large roads of communication would be necessary?

A.—I think tramways would be necessary on the large roads, but as to motor-buses I have not much faith in them. I do not think people would travel great distances in motor-buses. They would travel great distances in trams if they were speeded up.

Q.—At present it takes a very long time to travel by tram?

A.—Of course it is difficult where the road is congested. If you get less traffic they might get along better.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—Do you know that a large portion of Mahim Woods was included in Schemes V and VI of the Improvement Trust?

A.—Yes.

Q.—Do you know that Government refused to sanction it at one time?

A.—Yes.

Q.—Then as regards future expansion of office accommodation, do not you think that with the rise of rents the demand for office accommodation in business quarters has generally increased?

A.—Probably.

Q.—Do you not think it is due to the conditions of the Improvement Trust leases?

A.—Yes.

Q.—You know I suppose that all the Consuls have got their offices in that part of the Island?

A.—Not all, but most of them.

Q.—So that there is no data to show that the tendency for increased office accommodation will not go in that direction?

A.—There is nothing to show that it will go in that direction.

Questions by the Chairman.

A.—As regards the agency for the development of Mahim, I take it that you aim at the agency which you think most rapid and which would accomplish the work at a reasonable cost, and because under a Town Planning Act the present owners would have to contribute for the advantages they would secure from the development you think it is advisable to have a Town Planning Act?

A.—Yes.

Q.—You said the Cotton Green was a noisy site for the European General Hospital; but is it as bad as the present site?

A.—No, not as bad as the present site.

Q.—Suppose the general cause of noise there, *viz.*, the Tramway Company's workshop, is removed—they are trying to remove it to Matunga—there would then only be a shed for some trams in use in that locality. Would the nuisance in that case be still such as to render the Cotton Green an unsuitable site for the Hospital?

A.—No.

Q.—In view of the fact that there will be some repairs going on at night, do you think that that is a nuisance?

A.—If the major part of the Tramway workshop work is done elsewhere and if the terminus is removed, I think it will not be an unsuitable site.

Thursday, the 20th November 1913.

THE HONOURABLE MR. MANMOHANDAS RAMJI.

Questions by the Chairman.

Q.—Have you any specific modification to suggest in the scheme for the provision of three main arterial communications between the North and South of the Island, specified in the orders of 1909, *viz.*, Frere and Reay Roads to Sion, the King's Way to Sion, and Lamington Road through Mahim Woods to Bandra Causeway?

A.—There should be East to West communications between these arteries.

Q.—But for North and South you consider that these roads are as well designed as they can be?

A.—Yes.

Q.—Then you do not think that the present East and West roads will be sufficient to provide communication East and West?

A.—Further North, on the Parel side, we have one, and the other road is Sandhurst Road. Between these communications East and West I think there should be a middle one also. I mean, Clerk Road should be continued to Mazagaon.

Q.—Do you consider that a road is necessary from Hornby Road to Ballard Pier East and West—a new road, the present communication being by Church Gate?

A.—Yes, I think so. The traffic is congested in Church Gate Street, and I do not think that would cost much, *viz.*, a road to the North of Church Gate Street.

Q.—Do you think that the three main communications I referred to had sufficient reference to industries? Do you think that when these three means of communication were devised sufficient thought was given to where the future development of industries would be?

A.—I think so. It is only a question of having a cross-road between these three roads. Whatever area may be reserved for industrial purposes, there should be cross communications between them and that would be sufficient.

Q.—What area seems most suitable for the location of future industrial development, *viz.*, factories and mills?

A.—I should say the Eastern portion of the locality from Dadar to Sion, that is, the North-East corner.

Q.—Do you consider that development of industries, such as tanneries and dye-works, might even extend beyond the Island of Bombay towards Salsette? Might we contemplate its extension into Salsette rather than have it extended towards Sion?

A.—Mills and other factories should not go beyond Sion further North.

Q.—Supposing there is no further room for them, would you allow them to develop on the West coast?

A.—In Salsette I think they won't find a suitable place, because it will be too far for the working classes.

Q.—May we not assume that mills if established in Salsette would necessarily provide accommodation for their mill-hands?

A.—Even if buildings are provided I do not think people will reside in them.

Q.—Are there no mills in Kurla with operatives living there?

A.—It has taken a long time to make those operatives live there.

Q.—If a new mill is established in Salsette it would feel the want of operatives?

A.—Yes.

Q.—You have indicated that you think the North-East of the Island of Bombay is more suitable for industrial development and as a rule the operatives should be housed somewhere near to the localities?

A.—There must be development of accommodation for work people.

Q.—That being so, what do you consider is the tendency of the various grades of people as regards residential quarters? Take first of all the wealthy classes; where do you think they will tend to migrate?

A.—As to the wealthier people, I do not think their need at present is very great.

Q.—What I mean is, supposing the wealthy classes find it convenient to move, what direction do you suppose they would naturally take for a change of residence?

A.—I think they would prefer to move further towards Mahalakabmi and the Worli Sea Face.

Q.—Even as things are at present?

A.—No, if the nuisance is removed.

Q.—You think if the Love Grove Pumping Station nuisance is removed the wealthy classes would go towards Mahim foreshore?

A.—Yes.

Q.—And take the upper middle class that consists of people getting Rs. 200 to 300 a month and upwards; where do you think they will tend to migrate?

A.—I think the native public getting from Rs. 80 to Rs. 100 and upwards would naturally go to the Improvement Trust Scheme which is being developed now towards Matunga and Dadar if there be train facilities connected with that area. I do not believe in trams because they take such a long time. It takes one hour from the Fort to the Victoria Gardens.

Q.—Is that, in your opinion, because of inefficiency of the electric traction?

A.—No, it is because of the increase of traffic.

Q.—Do you think that that would apply so much when you get beyond Parel, and the trams would be able to run faster?

A.—When such a large population goes there and the mills remain there and the cotton and coal on the other side, the traffic would obstruct the trams there also. Another thing in connection with the tram is that you have no season ticket system for trams as you have for railways. One has to pay every time one travels by tram. That is another thing which makes the tram costly.

Q.—You consider that Matunga is likely to be the direction of migration of the lower middle and upper middle classes if it is well provided with increased railway facilities?

A.—Yes.

Q.—It has been suggested that the pressure on residential accommodation in the neighbourhood of the Apollo Bandar, the Cooperage, Marine Lines, and Colaba is very great, and that the demand for offices will invade this residential quarter. Do you agree with the suggestion?

A.—I think so. As the rents go up for offices, the inhabitants will have to make room for them.

Q.—When the business firms have taken over some of those buildings, what will happen to the people who live in those places?

A.—Some of the population of that area will have to remove to the Cotton Green.

Q.—That is, you would allow the Cotton Green to be turned into a residential area?

A.—Yes. And some people who are living on the top floors of offices on the Eastern side where rents are rather low will have to vacate and make room for offices and for better buildings. As the rents rise they will have to do that compulsorily.

Q.—I have given you a list of the buildings for which sites are required by Government. Speaking generally, the only sites for the erection of such buildings at present available are the Maidáns, the Oval, the Cooperage, the Kennedy Sea Face, and the Cotton Green area. For the buildings specified with the reservation of recreation grounds an approximate area of 200,000 square yards will be required. Do you recommend that we should depart from the hitherto fixed policy of not trespassing on the spaces referred to?

A.—I should build upon the Cooperage but not upon the Maidáns.

Q.—Then if we are to leave aside the Oval and the Maidáns, the Cotton Green area is not sufficient for the sites required urgently for Government needs, and in that case what do you advise Government should do for providing space for the buildings?

A.—St. George's Hospital, I should suppose, should be on the Chaupati Improvement Trust if that is a preferable site. It would be more central.

Q.—I should like to explain that it is a misapprehension that it is more central, because the Hospital is more for seamen and operatives of the Docks.

A.—If that is the principal requirement, then I should take it somewhere near Sewri side, because that would be nearer. Of course that is if it is only for those people that you referred to just now. But if it is for the general public, and I suppose it is the intention now under the recent orders of Government to take paying patients, I think Chaupati would be preferable. It is with that in view that I suggested Chaupati. For the Council Hall, the site near the Band Stand on the Cooperage is the best. The College of Commerce, Ladies' College, Elphinstone Middle School, Law School and Hostel, and Elphinstone College, I should locate somewhere on the Improvement Trust unsold plots on the Girgaum Side. These will be more central. I mean the site between the Cama Bâgh and further up where those temporary huts were put up.

Q.—The point is that you do not hesitate to remove the existing and provide for new educational institutions such as Colleges at a considerable distance from the University?

A.—I think it will be more convenient for the pupils who will take advantage of them. The College of Commerce if it is located there will be nearer, and the Ladies' College also because the ladies from the town will have to go there. If it is near their residence they are likely to take more advantage of it.

Q.—But probably the ladies will be residing in the College?

A.—The College of Physicians should be somewhere near the Hospital. The Home for Incurables should be somewhere near but further North. The Teaching University should go along with the Elphinstone College wherever it may be; and the present Elphinstone College building can be utilized whenever required to increase the Science College. The Elphinstone College and the Teaching University should have some new place allotted to them.

Q.—In your written evidence you are opposed to removing the University from its present site, but at the same time you do not mind planting the Elphinstone College and the Teaching University far from the existing University building?

A.—They need not necessarily be in the Fort. That is my idea and suggestion.

Q.—Then you go on in your written statement—"removal of the Cotton Green and the Military Cantonment will supply a greater area than could be made available by the removal of the buildings aforesaid."

A.—Santa Cruz is a healthier locality, and I suggest that Government should move their Government House there, or to the healthier locality where the military is located now in Colaba.

Q.—You recommend the necessity for these buildings but you decline to suggest where they should be located. You say it is for Government to find a place for them. I want you to say where you suggest putting these buildings.

A.—Excepting the Elphinstone College and the Teaching University, I suggested what I thought was best in my opinion.

Q.—It involves a removal of certain institutions from the University?

A.—I think the Elphinstone College may be allotted some portion where the traffic is much less than where it is at present. It had much better be in some less noisy locality, and if it is removed it will make room for the future expansion of the Science College.

Q.—You say in your final paragraph—"I should wish that the Government should make provision in their budget for liberal allotments to projects for the development and expansion of Bombay and that the Municipal Corporation may be entrusted with the work of carrying out of the scheme for the development of the City whenever these are decided upon." Does that mean that you think that the proper action of Government now is to supply the Municipality with funds and to leave it to them to spend as they think fit?

A.—I mean that to make the City more healthy some money has to be spent, and I think help from the Imperial Government will help the Municipality to carry out such improvements.

Q.—May I summarise what I understand you to recommend, that you would like to locate the Council Hall on the Cooperage, St. George's Hospital on Chaupati, the College of Commerce, Ladies' College, Elphinstone Middle School and Law School and Hostel somewhere on the Improvement Trust land on Sandhurst Road wherever there is a big area, and that if the Improvement Trust plot is not available some other land should be acquired?

A.—Yes; and I should suggest a removal of the tramway stables and would utilise that plot for the Elphinstone College.

Questions by the Honourable Sir Pherozeshah Mehta.

Q.—Would not the Wellington Mews be a capital site?

A.—Not only that building but there is a large plot of land used by the B. B. & C. I. Railway, and if that plot is made available with some other plots occupied by cotton presses, it would be a capital area.

Q.—Could not the site occupied by the Mews be used for better purposes?

A.—Yes, certainly.

Q.—You adhere to your opinion that the University and the colleges should be grouped together?

A.—Yes.

Q.—You think that the Elphinstone College and the College of Science should be next to each other. Would it not be desirable to have the other colleges, *viz.*, the Law College and the College of Commerce, also near the Elphinstone College, that is to say, is it not desirable to have all of them together?

A.—Let the Law College be near the Elphinstone College.

Q.—But the Ladies' College, ought not that to be there too, because of the facilities which the University and its Library would afford? Would it not be very useful for the Ladies' College to be there and would it not be desirable that it should be near the University building?

A.—Certainly, if there is accommodation.

Q.—Now as to the Elphinstone Middle School, must it not be near to the heart of the Town?

A.—As at present situated it is in the heart of the Town.

Q.—So you think it ought to be somewhere near the heart of the Town?

A.—Yes.

Q.—The Home for Incurables ought to be somewhere in the North; but that might very well be put at a distance?

A.—Yes.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—Do you mean that the provision of housing accommodation should be made by private enterprise or by the owners of industrial concerns?

A.—I think under the present City Improvement Trust Amended Act it is compulsory on the mill-owners to provide for 50 per cent. of their operatives.

Q.—You know that under the Improvement Trust Act as amended certain facilities are given to employers of labour. Do you think that the employers are likely to take advantage of it?

A.—Not without compulsion.

Q.—I am referring to the final paragraph of your written statement. When you say that liberal provision should be made by Government contributions towards the cost of improvement, do you mean that any given proportion of the total cost should be borne by the Government, or what is the basis on which you wish to fix the liberal contribution towards the cost of carrying out improvements?

A.—I do not wish to fix any proportion but I say liberal help according to the requirements.

Q.—What is your idea as to liberal contribution?

A.—Supposing that the present insanitary condition of the City has to be further improved and some action is required on the lines suggested by Mr. Orr, then I say that Government should help the Corporation to improve those conditions.

Q.—You are using the words "liberal provision." What is your idea of a liberal allotment? Would you fix a certain percentage or on what basis would you fix the liberal allotment?

A.—If 5 to 7 lakhs are granted to the Municipality irrespective of the actual total cost.

Q.—Who do you mean should decide upon what the project of development should be? Do you mean Government should decide it or the Municipality should carry it out?

A.—Government should cause inquiries to be made, determine a certain line of action, and carry out that line of action by the Municipal agency.

Q.—You say whenever these are decided upon. Who is to decide?

A.—By public inquiry or inquiries properly ascertained.

[Adjourned to Friday, the 21st November 1913.]

Friday, the 21st November 1913.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—I was asking you in regard to the last paragraph of your written statement whether you desire that the further projects of development and expansion should be carried out by the Municipality, that is to say, whether you desire that this kind of work should be done both by the Municipality and by the Improvement Trust or whether you want the whole work to be undertaken by one agency?

A.—I think it is my intention that it should be done by the Municipality.

Q.—That is to say the whole work, not only the new work but the work that is in their hands also?

A.—What is in the hands of the Improvement Trust should be done by them, but they should not do anything more, and as for the other projects they should be done by the Municipality. But I think it will be more economical if it is done by both the bodies.

Q.—Then as regards what you said yesterday about your advocacy of East and West streets, you think they are necessary for the purpose of trade? If they are made, do you think they will in any way enhance the value of Port Trust properties to which those roads will be connected?

A.—It will facilitate trades that are to grow there.

Q.—Are you of opinion that the value of these properties will appreciate in any way?

A.—It will make these schemes successful by this convenience. That is to say, the trades which will be removed there will be properly worked and thereby it will appreciate the value of the plan. If the buildings are removed there and they are hampered on account of these facilities, then of course something else will have to be thought of.

Q.—Do you think that the communications you advocate should be undertaken side by side with the effecting of sanitary improvements or would you give preference to improvement schemes over communication schemes or give preference to communication schemes over improvement schemes, provided there are no adequate funds?

A.—I think the first necessity of the City is to improve the areas of the City. I am strongly opposed to reclamations, and I say that they are useless, unnecessary and expensive schemes.

Q.—Your objection to reclamations is mainly financial?

A.—Yes.

Q.—If you found that reclamations were carried out at comparatively little expense, you would withdraw your position or you would still adhere to it?

A.—My first ground of opposition is that in the first place it is not required and another thing is this that if it is undertaken the result would be that it would depreciate considerably the values of properties, thereby bringing people unnecessarily into loss.

Q.—Which properties do you believe will be depreciated in value?

A.—Residential properties in Colaba and the Fort and properties which are used by people as flats or bungalows in Girgaum, Mahalakshmi, and other places.

Q.—Do you think that we have sufficient accommodation for the growth of business quarters in the Fort, that we have reached the limit of expansion for provision of business quarters in the Fort of Bombay?

A.—As I said yesterday, in the Fort there are so many places which are partly used for offices and partly for residential purposes. The residents of these places will have to vacate as the demand grows greater for offices, and for a considerable time to come there is ample provision for that change.

Q.—Where will the people now occupying residential quarters go?

A.—I suggested that the wealthier will, if the Mahim scheme is developed, occupy the front portion of that scheme, and the middle classes will occupy the Dadar-Matunga Trust Estate, *viz.*, the small bungalows that will be built there, and for some I suggested that the Cotton Green site will be available for building flats.

Q.—You think that the needs of the City which are growing will be amply satisfied by the scheme you suggested yesterday, of making provision in the existing open spaces for Government buildings and for various other things that you were asked about yesterday, and you think that the addition of land in this quarter if it can be done at a comparatively very small cost should not be undertaken?

A.—Yes.

Question by the Honourable Mr. F. L. Sprott.

Q.—With regard to the appreciation of Port Trust properties by East and West roads, you might take one example, *viz.*, the road which passes through Sewri and Parel to the North. Do you consider that there still will be appreciation of that area there?

A.—My suggestion was to serve the Byculla District. That is why I suggested Clerk Road; because there is a large mill centre there and they have to take cotton and coal. So that will be for the benefit of trade.

Questions by Sir Bhalchandra Krishna.

Q.—Do you think the area on the East of the Harbour Branch Railway enough for expansion?

A.—I think it is enough.

Q.—Would it be a sanitary area for residences of mill-hands?

A.—I should think so.

Mr. Manhomandas :—I want to make one point clear. I suggested for some institutions a spot on the Sandhurst Road yesterday. I thought this area was rather bigger than it is. In lieu of that I would suggest the Gamdevi Estate of the Improvement Trust.

Friday, the 21st November 1913.

W. R. PHILPOT-BROOKES, Esq., ENGINEER, SALSETTE BUILDING SITES.

Questions by the Chairman.

Chairman :—I notice that you deal almost exclusively with the development of the town and Island of Bombay and have not touched very much upon Salsette, but I shall leave it to Mr. Kissan to ask you any question with regard to that more particularly. You say in paragraph 4, iv, b, of your written evidence, "I see no reason why public institutions in which Government are interested, such as the appendages to the University and its Colleges, etc., should not be situated around the large proposed Park in the Mahim Scheme. This site when the main thoroughfares are constructed will become easy of access." Have you taken into account in offering that opinion the desirability of retaining the University where it is?

A.—The University itself I should think should remain, where it is and the smaller Colleges should be round the Park. When you require new Colleges, they should be built round the Park.

Q.—Have you taken into account in forming that opinion the desirability, if possible, of grouping the Colleges as near as possible to the centre of learning?

A.—I do not think that it is possible to group them in one place.

Q.—In other words you are assuming that there are no means of expansion?

A.—Yes.

Q.—If expansion were possible, would you still prefer to have your Colleges placed at Mahim, or would you have them near the centre of learning?

A.—I see no reason why they should not be in Mahim. It would be only a matter of 10 or 15 minutes' run by electric tram.

Q.—Have you taken into account the great desirability of centralizing, if possible, round the University the other educational Institutions?

A.—To a certain extent I have considered that, but I do not know how it is possible to group them together without removing the existing ones and rebuilding. If space could be found I would have them grouped together round the centre; but the other question is to find out a place for their playing fields. Other things being equal, I would like to have them near the University if there were room.

Q.—What grades of the society do you think will go where?

A.—The upper classes I should think would go to Mahim and on the Reclamation when a reclamation scheme is carried out and those drawing about Rs 300 to 400 a month will probably live in Salsette. Because at present it is very hard for a person on Rs. 400 a month to live in Bombay. In Salsette you can get a large two-storeyed bungalow for Rs. 75. Very rich people will live on the Reclamation or on the Mahim Scheme. I should still think that the lower middle classes, *i.e.*, people getting Rs. 100 a month, would go towards the north-west of the Island as there is no attraction to live towards the North.

Q.—Then you say in your written evidence: "In the Improvement Trust Schemes there appears to be sufficient allowance for open spaces and small parks, but now that all classes of people in Bombay have taken to cricket, hockey, and other forms of English sports, a large Maidán should be provided in the North-East portion of the Island." Do you mean that in connection with the Improvement Trust Schemes 5 and 6? Whereabouts would you locate such a Maidán?

A.—I have not formed an opinion but I think one is necessary because that part of the Island will be more thickly populated, as the poorer classes will live there.

Q.—In reference to your remark about electric trams—you point out that in London electric trams cannot compete with motor buses, but when you are discussing the out-skirts of the town does that remark hold good?

A.—More so, because for example a bus could be run to Bandra now as an experiment if the roads were good. I am of opinion that a motor bus service between Bandra and Bombay would be a financial success. It has not been mooted in Bombay because in the present condition of Bombay it is impossible to run a bus to Bandra. When the three main thoroughfares to Salsette are opened up, I believe the use of motor buses will be the natural means of communication, supplementing the train service and superseding the extension of the tramway service. Then motor buses could even be run to Ghorbunder and to Thana on Sunday. In the case of motor buses, if a service failed to pay it could be stopped, whereas with the extension of the tramway service things would be different.

Q.—You do not think that the two causeways between Bombay and Salsette are sufficient?

A.—Not for the future. For the present certainly, but we have to look to the future

Q.—In the last paragraph of your written evidence you say, "I consider that it is essential that to allow for the absolutely needful extension of the Institutions mentioned in the last paragraph and for providing a suitable site for a new residence for the Governor of Bombay and his staff, bungalows for Government officers, St. George's Hospital, suitable sites for the accommodation of the wealthy classes, open spaces, and for a sea front worthy of the City of Bombay, recourse must be had to reclamation." I take it that these are not the only objects for which you advocate reclamation?

A.—No, also for giving room for the business part of the City.

Q.—How in your opinion will the business part of the City be relieved of congestion? What is the process you expect, assuming that you have got a certain area of reclamation?

A.—A certain portion should be given up for offices.

Q.—Take the condition of Bombay at present. Assuming that an additional area is made accessible to the business part of Bombay, what do you suppose would happen to it? Would the offices expand to that direction?

A.—I think offices would expand in that direction.

Q.—And you do not think that a great distance from the centre of activity will be a handicap to offices?

A.—I do not think so.

Q.—You think that the demand for office accommodation in the City is greater than for residential quarters?

A.—I think people can reside without inconvenience in places like Mahim but it is very essential to have your offices in the business part of the City and close together. You cannot remove your offices and shops to Mahim.

Q.—In the last paragraph of your written evidence you say "I should most strongly recommend reclamation by a single scheme of considerable size." Assuming that for financial or other reasons it is impossible to carry out a large scheme of reclamation, would you then be against a small scheme of reclamation?

A.—No.

Questions by the Honourable Sir Pherozeshah Mehta.

Q.—Are you aware that there is a movement to introduce motor transport? Would not that be a desirable thing?

A.—Certainly, most desirable, and it would relieve the traffic to a great extent. Then you would get rid of the bullock carts to a large extent. And it is not very sanitary thing in Bombay to have stables for bullocks. It is a great disadvantage to have bullock-carts; they interfere with fast traffic.

Q.—You know the present roads through which many of the tram lines run through the City to Charni Road, Kalbadevi Road, etc. Would it not be better that those roads should be relieved of the tram line and that motor buses should be run on them?

A.—I suppose the tramways have a certain right given to them and it is very hard to deprive them of that. That is the point. Motor buses even then would be a very great disadvantage, because Abdul Rahman Street is very narrow. A motor bus can pass by other traffic on a wide road.

Q.—Would motor buses be cheaper than trams on the one hand and railways on the other?

A.—I should say they would be cheaper. They run cheaper in London and I do not know why they should not be cheaper here. They pay in London.

Q.—The motor buses take less time than either the trams which are congested or the railways which run at fixed periods?

A.—Everything being equal, the motor bus would most certainly be much cheaper and quicker than trams. The railway would be faster than the buses.

Q.—Now with regard to what you say in the fourth paragraph as to public institutions, I understand you to say that the University Building and other buildings which are there should remain, but all the future appendages which are sketched out might well go to Mahim?

A.—With the Elphinstone College.

Q.—Or may I say *vice versa*, that is, cannot the Secretariat go and the Elphinstone College remain? Would not you prefer the Secretariat to be on the reclamation if the reclamation is carried out, or on the Cotton Green area?

A.—I do not think the latter is a suitable site. I think it is noisy on account of the trams.

Q.—But you know that the tramway workshops are going to be removed to some other site?

A.—I am not aware of that.

Q.—Let me tell you that they are to be removed to the North of the Island, and what would remain there would be only a shed for the cars which would be actually required, and of course some work will have to be carried on for the daily repairs. Would that be too noisy for the Secretariat? Or do they want perfect calm in the Secretariat?

A.—Personally I would not prefer the site of the Cotton Green for the Secretariat. You do not get a fine outlook and do not get the prevailing breeze.

Q.—Otherwise you do not see any objection to the Secretariat being located there?

A.—Still there will be the shunting station for the trams. I think the College might go and the Secretariat remain.

Q.—You know that the University intends to have a large Library for the use of students studying in the Colleges, and so is it not desirable that the appendages to the University should also be in a place where students could take advantage of the library?

A.—If possible.

Q.—Now as to the Ladies' College, would it not have a claim to be so situated that they might make use of the Library?

A.—Certainly; but a College at Mahim Park will be in a quiet locality and it is absolutely essential for a College to be in a quiet locality.

Q.—But you know that Lord Haldane thought that a University should be in the heart of the town?

A.—Yes, it might be, 50 years hence.

Q.—There is also the College of Science and Museum, and the presence of such institutions is of great use to any College?

A.—There are not many people who will use the Museum except the Engineering part.

Q.—But it might be made very useful for educational purposes?

A.—It might be possible to put a central library in the Museum.

Chairman :—The point remains that it is desirable to have the other institutions adjacent.

Witness :—It is desirable.

Sir Pherozeshah :—Are you aware that students of the Wilson and St. Xavier's College complain of the distance from those institutions to the University?

A.—No, I was not aware of the fact.

Q.—If a large reclamation scheme was entered upon, do you think there will be a sufficient demand for the space which should be thus obtainable for residential purposes for the next 15 years? I am asking that question with reference to the cost.

A.—I think when residential quarters are built on the reclamation, they will be occupied by the wealthy classes and certain classes will leave their present places, and thus the rents will no doubt depreciate to a certain extent.

Q.—Is there a large European population who require very much accommodation?

A.—They are a very small class and I should not call them wealthy.

Q.—Now what class of the Indian population do you think would go there?

A.—Parsis would be the people who would occupy most of the new places. I should say they would pay Rs. 300 a month.

Q.—Are you under the impression that Parsis are millionaires?

A.—Not all.

Q.—Will you be surprised to hear they are only 40,000 men, women and children in Bombay?

A.—Yes. But I say so, because Hughes Road is more occupied by Parsis than Europeans.

Q.—So the demands of the Parsis are very small?

A.—Yes. But Europeans have been driven from Cumballa Hill and Malabar Hill by Parsis and some Hindu merchants.

Q.—To the three roads leading to the north you think that a fourth should be added?

A.—Yes, I think so. At present there are only two across Salsette.

Q.—Should the Improvement Trust bring about sanitary improvements before opening up communications?

A.—The two should go hand in hand; the one indirectly helps the other. If a new area is opened up and new chawls are put up they would soon be occupied and thus the bad chawls which are vacated will be demolished. In Salsette when new bungalows and new chawls were erected they were very soon taken up.

Q.—You know that Mr. Orr says they would not take new chawls?

A.—That is not the case in Salsette.

Chairman :— I think you may take it that Mr. Brookes thinks that the two processes go hand in hand, the one helps the other.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—On what do you base your information that the Improvement Trust has made a sufficient allowance for open spaces in their various schemes?

A.—From the map I received from Mr. Watson it appears that there was sufficient open space allowed.

Q.—You are under the impression that there are sufficient allowances in the Improvement Trust Schemes for areas left open for children to play on?

A.—Yes.

Q.—Would you be surprised that there is a strong grievance that such is not the case actually and that the Chairman holds that no such play-grounds should be provided? I should like to ask your opinion whether you consider it very necessary that in the crowded parts of the City there should be small areas for children to play?

A.—Certainly.

Q.—Then as regards motor buses being more expeditious if broad communication roads are provided, do you think they would be cheaper?

A.—I dare say. I do not think them cheaper than railways.

Q.—What do you think the motor bus would charge from Bandra to the Fort?

A.—I think it is 11 miles. I should think 4 or 5 annas. They would not convey the coolies. They are more for clerks, and so 4 annas would be reasonable.

Q.—It means 8 annas a day?

A.—They might give season tickets.

Q.—Do you know that the third class railway fare between Bandra and Church Gate is infinitely less?

A.—Of course they might run motor buses cheaper than that here, because petrol is cheaper in India and labour is also cheaper. I should think they might run at 3 annas.

Q.—That comes to about Rs. 10 or more a month?

A.—Trams could not be cheaper.

Q.—The point we are actually considering is the movement of the population from a crowded locality to the Northern part of the Island and the means of communication at the cheapest possible rates and in the shortest possible time. Do you think that railways are the only means that would ensure these facilities and that motor buses or tramways cannot compete?

A.—I am not certain if a bus could not compete in the Island of Bombay.

Q.—I am merely referring to the population of the Northern part of the island. The only means of communication which appears possible is by railway facilities?

A.—Certainly. Of course you must take into consideration the rate of pay in India. For men living near the station the train is more convenient.

Q.—You think that wages must increase because the cost of living is increased?

A.—Yes.

Q.—Do you know what effect it will have on industrial development?

A.—Machinery will take the place of handwork.

Q.—My point is whether if as you said wages must increase in order to meet the cost of all these facilities, the increase of wages, which really means increase of cost of living in Bombay, would in any way adversely affect the industrial development of the city?

A.—I do not think so.

Q.—I am talking of industrial concerns in Bombay in competition with other centres of industry?

A.—Certainly, in that case it would affect industrial concerns.

Questions by Sir Bhalchandra Krishna.

Q.—What class do you think will avail themselves of the houses and move to Mahim?

A.—The wealthy classes, that is to say, not the very wealthy, but persons drawing about Rs. 500 a month will go to Mahim.

Q.—Not the mill hands?

A.—No.

Q.—Then it is not likely to tell upon the industries of the City?

A.—No.

Questions by Mr. B. W. Kissan.

Q.—What classes of population do you think are migrating into Salsette?

A.—The better classes.

Q.—That is to say, people earning how much?

A.—I am talking of Europeans drawing Rs. 700 and downwards. Now I think there are 40 Europeans in Andheri. Most of them are drawing Rs. 600 to 1,000 a month. Most of them are Germans.

Q.—Do you find any migration of clerks, or of poorer classes still?

A.—No, not to my knowledge. At Bandra I think there are some clerks.

Q.—But there is a large number of clerks who go out every day by train?

A.—I cannot say.

Q.—What is the nature of the houses that are being built now? Are there only houses for wealthier people, or chawls?

A.—There are a certain number of chawls in Andheri but a majority of the houses are for better classes of people.

Q.—You think Salsette does not attract any but the wealthy classes?

A.—At present, no.

Q.—In what part of the Island would you put mills? Would you restrict them to any particular part?

A.—At first I should think Kurla. There is an area there which would accommodate more mills. Then there is another piece on the Bombay-Agra Road. Smoke from the mills there will not interfere with anybody.

Q.—Would you restrict them all to the Eastern side of the Island?

A.—If possible.

Q.—Do you think that facilities are sufficient in Salsette to attract factories?

A.—At present, no.

Q.—What is the difficulty?

A.—The main difficulty there is that in case of a strike you could not get labour immediately. But if there are four or five mills that objection would be removed, because in that case a large number of coolies would be living in the locality and some of them could be indented upon in case of a strike in any mill.

Q.—Do you suggest anything which would make Salsette more attractive? What measures would you propose to make it more attractive?

A.—A garden city scheme might be taken up either by Government or by some private person. There should be also a golf course, a good club, and quicker communication with Bombay. At present it takes an hour to travel from Bombay to Andheri, whereas it should take only 25 minutes.

Q.—Do you think the slaughter-house at Bandra is a hindrance?

A.—Certainly. The smell from it is most offensive. Then another point as to the slaughter-house is that it is on the main road. You have to pass it on the main road to Bandra. And another objection to it is that the meat-carts go at night to Bombay and many of the drivers are asleep.

Questions by the Chairman.

Q.—You have dealt with Salsette from the point of view of the European community. But how about its prospects as affecting some classes of Indian inhabitants,—Parsis, Hindus, Mahomedans, etc.

A.—I think there will be a large attraction in Salsette for clerks earning Rs. 150 a month, I have drawn out designs of bungalows which could be rented for Rs. 30 a month. I think Salsette will attract people who could afford to pay that rent. It is quite possible to get nice bungalows for Rs. 30 a month. Then when the mills are built in Salsette naturally the coolies and all mill-hands will come out with them.

Friday, the 21st November 1913.

THE HONOURABLE MR. JUSTICE HEATON, VICE-CHANCELLOR OF THE
UNIVERSITY OF BOMBAY.

Questions by the Chairman.

Q.—From your written statement I gather that the general trend of your observations is that if possible we should form a University Centre which would be the existing University Centre, and should endeavour as far as possible to add any adjuncts thereto, and any Colleges not already located at a distance, as near as possible in conjunction with the University Centre?

A.—Yes, that is so. But I should like to add this, that if it is not possible it will be a very great drawback to University education and influence. I think it is a matter of absolute and prime importance from the University point of view.

Q.—In summing up your opinion you say, "Leave the University buildings where they are and provide in their neighbourhood land for extension of College and University buildings and for athletic grounds or playing fields. This can only be done so far as I can see either by, (i) reclamation, or (ii) removing the B. B. & C. I. Railway from Church Gate Station to Colaba and using the land so set free and the land between the railway and the sea at least in part for educational institutions, or (iii) by acquiring land within, say, a quarter of a mile of the University and devoting it to such institutions." Which of those alternatives do you prefer?

A.—The alternative that I would prefer, if it were possible, would be to get hold of land that is contiguous with the existing University Gardens. Failing that, I would suggest other land as near as possible.

Q.—Considering the need for University and educational buildings alone, you would have them as near as possible to the existing site?

A.—I would have them in a ring fence.

Q.—And if you cannot manage to secure that, any buildings wanted would have to be provided for by one of those means?

A.—Yes. So far as I can see, I do not see any other possible means of doing it.

Q.—Have you any specific suggestion to make from the point of view of the University for the acquisition of land close to the University?

A.—I do not know whether it is possible, but I should like to use the whole of the area from the High Court and the National Bank right up to the College of Science for the necessary extension of the University.

Q.—That would involve removing the Secretariat?

A.—The Secretariat, Watson's Hotel, the Army and Navy Stores, and the Sassoon Mechanics' Institute.

Q.—Would it be advisable to get rid of all those buildings?

A.—I think that the buildings would certainly eventually cover an area as large as that I have indicated, including the Colleges that might spring into existence hereafter.

Q.—In your alternative suggestion for removing the B. B. & C. I. Railway from Church Gate Station and using the land so set free and the land between the railway and the sea at least in part for educational institutions, you contemplate that you could not do what you have now indicated?

A.—Yes, and I would for that purpose suggest as one alternative the removal of the Railway and the utilization of the Kennedy Sea Face.

Q.—Supposing, owing to other considerations such as necessity for communication, you cannot remove the Railway, then are there any other sites which you would suggest for the erection of such educational buildings as the Law College and Hostel, the Ladies' College, and so forth?

A.—I do not know of any sites that are within desirable reach of the present University Buildings. I cannot think of any.

Q.—It has been suggested by one of the witnesses that it might be possible to establish such institutions on the Gamdevi site and by another that they might be located in Mahim. Do you consider that would be advisable?

A.—That is the particular thing that I want to avoid.

Questions by the Hon'ble Sir Ferozeshah Mehta.

Q.—You are aware that the Cotton Green at present situated at Colaba will be removed and when removed would give us an area of 170,000 square yards. So would there be any objection to remove the Secretariat to that plot? I want to get rid of the Secretariat somehow or other.

A.—I am not quite sure how far it is necessary from the business man's point of view to have the Secretariat near at hand.

Sir Ferozeshah.—Lawyers are not admitted into the Secretariat.

Witness.—That removes one defect.

Sir Ferozeshah.—What about business men? Do they attend the Secretariat?

The Chairman.—I think what Mr. Heaton has in view is the convenience of business men, and I think I may answer your question that to have the Secretariat close at hand is a distinct consideration.

Sir Ferozeshah.—The distance would not be very great?

A.—I do not feel that personally I can really offer any opinion on the relative claims of the convenience of business men and the demands of the University.

Q.—If the Secretariat is removed, the Record Office will also go with it—the Record Office which is in some portion of the Elphinstone College. And the removal of the Record Office will be a great advantage to the Elphinstone College.

A.—It will be a greater advantage still to have the whole thing rebuilt. I do not think it is at all a desirable building.

Q.—There is a proposal to put the St. George's Hospital on a portion of the Cotton Green plot. It is only a suggestion. But I have heard different opinions from European gentlemen. Some think it is a very desirable plot and others prefer that the Hospital should remain where it is. Have you any opinion upon that point?

A.—If there is a proposal to remove the Hospital, I think there should be two Hospitals, one for the Docks which would naturally have to be in that district, and the other for the town for which I should suggest that a good site would be Marine Lines.

Q.—You said that all the buildings from the High Court up to the College of Science should form a ring of University buildings. Would you not include in that the Public Works building?

A.—If it could be got.

Q.—I want sites for the Ladies' College and the College of Commerce. Where would you locate them?

A.—I think the area I mentioned would be sufficient for all these buildings. I should also like to have a considerable part of the Oval reserved for some of these institutions. For the Ladies' College and the College of Commerce, the area I mentioned would be amply sufficient. If it was not sufficient I would take the Public Works building also.

Q.—As Vice Chancellor you realise that the University requires a great deal of expansion?

A.—Yes, I quite realise that. The present University building is entirely inadequate, so much so that we practically can make no progress at all.

Q.—And it would be well to devote the main University building entirely to the proposes of the Library?

A.—What is called the University Library at present. If it is reserved exclusively for the Library it will be sufficient for our needs for years to come. Then we require offices for other University purposes.

Q.—You are aware as Vice Chancellor that there is some proposal for acquiring property with Government help?

A.—Yes. Certain inquiries have been made in that direction.

Questions by the Hon'ble Sir Ibrahim Rahimtoola.

Q.—When you think of these buildings as appropriated for University purposes have you thought out where to locate the Secretariat and other buildings that are now used for public purposes?

A.—No, I have not thought out anything definite in that connection. I am more concerned with showing what the requirements of the University are, and how those requirements can be best supplied from the University point of view. I do not pretend to do more than that.

Questions by the Hon'ble Mr. F. D. Sprott.

Q.—Would you propose that the expansion should go on to the open ground on the Oval?

A.—I would not build on the Oval. I would reserve part of the Oval as playing fields.

Q.—Would it be necessary to have playing fields so near?

A.—You have in this country to make things somewhat easy in the matter of playing fields.

Question by Sir Bhalchandra Krishna.

Q.—Would you favour the idea of having the University towards the North of the Island?

A.—It is practically almost impossible.

Question by Mr. Wittet.

Q.—The Colleges that you would locate in this area would want residential quarters also?

A.—Yes. I am not speaking from an architectural point of view.

Questions by the Chairman.

Q.—When you contemplated that the area you propose would amply suffice for the requirements of the buildings required to be round the University, did you include in those requirements the Hostel accommodation in connection with the Ladies' College, the Law College, and the College of Commerce?

A.—That I confess needs more thinking out in detail. Taking into consideration the space that would be required for the different institutions, I confess there would not remain very much for Hostel accommodation.

Q.—According to your view of University ideals, is it not desirable that Hostel accommodation ought, if possible, to be in the neighbourhood of the University?

A.—Certainly, that is very desirable.

Sir Pheroze Shah.—You know the site where the Wellington Mews are? That would not be a bad spot for some of the Hostels?

A.—Yes, that would not be a bad spot for Hostels.

The Chairman.—Would it not be rather noisy so near to the railway bridge?

A.—It might. I say get everything as near as you can. It is worth while sacrificing a good deal for that.

The Chairman.—Let me put you one question quite straight. The point is that you want to get everything near. You want things done suitably with that in view, and that involves according to your suggestions removal of some portions of Government offices. Then those offices have to be located somewhere. I want to ask you whether, in your opinion, supposing the needs of Government could not be otherwise satisfied, it is desirable that there should be reclamation to that extent?

A.—Oh, most emphatically, to that extent.

Thursday, the 27th November 1913.

THE HONOURABLE SIR FAZULBHOY CURRIMBHOY.

Questions by the Chairman.

Q.—You have given us a very interesting written statement. I do not propose to take you through all the points on which you have given evidence, but to deal shortly with one or two important ones. In reference to the question what measures should now be taken for systematic further development, and to the provision of areas suitably located to meet the increasing demand for residential quarters for the different grades of society, you say that as a Member of the Committee appointed under Government Resolution, Public Works Department, No. C. W.—10328, you have strongly supported the recommendations of the Committee, and that you are firmly of opinion that the sooner the larger of the two schemes is undertaken the better and less expensive it will be. I believe that in that Committee's Report it was stated that there would be no reason to doubt that 60,000 square yards of land would be taken up every year?

A.—Yes.

Q.—Could you tell me what class of society would take up the land ?

A.—The upper middle class who are drawing Rs. 1,000 per mensem and upwards.

Q.—You do not think all classes would go there ?

A.—The rich people will go there, *i. e.* people who can afford to pay a certain minimum rent

Q.—And what do you put that minimum at ?

A.—Rs. 250 and upwards. The people who could afford to pay Rs. 250 would in my opinion take to the Reclamation, and if there are upper storey flats they will go in for those flats as they have done on the Colába Reclamation.

Q.—Do you think they would go there in preference to any other locality, for instance, Sálsette ?

A.—Yes.

Q.—Supposing the nuisance at Love Grove is entirely abolished and a scheme for the development of Máhim is undertaken, is it your opinion that people would still go on the Reclamation in the South of the Island rather than go to Máhim ?

A.—Yes. I base my calculation on one thing. My house on Colába Reclamation I was letting at Rs. 300 with three bed rooms and one dining room. Now I am letting it at Rs. 375. That shows that people prefer living on the Colába Reclamation to living on Malabár Hill.

Q.—Now let me ask you one other question. I believe that in certain parts of the Fort there is great demand for office accommodation. Where do you think that demand will tend to develop ? Do you think that offices will be in demand on the North, East, or South ?

A.—Of course, on the Southern side.

Q.—Then supposing the houses on the Colába Reclamation were not let for residences only, would office accommodation be in demand ?

A.—Not so far South. The demand will be on the Northern side of the Museum. But when the Reclamation comes in, the residential quarters will be turned into offices.

Q.—Which residential quarters ?

A.—On the Eastern side in the Fort where there were residential quarters they are now turned into offices ; and gradually we need more offices as trade expands.

Q.—That is what I am trying to get at. Where will the office accommodation be mostly in demand ? In what direction ?

A.—Of course if all the Southern and the Eastern sides of the Fort are taken up near the Museum, then people wanting offices will go on the Northern side where there are residential quarters for Parsees. Those residences will gradually be turned into offices and the Parsee residents will have to go somewhere else.

Q.—And where do you think the middle classes will find residences ?

A.—The upper middle and the middle classes proper will go to the Reclamation, and the lower middle classes will go to Máhim and other places.

Q.—Supposing there is no reclamation, where will they go ?

A.—They will find accommodation somewhere else.

Q.—Where do you think ?

A.—They will accommodate themselves on the Sandhurst Road ; but they cannot afford to go out of Bombay. The lower middle classes cannot afford to go out of Bombay, *i. e.*, clerks drawing Rs. 40, 50, 70 or Rs. 80 a month. They have to work in Bombay till 7 or 8 o'clock at night, and therefore cannot go out of Bombay.

Q.—But assuming that means of communication were improved and transport were fairly easy as far as Sálsette, would it be feasible for the middle classes you name to go out of Bombay ?

A.—I don't think so, because ladies would have to come into Bombay in case of funerals, and it is very difficult for Indian ladies to come and go. They will also find it difficult to send their boys to school in Bombay. So I don't think they can go out of Bombay Island at all.

Q.—You say with reference to the development of Máhim that it would be very expensive to develop it, and on those grounds a comprehensive scheme for taking up the whole area becomes prohibitive, that is, with reference to Máhim Woods. But supposing machinery were created by a Town Planning Act under which owners of properties have to contribute towards the advantages which they receive by the evolution of such a scheme, would that modify your opinion ?

A.—On principle I object to this, because Máhim is in the Island of Bombay and under the Corporation. If this Act is not to apply to any other part of the Island, Máhim ought not to be taken in.

Q.—Assuming that the Town Planning Bill is applied to particular areas under the Corporation and that the Corporation becomes the local authority at their own request and that thereby the cost of the scheme becomes very much less, then do you think it would still be a thing not to contemplate, or would you advocate it?

A.—I do not advocate it. I would like the scheme of the Municipal Commissioner to widen the roads and make straight roads.

Q.—You do not regard the development of Máhim Woods as in itself undesirable?

A.—No, I condemn it because of the excessive cost.

Q.—You say you are not in favour of the removal of the central Government buildings from the site on which they stand.

A.—No.

Q.—You would not have them moved away from where they are standing now?

A.—Not at all.

Q.—If the Government buildings are not to be moved, and if the University buildings are not to be moved and a great many buildings are necessary as adjuncts to it for which sites must be found, can you suggest any place in the neighbourhood in which such development could take place?

A.—Yes, Government will have to buy up a lot of other buildings at heavy cost. On the North Side of the Museum there are many places, like the P. & O. offices, etc., which can be acquired; but central institutions ought not to be taken away out of the Island of Bombay.

Q.—Then you think that the sites necessary for these adjuncts could only be obtained by acquisition of properties?

A.—Yes, but the central institutions must not be removed at any cost.

Q.—Would you advocate the acquisition of those properties, or would you advocate reclamation, for the purpose of supplying space for necessary institutions?

A.—Of course to acquire these sites would cost Rs. 200 to Rs. 300 per square yard, while the reclamation would not cost so much; at the same time you will have to give facilities to commercial people.

Q.—Do you think it would be actually economical, assuming that those buildings have to be erected?

A.—Yes.

Questions by the Honourable Sir Pheroze Shah Mehta.

Q.—Supposing that Love Grove Pumping Station was either removed or made innocuous, the Worli side and Máhim Woods would be excellent places for residential quarters?

A.—Excellent, very good, of course.

Q.—Will they be suitable for residential quarters?

A.—Very healthy, of course.

Q.—Then they will be sites to which a large number of people would resort?

A.—Yes, but not the richer classes; they won't go so far.

Q.—You say that the richer classes won't go so far, but in these days of motors—almost every rich man keeps a motor—would not the wealthy classes go there, as with a motor the distance will not be very great?

A.—Even then those sites will be too far off. People have to go to Clubs in the evening and theatres at night.

Q.—Wealthy people have got motors but still they prefer to be near their place of business—is that what you mean?

A.—Yes, they want to be near their homes, because then they can go home at midday. I know of some people who go home for their lunch and then come back again.

Q.—I believe wealthy people have got lunch rooms in their own offices, and could order lunch in their offices. Of course that might be some consideration, but would that not be a very slight consideration if those sites were available for residential quarters?

A.—Of course, many people will go there also.

The Chairman.—We want for the moment to put reclamation outside the discussion; we want really to know what you think would happen in the development of Bombay without reclamation, and with reference to the Island as it is. That is really our idea.

The Honourable Sir Pherozeshah.—That is what I have been driving at.

The Witness.—Then of course they would go. They are bound to go.

Q.—Now you object to Mahim being brought under a Town Planning Act even under the circumstances mentioned by the Chairman, *viz.*, that the Corporation would have power under the Act and they would be the local authority. The development will be really carried out by the Bombay Municipality. Even in that case (I think the Chairman put it to you) have you any objection?

A.—I would like to know one thing. I have not studied the Town Planning Act.

Q.—But of course you know what a Town Planning Act is supposed to be?

A.—If the Corporation agrees to it then I would have no objection to the application of the Town Planning Act.

The Chairman.—I think the real point is that in a Town Planning scheme the principle is that those who benefit by the scheme will contribute towards the cost of development, and that means that the plot owners in Mahim would have to contribute up to a certain fixed limit; the balance of the cost would have to be contributed by the general rate-payer.

The Honourable Sir Pherozeshah.—Only the owners of plots which are to be acquired would have to bear certain liabilities in return for the advantages they would obtain.

The Witness.—But in other parts of the Island they have got the advantage and have nothing to suffer.

Sir Pherozeshah Mehta.—You know there is Mr. Cadell's scheme also for the development of Mahim?

A.—Yes, but then in the Mahim scheme the whole thing will not be taken.

Sir Pherozeshah.—Then do you think that it would be both desirable and equitable to apply the Town Planning Act?

A.—Yes.

Q.—You say that you prefer Mr. Cadell's scheme for the development of Mahim. Are you aware that in a letter he wrote he distinctly pointed out that it should be undertaken only if the house owners will bear a part of the cost?

A.—Only of the cross roads.

Q.—It could be undertaken only if the house owners would consent to bear a portion of the cost?

A.—Yes.

Q.—That is, I suppose, for the equitable purpose of not giving the whole benefit of the betterment to the few house owners, but to develop it all through equitably, is it not?

A.—Yes.

Q.—Otherwise it is only a few house owners, not the rate-payers of Mahim, who would get all the advantages?

A.—Yes. Such advantages in the City were always being taken by other people also.

Q.—Who were the non-official members on that Reclamation Committee?

A.—Sir Vithaldas, Mr. Sobhani, Mr. Lalubhai Samaldas, Sir Shapurji Bharucha, Sir Dinshaw Petit, and myself.

Q.—Now, out of these, you were already in favour of the Reclamation?

A.—Yes.

Q.—And you know that Sir Vithaldas was also?

A.—Yes. You know I am the largest landlord at Colaba, and I say that if the Reclamation comes on I will be the largest sufferer.

Sir Pherozeshah.—But your public spirit is greater.

The Witness.—It was my honest conviction.

Sir Pherozeshah.—Remember, I do not doubt the honesty of the Report, but a bias may be existing in some minds. Then you think that 60,000 square yards will be taken up each year?

A.—Yes, by the wealthy classes and the upper middle classes.

Q.—What is the number of the wealthy classes?

A.—I cannot tell.

Q.—Can you tell me the number of what you call the upper middle classes drawing a salary of something like Rs. 1,000 per mensem and upwards?

A.—Not salary, but income.

Q.—Well, earning or making an income of about Rs. 1,000 and upwards. Now could you tell me what is the number of such a class of people?

A.—I do not know that, but I have based my calculations on different things. From my own experience of reclamation I can explain. When the Taj Mahal Hotel was being built, I obtained some plots on the Reclamation and I built some houses, and I was getting nearly 7 per cent. Then those plots were sold at a profit, and I built houses on the Wellington Lines. Within these 17 years all the houses on the Colába Reclamation have been taken up.

Q.—How many people live there? How many have come from other parts?

A.—I can't say exactly.

Q.—What is the number of people occupying each flat?

A.—In my flats not more than three people take up a flat and live in it.

Q.—Then the number is small.

A.—It might be so.

Q.—I know of a building where one man is occupying half a flat. I know several instances.

A.—Yes.

Q.—Can you tell me in the population of Bombay how many there are of that character?

A.—I think every year we are getting more Europeans and more Indians who are living on the Colába Reclamation and the Cooperage. A lot of these people will go out and their places will be taken by the middle classes. I am sure that you can easily let 25 to 30 plots every year after 7 years. It will take 7 years.

Q.—I want the substratum of that opinion. On what grounds do you base your opinion? Give us a general idea.

A.—Many people have already removed to Walkeshwar and Malabar Hill, and there are no empty houses there now.

Q.—I do not know that. I live in that locality and there are many empty houses.

A.—Those must be wretched.

Q.—Then there are no definite statistics upon which you have formed that opinion; it is the general tendency during the last 15 years, and the result of your personal experience in letting your own flats?

A.—There is a very great demand. A lot of new offices are opened every year.

Q.—What is the total number of acres in that large scheme which would be assigned for residential quarters?

A.—In our calculations we had 670, but I think now Government will take up much space too.

Q.—And what is the amount of population which could be accommodated?

A.—I can only guess; not more than 25,000 could be accommodated there at the most.

Q.—In the residential quarters which were to be assigned under the Reclamation Scheme?

A.—Yes, that is what I guess.

Q.—Now what is your opinion as to the Bombay population spreading to the North of the Island towards Salsette. Government are now developing Salsette, and large portions of it could be used by certain classes of people. What is your opinion as to whether the population will extend in that direction or not?

A.—I think there is more than enough space in the Island itself. I do not think people would prefer to go to Salsette. They commenced going as there was plague. There are rich people who have spent Rs. 50,000 or Rs. 60,000 on houses in the suburbs where they are compelled to go every year on account of plague, but even then they live during the major portion of the year in the City. They only go in the hot season to places like Ghatkopar. Bandra was inhabited from the beginning, being on the sea shore. But it also would be too far to go.

Q.—Take Andheri and Vesava.

A.—Vesava is too far for the people to come and go.

Q.—If there were regular and improved means of communication provided then would they not spread to Vesava?

A.—Yes, the middle classes would. The upper middle classes show no tendency to go there. Even to Bandra you will see the upper classes prefer not to go.

Q.—Then you think that the migration of the population from Bombay towards the North of the Island into Salsette would be very limited?

A.—Yes, if there is room in Bombay. I think there are a lot of Improvement Trust plots, and the middle classes and the lower middle classes would like to go to Kingsway instead of to Salsette.

Q.—I will ask you a general question; if there was no reclamation, would there be a tendency for migration on the part of any portion of the Bombay population to the North of the Island into Salsette?

A.—Yes, there will be. If there is no place, they are bound to go somewhere.

The Chairman.—Sir Fazulbhoj's point is that there must be migration if there is no place in the City.

Witness.—If there is no place in the City, then they will migrate into Salsette.

Q.—When do you think that contingency will arise? Within the next twenty years?

A.—I don't think that contingency will arise within the next twenty years.

The Chairman.—In other words, you don't think that migration on a large scale into Salsette will take place.

Sir Pherozeshah.—With regard to the first paragraph of your written statement where you speak about the mills undertaking to build chawls, etc.,—I see you have now come to the opinion that the Trust is willing to co-operate with the millowners, but the cost has doubled so as to make the project prohibitive and impracticable. That is your opinion. That is the last opinion on the subject, that even under the Improvement Trust Act with regard to schemes for building chawls, the cost becomes prohibitive at present and you do not think that for the next 15 years prices will become easier?

A.—At present the prices of timber, bricks, and other things have gone up considerably. I asked the Improvement Trust for an estimate after the passing of this Act, and they sent me a calculation in which they stated that it would cost Rs. 680 per room. I have got the full calculation.

Q.—Upon that calculation you do not think that large numbers of people will come forward to take advantage of the amendment?

A.—A few substantial concerns will do it. Not more than 15 or 20 mills.

Q.—Except 15 or 20 mills you don't think that under the heaviness of the cost which now prevails others will come forward to take advantage of the amendment?

A.—I don't think that many people will come forward to take advantage of the amendment, under the present high prices of materials.

Q.—Are the prices of building materials likely to increase for some time, say for the next 15 years?

A.—They say that after the finishing of the Alexandra Docks prices will go down.

Q.—Of timber and bricks?

A.—My contractors tell me that the prices of labour, cement, ect., will go down.

Q.—But you are not willing to commit yourself to a contractor's opinion?

A.—No, I am not.

Q.—Do you think it is a reasonable supposition that prices will become easier?

A.—A little easier they will become. I do not know how many labourers the Docks employ at present.

The Honourable Mr. Sprott.—What I suggest is that besides the Port Trust, the G. I. P. and the large Tata Hydro-Electric Works, there are a number of other concerns which employ a large number of labourers, and you wish to say that prices will come down when the whole of these are finished?

A.—Yes.

Sir Pherozeshah.—In saying that, do you take into account the fact that other large concerns like the Hydro-Electric Scheme may also come forward?

The Witness.—How can I say that? I do not know.

Sir Pherozeshah.—Bombay is not going to stop still. It is going on with a variety of enterprises.

Q.—On page 5 of your written statement you state that you think it most regrettable and short-sighted that in the past mills, foundries, and other factories have been allowed to spring up in a haphazard manner all over the Island without consideration for the surroundings, and the first possible opportunity should be taken, etc. Now was it very short-sighted of those people to allow mills to be built in quarters which were then absolutely unoccupied? Do you mean that people were so short-sighted in the early days to allow the building up of the mill industry in absolutely unoccupied quarters?

A.—When I put in these things, I remember that even in the Share mania time Colaba was the most important place. There are mills at Colaba. There are Presses too.

Q.—How many?

A.—Two. There is no more space. Then there is a mill in Queen's Road.

Q.—I say there are very few mills which are in the heart of the town. Would it have been a very short-sighted policy in those days not to stop the mills springing up in areas which were absolutely unoccupied? I am only anxious not to blame people for not having foreseen things.

The Chairman.—I think what Sir Phirozsha would like to do would be to omit the word "short-sighted".

Q.—Now if that mill industry had not been allowed to develop as it was, do you think the time would have come when we should have sat to discuss these questions? They were quite wise in doing what they did. Is it not so? You know all about mills. They require fostering care to build them up?

A.—Even now I object that the mills which are already in Bombay should be removed.

Q.—In those days would it not have been unwise to stop mills from being built up in quarters that were then considered deserted and unoccupied?

A.—Colaba was a most important place. There were only three or four mills at the time.

Q.—Were there not two or three other mills in the North of the Island?

A.—At Kurla the Dharamsey Mill was built in the old days.

Q.—But what about the Wadia Mills? Would it have been unwise not to have prevented the building of a mill in that area in the North of the Island?

A.—I do not know what the condition then was, but it is regrettable now. I cannot say anything of things which happened when I was not born.

Q.—Then you give an opinion about conditions of which you know nothing because you were not born? Would it not have prevented the development of the mill industry which has been the foundation of the advancement of the city?

The Chairman.—In other words, do you consider that the mill industry would have grown up in spite of a prohibition against locating the mills in the Island of Bombay? Do you think that if the mill industry had not been allowed to grow in the Island of Bombay they would have built the mills in Salsette?

The Witness.—One mill was in Salsette at that very time.

Sir Pherozeshah.—People have often been blamed on this account who really did not deserve blame. Pardon me for saying that.

Q.—What is your opinion about the B. B. & C. I. Railway being allowed to continue?

A.—It must come to Church Gate.

Q.—After Church Gate it ought to stop? There are two possible terminal stations, one at Grant Road and the other at Church Gate. Now what is your opinion upon that. Which would you prefer?

A.—I think it ought to go as far as Church Gate.

Questions by the Hon'ble Mr. F. L. Sprott.

Q.—Though no restriction in the old days was placed upon the springing up of mills, do you think nowadays it would be advisable to place restrictions as to the location of future mills?

A.—Yes, there ought to be some restrictions. Some areas ought to be defined.

Q.—Where would you suggest?

A.—I think to the North of the Ferguson Road between the storm water drain and the DeLisle Road, and then there is some space on the North-East side of the Island. People cannot reside there.

Q.—Would you say that the North of the Island would be preferable to the two sites you have named?

A.—Both are good. Ferguson Road side is inhabited by the labouring population.

The Chairman.—In regard to that, may we not assume that the laboring population of the mills will follow the mills?

A.—But these are the two localities where you can have the mills, the North and East, but not out of the Island of Bombay.

The Hon'ble Mr. Sprott.—You thought it probable that the extension of office accommodation in Bombay was likely to go towards the North?

A.—Yes.

Q.—Do you mean that the area between Mint Road and Hornby Road would be occupied?

A.—Yes. On the North of Church Gate Street.

Q.—To enable that area to be opened out will it not be necessary to construct a road through it?

A.—Yes, from a commercial point of view the road suggested, *viz.*, from Hornby Road to Ballard Road, is necessary for the opening out of the area as well as for the purposes of traffic and facilitation of commerce.

Q.—That area seems to be the likely area for expansion owing to the number of Banks, and owing to the fact that the Custom House will be close?

A.—The commercial offices will be on that new road.

Questions by the Hon'ble Sir Ibrahim Rahimtoola.

Q.—Do you know what would be the cost of running this road between Hornby Road and Ballard Pier?

A.—The scheme came before the Corporation in 1907, and they considered that the cost was very exorbitant, and they could not take it up.

Q.—Do you think that if the cost is so high, a large number of offices will spring up there?

A.—But it will be the main road from Ballard Pier.

Q.—How many people will be using the Ballard Pier road and when?

A.—It is for passengers by steamer. The cost of the road should be borne by the Port Trust.

Q.—You want roads for the convenience of passengers, and you think that the cost of the proposed road should be borne by the Port Trust?

A.—Yes, I think so.

The Hon'ble Mr. Sprott to the Witness.—You have already stated that that road is required chiefly for commercial people.

A.—Yes. But they can share the liability.

Sir Ibrahim.—In regard to the Ballard Pier road I am quite satisfied with your answers. Now I will ask you a question in regard to the first paragraph of your written statement. You state that as regards the accommodation of the poor the Improvement Trust has built some chawls, but these, in your opinion, are scarcely sufficient. What do you mean by that? Sufficient in what way, sufficient for whom?

A.—For the people.

Q.—What people?

A.—For the poorer classes. There are a lot of the poor classes who live in crowded localities.

Q.—Do you expect that the Improvement Trust should out of public funds provide housing accommodation for the poorer classes as a general rule?

A.—Yes, the Trust is for the improvement of the City and bettering the health of the City.

Q.—Do you think that the public purse should bear the cost of providing sanitary chawls through the medium of the Improvement Trust at much less than the economic rent?

A.—They ought to sacrifice something at least.

Q.—The benefit of health of course will be secured by the occupants, but who will secure the benefit of the reduced rents, the rents lower than the economic rent, which these people will pay?

A.—The Improvement Trust is specially meant for making the City healthy, and unless you provide accommodation for the poorer classes the object cannot be attained. I think the Improvement Trust ought to sacrifice something in order to provide housing accommodation for the poorer classes. They must provide accommodation for the poor.

Q.—And who will benefit by it?

A.—The poorer people.

Q.—Not their employers?

A.—I don't think so.

Q.—Now the question of wages as a general rule is determined by the cost of living in which rent forms an important factor. Is it not?

A.—Yes, but at present wages have gone up very much. I do not think that rents have gone up so much. That is my belief.

Q.—Do you think that the labouring classes can afford to pay a little more rent?

A.—Yes.

Q.—If that is so, where is the objection to the mill owners' building chawls for their employees?

A.—Because it will not pay the mills to do so.

Q.—Do you know that they do not require much money as the major portion of the cost of these chawls is going to be found by the Improvement Trust at 4 per cent. interest?

A.—I have the estimates which I have got from the Improvement Trust. According to that estimate if I were to build a chawl of 250 rooms, then I should have to pay nearly Rs. 7,000 out of my own pocket.

Q.—Does that include the 2 per cent. sinking fund charges? And at the end of 28 years you become the owner of that valuable property, and you do not take that into consideration at all? You are pointing out that you will have to pay Rs. 7,000 out of your pocket, but at the end of 28 years you will become the absolute owner of that property. Have you considered this point?

A.—It is not the mill's business to become the owners of properties. We are there as manufacturers.

Q.—You put forward the question of payment, but you ignore the value or consideration you would get after 28 years?

A.—Do you think that it should be made compulsory for employers of labour to provide accommodation for their hands?

Q.—That question will come. I find that you make a grievance of paying Rs. 7,000 which you regard as a loss without taking into consideration that a major portion of that Rs. 7,000 is paid on sinking fund to redeem the capital debt and that the ultimate ownership of that property would go to the Company?

The Chairman.—In other words, have you taken into account that the property on which you are paying Rs. 7,000 becomes automatically your own property?

A.—But even then out of 80 mills, there are hardly 15 or 20 mills who would be able to suffer a loss of Rs. 7,000 or 8,000 every year.

The Chairman.—Have you in that calculation taken into account the fact that those chawls will become ultimately your own property?

A.—Yes. This is how I work it out.

	Rs.
Cost of a Chawl of 250 rooms	1,70,000
Cost of 10,000 square yards of land belonging to the owner at Rs. 3 per square yard	30,000
Cost of filling the land	25,000
Total Capital ...	2,25,000
Sinking fund 1/28 of the cost of building yearly	6,072
Interest at 4½ per cent. on capital	1,013
Total Outgoings per year ...	7,085

Rent at Rs. 4 per each room monthly for 250 rooms = Rs. 1,000
per month = Rs. 12,000 per year.

Deducting 25 per cent. for Municipal Taxes and repairs,
insurance, etc. net income = Rs. 9,000

Q.—Now what is the total cost of the scheme including land?

A.—Rs. 2,30,000.

Q.—And you get Rs. 9,000 as your revenue, therefore the scheme is self-supporting, except on the question of sinking fund. That is to say the scheme is self-supporting, except for the sinking fund?

A.—I have not there calculated any vacancies.

Q.—You have deducted 25 per cent. so that according to your calculation the only thing that you will be out of pocket will be the sinking fund, which is payment towards the capital cost, and on a payment of Rs. 7,000 per annum for 28 years you will become the absolute owner of property worth two and a half lakhs. Do you think that is a bad bargain?

A.—I am going to build chawls myself.

Q.—You say in your written statement that it is practically impossible now that the cost has doubled so as to make the project prohibitive and impracticable. According to your own showing, even at the present time the schemes are self-supporting except for the payment of sinking fund?

A.—That is Rs. 7,000 per annum.

Q.—As against that payment you become the owner of that property after 28 years; do you still consider that it is a bad bargain?

A.—Many of the mills are not making large profits. I am not talking of the best mills.

Q.—I am talking of your opinion that the cost of construction would be prohibitive. The payment of mere sinking fund is in your opinion prohibitive?

A.—When this Act was passed, I hoped that nearly 75 per cent. of the mills would take advantage of it.

Q.—Then you think that the cost has doubled. Will you tell us on what grounds you have based that opinion?

A.—Because I built my own chawls only 15 years ago, and the cost to me was between Rs. 320 and Rs. 330, and now the Improvement Trust has given me an estimate which works out at Rs. 680, *i.e.*, nearly double.

Q.—May I draw your attention to the fact that some millowners are willing to undertake to build chawls, and ask the Trust to do the work for them? They would undertake to pay 4 per cent. on the capitalised value. This is not a question of 15 years' standing. The Act was passed last year, when at a Committee in which you were present you thought that the provisions in the Act were reasonable, so that when you talk of the rise in the cost of construction it is the rise during this year?

A.—Not so much during this year.

Q.—Will you be surprised to hear that the Improvement Trust have received proposal for the construction of chawls for mill hands from two Companies, where the cost of construction works out to Rs. 600. Will you be surprised if I tell you that?

A.—No.

Q.—Do you know that the Improvement Trust has during the last three or four years built some chawls, and the cost has been about Rs. 550. Then the cost of construction of a room is not double?

A.—Even now I am not surprised, because the Improvement Trust has given me Rs. 680 in their estimate.

Q.—Rs. 680 includes the cost of filling in the land. That is not the cost of construction of the chawl.

A.—But in their proposal to me they have said that the filling in is separate, and that Rs. 680 is the cost.

Q.—So that during the year that has elapsed since the passing of the Act the cost of construction has not doubled?

A.—Not doubled.

The Chairman.—I think we may take it that Sir Fazulbhoj's answer is that the cost will be prohibitive to a certain number of mills who cannot afford to build them.

Q.—Then if you think that many mills would not come forward to build chawls for the accommodation of their mill hands, would you advocate any legislation to compel them to do so?

A.—No. I do not know that in any part of the world this is made compulsory. When they are introducing the system of compulsory education for the children of mill hands, to contemplate any sort of legislation to compel the millowners to provide accommodation for their hands would mean hampering trade and industry. That is my view. When our industries are in an infant stage, there should not be such restrictions imposed on employers of labour.

The Honourable Sir Pherozeshah Mehta.—If a mill labourer gets a sanitary room for Rs. 2, is he likely to accept less wages than a man who has to pay Rs. 4 or Rs. 5 as rent?

A.—No, I do not think so. That will make no difference. Shall I elucidate this point a little? The owners of the mill next door to mine in some Departments are paying more than I do, and in some Departments I give more than they give.

Q.—You must not generalise from isolated instances.

A.—The labour market is not affected by this.

The Honourable Sir Ibrahim Rahimtoola.—Do you think the cost of labour does not operate in any way on the wages of labour?

A.—No, I don't think so, not much.

Q.—You are strongly in favour of providing recreation grounds, and you think that in crowded localities in Mandvi and Bhuleshwar small recreation grounds are absolutely necessary irrespective of the cost?

A.—Yes.

Q.—You said that in future certain localities should be set aside for industries and for factories and foundries? Do you mean to say that the building of factories and other industrial concerns should now be prohibited except in those parts which are set aside for the purpose? Would you apply that prohibition after all the facilities for transit have been provided or would you apply that prohibition at once?

A.—Not at once. I would wait till all the facilities are provided before enforcing that prohibition.

Q.—In your answer to the Chairman you said that the middle classes would not go out of Bombay?

A.—I said the upper middle classes.

Q.—You said the middle classes drawing Rs. 80 per month?

A.—That is to say the lower middle classes. They would not go out to the suburbs.

Q.—Whom would you call the lower middle classes?

A.—Those drawing Rs. 50, 60, 70 or 80. The majority would like to live near their place of business. Men drawing Rs. 100 and above would go out of Bombay.

Q.—Then these trunk roads that are provided would be useful to them as means of access. Do you think they will travel by trams to come to their business? Do you know how much time will be occupied? Do you think they will prefer trams to Railways?

A.—They will start 15 minutes earlier.

Q.—I have understood you to say that you would approve of a Town Planning Act to be applied to Mahim under which portions of land have got to be surrendered by owners on certain payment?

A.—I have told the Chairman I do not know how much the owner will have to suffer.

Q.—They would lose merely a portion of the profits they would make in consequence of the measures that will be adopted of making roads and providing facilities?

A.—I do not know what portion they would lose.

The Chairman.—Supposing that the owner of a plot finds himself as the result of a particular scheme in possession of property worth Rs. 100 which would formerly have been worth Rs. 50, you would object to deprive the owner of part of the profit of Rs. 50?

A.—In one way of course it is a benefit to take the whole land, but to take a portion only would mean a loss, and that is objectionable.

Q.—You have been representing the Mahim Ward for a number of years on the Bombay Municipal Corporation. Do you think you would let your constituents have the full profit of works carried out at public expense?

A.—I say that if these benefits are not extended to the other portions of the Island where they have acquired land without giving the owners the full benefit, I do not see why my constituents in Mahim should expect the full share.

The Chairman.—I take it that your view is that the inhabitants of Mahim should be just as well treated in regard to the accidental profits as the rest of Bombay.

A.—Yes.

The Honourable Sir Ibrahim.—If that is your view, you would make no difference between localities which are thickly crowded, and where the Town Planning Act cannot be applied, as against the vast area of vacant land? Would you make any difference?

A.—I would make some. I do not know the whole principle of the Town Planning Act. I do not know how it has sprung up.

The Chairman.—The point really is that the Town Planning Act can apply to any part of the Bombay Presidency. If it is applied to a portion of Bombay City, and if the Municipality wish, under that Act, to work out schemes for improvements of the area by the construction of roads and so forth, it provides that when the owners of the plots on which those schemes are developed are profited by the improvements effected a portion not exceeding half of that profit shall be paid over towards the expenses of effecting the scheme instead of being pocketed by the owners.

A.—I suppose it is for roads only. Then I have no objection.

The Honourable Sir Ibrahim.—There are only one or two more questions which I wish to ask, and that is in regard to your written statement on page 3. You state there: "I should like, in this connection, to draw special attention to the very good values realised by the Improvement Trust on the Colaba Reclamation which worked out at an average of Rs. 45 per square yard, and also to the fact that the percentage of vacant flats on this and the other estates named by me is now infinitesimal in comparison with past years." May I ask, if you have taken several plots in this area, what is the rate on the capital?

A.—I am getting 3 per cent. Shall I tell you? I have specially spent Rs. 50,000 or 60,000 on decorations, because we wanted also to live there, but I could not live there as I was told by the Doctor not to live near the sea. But some of my neighbours there are getting 6 to 6½ per cent.

Q.—If that land is fetching Rs. 45 why do you say that in the new reclamation where sites will be better situated than the existing reclamation plots, the value realised will only be half?

A.—Because there will be so much land offered to the public—60,000 square yards every year. That must reduce the price.

Q.—The value of the land will be reduced in consequence of the difficulty in selling 60,000 square yards?

A.—If you have to sell a larger portion, of course you are bound to get less.

Q.—If you get less, would it be an advantage or disadvantage to the public?

You say that in spite of the fact that such high values were obtainable reclamation plots would be sold for half the value. If the land is cheaper, the rents must necessarily be lower; if the rents be lower it would attract a large number of people, so it would be an advantage. What is your opinion?

A.—Yes, it would be an advantage to the public.

Questions by the Chairman.

Q.—I have got one question to ask you. There must be some hesitation in your mind as to who will chiefly profit and who ought to pay for the road leading from Hornby Road to Ballard Pier Road? What I want to put to you is this, would the frontages alongside the road fetch a very high price or not?

A.—Of course it will be a very important road from a commercial standpoint.

Q.—Speaking generally and without going into details, do you think that very high prices would go some distance towards paying the cost?

A.—There will be a loss.

Q.—What I am trying to get at is this, that office accommodation is now in demand, or might be in the future, chiefly in that direction. Will there not be a great demand for the new frontages?

A.—Unfortunately it generally depends upon the prosperity of trade. If trade is prosperous and is booming then you may get Rs. 200 or more per yard.

The Honourable Sir Ibrahim.—In regard to the chawl question, in regard to which I read your note as meaning that you considered that it was the duty of the Improvement Trust on general grounds to provide accommodation in chawls for every body, to all the poor people that are ousted.

The Honourable Sir Pheroze Shah.—He said all the poor people.

The Chairman.—What did you mean by every person in the town? Do you mean that all the crowded areas should be opened out and that you should then provide for all those ousted?

A.—They must provide for the poor.

The Chairman.—Is it your opinion that sanitary chawls are to be provided first and then the people ousted, or that the people should be turned out first and chawls provided subsequently?

A.—If they are turned out where will they go? Therefore the chawls should be built first. That is the chief need of the city.

Thursday, the 27th November 1913.

MAJOR H. A. L. HEPPER, R. E., AGENT, G. I. P. RAILWAY.

Questions by the Chairman.

Q.—You say in your written statement, Major Hepper, that the measures taken by the Municipality will not remove the nuisance at Worli.

A.—What I feel is that people will not go and live there. Even if the nuisance were removed I don't think people would go and live there if the sewage works are retained there.

Q.—Do you mean it will take them some time to go and live there, that is to say, until the smell is removed people won't be inclined to go and live there?

A.—My opinion is that although there may be no smell the mere fact of having the sewage works there is bound to preclude people from going to live there.

Q.—Then your opinion is that the crude sewage ought not to be dealt with in any way in the City?

A.—Yes.

Q.—Then your remedy is the removal of the Love Grove Pumping Station and the conveyance of the sewage to the North-East of the Island?

A.—Yes.

Q.—If that were done, is it your opinion that it would be an area as attractive as any other area that could be added by reclamation?

A.—I think it would be an attractive area.

Q.—You don't think that the distance would be a considerable drawback for richer people? You don't think that the distance would deter them from proceeding to such a distance?

A.—No, provided reasonable means of communication were afforded.

Q.—Do you consider that for the increased population which you anticipate at Mahim and Worli more means of communication would be required?

A.—I think you will require additional communication by rail. I think the present B. B. & C. I. Railway is too far from the coast to serve the people who would naturally live on the sea-coast, and I think that if the Worli Pumping Station were removed it would probably pay the B. B. & C. I. Railway to make a loop line to tap that part from, say, Grant Road and coming back again through the Mahim Woods. A connection could be made between this loop and the Mahim link, crossing over the B. B. & C. I. main line, so that you could go from Grant Road completely round to Mazagon and Tank Bunder.

Q.—Your suggestion is two-fold—removal of the Love Grove Pumping Station and encouraging the development of Mahim and Worli by increased railway communication by a loop line running nearer the coast: is that so?

A.—Yes, but I cannot go into details.

Q.—Do you think that the road schemes as formulated would be so insufficient as to deter the wealthy classes owning motor-cars from going to Worli and Mahim?

A.—I don't think any communication by road would be very attractive to people going out of Bombay, whatever the width of the road might be.

Q.—I am talking of particular classes of the population, I mean what you call the upper class who have motor-cars. What I want to know is whether in your opinion those wealthy classes would patronise the railway or use motor-cars?

A.—I think they would patronise the railway if more rapid rail communication were afforded and brought near their doors.

Q.—Now, in the absence of that railway communication what class of the population would go there?

A.—I am not prepared to say that any class would go. I don't see how the poor people could go to such a distance without easy means of communication.

Q.—Supposing that for Government purposes it were found necessary to reclaim any area irrespective of any particular scheme, would it in your opinion afford a site for which there would be a demand by those people who would decline to go to Worli and Mahim?

A.—I think it depends on what the reclamation would cost.

Q.—Supposing land was put at a fairly reasonable figure, would there be people to come forward and acquire land? Would that be an attractive site for the wealthy classes?

A.—I think perhaps it is well to say it would. But it is difficult to say exactly. It depends upon the price of land in other parts of the Island.

Q.—Do you think it might be expensive and would attract only the wealthy classes?

A.—Yes.

Q.—You say in paragraph 8 of your written statement that so far as concerns the provision of additional areas for housing the population you would urge the reclamation of existing land and its proper drainage, together with development of Salsette, before reclamation of any large additional areas from the sea. That, I take it, has reference purely to residential requirements?

A.—Yes.

Q.—I don't think that you object to Government reclaiming for certain Institutions within a particular area?

A.—I was only referring to additional area for housing.

Q.—In the next sentence you suggest that "it would be a wise measure to take steps to discourage, if not to prohibit, the establishment in the Bombay Island of any more mills or factories which can, without inconvenience to the public, be located elsewhere." Where else would you suggest locating them?

A.—Either on the North-East of the Island or else on the East side of Salsette.

Q.—Do you think that if restrictions were imposed on those desiring to construct new mills, with a view to locating them in Salsette, that would hamper the development of industry?

A.—I don't think so. In a way they would get numerous advantages in the way of railway siding connexions which they cannot get in Bombay, and having regard to the fact that the Port Trust are providing facilities that might be a considerable advantage as it would put such mills in direct communication by rail with the new trade depôts and docks.

Q.—Would there be labour difficulties?

A.—The labour difficulties would have to be considered, but with regard to the development of Salsette I presume there would be very little difficulty on that score. The housing of the people in Salsette would be a cheaper business than in Bombay.

Q.—Assuming that the owners of mills undertake to provide housing accommodation for their operatives in Bombay, would there be labour difficulties?

A.—I am only going by our own staff. We have a large staff outside the Island and we don't pay them any house allowances, but in Bombay we have to pay house allowances.

Q.—In paragraph 9 of your written statement you say: "Apart from the improvement of existing roads I would only draw attention to the necessity for a new road in the Fort from Ballard Pier to Hornby Road, a requirement the need of which will, I believe, be increasingly felt." The requirement in connection with what?

A.—In connection with the commercial community.

Q.—In respect of offices, banks, etc.?

A.—That road will provide facilities for getting to the Ballard Pier.

Q.—Who will use it?

A.—All the commercial people of Bombay.

Q.—What is your opinion with regard to the demand for office accommodation now in the Fort?

A.—I think it is increasing. It is bound to increase. There is no doubt that office accommodation will be taken up at once.

Q.—At high prices?

A.—Yes, at high prices, because I think it will be a very important road.

Q.—Do you think the demand is increasing in that direction, *i. e.*, North of the Fort and upwards rather than Southwards?

A.—I don't know of a tendency in any particular direction, but it seems that the northern part of the Fort is getting crowded, and that part will have to be developed and the present narrow streets will have to be made larger.

Q.—You state that the G. I. P. Railway have actually made plans for providing additional platforms in the event of the St. George's Hospital being vacated.

A.—The plans we have made can be carried out whether the Hospital is removed or not. We have at present 6 platforms, and we propose to increase them to 11, and the question of the removal of the St. George's Hospital does not affect our carrying out the plans. We have at present 102 trains to deal with in a day, of which 34 are long-distance trains, and the long-distance trains of the B. B. & C. I. Railway amount to 14. If we had 11 platforms instead of the 6 which we have at present, and the local traffic were electrified, I don't think there will be any difficulty in dealing with those additional 14 B. B. & C. I. trains in a day.

Q.—But that traffic has very considerably increased, has it not?

A.—It naturally increases.

Q.—I am referring to your own.

A.—It is increasing. I have said it would not be wise to make the change proposed unless the St. George's Hospital site were likely to be available for further extension of the terminus within a reasonable time. I am only dealing with the present traffic.

Q.—Then your proposal is that the B. B. & C. I. Railway should stop at Grant Road or Churni Road?

A.—It should stop at Church Gate.

Q.—Then it should rise and become an overhead railway from Marine Lines and come to the Maidán, having its terminus next between the B. B. & C. I. Offices and the old Post Office?

A.—Right opposite the Telegraph Office.

Q.—That is to say, the lines to be overhead for a considerable length over the whole portion?

A.—Yes, it would only be about 30 ft. wide.

Q.—Don't you think that it would be very noisy?

A.—It all depends upon the construction. I don't suggest any steel girders. I don't see why it should be beyond the scope of engineers or architects to design a masonry viaduct which should be fairly respectable in appearance and lessen the noise of the traffic.

Q.—Your recommendation on that behalf is conditional, *i. e.*, only if a suitable design could be got out for the overhead railway traffic so as to mitigate the noise of the traffic?

A.—Yes.

Q.—I gather also that the whole recommendation is contingent on the assumption that no reclamation will take place?

A.—I do not want to create any large residential area.

Q.—If there is a prospect of residential quarters springing up in addition, would you have the extension to Colaba?

A.—No, I would abandon it.

Questions by the Honourable Sir Pheroza Shah Mehta.

Q.—From your written statement I find that you are in favour of the removal of the Love Grove Pumping Station. I am very glad to hear that, but are you aware that the Municipal Corporation made three attempts to induce Government to remove it?

A.—Yes, I am aware of that.

Q.—You know the opinions of many scientific engineers on the matter. They unanimously advised that the best drainage was to discharge at the South of the Island. The land slopes down from North to the South, and the natural course of drainage is towards the South and not from the South to the North. At present we are carrying it the other way, from South to North, which makes it more difficult for us to cope with the sewage. That being so, the experts advise that the best and proper drainage would be towards the South.

A.—Yes.

Q.—I am asking you the question in reference to whether the drainage should be carried to the North-East of the Island and thrown into the Harbour. If it was possible to carry it lower down would it not be preferable to carry it right into the main ocean? At one time it was suggested that it might spoil the Harbour, but if it was carried right into the ocean, would you prefer that or not?

A.—I should prefer the North-East of the Island.

Q.—You are afraid that there might be a possibility of the Western portion of the land being affected?

A.—I think it is very likely.

Q.—If it was carried to the North-East, the danger would be almost minimised?

A.—I think there would be hardly any danger; the sewage would be carried away by the main ebb stream.

Q.—Do you consider that money would be better spent on such a project than on a large scheme of reclamation?

A.—I think it would be much better, because it would give you an area of 3 or 4 square miles of readymade land.

Q.—In paragraph 8 of your written statement you consider that it would be desirable to devise a better and less offensive system for the removal of *kutchra*: could you suggest any?

A.—By burning it.

Q.—Are you aware that it has been tried, and that incinerators have not been found efficient?

A.—I was not aware, but even if it is so, I should not be discouraged. I should make further experiments.

Q.—We are trying another experiment. Three experiments have failed and we are again experimenting, but do you think that incinerators would be better fitted for the purpose?

A.—I think they would be much better.

Q.—Is there any method which suggests itself to you as a less offensive method of disposing of *kutchra*?

A.—As far as the actual transport in trains is concerned more efficient waggons might be constructed.

Q.—You have constructed the Municipal *kutchra* waggons: have you not?

A.—Yes, we have constructed them at the cost of the Municipality.

Q.—Is there a large population of railway workmen employed in your workshops?

A.—Yes, there is a large number.

Q.—What is the number?

A.—In Parel and Matunga workshops it is about 7,000.

Q.—After the day's work where do these people go?

A.—They go back to their houses.

Q.—Spread about in the town?

A.—Yes.

Q.—As one interested in the railway, would it be advisable in your opinion to ask the Railway Companies, just as it is proposed to ask the employers of labour in mills, to build chawls for them?

A.—I think it will be quite reasonable.

Q.—If possible, to have those chawls at some distance out of Bombay? In other parts of India the railway population are housed at some distance from the towns. Would it be possible to house the large number which you employ at some distance outside Bombay?

A.—I don't think there would be any very great objection.

Q.—Don't you think the introduction of motor-buses and motor-waggons would go some way to minimise the burden of the traffic in the city?

A.—Over short distances they would be useful.

Q.—Would motor-buses be of any use in developing the areas which you have been speaking of, *viz.*, Worli and Mahim?

A.—Only as feeders to the railway.

Q.—Would not the wealthy classes employ motors if they had their residence at Worli?

A.—I think if we improve the local service by means of electrification and afford increased facilities most people would take advantage of them.

Q.—You were talking of St. George's Hospital. Can you give me any idea of European sentiment on this subject? Would they prefer to leave it where it stands, or have it at the Colaba Cotton Green? I want to ascertain the views of Europeans on this matter.

A.—I do not think there is any pronounced opinion regarding the future site. I think the general opinion is that the present is an unsuitable site. My own view is that it would be better to remove it from its present position.

Q.—Have you in your mind any site which you can suggest?

A.—I do not see why Government should not acquire land on Malabar Hill or Cumballa Hill.

Q.—The Honourable Mr. Justice Heaton suggested a site North of the Marine Lines where the Military buildings are: would that be a suitable site?

A.—Yes, a very good site.

Q.—Now with regard to the proposal for the construction of a new road from Hornby Road to Ballard Pier, what advantage would it have? What traffic would it serve?

A.—The commercial man in Bombay does his business by means of facilities provided for him by the Port Trust, and also other facilities provided for him by the railways. He wants means of access to the railways on the one hand and the Docks and the Port Trust Offices on the other.

Q.—The advantage would be that it would provide facilities for merchants to get to their places of business and to the Port Trust Offices: that is the main advantage?

A.—Yes.

Q.—So far as the carrying of goods is concerned, would it not be by this road?

A.—I do not think there will be much goods traffic.

Q.—Is it only for the use of the passenger traffic?

A.—The merchants who have business dealings in the Docks will be benefitted. They have at present only two means of access to the Dock premises—through Church Gate Street and Customs House Road. But when the new Docks are opened, it would be very useful to have the proposed road from Ballard Pier to Hornby Road.

Q.—For the convenience of those commercial people who would have to go to the Docks and Ballard Pier and other places near the Docks?

A.—Yes, that is the only advantage.

Q.—Have you any idea of the cost of this?

A.—No.

Q.—Are you aware that the cost was estimated and was found prohibitive and the project was abandoned in consequence?

A.—I would not admit that it was prohibitive whatever the cost was. I think it is a thing that we shall have to have in the near future.

Q.—Are you aware that there was a proposal sent up by the Corporation to the Improvement Trust for this road?

A.—No, I did not know that.

Q.—They did not feel themselves in a position to undertake it. You are not aware of that?

A.—No, I did not remember. It must have been before I joined the Improvement Trust.

Q.—But you think it would be a very good thing to have that road?

A.—Yes.

Questions by the Honourable Mr. F. L. Sprott.

Q.—With the traffic considerably increasing by long-distance trains how would you deal with it?

A.—Our plan provides for using the present 6 platforms for suburban traffic only, and the 5 additional platforms which are going to be built to the East of the present station would be used for long-distance traffic.

Q.—Have you room for broad roads?

A.—The present exit from the station will become the approach. At present it is 55 feet wide, and it is going to be made 70 feet wide. Facing the Post Office there is a large block of offices, and the approach to the new station entrance will come behind. It is rather difficult to describe the arrangements without a plan.

Q.—You can get all that in without encroaching on the St. George's Hospital site?

A.—Yes, the present station will be merely for the local traffic; the long-distance traffic will be dealt with at the new platforms.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—You want the Love Grove Pumping Station to be shifted: have you considered the gradient for the carriage of sewage to that point?

A.—There may be engineering difficulties, but I think it is a thing that can be done.

Q.—Even if the cost was prohibitive, the gradient is against it?

A.—I don't think the gradient is against it. I know what the gradients are in Bombay, and I do not think there is such a great difference that the difficulty cannot be got over.

Q.—Then you think that in the development of the area at Worli and Mahim railway facilities are essentially needed to draw people to those parts?

A.—I think so. I think the railways would of their own accord provide facilities.

Q.—And that to draw people to these parts, tramways and motor-buses are not of the same consequence as a fast railway service?

A.—I don't think they are. The time taken by them is too long.

Q.—In advocating the road from Ballard Pier to Hornby Road, you say that you expect that the frontages would fetch very high rates?

A.—Yes.

Q.—What width you would give this road?

A.—About 80 feet.

Q.—And do you think that the buildings that will be constructed on the two frontages will realise high rates?

A.—I should think so.

Q.—Do you know the rates realized by the Improvement Trust who are the owners of all the new buildings which have sprung up from J. N. Petit Library on to the point where all the old and new buildings that are built on the West of Hornby Road are situated? Will you be surprised to hear that it was about Rs. 40 to Rs. 45 per square yard?

A.—Yes, I am rather surprised. I do not think that those lands could be got for that price now.

Q.—What would be your present idea of the prices?

A.—I think about Rs. 100.

Q.—Do you know that Government considered a scheme in 1903 and declared against it?

A.—No, I do not know.

Q.—In the papers that have been sent to you?

A.—No, I did not notice it.

Q.—From what parts of the Fort do you expect people to use the proposed new road between Hornby Road and Ballard Pier? From what part of the Fort will commercial men going to the Docks find facilities if this road is constructed?

A.—From all the offices.

Q.—From what part of the Fort? Do you think that people in Apollo Street would use this road at all?

A.—From Apollo Street I should say not.

Q.—You mean Hornby Road?

A.—I should think from the Fort generally.

Q.—If you can enlighten us we will be obliged, but if you cannot, I don't want to press the point. It is very important because people going to the Docks from Hornby Road would much prefer to go straight on and turn by the Bhatia Bagh. We are now making very very wide roads from Bhatia Bagh to Frere Road?

A.—Bhatia Bagh is a very difficult road to get round.

Q.—Now, we are making a road just opposite to your offices, and have much reduced the area of the Bhatia Bagh, and we are having two very wide roads—one on the South and one on the North of the small Bhatia Bagh, and that will give easy access to go to the Docks?

A.—It will.

Q.—Then, who are the people you say who would have to go to the Port Trust Offices?

A.—A large number of people who live in the central parts of the Fort.

Q.—Those in the central parts to the South of Church Gate Street or to the North of Church Gate Street?

A.—Both North and South. I take it that the new road will have other roads running into it.

Q.—Your scheme is that you not only want an 80-foot road running from Ballard Pier to Hornby Road, but also sideroads to give access to it?

A.—I want the existing sideroads to be kept. I do not want them to be widened.

Q.—Do you think that there will be more than a slight difference in point of time if a man went over from Frere Road near the Town Hall and through Church Gate Street and Hornby Road instead of going into this new road? At present there are only two alternatives—one is through Church Gate Street into Hornby Road, and the other is to go to the right turning from the Elphinstone Gardens. Supposing the new road was made, would there be any difference in point of time or not?

A.—I think it all depends upon where he starts from.

Q.—My contention is, the new road is an expensive luxury, absolutely not wanted except for the convenience of passengers. Even then the passengers who want to go direct to Victoria Terminus can go by Frere Road. Most of them stay at the hotels like the Taj Mahal, and they go by Apollo Street, and won't require this road. So, for what class of people is this road considered necessary? That is my question, especially when we consider the fact that the cost will be very heavy.

A.—My reply is that people who have offices in Hornby Road will be benefitted.

Q.—Which part of Hornby Road?

A.—The central part of Hornby Road.

Q.—What difference will it make to go by this road instead of going straight on by Hornby Road and taking a turn at the Victoria Terminus?

A.—I am thinking about the new Docks.

The Chairman.—What do you regard as the centre of importance on the Ballard Road in respect of the new road which you are in favour of?

A.—Certainly the Customs House.

The Honourable Sir Ibrahim.—I want to know how many people want to go to the Customs House?

A.—I cannot tell you that.

Questions by Mr. Wittet.

Q.—With reference to the remarks in your written statement in paragraph 13, have you considered the making of an underground railway instead of the overhead line?

A.—No, I have not considered it.

Q.—Do you see any reason why it should not be possible?

A.—It would be a very expensive business to make a subway if the sub-soil is rocky, but I do not know whether it is rocky there or not.

Q.—Supposing the cost of an underground railway was not out of the way in comparison with the overhead line you recommend?

A.—I would recommend the overhead railway, as certain people will find it very unpleasant to travel underground in this country.

Q.—It is only a very short run.

A.—It is I think about two miles. It would be less noisy no doubt, but as I say I have not considered it.

Questions by Mr. B. W. Kissan.

Q.—Do you advocate stopping the B. B. & C. I. Railway at Church Gate Street, cutting off Colaba from railway communication? Don't you think it would be a retrograde step to cut off three miles of the Island from railway facilities?

A.—No.

Q.—You said there were 5,000 people using Colaba Station every day: is the railway not necessary for their convenience?

A.—As long as the 5,000 people are there it will be a convenience, but when the Cotton Green is removed, there won't be such a large population to take advantage of the line.

Q.—But when the Cotton Green is removed, there will still be people using that land, and other buildings on that site.

A.—There will be other people, but all the people will be within two miles of a railway station.

Friday, the 28th November 1913.

MR. M. S. PHARUCHA, L.C.E., LAND MANAGER, CITY IMPROVEMENT TRUST.

Questions by the Chairman.

Q.—I will first of all ask you generally, Mr. Bharucha, whether in your opinion the three North and South roads, as shown on the map, plus the additional road which is designed to the West leading up to Worli, are sufficient for the present purposes and for some years to come.

A.—Yes.

Q.—And what are your suggestions regarding the best means of utilising these thoroughfares to facilitate hereafter the population of the Northern part of the Island; that is to say, do you favour or advocate any special means of transport in addition to railways?

A.—Tramways and railways; nothing else.

Q.—Tramways and railways will suffice?

A.—Yes.

Q.—And I gather from the earlier paragraphs of your written evidence that you think that the Improvement Trust has, in respect of chawls, done as much as could reasonably have been expected in the way of providing accommodation for the people ousted by their schemes.

A.—Yes.

Q.—Could you tell me off-hand what is the number of people ousted by the Trust's scheme?

A.—I couldn't say how many are ousted, but about 17,000 odd have been provided with accommodation. In addition to that, there are several houses which were acquired and which were not pulled down. We have not displaced those people at all. For instance, in Noworji Hill there are many such buildings. The people occupying these are not ousted yet. We construct chawls for them and then we oust them.

Q.—Are the Improvement Trust contemplating building chawls for all the people ousted by their scheme?

A.—For those living in one-room tenements only.

Q.—And you then say it should be made obligatory, by legislative enactment, on the large employers of labour, such as owners of mills, workshops, etc., to provide housing accommodation for their workmen.

A.—Yes.

Q.—Would you require employers of labour to incur the full expense of accommodating their labourers?

A.—No; I think that would be too heavy. About 50 per cent. of the accommodation should be provided by them.

Q.—They ought to provide accommodation for 50 per cent. of their workmen, and you would make this a statutory obligation?

A.—Yes.

Q.—Do you consider that by that means you would be in any way handicapping the development of industrial enterprise?

A.—No.

Q.—You don't think that such an obligation would deter the proper working of the mills?

A.—I don't think so. It is a great advantage for the workmen to have quarters close to the places where they work.

Q.—You consider that the disabilities have now been removed by the latest amendment of the Improvement Trust Act and that mill proprietors have been placed in a position to acquire the necessary land to provide accommodation for their workmen; and you consider that we should go further and make it a statutory obligation on them to do so?

A.—That is so.

Q.—You say in paragraph 15 that the decision to retain in its present position the Love Grove Pumping Station will possibly do away with the present nuisance of the foreshore being fouled by the return of sewage on the shore.

A.—The extension of the outfall further into the sea may do away with the nuisance.

Q.—Do you believe that?

A.—I have not formed any opinion. I am not an expert in that line; but in order to remove the nuisance, the outfall ought to be removed.

Q.—And why do you say it must be removed?

A.—Otherwise the foreshore would not be fit for the purpose of erecting residences.

Q.—And you consider that this would be an attractive place as a residential area?

A.—Yes, certainly. The Western portion for the wealthy class and the other portions for the poorer classes.

Q.—The Western portion is all along the coast. Now, do you consider, if it is contemplated that the wealthy class will reside along the foreshore, that it will be necessary further to amplify the roads and means of communication?

A.—No, I don't think so.

Q.—You think that the Worli road to the West which you have already referred to will suffice?

A.—Yes, as a main road. The main road will suffice.

Q.—Do you think the distance from the City will deter wealthy people from living out there?

A.—No, I don't think so.

Q.—When you say "wealthy people" what community do you refer to?

A.—All wealthy Indians.

Q.—All the wealthy classes would be content?

A.—Yes.

Q.—And you consider that communications need not be amplified to secure that result ?

A.—Yes.

Q.—Under the present arrangements the development of Mahim Woods as a residential area would be a somewhat expensive project ?

A.—Under the Street Scheme it would be rather costly, because we have to acquire all the properties, and it takes a long time to do so.

Q.—What do you suggest ?

A.—I would suggest carrying out the development under the Town Planning Act, if possible.

Q.—Then what authority do you propose for administering the Act ?

A.—Either the Improvement Trust or the Municipality.

Q.—You don't mind which ?

A.—No ; personally I would prefer the Improvement Trust to be the authority.

Q.—If Worli and Mahim are rendered fit for human habitation and for residences for better class people, will that afford sufficient relief to this class for the time being ?

A.—Yes.

Q.—Where will the relief be felt in the present congested areas of Bombay ?

A.—I cannot say ; I cannot particularly state where.

Q.—Well, let me put it to you in this way. The wealthy classes are chiefly living where ?

A.—Malabar Hill, the Fort, Marine Lines, Wellington Lines, Colaba Reclamation, and so on.

Q.—Are they very crowded there now ?

A.—No.

Q.—That is to say, there is no immediate necessity for expansion. What I mean is, is there any likelihood of the necessity for further extension of residential areas for the well-to-do class ?

A.—They should be attracted to Mahim.

Q.—Well, supposing they are attracted to Mahim, where will they come from ?

A.—They will come from those places that I have mentioned.

Q.—What will be the result of that ?

A.—Other people who are not so well-to-do will occupy those places.

Q.—What is the state of rents there ?

A.—Personally I do not know about the rents there.

Q.—Then it does not occur to you at the moment that there are other forces at work which will keep up all the pressure of demand in the Wellington Lines, and so forth ?

A.—No.

Q.—What is the present trend of demand for office accommodation in Bombay ?

A.—The general tendency is to seek office accommodation on Hornby Road. So far as I can make out, offices are moving Southwards and Northwards along Hornby Road.

Q.—And that in your opinion is a movement that will continue ?

A.—Yes ; that will continue up to a certain point, say up to the General Post Office.

Q.—And what is the result of that tendency ? The office accommodation being in such demand there, I suppose residents will be ousted. Where are they going ?

A.—Grant Road.

Q.—Are they well-to-do people ?

A.—No ; middle-class people.

Q.—Then you don't think that the pressure on space for office accommodation will have the effect of ousting the better class of people from their present places ?

A.—No, I don't think so.

Q.—I gather from your concluding paragraphs that for the time being you think that energies should be devoted towards improving the existing foreshores and thus creating spaces for residential purposes, rather than towards any large scheme of reclamation ?

A.—You must take the Mahim Woods improvement also in hand.

Q.—Quite apart from what we have been discussing just now, what is your opinion regarding other questions asked by Government, *viz.*, whether the University buildings, and

possibly the Government offices, and so forth, should be removed from their present site to another?

A.—I do not know much about Government requirements, but I can say about the University that if anything is to be removed the Elphinstone College should be removed, because it is not a quiet place at all.

Q.—Of course, you know that from the educational point of view it is desirable to have educational institutions quite adjacent to the University. Therefore, if you remove the Elphinstone College, I presume you would have it somewhere near?

A.—If you shift it, it should be to such a place as the Byculla Club premises.

Q.—That is a long way from the University.

A.—That is so. Of course, there are so many requirements.

Q.—You want sites for the College of Law, College of Commerce, College of Science, and so on. It is best if they are in one place, and we ought to try to get them in one place. Would you have the University shifted, or would you rather do all you can to get all the educational institutions together near the existing site?

A.—If possible, certainly on the existing site; but it seems impossible.

Q.—But would you consider that for that purpose only, and for nothing else, it would be justifiable, rather than move the University, to add to the available space by reclamation, quite apart from the general reclamation scheme?

A.—I would rather remove the existing buildings, Government offices which are close to the University, for instance, the Secretariat, Watson's Hotel, etc. These buildings could be utilised for University purposes.

Q.—Then we are a step further. What would you do for the Secretariat, and so forth?

A.—The Sailors' Home is not of much use now, and that and the land between it and the Yacht Club could be utilised for the Secretariat.

Q.—You will have to acquire a lot of land, will you not?

A.—Of course.

Q.—Have you any idea what the value of land there is?

A.—I am not at present in touch with it. I cannot form any idea at present.

Q.—In connection with Government offices, there are a number of buildings necessary; for instance, a new Legislative Council Hall, which means a very considerable addition to the Secretariat requirements, and also it may be perhaps desirable to make your buildings somewhat more showy than otherwise would be the case. For such a scheme, can you suggest any existing site? The site you suggest is rather cut up and would not be suitable for one uniform structure or design.

A.—No, I cannot.

Q.—Would in your opinion a small scheme of reclamation be justifiable to enable suitable construction work for that purpose to be carried out, assuming as you say that there is no available space?

A.—There will be some suitable space available if the land between Church Gate Station and Colaba is made free by removing the Railway.

Q.—Then you think in that case, if they are not removed, you would have reclamation?

A.—Yes, if there is no other alternative.

Q.—Now, as regards the removing of the B. B. & C. I. Railway, what are your ideas?

A.—That the terminus for goods traffic should be Grant Road, and that the local traffic should extend up to Church Gate Station.

Q.—Then you still want Church Gate Station?

A.—Yes.

Q.—Then the land available will be from Church Gate to Colaba. From Church Gate to the end of Colaba how far is it?

A.—It may be two miles or two miles and a half.

Q.—And you think, as regards traffic, that it does not matter if you deprive Colaba of its Railway Station?

A.—Yes.

Q.—You propose also to make your long distance terminus at Grant Road?

A.—If possible, yes.

Q.—Won't that mean a very considerable increase of buildings for railway traffic?

A.—Yes. There is a good deal of private land available there.

Q.—You would advocate taking up all that land?

A.—Yes.

Q.—A good deal of space in the busy parts of Byculla, and so on, is occupied by cattle and stabling, and so on. Isn't it?

A.—It is in Agripada. There are lots of stables there.

Q.—Do you consider that a suitable arrangement?

A.—I think so, if they are centred in one place, as the Trust intends.

Q.—What is the Trust's scheme?

A.—There are large plots of land at Agripada where the stables could be centred.

Q.—You think that is a sound proposition?

A.—Yes, because they could be easily supervised by the Municipality.

Q.—Don't you think it would be preferable to have them right outside the Island of Bombay?

A.—No. I would rather have them in the centre of the Island.

Q.—What about the surroundings?

A.—There will be roads between the stables and the buildings.

Q.—You think the roads sufficient?

A.—Yes.

Q.—What is your objection to an arrangement by which dairies and so forth would be housed, supervised, and managed on a settlement north of the Island, in Salsette, under proper control of the Municipality, as is done in large towns in other parts of the world?

A.—Of course, they cannot be properly supervised. The Municipality will have to supervise these institutions and they will find it somewhat difficult, as Salsette is far from Bombay. If the Municipality themselves acquire an area, then they themselves can construct stables and let them out. If they are outside Bombay, there may not be proper supervision. If it is not far from Bombay, I have no objection.

Q.—And do you think, if these conditions are fulfilled, it would be a better arrangement to locate them in the North of Bombay Island than at Agripada or in Bombay?

A.—Yes.

Questions by the Honourable Mr. F. L. Sprott.

Q.—You were saying, as regards the B. B. & C. I. Railway, that you suggest that the goods traffic and the long distance traffic should be stopped at Grant Road, and that the railway should continue as far as Church Gate for local traffic only?

A.—Yes.

Q.—I presume you mean after the Cotton Green at Colaba has been done away with?

A.—Yes.

Q.—A suggestion has been made that the long distance traffic of the B. B. & C. I. Railway should be brought into the Victoria Terminus. Do you think that is possible?

A.—It would be rather inconvenient.

Q.—In what way?

A.—Because all the people from Grant Road will have to come to the Fort for long distance traffic.

Q.—Well, another suggestion was made, and that is that the Railway should become a high level railway immediately after passing the Sandhurst Road, should run alongside Queen's Road until you get to Marine Lines Station, where it would cross the road, come through the Native Infantry Lines Hospital to the side of Esplanade Road, and follow that road until immediately to the West of the old Post Office. The whole of the line would then be overhead, with an overhead station, of course, at the end. What is your opinion about such a scheme? You see, it would improve everything the whole way down from Charni Road to Marine Lines, and then the railway would be removed altogether from Marine Lines Southward. Is that a good scheme?

A.—I think my scheme is better than that. I do not like the complication. I do not know anything about overhead railways.

Q.—Would it not be a great advantage?

A.—What is the advantage?

Q.—Is not the Queen's Road extremely narrow?

A.—It is narrow at present.

Q.—The only way in which you can widen it is by removing the railway line?

A.—If you want to widen it, there is room between Marine Lines and Church Gate.

Q.—You advocate the improvement of the outfall at Love Grove and you say that you think there will be a large movement of the better class of people from places round Marine Lines, Colaba and other places to that side, but you do not think that anything further is necessary in the way of communications?

A.—Except those two roads and tramways.

Q.—But don't you think the distance too great for tramways?

A.—No.

Q.—Would the tramways be useful for the better class?

A.—The better class will use their motor cars, I suppose.

Q.—And you advocate the retention of the Love Grove Pumping Station in any case in its present position. Don't you think that however well it is managed it will be to a certain extent unsightly? Will not the nuisance be very annoying to the better class?

A.—The nuisance is on account of the outfall, not the Pumping Station. It would be very costly to remove the Pumping Station.

The Honourable Mr. Sprott.—It will cost money, of course.

Q.—I would like to ask you one point about this compulsory construction of chawls. You know certain proposals have already come to the Improvement Trust from employers of labour for construction of chawls, but we have been informed that there are certain difficulties in the way owing to the great cost of the construction of these chawls per room. Now, I would like to know whether the Improvement Trust rate per room comes to something like Rs. 650 to Rs. 680. That rate is being objected to as being excessive, considerably above what can be managed by private enterprise. Do you think there is any foundation for the belief that the rate is excessive?

A.—No. The cost will be considerably reduced by our concrete chawls. You don't want frame buildings, but concrete chawls.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—Would there be a substantial difference between frame buildings and concrete buildings?

A.—I think there will be.

Q.—Substantial?

A.—About 25 per cent., if you call that substantial.

Q.—Have you ascertained what the cost of a chawl per room would be if it was a frame building?

A.—No, at the present rates I have not ascertained. The rates have somewhat increased now.

Q.—That is why I ask you on what basis you calculate 25 per cent., because before the rise in cost of materials the cost of a room in a frame building worked out to about Rs. 450?

A.—Since the rise I don't know, but I think the difference will be about 25 per cent.

Q.—You have not worked out any calculation to show the difference. Supposing a mill-owner—an employer of labour—intended to construct a chawl for the accommodation of his mill workmen and proposed to have a ground floor and upper storey in a frame building with doors under the Municipal Act, would the Trust raise any objection to it?

A.—I do not know about the Trust, but I would have no objection.

Q.—An employer of labour should be free to erect a frame building if the materials cost less?

A.—I would allow it, yes, certainly.

Q.—Have I understood you to say that the Improvement Trust have provided sufficient accommodation for all the people displaced by their schemes who were occupying one-room tenements?

A.—Yes.

Q.—For all? Are you quite sure of that?

A.—I cannot tell you exactly, but it is my impression that we have provided accommodation for all the people displaced who were living in one-room tenements.

[Mr. Bhuracha subsequently wrote :—I stated in my evidence that it was my impression that all the people living in one-room tenements displaced by the Trusts' operations were provided with housing accommodation by the Trust. This impression was based on the fact that during the 3 years that I am attending to the occupation of the Board's chawls and acquired buildings no application by any of our displaced tenants for re-housing him had been rejected, that while demolishing acquired buildings on Nowroji Hill the tenants living in one-room tenements were invariably offered rooms in other acquired buildings on the hill, and

that, as explained in the 11th paragraph of the City of Bombay Improvement Trust Administration Report for the year ending 31st March 1913, and paragraph 15 of the Administration Reports of the two preceding years, the re-housing generally outstripped dishousing during the last 3 years.]

Q.—I know you have provided for those displaced, but are you sure whether the accommodation provided is sufficient for all the people we have displaced living in one-room tenements?

A.—Of course, that is my impression.

Q.—Is it a fact that people who occupy these chawls are not all people displaced by the Improvement Schemes? How do you account for it? Could you assign any reason why people who are displaced and for whom this accommodation is specially provided at cheap rates on sanitary principles do not come in and claim their privileges?

A.—In some instances that does occur. Some people want to live near their own community people, and not somewhere else.

Q.—You say that large portions of the Mahim Woods were included in Scheme V, as originally notified, and you say “unfortunately however these two tracts of land were eventually excluded from the scheme as declared on 14th June 1906”. Do you know that that exclusion was on the understanding that a separate Scheme for that area would be sanctioned by Government instead of forming part of Scheme V?

A.—I do not remember, but I have some sort of impression that that was so.

Q.—You say “A Scheme for the development of Mahim Woods was drawn up by the then Trust Engineer, Mr. Kemball, but for want of funds it could not be carried out. And recently a fresh Scheme has been got out for the development of Mahim Woods by the Municipal Executive Engineer, and is now under the consideration of the Corporation.” If there were not sufficient funds, how do you explain that large areas of Mahim Woods were at one time included in our scheme?

A.—They were included in 1890 when the Trust was formed. Then we had ample resources to develop portions of Mahim Woods included in Schemes V and VI. But subsequently for want of adequate funds we had to abandon the idea.

Q.—What was the cause of the shortage of funds?

A.—Funds had to be diverted to other Schemes, and these schemes were mostly regarding communications. There were also other Schemes. The Mandvi Scheme was one, the Nagpada Scheme was another.

Q.—So you think if these funds were not diverted to communication Schemes, there would be funds for the originally intended Schemes of the Trust?

A.—Yes.

Q.—You are advocating the removal of the outfall from Love Grove and you expect that the conveyance of sewage to Devnur will abate the nuisance?

A.—If the present outfall is not improved by extending it further into the sea, removing the outfall to Devnur seems to be the only alternative.

Q.—Assuming for argument's sake that the cost of conveying the sewage to Devnur would be excessive, even prohibitive, you would rather have this outfall removed than have a reclamation which would supply cheap land to the City? Which would you prefer, the removal of the Love Grove outfall to Devnur, which may involve a very heavy expense, or a scheme of reclamation with the dimensions of which we are not concerned which would be comparatively cheaper?

A.—I would remove the outfall to Devnur.

Q.—Even if the cost of doing so is very expensive, even prohibitive?

A.—Then, of course, you cannot. You must see financially what the cost is.

Q.—Then your objection to reclamation is that it will be very costly, comparatively more costly than other schemes you contemplate. If it was the other way with the calculations, *i. e.*, the cost of other schemes was comparatively excessive, you would support a reclamation scheme?

The Chairman.—I think the Hon'ble Sir Ibrahim's question comes to this: If it is more expensive to acquire sites for Government buildings than to carry out reclamation for the purpose, which would you choose?

A.—The cheaper course.

Q.—In your paragraph 28 you advocate amendment of section 301 (1) of the Municipal Act under which compensation is now paid for set-backs. On the lines indicated in your written statement you would advocate the acquiring of land for set-back purposes at rates in which the extent to which the rest of the premises of an owner will be bettered is taken into consideration. How will you determine that?

A.—By the value of the road land and the increase in the rent for the rest of the property.

Q.—How would you determine this where you acquire, say, 50 square yards out of 500 square yards of vacant land? 500 square yards belong to an owner and you require 50 square yards to be added to the road as a set-back. How would you determine the appreciation in value.

A.—Instead of giving the owner the value of frontage land I would give him the value of back land.

Q.—You would give him the value of land on a certain basis. You would not deprive him of the entire value of the 50 square yards on the assumption that the remaining 450 square yards had so appreciated in value that the owner received more than the actual original value of the land?

A.—I would not do that.

Q.—Do you know that that is advocated in some quarters?

A.—No, I don't.

Q.—But you would advocate that you would pay him the value of the land on a certain basis. Then, as regards set-backs, where properties are built upon, how would you determine the betterment in those cases?

A.—I would find out what would be the increase in rent.

Q.—You know, Mr. Bharucha, as you have had to deal with land acquisition proceedings of the Improvement Trust, that it is possible—nay, that it is actually being done—to manufacture evidence in some cases to prove higher rents than are actually being received. Would it not be equally possible, after a set-back is acquired, to manufacture evidence showing that by reason of the set-back rents have actually gone down when they have not done so?

A.—I would find out the actual rents of other properties in the neighbourhood and ascertain.

Q.—Does your experience not show that, specially in shop rents, there is no uniformity even between two adjoining houses? There is variation even between two houses situated in the same street. Your figures would be merely estimates and might result in serious injury to the owner.

A.—No.

Q.—It would lead to a lot of litigation.

A.—Litigation there will be.

Q.—And you know that this litigation is really between a powerful public body and a private individual house-owner.

A.—A house-owner is as powerful as a public body.

Q.—Do you really think so, in view of what you are actually paying at Agripada now? Do you think you are paying them the full value?

A.—Yes.

Q.—You think 7 years' purchase is the market value? Do you think that any private person can get property on 7 years' purchase? You pay 7 years' rent, that is to say, for a property which brings the owner in Rs. 1,000 per annum you pay Rs. 7,000 as compensation. Do you think that is adequate?

A.—Under the Act, certainly.

Q.—I am talking of market values.

A.—Under the Act it is adequate.

Q.—You said that the Improvement Trust is providing a large area to form a centre for the location of milch cattle stables. What is the area that is proposed?

A.—My impression is 70,000 square yards. I speak from memory.

Q.—How many buffaloes do you think could be accommodated on the 70,000 square yards under the recent amendments?

A.—Only a proportion.

Q.—What would you do for the others?

A.—There will be room in the City.

Q.—The Improvement Trust is, therefore, not providing an area which is sufficient for the whole City milch cattle. They are providing only for a small portion.

A.—[Mr. Bharucha subsequently wrote:—Two plots admeasuring 125,000 square yards are reserved for the accommodation of milch cattle stables in Scheme XXXII (East Agripada Improvement scheme).]

Q.—You say you would have no objection to the centre of the location of milch cattle stables being carried outside the City of Bombay if there could be proper supervision. If that is done, do you think the Municipality will be able to prevent the building of stables outside the area which they may have acquired? I will put it this way. Supposing Andheri is fixed

for the location of cattle stables, and the Municipality acquired 70,000 square yards and imposed certain conditions *re* building stables there. Is there anything to your knowledge which will prevent other people building stables in the vicinity and free of Municipal supervision?

A.—No, they can do that.

Q.—But if they were located in some parts of the City proper, the Municipality can prevent stables being constructed in any other part. So there is a decided advantage in locating the stables in some parts, if possible, of the City proper, because it gives the Municipality all the power of control not only in regard to the stables constructed on Municipal land, but in regard to other stables for which applications for construction may be made and which the Municipal Commissioner under the Municipal Act is empowered to refuse?

A.—Quite so.

Q.—So that there would be a decided advantage in locating the milch cattle stables in a remote corner of the City, where they would be under supervision, rather than outside the City?

A.—Yes, that is so.

Questions by Mr. B. W. Kissan.

Q.—You say that the original Scheme V including a portion of the Mahim Woods would result in loss to the Trust. Why? Would you explain more fully?

A.—Because first we have to acquire land. That will take some time

Q.—But in the meanwhile you derive the revenue due to the agricultural or other use of the land?

A.—But we pay interest and sinking fund even up to 6 per cent.; whereas the revenue from agriculture will not be equal to that. In Scheme V we are making a loss in that respect.

Q.—What has been the experience in the Matunga portion of the Scheme?

A.—We are incurring a heavy loss. We are not recovering that from revenue.

Q.—Could you say to what extent private owners have built chawls of one-room tenements on Trust plots?

A.—There are none. Private owners do not build such chawls at all. There are houses with two-room tenements, but not one-room tenement chawls. Two-room and three-room tenements they have constructed.

Q.—So that if any one-room tenements are to be built on Trust land, they will have to be constructed by the Trust?

A.—I do not think so. Private owners may have an inclination to build.

Q.—But the owners actually do not build?

A.—At present they do not, but perhaps they may in future if it pays them. If it does not pay, the owners will not build.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—You said that in the Mahim Woods portion of Street Scheme V there would be a loss to the Trust in consequence of interest and sinking fund charges, but don't you think that a large portion of that will be recouped to the Trust by the rise in value of land on re-sale?

A.—Then there is the loss of land occupied by the roads.

Q.—I am not saying that there will be no loss at all. I am merely suggesting that the theory is—and it has been proved in practice—that in acquiring frontages any scheme costs much, but on re-sale the land realises a considerably higher price than what was originally paid for it, and that profit goes to some extent towards meeting the loss involved in carrying out the scheme.

A.—But on the whole there is a loss.

Q.—I mean to some extent more or less. I do not say there will be no loss.

Q.—And when you said in answer to Mr. Kissan that on Trust properties no one-room tenements have been built by owners, do you mean that in all the buildings that have been constructed on Trust plots in developed Schemes no one-room tenements are provided? I am not talking of an entire building of one-room tenements, but the usual practice is that the front portion of a building has two-room or three-room tenements and the rear portion one-room tenements. Have such buildings been provided on the Trust land or none?

A.—I do not know of any.

[Mr. Bharucha subsequently wrote: There are about 1,160 one-room tenements in buildings erected in Schemes I, II, and III by the Board's lessees.]

Q.—If the buildings were partly of two-room tenements and partly of one-room tenements, they would to a certain extent meet the demand?

A.—Certainly.

Questions resumed by the Chairman.

Q.—May I ask you, Mr. Bharucha, whether you can suggest any reason why private owners have not constructed buildings of one-room tenements on Trust land, while, on the other hand, they have done so on Municipal land?

A.—Perhaps it does not pay them on Trust land.

Q.—Has it anything to do with the proportion of a Trust plot required to be kept open, as compared with what is required by the Municipal bye-laws? May it have anything to do with the more rigid requirements of the Trust's rules as regards open spaces?

A.—I do not think it has.

Q.—I just want to ask you two questions which I omitted before. Do you consider that a road is required from Hornby Road to Ballard Road?

A.—Yes.

Q.—What is it needed for?

A.—Both for commerce and for sanitation of Fort North.

Q.—When you say sanitation of Fort North, is it an insanitary area?

A.—The Municipality say it is. In my opinion it is.

Q.—Who will chiefly be inconvenienced by the road?

A.—There will be access to the Docks from Hornby Road.

Q.—The other question that I wanted to ask is this. It has been ascertained that there is room now on the Kennedy Sea Face for a road from Chowpati to Charni Road. Would you advocate construction of that irrespective of any future possible developments?

A.—Yes.

Further questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—You say you want this road from Hornby Road to Ballard Road for sanitary requirements. Do you base that opinion on the representation of the Corporation or on personal knowledge?

A.—On personal knowledge.

Q.—What is your description of an insanitary area?

A.—Houses overcrowded, ill-ventilated rooms, dark rooms, and so on.

Q.—Would you consider an area insanitary if the total mortality of that area was for years, 15 or 22 years continuously, below the average mortality for the whole City?

A.—I would not consider it insanitary.

Q.—Would you be surprised to know that the average mortality of Fort North during the last 15 or 20 years has been always below the average mortality for the whole City?

A.—I am talking about the portion of Fort North close to Gunbow Street.

Q.—You base your opinion upon the Corporation's representation as well as your personal knowledge. Have you got any statistics to show that, as compared with other parts of the City, Fort North is insanitary?

A.—No, I have not.

Q.—If I assured you that the average mortality of the whole City is always greater than the mortality of Fort North, you would not consider it an insanitary area? You would prefer to deal first with parts of the City where the mortality is in excess of the average mortality and till that time you would not touch parts where the mortality is below the average?

A.—Yes, certainly.

Q.—Then you say you require this road for the purpose of commerce at Ballard Pier. You mean the passenger traffic to Ballard Pier?

A.—Yes.

Q.—And for the passenger traffic coming to Hornby Road, you prefer this road?

A.—Yes.

Q.—As regards going to the Docks, how will this road add to the present conveniences and the present facilities? Whom will it serve?

A.—Passengers and persons going to the Docks.

Q.—From what part of the Fort will people come through this road to the Docks?

A.—From the South side of the road.

Q.—Then you think that the road is only required for the convenience of the passenger traffic to and from the Ballard Pier?

A.—Yes.

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Friday, the 28th November 1913.

THE HONOURABLE MR. JAMES P. CHRYSTAL.

Questions by the Chairman.

Q.—I gather from your written statement that you regard the first requirement of Bombay at present to be the removal of the nuisance of the Love Grove Pumping Station and to render possible the colonization of the Worli and Mahim woods fore-shore area. Is that so?

A.—Yes, I think so.

Q.—What class of people do you think would take advantage of that?

A.—I think a great many of the better class of people will take advantage of it and many young men would form chummeries there.

Q.—When you say that, I suppose, you refer to the European population. But my question is with regard to all nationalities?

A.—Besides Europeans, I think, the better class of Hindus will also take advantage of it.

Q.—And you say that the distance is not too great?

A.—No, I do not think it is too great really if there is communication.

Q.—As regards communication, you know the road passing the Villard and leading up towards Worli is being widened, and in addition to that there is Chunam Kiln Road and Gilder Street which are eventually to lead up to Lady Jamsetjee Road in Mahim Woods. Do you consider that those communications will be adequate?

A.—I do not think that the present road that is being constructed through Worli will be sufficient if this place is going to be what it is expected to be. There will be a very considerable traffic going up and down in that case and it is only a 60 feet road as far as I am aware. I do not think the 60 feet road will be sufficient. Ultimately, I think, you will require wider roads.

Q.—If you reserve that area for the accommodation of the better classes, that road will be chiefly used for motor traffic and it will not require a tram line?

A.—No, not that road.

Q.—It was suggested yesterday that in order to render that district really popular for the better class of residents, whether Europeans or Indians, we should probably have to build a loop railway line commencing from Mahim Station and running Westward towards the Mahim Woods and rejoining the B. B. & C. I. Railway at Grant Road?

A.—I think that would be a very good idea. That will serve the purpose of the people in that area provided the Station is not put at a very considerable distance.

Q.—You think that that would specially serve the purpose of the people in that area of the well-to-do class?

A.—I think so.

Q.—If a considerable proportion of the well-to-do classes inhabit Mahim and Worli, what influence will that have on the present areas such as the Wellington Lines, Malabar Hill, and so forth?

A.—I do not think it will make very much difference because Bombay is growing so fast.

Q.—You think it will adequately serve our purpose?

A.—For a considerable number of years I think it will.

Q.—For how many years will that area suffice?

A.—I should say it would suffice for 30 years.

Q.—I do not know whether you have formed any particular definite opinion about the migration of the less well-to-do classes?

A.—I should think they might be located to the Eastern portion of the Mahim and Worli districts. There is a good piece of land between the shore and the railway to the East.

Q.—I am talking rather of the classes who are represented by those earning between Rs. 200 and 700 a month?

A.—Those who are earning less will occupy only the Eastern portion.

Q.—And those still lower in the scale, where do you think they will go?

A.—They will go perhaps to the East of the Railway near Mahim.

Q.—You do not think they will go as far as Salsette?

A.—Not at present, I think. If nice sites are found there, then I should think they would settle down there.

Q.—We were told by a witness the other day that a considerable colony of Europeans has been formed as far North as Andheri. Do you think that indicates a gradual development in that migration on the part of Indians also?

A.—On the part of Indians very probably it will. I think the example of Europeans will be followed by Indians. They are already migrating.

Q.—If that progresses and goes on, will any additional means of road communication be necessary, in your opinion, between Salsette and Bombay Island? At present the only two roads are the two causeways, one at Bandra and one at Sion.

A.—I should think it will be very desirable that there should be another road, perhaps between the two lines of Railway. I think it will become quite necessary.

Q.—Now I come to the third paragraph of your written statement, in which you say that the Cotton Green will soon be removed and that a large area will be made available, and you suggest that any removal or additions to the existing Government buildings might be made on the Cotton Green area?

A.—I think that site is quite suitable.

Q.—I think you include in that a reference to the University. You say “extensions of the Secretariat, High Court or University”?

A.—Yes, I think so. Anything that is dependent on the University. Any new Department such as Engineering, etc., might be sent away up North.

Q.—That depends on your opinion that the University ought not to be removed from its present site?

A.—Yes, the University ought not to be removed from its present site?

Q.—If I suggest to you that it is one of the desiderata—of educational policy, at all events—that so far as possible educational institutions affiliated to the University should be grouped in close proximity to the University, will that modify your opinion with reference to the University extension down to Colaba?

A.—I do not quite follow. There is no space round the University.

Q.—I will come to that directly. But, having regard to the fact that educational buildings ought to be grouped together, do you consider, other things being equal, the area of the Cotton Green to be a suitable site for educational buildings?

A.—Certainly it would be desirable to have the educational buildings grouped together near the University, but there is no land available near the existing University site for doing this.

Q.—Then your proposal to utilise the Cotton Green site for that purpose hangs on your opinion that there is no other land available near the University building and it is on account of that that you advocate the Cotton Green area as the best possible site for the proposed Government buildings?

A.—Certainly.

Q.—Now with regard to the Council Hall and any additions that may be necessary to the Secretariat, is it not inconvenient to have Government offices far away from the centre of activity, such as the place where the High Court, the Small Cause Court, and many of the private commercial offices are situated?

A.—Certainly it is inconvenient, but that land at Colaba is not very far away.

Q.—A good many mercantile people have to visit the Secretariat and would it not be a consideration which would stand in the way of their coming to see one in the Secretariat, if one were a mile and a half further away from the mercantile offices?

A.—I do not think so. We mercantile people have not to visit the Secretariat so often.

Q.—But would you visit it less often if it is further away?

A.—It is only a matter of five minutes in a taxi.

Q.—From the point of view of the public, do you think the removal of the Government offices from their present centre to a considerable distance from the town would be generally approved?

A.—Would it be necessary to move them?

Q.—I want to know whether it would be generally approved if it were necessary. Assuming that there is no space immediately in the neighbourhood for the new Council Hall and for any possible additions to the existing offices, which are badly in need of extension, do you think that there is any drawback in having the offices far away?

A.—I do not think there is any very serious drawback at all. It is a matter of five minutes.

Q.—But other things being equal, would you prefer that they should be retained *in situ*? I want your candid opinion whether it would be preferable to have Government offices near the centre of business?

A.—I would prefer them to be a little nearer, but at the same time I do not think the drawbacks are very great.

Q.—Other things being equal you would rather not have them farther away?

A.—Yes.

The Chairman: I think you have been labouring rather under a fear that the mention of the word 'reclamation' in the orders of Government appointing this Committee has reference to one particular reclamation scheme, and I want to disabuse your mind of that idea. This Committee started work entirely free from any reclamation scheme. There are certain essential Government buildings of which we have had a list drawn up for which space must be found. Is it in your opinion desirable, if there is no space for all these buildings in the neighbourhood close to the University, to contemplate creating such a space by a scheme of reclamation directly for that purpose only? If I may explain further, my question is whether in your opinion it is justifiable for Government for their requirements, if those requirements need it, to enter upon a scheme of reclamation?

A.—In view of there being so many Government offices in this part I think that to effect reclamation simply for the purpose of extending the Government offices would be very desirable.

Q.—Then you think that the circumstances might justify such a reclamation?

A.—Oh, for Government offices alone, certainly. I was under the impression that the large scheme of reclamation which was started by Lord Sydenham was under consideration.

The Chairman: No it is not that scheme that is under consideration. We are tied by no bond of that kind. We only want to consider whether in certain eventualities it would be justifiable to reclaim.

The Witness: I think there could be no serious objection to reclaiming land for the purpose of the proposed Government buildings and in order to bring those new buildings in close proximity to the buildings that are already existing.

Q.—Have you any particular views as to the removal of the St. George's Hospital and as to the proper location of the same?

A.—I think I have stated that a quite suitable place to put it would be near the Hornby Villard in view of the development scheme being carried out in the North. It is again dependent on Love Grove.

Q.—Do you consider that the St. George's Hospital located on the Hornby Villard would be in a suitable locality having regard to its preliminary purpose; namely, the treatment of seamen there?

A.—I think so. It is proposed to put it in Colaba, but that seems to me to be a very out-of-the-way corner having regard to the area of the Island of Bombay. It is a long way from the Docks. It is a long way from Mazagán. It is a long way from the railway workshops. It is also a long way from where a large number of Europeans live.

Q.—Do you think there is any climatic or sanitary objection to its being in Colaba?

A.—I do not think there is any objection of that kind.

Q.—If a site were available within the Fort area, would that be better than the Hornby Villard?

A.—I should like to see it on the Hornby Villard if you propose to develop the North of the Island. If you do not propose to do that I think perhaps it had better be at Colaba.

Q.—You have heard some discussion with the previous witness regarding the thoroughfare between Hornby Road and Ballard Pier. Do you consider that such a road is desirable?

A.—I consider it is desirable.

Q.—On what ground?

A.—It would certainly ventilate that quarter of the town and it would provide a good street for the purpose of office buildings which are much needed. But on traffic grounds I do not think that it is necessary if the widening of the Church Gate Street is taken in hand.

Q.—Supposing such a street is constructed as a thoroughfare, who will be the people who will mostly be benefited by it?

A.—I think as a thoroughfare it will be used more for passenger traffic to the Ballard Pier, and for the usual commercial purposes connected with office work.

Q.—And are those purposes important?

A.—Yes, if it was made a street having good office accommodation.

Q.—There will be a good deal of communication then between the offices located on Hornby Road and those on the new proposed road on the one hand, and the Ballard Pier and the Custom House on the other. Would that be the purpose that such a road would serve?

A.—Yes.

Q.—Would not such a road be good from a sanitary point of view?

A.—I cannot say.

Q.—You do not wish to express any opinion as regards the sanitary aspect?

A.—I have no knowledge as to that.

Q.—In regard to the location of industries, do you consider that it should be laid down as a policy that certain areas should be earmarked for the development of mill industries and offensive trades and callings in future?

A.—I think so, certainly.

Q.—What area do you think preferable for them?

A.—Areas to the East of the railway line, that is, to the East of Improvement Trust Scheme V and in the neighbourhood of Kurla, possibly on both sides of the Railway.

Q.—In fact you would also advocate their being located outside the Island of Bombay?

A.—Yes.

Q.—Do you think their location outside the Island of Bombay would be a handicap to the industries?

A.—I do not think so.

Q.—They will be at a somewhat greater distance from commercial activities?

A.—We are having the cotton trade taken up in that direction.

Q.—Are there any compensating advantages, such as comparative cheapness of labour, etc.?

A.—I should not think so.

Q.—Would there be any difficulty in connection with labour?

A.—I think labour will find its way out there.

Q.—Would you compel the mills to provide accommodation for a certain number of employees?

A.—I think labour would follow.

Q.—You think the demand for labour is not so high in Salsette as in Bombay?

A.—It is, but at the same time I do not think the mills that are out there just now are labouring under any serious disadvantage.

Questions by the Honourable Mr. Sprott.

Q.—You say as regards the St. George's Hospital that a site on the Hornby Villard or on the Colaba Cotton Green would be proper and suitable; though you prefer the Hornby Villard?

A.—I would very much prefer the Hornby Villard site if the Worli and Mahim scheme is going to be put into effect.

Q.—The Chairman mentioned the original use of the Hospital. Would either of those sites be convenient for sick seamen and others employed on the East side of the Island, or would it be desirable to have a separate Hospital for that purpose?

A.—It would certainly suit maritime traffic better to have a separate Hospital.

Q.—Can you suggest any location for such a Hospital?

A.—I have not considered that. I have never considered the question of dividing the Hospital.

Q.—You just now said that as regards trade you would be inclined to place the mills towards the North-East of the Island if possible and that you do not think that there would be any considerable objection from a mercantile point of view?

A.—I think they would forego that objection.

Q.—Do not you think the most important point in connection with that will be the railway facilities on that side?

A.—But it is in view of that that I proposed it.

Q.—Is there a demand for suitable office accommodation now in that portion of the City through which it is proposed to have the road connecting Hornby Road and Ballard Road?

A.—I should think there is.

Q.—With such a road connecting with the Custom House, is there likely to be a further demand for office accommodation in that portion of the City?

A.—I should certainly think so. The commerce of Bombay is steadily increasing and that road would be in a suitable position for commercial offices.

Q.—Would not the Mint Road, with other roads which are at present occupied by a lower class of houses, if improved form a large commercial area in connection with the Custom House and the Banks near by?

A.—Any extension of that kind would certainly be very desirable.

Q.—It has been suggested that the development of offices may tend to oust people from the Wellington Lines.

A.—I would much prefer to see the development of offices on the proposed new road.

Questions by the Hon'ble Sir Ibrahim Rahimtoola.

Q.—In setting aside the North-East part of the Island for the purpose of future industrial concerns, would you prohibit the erection of factories in other parts of the town?

A.—I do not see what other parts of the town are suitable now.

Q.—But supposing people find suitable parts from their own point of view, would you by legislation prohibit the erection of factories in any other parts than those you would reserve for that purpose?

A.—I think my feeling is that way.

Q.—When should this prohibition take place in your opinion? After all the railway facilities are provided or before?

A.—I should think even before.

Q.—That is, even if facilities of railway communication are not provided you would prohibit the erection of factories in other parts?

A.—I should think railway communication will very shortly be provided.

Q.—So that your view is that if those facilities are provided the prohibition will be justified?

A.—I should think people will take up lands for factories close to the railway.

Q.—You would not handicap new factories as against existing factories without adequate facilities?

A.—I do not quite understand what you mean by adequate facilities.

Q.—Adequate facilities means communication by railway.

A.—You have railways.

Q.—You would make that a condition precedent?

The Chairman:—I do not think that is quite a fair question. Mr. Chrystal has already made it clear that he would earmark the area. The question is, even supposing that by limiting the area in which mills are to be located you would slightly handicap the industries, would you still be prepared to earmark the area?

A.—I should, for the good of the greater number.

Q.—You do not think that would discourage new industries being brought into existence?

A.—Not to any great extent.

Q.—From your written statement I see that you advocate removal to the Western districts as against reclamation, under the belief that that would be a less expensive development. Is that so?

A.—I have not gone into the matter very carefully, but at the same time I am of opinion that we should try to utilize the land that already exists rather than create land which does not exist. And I came to the conclusion that probably the land in that direction would be cheaper than a large reclamation scheme which I thought was in the scheme of the present Committee.

Q.—Does it not resolve itself into the relative cost of the different development schemes?

A.—From what was put down as the cost of the land of the large reclamation which Lord Sydenham suggested I concluded that the land in the neighbourhood of Worli and Mahim could be got considerably cheaper.

Q.—So that you advocate this development on the ground that it would be cheaper as between the two?

A.—I believe it should be so.

Q.—You have not taken into consideration the cost of the removal of the Love Grove Pumping Station?

A.—That in any case I think a dreadful thing in a civilized city—such a nuisance as that on the Western sea-shore.

Q.—Do you know that Government are responsible for the location of it?

A.—I have nothing to do with that, but I think it is a scandal.

Q.—In regard to the Ballard Pier and Hornby Road connection you say that it is not at present particularly required for traffic purposes. Is that so?

A.—Yes provided Church Gate Street is properly widened.

Q.—Do you think that the widening of Church Gate Street is necessary because a large number of carriages pass through it?

A.—It is too narrow a street altogether.

Q.—You advocate the construction of this road from Ballard Pier to Hornby Road because it would give accommodation for trade purposes?

A.—It would be a very desirable street for offices.

Q.—Would you advocate expenditure of a heavy sum of money in order that space may be made available for private firms?

A.—I have no knowledge of what the cost would be. I cannot give an opinion on a matter of that kind.

Q.—Who do you think should pay the cost, whether in whole or in part? Should the cost be borne wholly by one body, whether the Municipality, the Port Trust, or Government, or should it be borne by more than one of those bodies jointly?

A.—Is the idea to make this street at public expense?

Q.—What would you advocate?

The Chairman.—Sir Ibrahim merely wants your opinion as to whether it is worth while incurring the heavy cost to secure these advantages and who should pay that cost. *Prima facie* it would be for the Municipality to make such a street and provide for it unless some other arrangement were made, and the question at issue is whether the Municipality or any other public body is so interested in this street as to justify incurring heavy cost for that purpose.

The Witness.—It really is a matter of relative expense. I do not think that the street is absolutely necessary. If Church Gate Street is widened, it is not absolutely necessary for traffic purposes, but it would be a good street to have and it depends upon what the cost would be and whether it is worth incurring that cost or not.

Q.—Assuming for the sake of argument that the cost is heavy, do you think the State would be justified in incurring that cost to provide sites for offices?

A.—Not if it is really prohibitive.

Q.—Confine the object merely to provision of offices, putting aside all other advantages. Supposing that was the sole advantage, would you still advocate it?

A.—It would certainly mean that other streets would grow round about it.

Q.—Therefore in making this road you would want several other roads to be made in the vicinity?

A.—Offices would grow in the vicinity of these other roads.

Q.—And therefore when we are considering the cost of this road we are also considering the cost of the other adjoining roads which would meet it. Supposing the advantage was merely the provision of sites for offices, do you think that heavy expense or any expenses would be justifiable, assuming that to be the only advantage, *viz.*, the provision of sites for offices? Would you still spend money on that road?

A.—For the street itself it perhaps might not be absolutely necessary.

Q.—Then other advantages are the convenience of passenger traffic?

A.—It would be a convenience for passenger traffic—passengers driving to the new Dock which are opening there and for the mail and other steamers.

Q.—Passengers from Ballard Pier who want to go to Hornby Road?

A.—It would be useful to passengers.

Q.—May I know to what people having offices or residences in each part of the Fort this convenience would be suitable or would be advantageous in getting to the Docks?

A.—It will be convenient to all people coming from the Custom House and all those public buildings in the neighbourhood of the Docks. It would also be convenient to the people occupying the quarters between Church Gate Street and Bori Bunder.

Q.—Taking Church Gate Street into consideration, do not you think the present arrangement is quite good enough for getting to the Docks?

A.—You are asking me a relative question as to whom it would serve, and I say it will serve the people between Church Gate Street and Bori Bunder.

Q.—In Fort North how many offices are there?

A.—There are a great many offices in that part. The Mint Road also is likely to become a street for offices.

Q.—In how many years?

A.—It depends on how you are going to develop that land.

Q.—Would you develop that area even if it costs over Rs. 200 a square yard?

A.—I am really not sufficiently acquainted with these matters.

Q.—You have already said that, and therefore I won't ask you any question about its desirability for traffic purposes. You say it is not essentially necessary for traffic.

A.—Yes.

Questions by the Chairman.

Q.—In your opinion would the widening of Church Gate Street render this road which we are taking of wholly unnecessary?

A.—Well, of course, it is a matter of expense. It is a question I am not competent to answer. For traffic purposes I think it is pretty well unnecessary. But the new road will be a good one from the commercial point of view.

Friday, the 5th December 1913.

S. M. EDWARDES, Esq., C.V.O., I.C.S., COMMISSIONER OF POLICE, BOMBAY.

Questions by the Chairman.

Q.—Have you any specific modification to suggest in the scheme for the provision of three main arterial communications between the North and South of the Island specified in the orders of 1909?

A.—No, I have none.

Q.—Do you consider that they will suffice for communication between North and South, or do you think that they should be supplemented by any additional road?

A.—I think these three are sufficient.

Q.—Do you think that any supplementary North and South communication may become necessary if Mahim and Worli are developed as residential areas for the wealthier classes?

A.—No, I do not think so.

Q.—The road from Dharavi across the Vellard and Worli and Mahim Woods is being widened, but only to 60 feet. Do you think that will suffice for the residential area?

A.—Yes, I think so.

Q.—Are you of opinion that the present East to West roads will be sufficient to provide communication with the new Port Trust Grain and Cotton Depôts that are under construction? In replying to this you may consider that the road from Sewri through the grounds of old Government House, Parel, has been constructed and the Victoria Road widened.

A.—Yes, I think it ought to suffice for communication when the new Port Trust Grain and Cotton Depôts are constructed.

Q.—What is your opinion as to the necessity for a road from Hornby Road to Ballard Road between the area bounded on the North by the Victoria Station and the South by Church Gate Street?

A.—I think that is a very good suggestion. The present road, *viz.*, Church Gate Street, is very narrow. Hornby Road is the chief centre of business and I think it would be better to have the proposed road.

Q.—What class of people would specially be benefitted by that road?

A.—The business offices of all sorts and the agents of Companies. That road will afford intercommunication between the business houses on the Ballard Road and those on the Hornby Road.

Q.—Is that a matter of daily necessity—an intercommunication between Ballard Road and other business premises?

A.—Not of daily necessity. But I think it will not be a bad plan to have a straight road between the Frere Road and Hornby Road.

Q.—Do you consider that desirable more from the point of view of the provision of a much-needed thoroughfare for traffic, or would you provide that new road for frontages for offices only?

A.—I think it would be useful for business frontages.

Q.—You know that Church Gate Street is very much congested. Would a widening of Church Gate Street do away with the necessity of such a road East and West?

A.—I think it would, if Church Gate Street were sufficiently widened.

Q.—You do not think it desirable from the point of view of sanitation as regards that particular area?

A.—That is a matter for the Health authorities to speak of. It is one of the oldest portions of the Fort and from that point of view it might be desirable to have it.

Q.—In the formulation of the scheme of the three roads North and South was due consideration had for the necessity for the restriction of the development of industries to any particular part of the Island?

A.—All I remember is that in Improvement Trust Schemes V and VI there was land set aside for the development of industries.

Q.—What is the place you would like them to be located in?

A.—I think they ought to be on the East of the Island and in the North.

Q.—Would you recommend that we should even contemplate the location of industries—and especially perhaps industries such as tanneries and dye-works—outside the Island of Bombay altogether, that is, in Salsette?

A.—I think so, certainly, if it is possible.

Q.—Supposing such a decision were come to, do you think it will handicap the new industries, or say new mills in competition with the existing mills?

The Witness—In regard to getting labour or in regard to moving goods, etc.?

The Chairman—I mean in regard to business facilities and clearing goods and so forth.

A.—I think it is possible they might not be well situated unless railway facilities were afforded.

Q.—You know there are now railway facilities afforded by the Port Trust Railway.

A.—I do not feel quite certain about it.

Q.—Would there be any great difficulty in obtaining labour? In considering this question you may assume what is usually the case, *viz.*, that a certain proportion of labourers would have to move near the mills.

A.—I do not see what objection labourers would have to live in Salsette.

Q.—So far as you know there is no difficulty about that in the mills at Kurla?

A.—I have not heard anything about it.

Q.—Assuming that Salsette develops considerably both industrially and residentially, will the present two causeways suffice for communication between the two Islands?

A.—I think they will have to be widened. I think the Sion Causeway is too narrow.

Q.—In the natural course of events where are the different grades of society likely to migrate in search of residential quarters? Assuming, as the case now is, that Malabar Hill is more or less filled up and there is no room on the Apollo Bunder, where do you think the wealthy classes would desire to live?

A.—I think somewhere on the west of the Island, that is to say, Worli and Mahim Woods.

Q.—When you say that you are assuming, I suppose, that the Love Grove Pumping Station ceases to be a nuisance?

A.—Yes, I should think so.

Q.—Do you consider that the wealthy classes will be willing to go to Salsette and so forth?

A.—A certain number of them have gone there already. But I fancy that men who have business in Bombay find it rather trying to leave their offices at half past seven and arrive home late and I think they would prefer to remain in the Island.

Q.—Supposing Mahim and Worli were developed and were free from nuisance, do you think people would go there?

A.—I think so. My impression is that the flight to Salsette was through plague. But, I think, if they are enabled to find places where they could build on the West of the Island they would build there.

Q.—Some might come back from Salsette if they find places in the Island?

A.—Yes.

Q.—Will the existing communication of a 60-foot road in addition to the DeLisle Road suffice for a developed Mahim area?

A.—Yes.

Q.—Wealthy people will presumably travel there by motor?

A.—Yes.

Q.—Take the less well-to-do classes, what are called the middle classes—that is to say, people drawing Rs 100 to 150 a month and upwards, up to Rs. 600. What will be the direction of the migration of these less well-to-do classes, assuming that development goes on,—that is to say, that the Improvement Trust develop some areas, and assuming that other areas will be available in the North of the Island?

A.—It is difficult to say, but, I think they probably might go towards Dadar and Sion and Matunga—Parel and Northwards.

Q.—Have you formed any opinion in regard to the location of office accommodation?

A.—It must always be in the Fort.

Q.—What do you think is the tendency of expansion?

A.—I fancy unless more accommodation is provided in Fort North at present offices will grow Southward.

Q.—Would that be the natural direction?

A.—That is where they like to be. They would like to extend to Fort North; but, under present circumstances they might go South.

Q.—You have seen the list of Government Buildings that are necessary. The only sites available for the provision of such buildings are the Maidan, the Oval, the Cooperage, the Kennedy Sea Face, and the Cotton Green. Would you recommend a departure from the hitherto fixed policy of not trespassing upon any of the space referred to, with the exception of the Cotton Green?

A.—I would not build upon them.

Q.—There are certain institutions which might be moved, such as the Secretariat, the University, the High Court. Are any of these Institutions such as you would recommend being moved elsewhere?

A.—I would rather not move them.

Q.—You do not want to build on any available space, and you know that Government require space for these buildings. Then do you recommend that Government should acquire other buildings for providing space for these buildings?

A.—Yes.

Q.—I want you to disabuse your mind of any idea of the Reclamation scheme. I want your opinion as to where it is possible to put them if Government want to find a place which it cannot find at present?

A.—Personally I see no harm in a reclamation which will permit of a decent space round Back Bay being set free and having a proper road round the sea-face. I do not think enough is made of the Back Bay foreshore at present.

Q.—You think it might be justifiable to reclaim for this purpose?

A.—Yes, but it will be costly of course.

Q.—Do you prefer that to acquiring other buildings?

A.—You have to provide for the necessary buildings. People dispossessed of their buildings would have to be provided for. *Prima facie* Government will have to pay the cost for providing them. Business firms occupying the buildings likely to be acquired will have to find places elsewhere. What I mean is that that might lead to still further need of space. That is a question that depends on finances entirely.

Questions by the Honourable Sir Pheroze Shah Mehta.

Q.—Mr. Edwardes, you have almost unrivalled knowledge of Bombay. You have been Police Commissioner for 4½ years. You have been on the Corporation for a certain number of years, and you have acted as Municipal Commissioner and have served for a short time in the Improvement Trust. In all these capacities you must have a very large knowledge of the city of Bombay. Is not this question about the migration of different classes of people to different quarters more or less of a speculative character?

A.—Yes, it is. I admit that, and as you know the general public of Bombay does not like moving.

Q.—You know very well that different communities like to congregate in one locality, because their common needs are supplied properly if they are together?

A.—Yes.

Q.—Could not some relief be found by moving a large number of employees who work in the Railway workshops and the Docks and who after their work is over are spread throughout the town to localities just outside the town? Major Hepper the other day said that the G. I. P. Railway employ 7,000 men, and the B. B. & C. I. Railway also employ a large number of people. All these people have their families. Would it be good for these large Companies to provide accommodation for them?

A.—Yes.

Q.—In cases of strike would not the mills be at a great disadvantage in getting temporary people to come to work if they are situated at a distance from the centres where the working classes are living?

A.—I do not know about that. So far as getting people to work I do not think the mills would be more at a disadvantage than now.

Q.—Would the mills situated to the North-East get workmen quite easily in cases of strike?

A.—It might be so.

Q.—Would there be any difficulty in case of a strike if the mill-hands of that particular mill were living in quarters supplied by the mill?

A.—That is rather a matter for the Agents to speak about. They have to call in the Police in case of strikes and they always do it.

Q.—Do you think that the trade of the town should pay towards all these various improvements? You know that the cost is increasing year by year and so should not the Port Trust be asked to pay towards the Improvement?

A.—If the Port Trust admitted that trade benefitted no doubt the claim would be a reasonable one.

Q.—As to the road from Ballard Road to Hornby Road, you remember that the Municipal Corporation represented to the Improvement Trust that Fort North should be taken in hand?

A.—Yes.

Q.—They pressed it upon the Improvement Trust more than once, and may I ask you if you know that the reason why the Improvement Trust did not take it up was because the cost was large?

A.—I do not remember that.

Q.—If that was so, do you think that that road joining the Ballard Road and the Hornby Road should be constructed notwithstanding the fact that the cost would be heavy?

A.—It would be costly.

Q.—Would the traffic which you mentioned be commensurate with that cost?

A.—It is difficult to say.

Q.—You would not push it through if it were not commensurate with the cost?

A.—I think there is a feeling that there ought to be a connecting road between Frere Road and Hornby Road. One feels that there ought to be a road there.

Q.—The proposed road connecting the Ballard Road and Hornby Road is likely to be used by those going to the Ballard Pier from Hornby Road. So that after all it is not a considerable amount of traffic that would be diverted that way.

A.—No, possibly not.

Q.—I want to ask you one question about Queen's Road. Have you ever seen Queen's Road blocked as London streets are? Of course the only time when it is somewhat crowded is between 6 and 8 o'clock, Standard Time.

A.—That is because the people who live on Malabar Hill go to their homes from their offices. But it is not crowded in the way that London streets are crowded.

Q.—There is no stoppage of carriages on that road?

A.—No.

Q.—On one side of that road there are burial grounds, and I suppose you know that there is no possibility of getting the burial grounds removed?

A.—The Corporation has discussed that question and there has always been a very great difficulty about it.

Q.—Even if there were no reclamation, would you recommend a road there outside beyond the railway line?

A.—I do not think there is room for it unless you do away with the railway line.

Q.—You know very well the Corporation pressed Government very much about the removal of the Love Grove Pumping Station, but that for reasons of their own they have not thought it possible to remove it. What is your opinion about it? Do you think it ought to be removed irrespective of the question of cost?

A.—I think it would be a good thing to remove it.

Q.—You are aware that it is proposed to remove the St. George's Hospital and it is proposed to put it on the area at present occupied by the Cotton Green. Do you think that will be a good site for the European General Hospital?

A.—I do not think that that matters much. It will be near the Fort and the Docks.

Q.—What do you say to the suggestion that was made by Mr. Justice Heaton that it should be divided into two parts, one for the sailors near the Docks and the other near the Marine Lines?

A.—I think it would be better to have it under one roof.

Q.—Could you tell me what is the general European sentiment about it?

A.—I have not heard anything about it.

Q.—If the European General Hospital were not removed to the Cotton Green, what would you think about that site for the Secretariat?

A.—I think the outlook there will be bad.

Q.—Do you think the Secretariat ought to be near the business quarter?

A.—I think the situation of the Secretariat at present is as it ought to be.

Q.—Was it not a pity that the Wellington Mews should ever have been allowed to be built on its present site?

A.—Yes, I think it is a splendid site.

Q.—That might have been used for some of these purposes, *viz.*, the educational and other Government buildings for which sites are needed?

A.—Yes, possibly.

Q.—Take the Public Works Department next to the High Court. That building might be given up for educational purposes. Is there any harm in removing the Public Works Department to the site of the Wellington Mews?

A.—No, provided that you could accommodate all those offices there.

Q.—You would not remove the great land-mark of the City, the University, with the College of Science rising up near by?

A.—I should try and keep them if possible where they are.

Q.—Will there be any difficulty in moving the Secretariat from its present site? It will be a great advantage for the Elphinstone College because if the Secretariat is removed its records which are occupying a portion of the Elphinstone College will also have to be removed.

A.—I would prefer Government to acquire another building and place the Secretariat records there.

Q.—What do you say about motor buses so far as the traffic in the city is concerned?

A.—I do not think I care much about motor buses.

Q.—From the Police Commissioner's point of view what do you say?

A.—I should be inclined to postpone introducing them until there is necessity for them.

Q.—In London they are in use?

A.—Yes; but I do not think it will be good to have motor buses running through Bombay at the present moment. I think they would be a nuisance.

Q.—You know that travelling by tram takes a very long time?

A.—Yes, but it is safe.

Questions by the Honourable Mr. Spratt.

Q.—We have several suggestions made as regards Railways; first in connection with possible extensions to Worli it was suggested that it would be a very great advantage to construct a loop line underneath Worli Hill coming back to Grant Road. Do you think the class of people who would be likely to move to Worli would make use of such a railway?

A.—No. I think they would use motors.

Q.—Their migration there might be followed by other large migration to the West. Would it not tend to the development of that area?

A.—Yes, I think so.

Q.—Then there is a proposal to remove the B. B. & C. I. Railway long distance traffic to the Victoria Terminus and do away with Colaba station. Do you think it will be any hardship to people if Colaba Station is done away with altogether? Do you think it would be too far for people to come to the Victoria Terminus?

A.—No, I do not think so.

Q.—In that case the railway line along the Queen's Road would either be purely for local traffic or might be removed, some other line being substituted?

A.—Yes.

Q.—It has been also suggested by Major Hepper that it would be a great convenience if that line were made an overhead line across Queen's Road, passing through the Native Infantry Hospital and coming along the side of Esplanade Road. What is your opinion about that idea?

A.—I think it is an extremely novel idea.

Q.—You know that thereby you will have free access to the shore?

A.—In that way it would be a distinct advantage.

Q.—Do you think that will satisfy the needs of Bombay for local traffic?

A.—I should think it ought to.

Q.—The local traffic at Colaba is 5,000 to-day and the number coming to Church Gate is 17,000?

A.—They will have to catch trams at the Old General Post Office.

Q.—But so far as you think now, what is your real objection to run it along the Esplanade Road?

A.—It is a novel idea and it would be very difficult to say that there is any objection to it.

Q.—A site for the European General Hospital at Gamdevi or Chaupati, and for a separate Hospital for Dock people, somewhere near Frere Road, has been suggested.

A.—It would be rather too far away for people who will be patients in it.

Questions by the Honourable Sir Ibrahim Rahimtulla.

Q.—Do you not think that Gamdevi or Chaupati would be very central for the population on Malabar Hill, Colaba Reclamation, and the Fort?

A.—Malabar Hill people do not use the Hospital.

Q.—Are you in favour of providing recreation grounds in congested areas?

A.—On general principles, yes, certainly.

Q.—And if it is not financially possible to provide big plots you would provide small areas for children to play upon?

A.—Yes, certainly.

Q.—In regard to East and West communications and the making of the Sewri Road and widening of the Victoria Road, do you think these facilities when provided would appreciate the value of the property vested in the Improvement Trust?

A.—Yes, I believe so.

Q.—As regards the question which Sir Pherozshah asked you, that the Port Trust should contribute towards these schemes, do you remember that the Improvement Trust Scheme III was undertaken at the suggestion of the Port Trust? Do you know that that Scheme contemplated an expenditure of 16½ lakhs, including an overbridge over Wadi Bunder Railway, and that it was intended to be a 60-foot road, the Railway to undertake the construction of the overbridge, the Port Trust to contribute half a lakh and 8 lakhs to be found by the Municipality?

A.—I have forgotten the details.

Q.—You would recognize that it is reasonable that trade should contribute towards communications directly benefiting trade purposes?

A.—Yes, I suppose it would be a sound principle assuming that the facts were so.

Questions by Sir Bhalchandra Krishna.

Q.—You have already said that Gamdevi could not be convenient as a site for the European General Hospital. Are you aware that that site would be unfit from a sanitary point of view?

A.—I am not certain about that.

Q.—Do you know that on the Chaupati Estate there are bungalows belonging to the Police in which Police Superintendents used to live and they often got malarial fever. I want to know whether you are aware that that site was very malarious in the commencement and whether such a site would be suitable for the Hospital?

A.—I do not remember anything about it.

Q.—As regards the removal of the mill industry towards the North of the Island, do not you think that there should be good communication between that part of the Island and the main City?

A.—No, because the people working in the mills have nothing to do with the City.

Questions by Mr. B. W. Kissan.

Q.—You know that the Railway passengers getting down at the three Stations on the Queen's Road come out on the Road without any sort of pavement or shelter and emerge in the middle of traffic. Do not you think that that is a serious inconvenience to passengers?

A.—Yes, I think it is. They are very badly built. There ought to be some sort of approach.

Q.—And has that led to accidents?

A.—No, not so many as you would suppose.

Questions by the Chairman.

Q.—It has been suggested from other sources that there might be some advantage if the European General Hospital, when removed, were located at Parel and possibly if necessary a separate Hospital were provided somewhere near the Docks for urgent cases. You said that its removal to Gamdevi would not be advantageous for the people who use it. I think the same remark would apply to its removal to Parel.

A.—Yes.

Q.—Do not many patients come there from mills and railway workshops and so forth?

A.—I should say that that site would be rather far off.

Q.—Assuming that the Railway remains and assuming that we want to do something at once to meet the demand for making Queen's Road more amenable, would you be in favour of construction of a 40-foot road for carriages only without disturbing the present road?

A.—Yes, provided that you would allow the retention of both.

Q.—I am assuming the retention of both.

A.—Yes, I am in favour of that proposal.

Q.—Would you limit it to certain classes of traffic?

A.—I would limit it to the upper class of traffic. It ought to be limited either to motor or horse traffic.

Q.—Supposing you do not and supposing you allow horse traffic on the 40-foot road, would that in your opinion do away with the certain amount of accidents on the Queen's Road.

A.—Yes, but I think Queen's Road is very free of accidents.

Q.—It might be a good thing to have horse traffic on another parallel road.

A.—Yes.

Q.—And would you advocate that without any other development at all?

A.—Yes, I should think so.

Sir Pheroze Shah—Would you not have to build an overbridge?

The Witness.—No. The people using the road would not mind driving to Wodehouse Bridge to get on to the new road.

Questions by the Chairman.

Q.—What is your opinion about the location of dairies in Bombay City? Would there be any advantage in removing the dairies from the Island of Bombay altogether and having milk inspection?

A.—I think it would be a good thing, provided there are reasonable facilities for bringing milk in.

Q.—And would it set free an appreciable amount of space?

A.—I do not know the number of cattle sheds, but I do not think it would make much difference.

Q.—A question was asked you about a possible handicap to mills in the event of strikes. You may have had some Police work in connection with that. Now in relation to the development of Bombay have you got any scheme for centralising your forces in other ways?

A.—Yes, we have made arrangements for three main Stations in the North of the Island and sooner or later we shall have to put an extra Deputy Commissioner there and divide up the Island. He probably will have to control the area north of Parel.

Friday, the 5th December 1913.

J. F. WATSON, Esq., A.M.INST.C.E., ENGINEER, CITY IMPROVEMENT TRUST.

Questions by the Chairman.

Q.—Mr. Watson, the first paragraph of your written statement confines itself chiefly to the suggestion that the Municipal bye-laws should be altered so as to give greater powers and control to the Municipality over methods of erection and so forth in regard to future construction. Can you indicate what are the existing powers of the Municipal executive?

A.—The chief thing that is necessary is to get, as I have said in the second sentence of that paragraph, the power to control the development of building estates. Before the buildings are erected the Municipality should approve of the development plan of the building estate.

Q.—You mean rather that the Municipality under the bye-laws should have powers such as would be conferred by a Town Planning Scheme?

A.—Yes. Practically all the Municipalities in England have bye-laws under which an owner of a building estate must submit his plan before he can start his building at all.

Q.—At present what powers has the Municipal Commissioner in this connection?

A.—So far as I can see, none.

Q.—He can refuse a license to build, can he not?

A.—Yes, under special circumstances. If the ground is too low he can, but not in the ordinary way, if it is sufficiently good ground and access to it is provided.

Q.—He cannot require plans to be submitted for the building?

A.—He can require floor plans and sections to be submitted but he is not able to require elevations and plans showing the developments of the site with reference to the surrounding buildings both on the owner's own land and that of his neighbour's, and so far as I know building owners object to supply these.

Q.—What you want is the amendment partly of the building bye-laws and partly of the ordinary bye-laws relating to building estates. Could you kindly give us a reference to some clause of the English bye-laws relating to that subject? Possibly, you may not be able to give it at the moment. I quite see the points you indicate in the first paragraph, but what would help us, I think, would be some indication of a precedent of a Municipal bye-law?

A.—Yes, I think I can.*

Q.—Then leave that subject for a moment. In the event of the Town Planning Act becoming available, would you apply it broadcast to Bombay City? From the second paragraph of your written statement it is not quite clear.

A.—No. I would apply it to specific areas.

Q.—And would you advocate, in applying it to specific areas, making a particular body the local authority, for instance the Municipality or the Improvement Trust?

A.—Well, I think it matters very little whether it is the Municipality or the Improvement Trust.

Q.—I see that you advocate making a road from Worli along the Worli Road, the Vellard, and so on up to the Mahim Woods, at least 80 feet wide and wider if possible. At present it is widened up to 60 feet. You regard that as inadequate?

A.—For the purpose of facilitating traffic we ought to have wider roads.

Q.—You don't think 60 feet would be wide enough?

A.—I don't think so; 20 feet at least ought to go in a foot-path.

* Mr. Watson subsequently wrote: The bye-law on which practically all the municipal authorities base their bye-laws in this behalf is No. 92 of the model bye-laws issued by the Local Government Board for the guidance of the local authorities in making bye-laws, an extract from which reads as follows:—

"Such person shall at the same time deliver or send, or cause to be delivered or sent, to the Clerk of the Council, at his or their office, or to their surveyor at his or their office, a block plan of such building, which shall be drawn to a scale of not less than *one inch* to every *forty-four feet*, and shall show the position of the buildings and appurtenances of the properties immediately adjoining, the width and level of the street in front, and of the street, if any, at the rear of such building, the level of the lowest floor of such building, and of the yard or ground belonging thereto."

It is necessary however to remember that this bye-law is used in conjunction with many other bye-laws requiring conformity with various rules for the construction and ventilations of buildings, construction of roads, and the general lay-out of estates, and when read in conjunction with these various other bye-laws gives the local authority a very strong hold over the building owner, so much so that it is found that the building owner in England in his own interest and to save trouble and worry complies with the requirements, some of which could not legally be enforced, in order to save himself trouble and expense.

Q.—Supposing a Coast Road were made somewhere South of the Pumping Station (going on outside the Coast or even taking in the foreshore of Mahim), would that meet the purpose?

A.—If you construct two roads like that, you could reduce the width of the road I propose to 60 feet.

Q.—That is to say, other things being equal, a 60 feet road would suffice, provided you had some other road to take traffic further on the foreshore?

A.—Yes.

Q.—Then you give several reasons against reclamation. I see you qualify those reasons by saying "the above remarks do not apply to any reclamation made and paid for by the Government for the provision of sites for Government purposes." Now in regard to that, have you formed any opinion as to the possibility of moving institutions such as the High Court, the Secretariat, and so forth from their present locality?

A.—Well, personally I think the Government Offices should be as near as possible to the centre of the capital. I would rather not remove them unless it is absolutely necessary. As regards Colleges, the University, and everything else connected with education, I think that these institutions should not be inside the City.

Q.—Do you know the recent tendency of Universities in England, for instance the Birmingham University?

A.—I do not know much about the recent tendency of Universities in England, but it seems to me that the University ought to be in such a place that it would be absolutely removed from the turmoil of the business life of the City. I do not mean to say it should be taken quite away from the City, to Khandala, Lanowli, and so on. There should be large open spaces for recreation grounds, etc.

Q.—We have the Wilson College, St. Xavier's College, and the Elphinstone College, and other Colleges are being built or may hereafter be necessary, such as the Science College, an Engineering College, a Ladies' College, and so on. Would you transport these bodily to some place in the North or would you go outside Bombay Island?

A.—No. If you make a reclamation North of the Military Station at Colaba, you could give them a site there. I would not advocate removing them to far off places such as Khandala, Lanowli, etc. I would have no objection to reclamation if you are making one to give them a site.

Q.—Then I misunderstood you. I thought that in any case you would, by personal preference, have these institutions removed from the centre. Reclamation would not take them away from the centre, would it?

A.—Yes; it would take them away from the business centre. I would have a small reclamation to the North of the Military Station at Colaba.

Q.—You would not go further than that?

A.—No. If there is reclamation on a sufficiently large scale, the buildings might be erected on the reclamation; otherwise I should take them right to the North of the Island.

Q.—Now I take it that all your advocacy for the development of Mahim Woods, Worli foreshore, and so on, is based on the assumption that the Love Grove is no longer a nuisance.

A.—Yes.

Q.—Have you formed any opinion, supposing the scheme of the Municipality proves a success, that is to say, it removes some, at all events, of the nuisance, involving as it does the extension of the sewage outfall at Love Grove further or deeper into the sea, whether the mere presence of the outfall works, if the nuisance is removed, will form a deterrent to the development of the Mahim District for residential areas?

A.—I do not see any reason why it should. I think the municipal proposals will be successful.

Q.—You don't think that any subsidiary measure would be necessary?

A.—I do not think it is necessary, because I think the sewage would go right into the sea.

Q.—Under the present scheme you believe that it will be a success, and all your recommendations are based on that assumption?

A.—Yes.

Q.—What would you do with the Pumping Station? Where would you move it?

A.—I do not see exactly where it could be moved. It is no worse in its position than anywhere else, except perhaps at Colaba.

Q.—You don't think the idea of removing it North, into Salsette, a very good one?

A.—No.

Q.—May I ask why?

A.—In the first place any such scheme would be far too expensive and in the second place I do not consider that it would be effective.

Q.—Would that be the case if the effluent were treated bacterially?

A.—I think it would be extremely difficult to treat Bombay sewage bacterially because there is too much trade refuse and waste from dye works and other textile manufactures to make it treatable unless such trade wastes were removed.

Q.—Has it not been done with some success in some parts of the world?

A.—Yes, it has been done with some success where the trade wastes have been first removed.

Q.—In one of your paragraphs, on play grounds, you express the opinion that “apart from the strengthening of Municipal bye-laws with a view to obtain a greater area of open space round individual buildings the best method of improving the healthiness of the population is by the provision of wide tree-planted thoroughfares”. Well, do you know what the East and West communications proposed are?

A.—Yes.

Q.—Do you regard them as likely to prove adequate if Worli is developed as a residential area and the Mahim Woods are colonized? Will the proposed East and West communications from the point of view of providing thoroughfares be sufficient?

A.—As a matter of fact, for that purpose they are not wide enough.

Q.—None of them are wide enough?

A.—No.

Q.—What are you doing in the Kingsway Scheme?

A.—We are running a 100-foot road East and West from the King's way.

Q.—Is that the only one?

A.—No. There is another 60-foot road being laid down in continuation of that from the level crossing near the Mahim Chord to King's Circle but it is insufficiently wide for the purposes of a park way.

Q.—Now what is your opinion about the location of St. George's Hospital being removed?

A.—I think it would be a good idea to have a small emergency Hospital somewhere near the Docks for accident cases and so on. It would be very useful for sailors, etc. And we should have another Hospital in some other quiet and healthy locality. I do not think the question of distance really matters much. If the distance is great motor ambulances may be used.

Q.—What do you think of Gamdevi as a site for the Hospital?

A.—I do not like Gamdevi because it is much too shut in. We want some area where we can get plenty of air and light.

Questions by the Honourable Sir Pheroze Shah M. Mehta.

Q.—You say you want plenty of air and light for a Hospital. You are quite right. Now you know in the North of Marine Lines there are several military buildings. What would you say to a site there?

A.—There is one Hospital there already belonging to Government.

Q.—Supposing Government give it up, do you think it would be a good site?

A.—Yes, I think it would be a very good site if it were large enough.

Q.—You know that the Municipality has at present the power to make building bye-laws with the sanction of Government and they can enforce all these bye-laws on persons constructing or reconstructing buildings. Beyond improving those bye-laws, what is it that you suggest?

A.—Well, you could I suppose legally make bye-laws. You could make almost any building bye-law. I only want the building bye-laws improved materially. They are far too weak at present.

Q.—Is there much difference between the existing bye-laws of the Municipality and those of the Improvement Trust? We are amending them now, but, leaving those alterations alone, in what respect do the Municipal bye-laws compare unfavourably with the Trust bye-laws?

A.—They compare very unfavourably. So far as the Trust is concerned, they insist upon an open space according to the 63½° rule being left at the back of any building.

Q.—You know the present bye-laws do make provision for open spaces?

A.—Yes, I know they do, but I think they are quite insufficient.

Q.—So you want them improved, but beyond that is there anything you suggest which we should do?

A.—Well, the bye-laws should be strengthened materially.

Q.—I see in the second paragraph of your statement that you recommend a Town Planning Scheme for various purposes. You think it would be a very desirable thing for opening up the Mahim Woods?

A.—Yes.

Q.—What is your opinion about introducing motor buses in the City?

A.—I think it would be a very good thing to have them, if we had good roads. On certain roads buses could be used with advantage.

Q.—What roads would you consider suitable?

A.—Reay Road, Frere Road and some other roads.

Q.—You don't think Esplanade Road would suit?

A.—Oh yes, that would suit.

Q.—You think Esplanade Road as far as the Floral Fountain would be all right?

A.—Yes. Queen's Road would do also, as long as the traffic is not too large. It all depends very much on traffic regulation.

Q.—The most valuable part of your statement is paragraph 4, where you speak of reclamation. The second reason you give is that it will have an adverse effect on the financial position of the Improvement Trust. Now Mr. Orr did hint that there would be some such adverse effect?

A.—I do not remember that. I quite agree with it if he did say so.

Q.—And don't you think, Mr. Watson, that it would have the same adverse effect with regard to other properties than those of the Improvement Trust?

A.—Yes. Possibly the Port Trust.

Q.—We are doing a great deal for improving the City and the trade of the City brings in an immense income into the coffers of the Port Trust. Don't you think it is reasonable that they should contribute to the City improvements, because we are largely doing these things for the development of the trade of the City?

A.—I think it would be reasonable, but are the Port Trust not already taxed?

Q.—If we are incurring expenditure for the trade of the City—and the coffers of the Port Trust are not depleted, they make an immense revenue by the development of trade which is brought about—would it not be fair to ask them to contribute?

A.—I do not know whether it would be reasonable to ask them to contribute anything except ordinary taxation such as Municipal taxes.

Q.—Don't you think they ought to contribute something besides what they do in the way of House Tax and Municipal rates, bearing in mind that the Port Trust have recently issued a Report of a record year? They make a lot of money.

A.—I do not think they should, as the City would not exist except from its trade and its trade would not exist except for the Port facilities provided by the Port Trust. The money they make goes towards the further improvement of the Port, and the improvement of the Port will increase the improvement of the trade of the City.

Q.—Now, Mr. Watson, the only other thing on which I want your opinion is on the removal of the University and the educational buildings. Where would you remove them?

A.—I suggest a small reclamation to the North of the Military Station at Colaba and would remove them there. That would give the necessary calm and quiet which should prevail in connection with educational institutions.

Q.—One more question, Mr. Watson. Did you read a recent address by Lord Haldane as Chancellor of the University in which he said that the new idea is that the civic University should be in the midst of the turmoil of business life?

A.—I did not read that. I do not agree with that idea.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—You say that reclamation would depreciate values of land belonging to the Improvement Trust?

A.—No, I don't think I have put it that way. What I mean is that a Reclamation would depreciate the annual return from land owned by the Improvement Trust. This is not the same as depreciating the value of land. It means that the Trust would have to wait longer to get the money for their land. It would also affect the Port Trust and private owners in the same way.

Q.—In what way would it affect adversely the Improvement Trust, the Port Trust, and private owners?

A.—You have a certain supply of land to sell. If another man comes in and offers some of his land, some people will lose by reducing the amount of money you can possibly get.

Q.—You cannot sell land if there is reclamation at rates that you otherwise would get if there is no reclamation?

A.—No. What I mean to say is that reclamation will probably depreciate the amount of the return from residential land.

Q.—With regard to land for residential purposes, it will depreciate in value; but don't you think it would be a good thing in the general interests of the City if land values depreciate and affect the present high rents?

A.—I do not think the land values have any particular bearing on high rents.

Q.—That is to say, people would pay the same rent if the land was worth Rs. 200 or Rs. 20?

A.—No, I don't mean that. I mean a landlord would not charge a higher rent merely because the value of land was high, but would govern himself according to the rents charged for the same accommodation by other landlords.

Q.—Don't you think the depreciation in value would only arise if more buildings are constructed or a larger number of sites made available? Because otherwise the value of property would not depreciate, and if the value of land depreciates surely the rents must necessarily follow. Would it not be to the advantage of the City if the prices of land did depreciate and the rents went down?

A.—That question is very much involved, because it leads to half-a-dozen other questions. You were talking about depreciation of land as it affects the Trust. If the return from the Trust land is depreciated, it means that the Trust will not be able to improve the City to the same extent as it otherwise would.

Q.—I am not dealing with the Trust as an individual. Don't you think that the general depreciation of land values in the City would benefit the tenants and the residents by the reduction of rent?

A.—Yes, I agree, if the result is diminution of rents in the City.

Q.—Would it not be an advantage to the City?

A.—Not necessarily an advantage to the City.

Q.—You don't think the question of rents that citizens have got to pay has any bearing on the advantage or disadvantage to the City; that is to say, if your cost of living would be double it would not affect the interests of the City? Then I won't press that question further.

A.—The question of the increased cost of living to individuals does not in my opinion necessarily affect the interests of the City.

Q.—You said that the Municipal bye-laws were very defective in regard to regulations about erection of buildings, and that as regards sides and the rear satisfactory provisions did not exist. Do you know there are a large number of bye-laws about the interior portion of the buildings?

A.—I do not know that there are a large number of useful bye-laws in this respect, and whether there are or not I am judging by practice.

Q.—You say motor buses would require wider roads?

A.—I do not think the roads on which motor buses are to be used should be narrower than 40 feet under any circumstances.

Q.—But most of our roads are more than 40 feet wide. You think 40 feet is an ample width?

A.—No. It is the least width, the absolute minimum under any circumstances.

Q.—You said that the 60-foot road that is being constructed in continuation of Hornby Vellard to Dadar is insufficient and you would rather have it 80 feet wide if Worli is developed as a residential area. Will you tell me whether the residents of that area would use this road to get into the Fort?

A.—Probably.

Q.—What would be the other roads they would take? Do you think they would come up to Mahalaxmi Temple and then take to Tardeo Road? Don't you think it would be far better to have an East and West road connected with the main arterial line of communication?

A.—No. You do not want to congest the other main arterial lines of communication.

Q.—Would people come along this road to Tardeo Road or Grant Road, or would they prefer to have an East and West road connected with the main arterial communication? Which would they prefer?

A.—I propose to bring the whole road down to Frere Bridge, linking up at that point with Lamington Road.

Q.—You want the whole road from the Hornby Vellard right up to Tardeo Road and then you would take it down to Grant Road Bridge?

A.—Yes.

Q.—Then you say you are not in favour of providing small recreation grounds for children in congested areas?

A.—Yes.

Q.—And you think that small children can travel long distances if parks are provided on cheap and suitable lands?

A.—Yes. There is no reason why children should not travel reasonable distances. With regard to the very small children and very old people their health and exercise would be better catered for by having the planted roads or park ways whose width is considerably wider than that necessary for traffic considerations provided for them in the immediate vicinity of their dwellings.

Q.—By small children you mean about 7, 8 and 10 years old?

A.—Yes. There is no reason why they should not be able to travel a fair distance to reach the parks.

Questions by Mr. G. Wittet.

Q.—Supposing a reclamation were carried out you say it would have an adverse effect on the financial position of the Improvement Trust, etc. Don't you think in the case of reclamation, supposing it was in Back Bay, reclaimed land would draw out fresh capital altogether?

A.—I do not think so; not to the extent that you want in order to make the reclamation pay.

Q.—Then there is another remark you make with regard to certain existing areas. You say the reclamation of these areas is yearly becoming more costly and in course of time will become absolutely prohibitive in cost. Why?

A.—Because those areas will be filled in practically by hand labour, and 10 or 15 years hence all labour will become very much dearer. In addition to this the material for filling these lands is daily becoming scarcer and in a short time will have to be provided from long distances outside the Island, whereas reclamation such as is proposed in Back Bay will be by dredging and other machinery, which owing to improvements will probably become cheaper as time goes on and the material for filling will certainly not grow less in quantity.

Question by Mr. B. W. Kissan.

Q.—You suggest that certain new Municipal bye-laws are necessary. Has the Municipality power under its Act to make these bye-laws, or would you advocate legislation?

A.—I believe the Municipality has power to make all the bye-laws necessary.

Further Questions by the Honourable Sir Pherozeshah M. Mehta.

Q.—Are you aware that the Municipality made its bye-laws from time to time under the guidance or opinions of the best available experts of the time? When there were any changes or amendments to be made they were made under the advice and guidance of the best experts available at the time. You know Mr. Dunn was at one time Chairman of the Committee. So far as the Corporation was concerned, they drafted these bye-laws under the guidance of the best experts of the time.

A.—May be, but I don't know that they got what they wanted.

Q.—Did not Mr. Dunn get what he wanted?

A.—I don't know, but I think not.

Monday, 8th December 1913.

THE HONOURABLE MR. J. P. ORR., C.S.I., I. C. S., CHAIRMAN, CITY IMPROVEMENT TRUST.

Questions by the Chairman.

Q.—In paragraph 4 (c) of your written statement, you state that you consider the Back Bay Reclamation is required to meet the increasing demand for residential quarters for the upper grades of society. But taking Bombay as it is, where do you think the trend of migration of the citizens would be?

A.—I think the trend of the best classes will be in the direction of the Reclamation, if there is a Reclamation.

Q.—If there no is Reclamation, taking Bombay as it is, where will they go in the ordinary course? Do you think they will go to Bandra and Salsette?

A.—If there is no Reclamation, where can they go? There is not much room left on Malabar Hill. If the Love Grove nuisance is not abated, very few would be inclined to settle down in Worli, and at present places outside Bombay are far inferior to places in Bombay.

Q.—Assuming then for a moment that the Love Grove nuisance is removed, what do you think will happen?

A.—If there is no nuisance at Love Grove, I think in time the better classes would take up residences along the sea shore near Love Grove, from the Hornby Vellard Northwards.

Q.—Is it a precedent condition that communications in that direction should be improved?

A.—If the means of communication remain as they are, the Love Grove locality will not be so attractive.

Q.—Do you think that the 60-foot road from Hornby Vellard towards Worli will be sufficient?

A.—I should think that if many of the better classes went there, the 60-foot road would prove too narrow to be used for motor cars.

Q.—Where do you think the less wealthy classes are likely to go? I mean those having an income of say Rs. 600 down to Rs. 100?

A.—I think they will take the place of the better classes getting out of areas that are too congested at present. The middle classes will probably go to the Improvement Trust Estates in the North of the Island such as Dadar and Matunga.

Q.—You say in paragraph 4 (d) of your written statement that you consider the low-lying land in the North-East of the island near the Harbour Branch Railway is the best locality in which to provide buildings for the expansion of existing industries. Don't you think that restricting the industries to that corner of the Island would mean too great a distance from the business centre, and that future mills would be unduly handicapped in competition with existing mills?

A.—I do not think that future mills would in any way be handicapped, because they would have means of communication. The Harbour Branch Railway will be running right through that area. I think they will also be within reach of the electric supply.

Q.—Will the labour problem affect them adversely in comparison with the mills in the centre of the town?

A.—I don't see how the labour problem would affect them, if the mill owners provide rooms for their operatives on land they would take up for the purpose.

Q.—Are you in favour of the promoters of future mills providing accommodation for certain classes of their operatives?

A.—Yes.

Q.—Do you suggest that legislation should be undertaken towards that end?

A.—I don't definitely say that legislation should be undertaken, but I am in favour of the principle. If there is to be any legislation, we should be very careful to see that we are not making things too hard for an infant industry.

Q.—The main point of your note otherwise is comprised in that portion where you state that the prime necessity in Bombay from the point of view of sanitation is the provision of sufficient light and air around dwellings in congested areas rather than the provision of spaces for recreation. Does that represent your view correctly?

A.—Yes. What I say is that before spending much money out of the public purse on large areas for recreation grounds, we should devote money towards measures which would result in giving sufficient light and air to each room in every house.

Q.—But that does not mean that in the future development of Bombay we should neglect to provide spaces for recreation ?

A.—Certainly not.

Q.—And wherever new schemes are planned out, you would be in favour of a reasonable proportion of the area being reserved for recreation ?

A.—My opinion is that since land in congested areas is very expensive, it would be wasteful to spend much money out of the public purse on purchasing land at a high rate per square yard to put into recreation grounds. When you can dispose of that land at a high rate for residential or trade purposes, you can utilise the money for purchasing land at a little distance, where it will be less expensive, for providing recreation grounds.

Q.—With reference to the provision in congested areas of what you regard as the prime necessity of light and air, would you tell us, roughly speaking, what additional powers would be necessary for the Municipality to take measures to that end ?

A.—They have to deal with new and old houses, and the two should be treated separately. As regards new houses, a Municipal Committee have already expressed themselves in favour of modifying the bye-laws. I think for the most part no legislation is required to insist upon a man building a house in a new site so as to ensure compliance with what in the Improvement Trust we call the $63\frac{1}{2}^{\circ}$ rule. There is a question whether the space provided as the external air space round the house should be provided in the man's own land, or whether the space available outside his own land should also be taken into consideration, and the view that the Committee have taken is that where there is quite a new area and where land is cheap the man should be required to satisfy the $63\frac{1}{2}^{\circ}$ rule in his own land. On my pointing out that this was rather severe where land is expensive, the Committee have adopted the view that if there are two neighbours each man's space may be counted towards his neighbour's space, so that if between two houses each 60 feet high there is a 30-foot space, that will satisfy the $63\frac{1}{2}^{\circ}$ rule, even if 10 feet be in one man's land and 20 feet in the other man's land. As regards new houses then the $63\frac{1}{2}^{\circ}$ rule can be enforced under bye-laws without any increase in the Municipality's powers.

Then comes the question of old houses already existing, and for those I suggested in my lecture last year that legislation is required enabling the Municipality to take measures similar to those taken in England under Part II of the Housing and Town Planning Act, the chief measures recommended being that the Health Officer should be empowered to condemn particular rooms as unfit for human habitation and that if there is a congested area with houses very ill-arranged, and if the Municipality of their own motion or at the request of any of the owners of these houses acquire and remove a house in the middle, by the removal of which the surrounding houses get more light and air, then the Municipality shall be able to charge a certain portion of the cost of that acquisition to the owners of the properties improved by the removal of the obstructive house.

Another measure I have recommended is that, as in England, the Municipality should have power to acquire part of a house, and should not be compelled to acquire the whole. That has a very important bearing upon a very large portion of the congested area in Bombay where houses are arranged in long parallel streets. There is generally a 3 or 4-foot gully in the middle between two parallel streets, so that the rooms in the front facing the streets are well lighted and ventilated, whereas the back and side rooms are inadequately supplied with light and air. The Trust are now, in their latest scheme, showing how that kind of arrangement can be dealt with. They are simply broadening the 3-foot gully between the two rows of houses and providing a 20-foot space between them, so that in each house there will be a room facing the rear open space and a room facing the street and the whole of the rooms in the house will be properly lighted and ventilated. But as the Act now stands, the Trust or the Municipality can only effect this alteration of the houses after acquiring the whole house. This is not the case in England where local authorities are empowered to acquire part of a house. I think, therefore, that the Municipality or the Trust should be empowered to acquire only a part of the house, leaving the remainder in the possession of the owner and requiring him to bring it into a sanitary condition.

The Honourable Sir Pheroze Shah.—Who should pay for the acquisition of the house ?

A.—The Municipality or Trust should pay for the acquisition of the part of the house, and I think, under the Acquisition Act as it now stands they will have to pay the owner for reinstating the rear wall properly.

The Chairman.—At the present time, supposing the Municipality pass bye-laws more or less in accordance with modern requirements in respect of light, air, and sanitation, would it be possible to apply those bye-laws and requirements to the existing houses ?

A.—The bye-laws would have expressly to state that they apply equally, or with whatever modifications may be reasonable, to old houses and new houses. The difficulty about the existing bye-laws is that they apply to a very small extent to old houses. They are not sufficiently stringent. The cost of acquiring houses which have had new storeys added to these in recent years is often four times their original value. In England the owners are restricted by a bye-law from extending their houses, unless they bring the whole of the house into conformity with the latest bye-laws. Here in Bombay that has always been objected to, on the ground that it is confiscation to prevent a man from building on his own land, while in England when a man builds new houses he has to leave sufficient space for the proper lighting and ventilation of all the rooms in the house.

Q.—Is it not within the capacity of the Municipality to pass the bye-laws?

A.—Yes, it is within their power to pass bye-laws which will meet a great many of the present difficulties.

Q.—Do you consider that amendments in the law are necessary?

A.—Very few beyond those I have already mentioned. I have written a note entitled "How to check the growth of insanitary conditions in Bombay City." I have got a proof, and it will be printed in a few days. I have therein stated my views in full. It practically follows the recommendations Mr. Harvey made in 1901.

Q.—Supposing the Municipality, being duly empowered, were to pass bye-laws calculated to give better light and air in congested areas, where will in the ordinary course be the trend of migration from those congested areas, and how would the gap be filled?

A.—I have said that the result of such bye-laws will be a gradual exodus from the congested areas. The well-to-do people will go where they can, compatible with their purse, and similarly with the middle classes and the lower classes. The lower classes will remain in the neighbourhood of their work, but in that case the rents for them will probably go up and that would ultimately tend to a rise in wages.

Q.—Reducing the congestion means a rise of rent in that area. Is that what you mean?

A.—It would all depend upon the supply of accommodation. There might be competition elsewhere which would prevent the landlords from putting up their rents but in any case I don't think there would necessarily be a great rise in rent.

Q.—In other words, you would be displacing certain classes in favour of certain classes?

A.—That is quite possible. What actually happens now is that a certain number of employers of labour, such as the Improvement Trust and the Municipality, are giving their low paid servants house allowance, and that means an increase in their wages.

The Chairman.—This is so much a Municipal question that I am not going to examine the witness at great length.

Questions by the Honourable Sir Pherozeshah Mehta.

Q.—You say that a rise in rent would lead to a rise in wages. Is that not so?

A.—A rise in rent will lead to a demand for a rise in wages.

Q.—These things will not adjust themselves quickly, but in the meantime, if the middle and the lower classes have to pay high rents, and if they do not get higher wages, where should they go?

A.—They must go to places where they can get rooms at lower rents.

Q.—Outside the City?

A.—I don't know.

Q.—You will provide chawls for them at rates lower than they really cost?

A.—No. I don't think we ought to.

Q.—Where will they find room within their means, so far as the wages are concerned?

A.—You mean supposing that people are turned out of the centre?

Q.—Take the main portion of the town. If the rents rose there, and if there is no corresponding increase in wages, must they suffer as it would be difficult for them to find cheaper places?

A.—For the time being they will have to suffer.

Q.—The Improvement Trust was founded for the housing of the poor?

A.—Yes, *inter alia*.

Q.—May I take it, therefore, that the real object of the Act was to provide cheaper sanitary housing for the poorer classes? That is to say, to destroy insanitary areas and to provide cheap and sanitary houses for the poorer classes?

A.—Yes.

Q.—As a matter of fact, what has the Trust done? It has really done more for the well-to-do classes than for the poorer classes.

A.—I do not know about that. It has provided a certain number of rooms and chawls for the poorer classes.

Q.—Taking all those into account, have they not done a great deal more for the middle and the better classes than for the poorer classes?

A.—No, I should not think so.

Q.—They have provided a certain number of sites for the houses of the better classes?

A.—Yes, I should think so. So far as mere housing is concerned, there will be more of the middle classes accommodated on the Trust Estates at present than of the poorer classes.

Q.—Then really the expenditure of the Trust has been more for the richer than for the poorer classes?

A.—I consider that the improvement of communications and sanitation benefits the rich, the middle, and the poorer classes alike.

Q.—Nagnada was an Improvement Trust Scheme. What class of people have really benefitted by it? That was at first a small Improvement Scheme, and it was inhabited by people who were not by any means the poorest.

A.—I should not think that very poor people lived there. They were, as far as I can understand, the lower middle and the middle classes.

Q.—Your second scheme is the Princess Street Scheme. So far as that scheme is concerned, it was really for people who could afford to pay high rents for shops, buildings, and houses?

A.—Yes, the accommodation provided is for shops and substantial houses.

Q.—Of course, you had to remove a great number of insanitary houses, but ultimately the classes benefitted, so far as housing is concerned, were the shops and well-to-do people?

A.—Yes.

Q.—Your third scheme is the Sandhurst Road Scheme, and the same may be said about that?

A.—Yes.

Q.—The fourth one is Gamdevi?

A.—There the middle classes live, and no poorer classes.

Q.—Now is this statement in the letter of the Government to the Corporation correct? "The Governor in Council has long since recognised the necessity of the revenues of the Trust being supplemented by a regular annual income which would enable it to deal effectively with the numerous congested and insanitary areas in the City which have been or are likely to be 'represented' under section 24 of the Act, but which, so long as the attention of the Trust was concentrated on the initiation of the larger projects and its revenues," etc. Is this statement correct?

A.—Yes. It is true that Government had their attention drawn to this necessity.

Q.—It relates to what was done in the past, as to why the removal of the numerous congested and insanitary areas had to be postponed and resources had to be concentrated on the initiation of larger projects. Is that correct?

A.—Yes.

Q.—The larger schemes, though they were called Street Schemes, were really Improvement Schemes of large area?

A.—Yes.

Q.—Has the Trust now resources which will enable them to deal with the numerous congested and insanitary areas in the City, assuming that they carry out the Schemes which they have already initiated?

A.—We have 95 lakhs to spare for the fulfilment of our programme, but that is already earmarked for the widening of the Eastern Avenue to give access to the North of the Island.

Q.—Beyond that, have you resources to enable you to deal with the numerous congested and insanitary areas in the City?

A.—No.

Q.—What you have suggested in regard to the improvement of houses individually is arrived at because you do not think that the Trust would take up any more Schemes?

A.—No. That is arrived at from a consideration of the experience of other countries, particularly of England, where it is now generally recognised that the wholesale demolition method is unduly expensive. It makes too great a demand on the public purse. It is now recognised that the private owner ought to be expected to put his own house in order, and in fact my own feeling is that we should rather control than acquire. That is why I was urging the acquisition of a part of a house rather than the whole. What is necessary is that after acquiring a part of the house we should leave the owner to improve the remainder of the house. You must abstain from the wholesale acquisition of the house, and then you can with a given sum of money effect ten times more improvements than if you attempted to go in for wholesal acquisition.

Q.—If that principle had been borne in mind by the Trust, they would have saved a lot of money?

A.—No. Not to the extent that may at first sight appear possible.

Q.—Then you think that so far as the Trust is concerned, it had really to open up new communications, and they more or less confined themselves to that work?

A.—In my opinion, they were perfectly right in taking up, as the first part of their work, the opening out of congested areas, providing such limited number of through roads as were absolutely necessary for facilitating communications and transport from one part of the City to

the other. As you know, in our programme there were two avenues, the Eastern and Western Avenues, and we decided, for want of funds, to throw over the Western Avenue, and to remain content with the Eastern Avenue. When we finish the Eastern Avenue, we shall, in my opinion, have done enough in the way of through roads to justify our commencing taking up insanitary areas, provided that the law is amended so that we can deal with insanitary areas in a manner which makes the least possible demand on public purse.

Q.—In what respect will the Eastern Avenue be useful?

A.—It will provide access to the Estates in the North of the Island, which we are trying to develop in the hope that the middle class population will live there.

Q.—And further on to Salsette?

A.—I have not really thought of that.

Q.—Do you think it would be useful to provide access through the North of the Island to Salsette?

A.—You can always claim the Eastern Avenue as an outlet to Salsette.

Q.—Now the improvement of Salsette will ultimately improve the land revenue of Government?

A.—I don't think so.

Q.—If Government levy taxes on buildings, will they not bring in a larger amount of revenue to them on the improvement of Salsette?

A.—Not very largely. Supposing a through road was run from Bandra Causeway Northwards, and Government were levying a building fine upon the land. They would get that money only from the frontages along that road.

Q.—Will that not bring in an additional revenue to Government?

A.—Yes, but it would be counterbalanced by Government having to acquire land for the road.

Q.—So far the building of the Eastern Avenue would be advantageous to Government? I don't mean to say that they will put all that additional revenue into their own pockets as private people do, but would it be advantageous or not?

A.—I think that it would. When Government get additional revenue, however, they will spend it for the improvement of the roads, etc.

Q.—How far do you think this migration to Salsette is likely to take place?

A.—I do not believe in it. My own feeling is that the people of Bombay are not likely to go out to Salsette unless they find much greater amenities there than they have in Bombay. I believe that people will not go out in large numbers to Salsette until the amenities of Bombay are exhausted, or until there is no more land left to take up in Bombay.

Q.—Even now with your Schemes V and VI, there is an enormous amount of land which should be available for residential purposes of the different classes. There is also an enormous amount of land lying vacant, which your Improvement Trust will convert into building sites. Would not that provide for a very large number of people?

A.—No. It would not provide for the increase of population which I expect. I have collected figures as to the rate of the increase of population in Bombay.

Q.—I should like to have the figures?

A.—The population of Bombay is 979,445, that is, 67 to the acre. That is spread over the whole of the Island. The distribution varies tremendously from place to place. I have got statements taken from the last Census, and I have got a map showing a congested area of 683 acres. Though the average density of the population of Bombay is 67, these 683 acres in the heart of the town, from Carnac Road up to Kamatipura, have a population of 316,723, that is roughly 464 per acre. Those people have got to be spread over 5,000 acres at some time or other.

Now in London the average density of the population is 64, which economists consider heavy, and want to reduce to 42. Personally, I am firmly of the opinion that the population of Bombay is bound to increase in every direction. I believe the population will increase, not merely by the natural increase of an indigenous population, but Bombay will in time become a favourite place for up-country people. I believe that people from up-country will take up residence in Bombay; only a certain number of them—not a great many. I think the expansion of trade will bring in a great increase of population of all kinds and classes. That being so, and the average now being more than what in England is considered heavy, what are we going to do for the increase of population if we do not add some area on to the existing area, particularly in view of the fact that a very large portion of the existing area is not available for the expansion of the population?

Then again in the neighbourhood of the existing mills and industries, there will be industrial expansion. So when I say that I do not believe that people would go to Salsette, it is because I believe there will be a demand for really improved sanitary areas by means of reclamation.

Q.—How do you estimate the increase of population? What has been the rate in the past?

A.—I cannot tell you that; but we may safely reckon on a much higher rate in the future when improved sanitation reduces the death-rate.

Q.—What do you think the rate will be in the future?

A.—I have not based my recommendations upon any detailed consideration of figures. It is merely from a general view I have estimated.

Q.—You said that people would come from outside. Is Bombay becoming more sanitary? With what other object can people come from outside except for business purposes?

A.—I think for pleasure's sake.

Q.—There are many pleasant places. Why should Bombay be more attractive?

A.—It strikes me that Bombay might prove an extremely pleasant place.

Q.—Would people come out from other parts of the world?

A.—There has been a distinct tendency in recent years for more visitors to come to Bombay every year. There are for instance more tourists' ships coming out from America.

Q.—They come here only for the purpose of passing through. Bombay itself has nothing to show of an antiquarian or of a historical character?

A.—My impression is that wealthy people up-country will be glad to have their town houses in Bombay.

Q.—What time of the year are the people likely to come to Bombay? Will they come in the rains or in the hot weather?

A.—Amongst us Europeans more and more people are staying through the hot weather than used to.

Q.—As a centre of beauty?

A.—On account of comforts.

Q.—You have nothing like a cold season in Bombay?

A.—No.

Q.—What time in the year are the people likely to come for enjoyment?

A.—I should think during the so-called cold season.

Q.—Do you think that people would come to Bombay leaving other parts of India where the cold season is of a more confirmed character?

A.—There are many attractions in Bombay for the richer classes, and they can have a good time.

Q.—The question is, would their periodical visits to Bombay substantially affect the increase of population?

A.—No. That would not substantially affect the increase of the population.

Q.—You could take away a large number of the labouring classes from the heart of the town by compelling employers of labour to provide chawls for them outside the City or close upon the Northern quarter of the City. What I mean is this. As Major Hepper explained, the G. I. P. Railway employs 7,000 work people. The B. B. & C. I. Railway employ about 3,000 work people. Now most of these people have their families. They would be a pretty large number of people when you take them all and spread them over the town. So if the Railway Companies were to build chawls for their work people outside the City, the pressure of the population in the City itself would be reduced?

A.—Does that include their families?

Q.—These 7,000 workmen have their families and these work people are returning in the evening to their places of abode which are spread over the town. Now added to those there are the workmen employed in the mills. Now if there is a compulsion for new mills to provide quarters for their work people in the neighbourhood of the industry, that would be an appreciable relief on the pressure of space in the City itself?

A.—Yes, but I regard your hypothesis as impossible.

Q.—Remember, Major Hepper has received this proposal very favourably.

A.—Well, I am not surprised. The Railway Companies have got their own communications.

Q.—You are supplying the mill people with all sorts of communications such as roads and trams?

A.—I should be very chary about recommending any scheme of that kind, because when these people get outside the Island they will create an insanitary area there.

Q.—Nowadays when Government are looking after the action of Municipalities, when they themselves are looking after sanitary conditions, will they not be able to prevent insanitary areas arising outside the Island?

A.—I think they might be able.

Q.—You are a believer both in the intentions and the strength of the Government doing so?

A.—It would have to be left, in the course of the development of local self-government, largely to local bodies.

Q.—Looked after by Government. Is it not?

A.—Yes.

Q.—Am I correct in thinking that, with reference to the Reclamation Scheme, in the first account which you have prepared of the prospects of the Trust, you rather look with suspicion upon the effect which the Reclamation would have upon the Trust's projects?

A.—My view has always been that the Trust would be very little affected.

Q.—In the last part of your forecast, is there not a paragraph in which you seem to be a little alarmed at the effect which the Reclamation would have upon the Trust's projects?

A.—You are probably thinking of Mr. Dunn's note.

Q.—No. In about the last paragraph, did you not say that the prospects of the Trust disposing of their plots are few, whether the Reclamation is undertaken or not?

A.—I don't think so.

Q.—You are quite sure of that so far as your conviction is concerned?

A.—Yes. We could not have said such a thing.

Q.—Supposing a large number of plots were provided by the Reclamation, would it not affect the disposal of the plots of the Trust?

A.—Yes, but to a very slight extent. I think we shall not be directly affected, because the Reclamation would be putting upon the market plots for people of very much larger means than those for whom we cater and the only way in which I can conceive it would affect us would be very very indirectly.

Q.—Will it at least affect the prices of land?

A.—I do not think so.

Q.—Rich people would apply for plots in the Reclamation finding that there is something better there. Would they not?

A.—I was not thinking of land outside our Estates. We have only a very little land along the Eastern Avenue, suitable for the residences of the richer classes.

Q.—If the prices of those plots go down, the assessment on those plots would be less than at present. Would not the Municipality suffer in that case?

A.—Yes, they would suffer, but the Municipal assessment is very little on open lands.

Q.—Would they not suffer, not only on open lands, but also on existing buildings in different parts of the town? Would not those buildings depreciate in value in consequence of the plots on the Reclamation?

A.—It all depends upon the increase of population, and how it compares with the increase of land put on the market.

Q.—Now ordinarily when the well-to-do people take up plots on the Reclamation, would not that tend to reduce the rents of houses in the City?

A.—I hope it will greatly reduce the rents in the congested areas, and thereby the Municipal assessment would be affected to a certain extent, but that would be more than counterbalanced by increased assessments in the new areas.

Q.—Now about the Municipal bye-laws. Do you think the Municipal bye-laws have come into existence from a very long period under the different Acts? The first Act was passed in 1865, and that gave powers to make bye-laws, and in 1883 the present Act was passed and bye-laws have been made under it and under the Amendment Act of 1905.

Now the house owners who built houses in accordance with those bye-laws, did they do anything wrong for which they ought to be punished?

A.—No. Not for which they ought to be punished.

Q.—They did nothing wrong?

A.—I think they did wrong in building insanitary houses, but I qualify [that by saying that it is not something wrong for which they ought to be punished.

Q.—How did they behave wrong when they built their houses in compliance with the requirements laid down by the Municipality with the sanction of Government?

A.—They did not break any bye-laws.

Q.—How did they behave wrong in doing so?

A.—I do not know. I cannot call it wrong doing in the ordinary sense of the phrase. I should say it was foolish or unwise on their part to build insanitary houses.

Q.—You must not expect people to be before their time. Now the 63 $\frac{1}{2}$ ^o rule was introduced in England very recently, not very long ago, so that those people who built their buildings in accordance with the bye-laws prepared by the Municipality at that time with the sanction of Government, surely they cannot be said to have done anything wrong or foolish?

A.—I think they did foolishly, but of course that is according to my standpoint.

Q.—You put a different meaning on 'foolish' and 'wrong'?

A.—They did not do anything wrong.

Q.—And therefore they do not deserve to be penalised in any way?

A.—I do not know why they should be penalised.

Q.—You said that in London they are now following the new policy of making the house owners improve their buildings?

A.—Yes. That is to say, the house owner is held responsible for the sanitary condition of his building.

Q.—You are perfectly acquainted with the whole literature on the subject. Was it not because the house owners deliberately failed to look after the sanitary condition of their buildings that the assistance of the local authorities had to be sought for?

A.—No. I have not read that. I don't remember.

Q.—And therefore it was thought right that they should be made to undo the mischief which they had deliberately done?

A.—Do you mean that they had broken bye-laws?

Q.—Even the local authorities were said to have connived at it, and therefore it was thought right that they should be penalised in that way, but that is not the state of things in Bombay?

A.—No. Not in Bombay.

Q.—You have told the Chairman that so far as the building bye-laws are concerned, they could be put into force in regard to the new buildings or buildings re-constructed. Could they apply to new buildings which will be erected on vacant sites, or to the buildings which will be re-constructed according to the definition of reconstruction in the Municipal Act?

A.—I am talking about our latest bye-laws. They have no application to any works to be done on or to any of the already existing buildings unless and except to the extent to which such work comes within the description in section 342 of the Act.

Q.—They would not apply to any buildings unless they were re-built or new altogether?

A.—That is the defect in the bye-laws in my opinion.

Q.—So far as the Act up to 1888 was concerned, it limited the operation of the building bye-laws to new buildings or buildings reconstructed? The Act itself did that?

A.—You are referring to a section which was altered in 1905. The Act itself was altered in 1905 so that, not the bye-laws, but certain provisions of that section should apply not only to sites not hitherto built on but to all sites.

Q.—Under those Acts the old buildings were excluded by the Act itself from the operation of all such building bye-laws as the Municipality may enact?

A.—I do not know that. I do not think that the Act of 1888 said that bye-laws could not be made to apply to old buildings.

[Examination adjourned.]

Friday, the 11th December 1913.

The Chairman.—To what extent would you use public funds to help owners to alter their houses when rooms in them have been closed as U. H. H. ?

A.—I think I have said in my lecture I should make that depend upon the public needs of the locality. If it is a locality in which public interests demand that many houses should be altered quickly, then you should be allowed to step in and say that such and such portions should be cut off the houses in order to provide open spaces, and you should compensate the owners for the area that you take up just as in a new scheme. For instance, if there are two rows of houses with a 4-foot space between them, you increase that to 20 feet. Then you compensate the owners for the loss of that land and the re-construction of the buildings. But I have always been very keen on the immediate closure without compensation of those rooms, of which there are many all over Bombay, which though utterly unfit for human habitation are let out to poor tenants to the public scandal. In these, the worst cases, I would refuse compensation not only in cases in which the rooms had become unfit for human habitation by reason of extra storeys being added on to the neighbouring houses since the rooms were originally constructed, but even in those in which there has been no such change in the surroundings; it is enough for me that the rooms are scandalously unfit for human habitation, even if they have been constructed without breach of the Municipal bye-laws in force at the time of their construction.

The Honourable Sir Pherozeshah.—Then you penalise the owners although they have committed no offence against the law or bye-laws and you deprive them of a certain portion of the house in order to admit into the remainder more light and air than the original bye-laws required ?

The Honourable Mr. Orr.—I wouldn't in all cases call upon the owner to alter his house. It might pay him to merely close the room and make no further alterations. I would merely say close the room and take the consequences.

The Chairman.—That is to say, when circumstances render a certain portion of a house unfit for human habitation, it is the business of the Municipality to step in and say that it should not be inhabited ?

The Honourable Mr. Orr.—That is my view. In places in which there will be a great number of rooms closed in consequence, I think it is right for the Trust to step in and help the house owners to make the necessary alterations. But if you merely close a few rooms, then only a few people will be thrown out of accommodation, and the owner merely suffers from loss of rent. You do not force him to alter his house. He may be forced by self-interest to alter his house. But there may be an area in which there will be a whole lot of owners who have made up their minds not to alter their houses. If there is an area in which in consequence of that a large number of people will be rendered homeless, then I think it is right that the Trust should come in and help the owners of these houses to make the alterations necessary in order that people may be accommodated. That is the kind of scheme which we have just introduced for cutting away through the backs of these houses. From the owner's point of view, it would be hard to require him to clear in his own land the space required for ventilating his own and his neighbour's house; one owner may be willing to cut down sufficient of his house to provide half the space required between his house and his neighbour's, if the neighbour will provide the other half: but the neighbour may refuse to do this. Then the Trust steps in and gets both houses cut, and in that case it would be right to a certain extent to compensate the owners of those houses.

The Honourable Sir Pherozeshah.—Don't misunderstand me that I don't want such buildings to be improved. I quite admit that it is desirable. The only question which I raise is a question of method and responsibility, whether you should do it by throwing a portion of the burden on the house owner, or whether you should proceed in such a way that the real burden does not fall on him but is distributed, and that is why I said that under these circumstances it is right that the whole area should be taken up and remodelled and that the Trust should have the betterment in that way. It is only a question of method and responsibility. That is the only difference between us.

The Chairman.—You say that up to a certain point you would simply in such circumstances require the landlord to close the room, but when it gets beyond the certain point, when a considerable number of people thereby are thrown out homeless, then it is legitimate for the Trust to come in and assist them. But how would you determine when this point is reached ?

The Honourable Mr. Orr.—I think it is quite easy. You may have a few isolated rooms closed as U. H. H. in a whole section. You can arrive at it statistically. You can have a particular section examined. I would take a block of buildings between four streets, and have

them examined. If you find that the percentage of rooms which will have to be closed is merely one, two or three, do not interfere with them at all. But if it is 25 per cent. as it is in many cases, then interfere.

The Chairman.—But on what principle can you discriminate between the liability of the rate-payer in the one case and in the other?

The Honourable Mr. Orr.—Merely on the ground that there are so many houses with rooms newly closed in a particular area that it is desirable in public interests to get sanitary accommodation provided there at an early date. Then if the Trust comes in and bears a certain proportion of the cost from the public purse, it will be feasible for a great number of rooms to be made inhabitable, which would otherwise remain closed. For instance, in Undria Street, the Trust might spend, according to the English Act, perhaps only a lách of rupees instead of the 10 láchs they have to spend under the existing law here and make it possible for the owners of a large number of houses to make all their rooms inhabitable. In other cases you may not be able to do anything to help the owners. In other cases you might remove a house here and a house there, and get the people of the surrounding houses to contribute half the cost of that improvement.

The Honourable Sir Ibrahim.—In addition to what you have just suggested as regards the Trust, you have also suggested that for the purpose of light and ventilation, single houses should be pulled down. Any public body, I mean the Municipality or the Trust, acquires that house and pulls it down, and so makes certain rooms in the surrounding houses fit for human habitation, and you have suggested that half the cost of that improvement should be transferred to the owners of these surrounding houses. That is the point which the Honourable Sir Pherozezshah is trying to get at, that those houses were originally built according to Municipal regulations, and now you want to transfer the liability of improving them upon the owners by these measures. I would only say one word more. Have you got a copy of the Improvement Trust Act? I want, Mr. Chairman, to read section 23 to show why the Improvement Trust was created. It is as follows:—

“When an official representation as hereinafter mentioned is made to the Board that within certain limits in any part of the City either—

(1) any buildings used, or intended or likely to be used, for human habitation are unfit for human habitation, or

(2) the narrowness, closeness and bad arrangement or the bad condition of the streets and buildings, or groups of buildings, within such limits, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defects, or one or more of such causes, are dangerous or injurious to the health of the inhabitants either of the buildings within the area of such limits, or of the neighbouring buildings;

and that the evils connected with such buildings and the sanitary defects in such area cannot be effectually remedied otherwise than by an improvement scheme for the re-arrangement and re-construction of the streets, and buildings within such area or of some of such streets, or buildings; the Board shall take such representation into their consideration, and if satisfied of the truth thereof, and of the sufficiency of their resources, shall pass a resolution to the effect that such area is an unhealthy area, and that an improvement scheme ought to be made in respect of such area, and after passing such resolution they shall forthwith proceed to make a scheme for the improvement of such area. But the Board shall be at liberty to postpone making a scheme for the improvement of such area until such time as they may deem expedient, if they are satisfied for reasons to be recorded by them that it is inexpedient forthwith to proceed to make a scheme for the improvement of such area:

Provided that any number of such areas may be included in one improvement scheme.

Provided also that for the purposes of section 26 the Board may cause surveys to be made in areas outside the limits of the area comprised in the scheme.”

The Honourable Sir Ibrahim.—The Improvement Trust has been deliberately created for the purpose of improving areas occupied by such groups of insanitary houses as Mr. Orr described at public expense?

The Honourable Mr. Orr.—And that was exactly the same in England up to a certain point. But the cost of improvement by such wholesale acquisition methods was found absolutely prohibitive, and if in a rich country like England it was considered prohibitive, all I argue is that the cost will be still more prohibitive in a place like Bombay. You pass an Act deciding that a certain state of affairs should be dealt with in a certain way. If by subsequent experience you learn that the procedure prescribed by the Act involves prohibitive expense the thing is to try and suggest some cheaper means of dealing with this evil, and I have suggested the method of acquiring parts of houses so as to broaden the rear open space between rows of back-to-back houses with the assurance that it will result in improving a very large area in Bombay at comparatively small expense.

I want you to look at this Map, which shows the congested area in the centre of Bombay. It is 683 acres in extent. This is the part that really requires to be immediately dealt with, as

it is in a very bad condition. I have marked on this just to give you an idea of the proportion to the whole a little tiny Scheme No. 41, our new Undria Street Scheme which we are preparing now under the Act as it exists. That wants an outlay of ten lakhs; and what a small proportion of the congested part of Bombay it represents! Only $1\frac{1}{2}$ acres out of 683 acres!

The Honourable Sir Ibrahim.—Have you taken out separate figures showing the total losses which the Trust has incurred in Improvement Schemes and in Street Schemes? I am asking you this question, because you have said that you have exhausted your resources for Improvement Schemes.

A.—No. It is impossible to distinguish them.

Q.—My idea is that almost the whole of the Trust's resources have been spent on improvement of communications. That is, what I want to ask you is whether you could kindly give the Committee figures showing what is the actual loss on those schemes which you have carried out as Improvement Schemes, and those which you are carrying out as Street Schemes?

A.—No. It is impossible to distinguish them. But I can do this much. I can tell you what certain Improvement Schemes have cost like the Nágpáda Scheme, Bhatwádi Scheme, Nowrojee Hill and Mándvi Koliwáda.

Q.—I think these are the only schemes taken as purely Improvement Schemes? I suppose all the rest are Street Schemes? If you will give the Committee figures of your estimated loss on Schemes which have been notified as Improvement Schemes and on Schemes which have been notified as Street Schemes, they might be very helpful?

A.—You are likely to draw an entirely wrong inference.

The Honourable Sir Pherozeshah.—You will correct us in that case.

The Honourable Mr. Orr.—The Princess Street Scheme simply means driving a road through a whole series of insanitary areas, and that has turned out to be the least costly of our Schemes. Sandhurst Road Scheme is very much the same, more or less. If, however, I give you figures for these two Schemes, it will be impossible for me to say, so much is chargeable to the Street Scheme and so much to the Improvement Scheme. What I could give you is simply figures showing our nett loss on the improvement of Mándvi and Nágpáda.

Q.—If you can give us your estimated loss on each one of your Schemes as Street Schemes and as Improvement Schemes, it would be useful to the Committee?

A.—You will find the nett ultimate losses on the several schemes compared in column 9 of Statement B in the Trust's 1913 forecast.

The Honourable Sir Pherozeshah.—The Government contributions did not come up to what was expected, and fifty lakhs were given to make up the amount which ought to have been fully contributed by Government. Now you said that the resources of the Trust were exhausted and this fact prevented you from taking up new Improvement Schemes. Would not the devoting of those fifty lakhs to those Improvement Schemes have done a great deal to improve those congested areas?

A.—Yes. You would get fifty lakhs worth of results wherever you spend your fifty lakhs.

The Chairman.—I do not think we need discuss that point here.

The Honourable Sir Ibrahim.—When we are discussing the development of the City, it is important to know one thing, namely, the total expenditure the City has incurred through the Municipality and the Trust on communications, as against the improvement of insanitary areas. When that statement is before us, I should like to ask a few more questions. I believe that statement is of the utmost importance in the future development of the City.

Questions by the Honourable Sir Pherozeshah Mehta.

Q.—I know Mr. Orr has an infinite amount of patience.

The Improvement Trust Act made a distinction between Improvement Schemes and Street Schemes. With regard to Improvement Schemes, the Improvement Trust was bound, under certain conditions and provisions, to carry out Improvement Schemes if they had resources, etc., on representation, and with regard to Street Schemes, they were left entirely free to exercise their own discretion, always subject to the sanction of Government?

A.—Yes.

Q.—The Improvement Trust under these two powers have carried out only one small Improvement Scheme, namely, Nágpáda, one large Improvement Scheme, Nowrojee Hill, and two or two three smaller schemes like Bhatwádi, Mándvi and Koliwáda. All the rest have been Street Schemes undertaken by themselves without being represented?

A.—Yes; some of them passing through areas which have been represented. Memond wáda is one and Sandhurst Road is another. There were a whole lot of areas which would have been represented, had the Trust not proclaimed that they were going to take them up.

Q.—Both the Princess Street Scheme and the Sandhurst Road Scheme were schemes which had already been prepared by Government and they were only laid out by the Improvement Trust?

A.—The general lines had been thought out before the Trust was created. They were altered after the Trust came into existence.

Q.—But the main lines had been laid down by Government. Now I will ask you a question with regard to the Gámdevi Scheme, your No. 4 Scheme. That is really an Improvement Scheme?

A.—No.

Q.—Really speaking, you took up a large area and applied the methods laid down in the Act, and you called it a Street Scheme?

A.—It is really an expansion scheme.

Q.—What would an Improvement Scheme be but an Expansion Scheme?

A.—Any scheme would be an Improvement Scheme. The idea was to provide houses which would ultimately help towards the re-housing of the people who would be dishoused by other schemes.

Q.—The houses would be occupied by the better class of people, leaving the poor alone unhoused?

A.—The houses that would be provided in the Scheme would be occupied by the better class people.

Q.—Well, the poorer classes displaced by those schemes were not provided for a long time by the Improvement Trust?

A.—Those poorer classes were supposed to find room in the houses vacated by the better classes outside our schemes, and a certain number of them were provided for in the Trust chawls.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—Has the Trust provided fully for all the displaced people living in one room tenements demolished by the Trust?

A.—The Trust have not erected chawls containing as many rooms as they have demolished in the different schemes.

Q.—I ask that question because Mr. Bharucha said that the Trust had erected such chawls.

A.—Anyhow it is wrong if he said so. He perhaps meant that in recent years we have kept a tally showing the number of people who have been displaced and the number of people for whom we provide room, and we have always been on the right side.

Q.—In regard to (iv) (c) of your written statement, you say that the lower grades would be adequately provided for in chawls erected by millowners near their mills. Do you think that the amendment of the Improvement Trust Act giving the facilities required for the employers of labour to construct chawls will be availed of?

A.—I am not prepared to answer that question.

Q.—My question was that several prominent millowners think that much advantage will not be taken?

A.—Yes. Much advantage will not be taken.

Q.—The principle underlying the construction of the chawls by the millowners was that the amount of sinking fund required for the ultimate ownership of those chawls was to be found by the mills themselves apart from the recoveries from the tenants, and if any scheme merely showed that the contribution which the millowner had to pay out of his pocket was only the amount required for sinking fund purposes, would you call it a self-supporting scheme? Supposing you get a proposal in which the amount payable to the Improvement Trust is Rs. 28,000 per annum,—Rs. 21,000 being for rent and interest and other charges, and Rs. 7,000 for sinking fund for the ultimate ownership of the chawl, would you regard the payment of Rs. 7,000 as a loss on the scheme?

A.—The payment of the sinking fund cannot be regarded as a loss to the mill.

Q.—You say that in thickly crowded parts of the City sufficient open space around each individual house is all that is necessary?

A.—Yes. It is the first thing necessary.

Q.—And that no recreation ground should be provided in that locality?

A.—I am not prepared to advocate spending large sums of money out of the public purse for providing recreation grounds in places where the value of land is very high, because with the sum you will have to spend on one acre of recreation ground in such areas, you could provide three acres at some little distance.

Q.—What is your idea of that little distance?

A.—I have not applied it in any particular case. I would make it depend on how far the land fell in value. It is different in different places.

Q.—Take Mándvi. Where would you provide a recreation ground, according to your scheme, for people there?

A.—Wherever we could get land at say Rs. 20 per square yard.

Q.—What locality would you choose for providing a recreation ground?

A.—At present the locality that is nearest to Mándvi where you can get land at Rs. 20 per square yard is, I should think, back land off Grant Road.

Q.—Do you think children of between say 7 and 8 years of age could be expected to go all that distance for playing?

A.—No.

Q.—You would not provide in congested areas small pieces of recreation grounds for children to play?

A.—In my lecture I have said that I would take advantage of any odd pieces of ground that we are unable to make use of for residential purposes as recreation ground.

Q.—And if you have no odd corners in any one of your schemes, you would not provide one?

A.—No, not from public funds. But I hope, as in England, some day people will come forward and provide small public play-grounds for children in such areas at their own private expense.

Q.—Do you know that in the Improvement Trust Act the legislature contemplates that you should provide, as far as possible, though not obligatory, such recreation grounds, and in spite of that you think you would not provide?

A.—No. Not in each scheme.

Q.—You say that it will be impossible according to this view to provide large recreation grounds, as they are not much use if they are not within a mile of the congested centre. Do you think that small recreation grounds for children are no good? Do you think that for the purpose of playing exercises small recreation grounds for children would not be desirable even though they are not large?

A.—I say it is not right to spend large sums of money out of the public purse for providing recreation grounds in localities in which the demand for land for trade purposes makes land very valuable.

Q.—As regards sub-clause 5, you are advocating various sanitary improvements in existing areas by transferring on to the private owners the cost of carrying out those improvements. In your lecture which you have just been discussing, you say you would transfer a portion of the liability of improving the congested and insanitary areas on to the surrounding house owners. Have you considered the economic effect of such measures, for instance, the rise in rents?

A.—The rise in rents will take place.

Q.—May I ask you to kindly explain that?

A.—Under my proposed methods, a house owner leaves the house largely untouched. I hope they will result in the original tenants not being turned out on so large a scale as under our old methods. In our Schemes as you know, when we go in for entire demolition and building up of new houses, for the most part the better class of people come in. If we leave the house untouched except to the extent that the back part is taken off, I imagine there would be nothing like the displacement of the population that there would otherwise be.

Q.—Do you know that during the last fifteen years the rents for the poorer classes have practically doubled?

A.—I do not know if they have doubled. I have not gone into figures yet. I do not think they have doubled.

Q.—I am talking of the poorer classes, I mean people who have one-room tenements?

A.—I should be surprised to hear that the rents have doubled all over the City.

Q.—I say the rents have largely doubled for one-room tenements?

A.—I do not think the rents have largely doubled all over the City. I think you are right as regards the congested areas that the rents have come somewhere near being doubled during the last ten years.

Q.—And what do you think would be the economic effect upon our industries, and largely upon the supply of labour, if the cost of the necessaries of life goes on increasing?

A.—There should be a rise in wages.

Q.—How will they stand? One of our industries is largely the mill industry, and Ahmedabad is a very keen competitor. What will be the economic effect on our industries if the rise in rents and wages keeps on going up?

A.—Profits will be reduced if rents go on increasing. I think such increase will result in more accommodation being supplied and the increase all round will cease.

Q.—May I know on what grounds you base that opinion? Our experience of the last thirty or forty years has been all through a steady rise.

A.—I say that steady rise in rents cannot go on indefinitely. It must stop at some time.

Q.—At a prohibitive figure?

A.—These things are bound to adjust themselves.

Q.—Don't you think that the provision of large open spaces around buildings will raise rents?

A.—I do not think it follows from the fact that such provision reduces the room area in any locality that there will be an increase in rent. The increased rent depends upon the balance between the supply of rooms and the demand for them.

Q.—In answer to the Chairman you said that improvements of communications benefit the poor as well as the middle classes. Do you mean that because these communication schemes are provided these people will migrate to the North?

A.—I do not mean that entirely; the improvement of communications will result in more areas being made available for buildings.

Q.—But the idea is that it will enable people to go further afield?

A.—Yes.

Q.—Do you think that the difference in rents in the crowded parts and the rents in the outlying parts will be so great as to justify the extra cost of transit?

A.—It is impossible to do more than guess that. There are no data on which you can go. Experience of other cities should teach us.

Q.—You said that for want of funds the construction of the Western Avenue had to be given up?

A.—We have decided to give up the originally proposed Western Avenue so that we may have money to spare for improvement schemes.

Q.—Was the idea that the Municipality would carry out that part of the scheme?

A.—It was not considered at all.

Q.—You know that the Municipality is devoting considerable attention to the Western Avenue?

A.—Yes. I am glad to hear that.

Q.—Then as regards the building regulations which the Improvement Trust have made and which you propose to apply to certain houses in the City, namely, the provision of space round about houses in order to give effect to the 63½ degree rule, how do you propose to keep these open spaces clean?

A.—By the application of section 377 of the Municipal Act.

Q.—And if these areas are not kept clean, would you advocate Police prosecution?

A.—Yes. Certainly.

Q.—You are conversant with the habits of the people?

A.—Yes. To some extent.

Q.—Do you really expect that all these areas will in the long run be kept sufficiently clean from the public health point of view?

A.—Yes. I hope people are going to learn the advantages of sanitation, as in England.

Q.—You know that in England they have compulsory education which we have not here?

A.—Anyhow the condition cannot be worse than it is now.

Q.—And do you think the condition of open spaces which are now kept in areas, not within the Improvement Trust estates, is not very satisfactory?

A.—Yes.

Q.—Are any effective measures taken to keep those areas clean?

A.—I believe the Municipality do their best.

Q.—And still the areas remain unclean?

A.—Well, many gulleys are very unclean, still I think the Municipality do remarkably well in the circumstances. But there are certain gullies which can never be kept clean.

Q.—Do you think that the multiplication of hundreds of open spaces which you advocate would result in more healthy conditions?

A.—The effect will be that the general sanitary condition of the City will be nothing like so bad as it is now.

Q.—Then as regards the demonstration scheme which you are now carrying out, your idea is of taking the back portions of certain existing houses and acquiring say about ten feet from each house, in order that a passage of about 20 feet may be made. Do you propose to pay compensation for it? Do you know that the severance of a portion of the house would call for substantial compensation? I will put it this way. You know that in all these houses, the privies, bath-rooms and kitchens are generally in the rear of the buildings, so that in an area like the one you refer to in the demonstration scheme, there will be two roads with a row of houses fronting on one and a row of houses fronting on the other; the rears of those houses being divided by a passage of about 3 feet, you would widen that to 20 feet. Now most of these houses have got their kitchens in the rear of the premises, so that when you cut off 10 feet from one house it will be deprived of its kitchen and privy, and you would have to provide fresh kitchens with the necessary sanitary precautions laid down by the Municipality requiring a lot of space to be left?

A.—That regulation is not enforced now when W. Cs. are substituted for privies.

Q.—All that would have to be compensated for?

A.—You will have to reinstate the buildings.

Q.—You will have to compensate the man for the loss of rent and the cost of re-construction involved by these alterations?

A.—Yes. I suppose so, as the law now stands.

Q.—Have you got figures showing the cost to the Trust of the houses that we have acquired and demolished as against the cost of the partial system which we are experimenting with? Have you taken out these figures?

A.—We find it very difficult to do that, and we want to learn that by experience. We intend to do what you have suggested.

Q.—And if you felt that the difference in actual loss to the public purse between the two methods of dealing with insanitary areas is practically nil, you would prefer the old method of complete demolition?

A.—Yes.

Questions by Mr. B. W. Kissan.

Q.—To what extent are buildings erected by private owners for the accommodation of the poorer classes?

A.—Very little indeed.

Q.—I mean in general in Bombay.

A.—I see a great many chawls erected. I do not know; I have been trying to get at the Municipal returns year by year to see the increase of one-room tenements, but they are being prepared and are not ready yet.

Q.—Is it a profitable investment to build such chawls?

A.—Judging from the Improvement Trust's experience, our general idea is that it is not profitable to build really sanitary chawls for the poor, unless you could get land at Rs. 5 per square yard, if you are going to charge the amount of rent that we charge. Other people's experience is that those who have erected chawls and charge much higher rents than we do make a good profit out of them. I believe it is the general idea that it is a very paying investment, but that proposition is often, I believe, based on wrong methods of calculating profits. People do not put by sinking funds, do not make sufficient reduction for repairs and for supervision.

Q.—And it would be necessary to have land at Rs. 5 per square yard?

A.—We never expect it will pay unless we get land at Rs. 5 per square yard except in cases where we lay out ground floors, as we did in Mándvi, for godowns and shops.

Q.—In the locality where there is increase of population it is impossible to get land at Rs. 5 per square yard?

A.—It is perfectly possible to get land at Rs. 5 per square yard in the neighbourhood of Lal Bagh where you have one of the most densely populated areas of the City. There are one or two densely populated areas in the City outside the congested areas which I have shown on the plan.

Q.—There it is a profitable investment?

A.—Yes; there it must be profitable, I think.

The Chairman.—Assuming, Mr. Orr, that in order to meet the cost, which is very often very heavy, involved in any scheme of sanitary improvement, the cost of such measures as you advocate in which the Municipality contribute by compensating landlords in the way you suggest, it is necessary to raise loans, do you consider that the enormous cost which might be involved is such that loans ought to be made repayable in short terms?

A.—No; I am very strongly of opinion that anything done in that direction should be financed by loans for which 60 years, if not as in England 80 years, should be allowed for repayment, in view of the benefit to the whole city resulting from such improvements.

Q.—In fact, you think it is a measure of reform for which posterity should contribute just as much as we do?

A.—Yes.

Q.—And that long term loans are more than justified where the object is a sanitary improvement of a permanent character in connection with relief of congestion?

A.—Yes.

Monday, 8th December 1913.

SIR VITHALDAS D. THACKERSEY.

Questions by the Chairman.

The Chairman. :—Sir Vithaldas, in any questions I ask you I want you to assume that no particular reclamation scheme is before us at all. With this preliminary observation I should like to ask what you regard as the direction in which the demand for office accommodation in Bombay will be likely to extend chiefly? At present the chief offices are on the Hornby Road, and those are most expensive. In what direction do you think office accommodation will be sought for?

A.—With the pressure of office accommodation in the present area it will be sought for in the south side *viz.*—the Apollo Bunder and the North Fort. Houses when rebuilt are built on better plans suitable for office accommodation. Take for instance the corner of the Hongkong and Shanghai Bank. It will pay people to go on erecting houses in the side streets suitable for office accommodation; and the people residing there will have to shift elsewhere as it will not pay them to stay there.

Q.—What will happen to those people who are ousted from their houses? Where will they go?

A.—That is a difficult question to answer. Some of them will go to the North of the Island.

Q.—In the case of the wealthy classes, where will they go?

A.—For the wealthy classes the existing accommodation will go higher and higher in value.

Q.—You suggest that office accommodation will be in demand in the Fort, and it will be no longer possible for residents to stay there, and that certain people will be turned out from the existing houses. Where do you think they will go in the ordinary course?

A.—There are not many rich people staying there. There are a number of middle class people. There are poor people also living on the ground floor.

Q.—Do you think the wealthy classes will not willingly go to Worli and Mahim?

A.—Under present conditions they will not go. Worli is not at all a desirable place to go to.

Q.—If the Love Grove Pumping Station is removed?

A.—If it is improved and the area converted into a habitable place, people will go there. It is all a question of cost of the removal of the Love Grove Pumping Station.

Q.—Have you considered the question of the adequacy of the communications laid down in the year 1909?

A.—I have nothing special to suggest about that.

Q.—Do you consider that any special additional facilities would have to be made in the way of communications, such as roads and so forth, in considering the question of the development of Mahim and Worli, to induce the better classes to go there?

A.—I think for Mahim the Municipality are already making the road. When that is completed, it will be quite sufficient for the present; of course more roads will be needed when the area is developed for buildings.

Q.—Have you considered the question of removing the University and the central public buildings and planting them somewhere else?

A.—I do not think it is possible. But even their removal would not in any way add appreciably to the building area for office accommodation. The cost of reconstructing such fine buildings elsewhere would be enormous.

Q.—There are of course difficulties which you know. It is difficult to find space for the necessary educational buildings which we ought to provide for. Would you be prepared to recommend a small scheme of reclamation for that purpose?

A.—That is the only possible way. When we consider the cost of the land on which the present public buildings stand, together with the cost of the fine buildings, and the cost of their removal to the Cotton Green at Colaba where the value of land is somewhere between Rs. 30 and 40 per square yard and if we also consider the cost of the removal of the Love Grove Pumping Station to some other place to provide room for the wealthier people, my belief is that the Reclamation would be cheaper in the long run.

Q.—For the provision of an area for Government buildings, you would recommend that Government should go in for reclamation?

A.—If it is possible to remove the Military on to the North side of the Island or to Salsette and reclaim the portion on the East side of the Colaba Military Station and make the whole area suitable for public buildings, it would be better. I believe for that particular reclamation perhaps the present Port Trust dredgers may be suitable and in that case the initial cost will not be very heavy.

Q.—Have you considered the question of the B. B. and C. I. Railway and the inconvenience caused by it? Have you formed any opinion as to what might be done to alleviate that?

A.—If it is electrified, there will be less nuisance.

Q.—You would not remove it?

A.—If it is electrified, that will meet the case, and I would not recommend its removal.

Monday, 8th December 1913.

DR. J. A. TURNER, EXECUTIVE HEALTH OFFICER, BOMBAY MUNICIPALITY.

Questions by the Chairman.

Q.—The notes of which you sent us copies deal chiefly, if not entirely, with the question of the disposal of sewage. The position is roughly, I take it, that so long as the Love Grove Pumping Station is a nuisance, the whole of the foreshore area from the Hornby Vellard to Mahim Woods is out of the question for residential purposes?

A.—Yes. That is my opinion.

Q.—You also indicate that, in your opinion, the measures that are at present taken may probably prove a failure?

A.—I think it is only an experiment. It is a very doubtful experiment.

Q.—Have you any idea when the sewage works in progress will be completed?

A.—I think they anticipate that it will take three years if they start this year, but I am not sure. The new pumps are not ready, and they have not made any excavations. I am only speaking as representing the Health Department. The Engineer will perhaps be able to tell better.

Q.—You cannot give a definite answer?

A.—No.

Q.—Assuming they completed the work, would you regard it as necessary to watch it for a whole season, including one monsoon, before deciding whether the measure had been successful or not?

A.—I do not know why the open drain is allowed to run as it is, and so long as the sewage is deposited and kept in the condition in which it is done now, that place can never be rendered sanitary.

Q.—Even with the improvement of the outfall?

A.—From what I can gather, they can never do away with the stormwater drain. You will remember that the new open drain carrying the stormwater runs up to the Mahaluxmi Station. It is joined by another open stormwater drain lower down near Dádar. Those two at present are simply open sewers.

Q.—And that will not be improved?

A.—Until they arrange to pump the storm water into the sea at Worli, I do not think that place could be rendered habitable.

Q.—Even assuming that for the time being the extension of the outfall at Love Grove alleviates the nuisance so far as the sewage is concerned, there will still remain untouched the nuisance of the storm water drain which in itself will, in your opinion, preclude wealthy classes from going there?

A.—Yes.

Q.—What will be the result then? That for practical purposes, so long as the present sewage arrangements continue, neither Worli nor Mahim can be regarded as healthy quarters for people to live.

A.—I speak more of the foreshore from Mahaluxmi to Mahim. How it will affect Mahim it is difficult to say. But it affects that part where the Pumping Station is situated.

Q.—What class of people do you think would consent to live here if they have to pass this sewage every day?

A.—I do not think it will attract anyone.

Q.—Will they go to DeLisle Road side?

A.—Not as the roads are at present.

Q.—Do you think that the well-to-do classes of people in Bombay, Indian or European, will automatically migrate to Mahim foreshore if the development scheme is introduced?

A.—They will go, if facilities are given by tram or motor bus.

Q.—You very kindly sent us a brief statement showing the comparative healthiness or unhealthiness of Fort North in comparison with the rest of the city, from which it appears that during the last five or six years there has been a high death rate in this locality?

A.—Yes.

Q.—Has there been any special cause to account for that?

A.—The population is slightly less than it was before the last Census. The death rate is higher. But apart from that, the condition of the Fort North, situated as it is in the best part of the City, is one of the most insanitary parts because of the construction of the houses. The houses are very deep and dark and are very high. Their sanitary arrangements inside are very primitive. The residents are a mixed population of Parsis and Hindus, and they are not of the well-to-do classes.

Q.—Do they live in one or two-room tenements?

A.—They live together. Numbers of families live in the same room.

Q.—What is the tendency on the part of the residents in the more congested parts of Fort North? In what direction do they migrate?

A.—I think the better classes will go towards that new area Northwards.

Q.—What class will take their place?

A.—The poorer classes will take their place.

Q.—There is no office accommodation in demand in that area?

A.—Yes, there is. The tendency, in my opinion, is towards that area. If the suggestion of mine, to move the Secretariat and High Court to sites South of the Bhatia Bagh, is carried out, the whole of Fort North would be available for offices of trade and commerce.

Q.—What area do you propose to take up?

A.—The area that I propose to take up is the one which extends from Hornby Road to Frere Road facing the Bhatia Bagh and the new Post Office. That will do away with one of the most insanitary areas in that part, as it would be acquired by Government, and rebuilt.

Q.—Do you think that will tend to increase the rents of offices in that locality?

A.—Offices can afford to pay high rents. But by acquiring the area I have suggested, it will improve the Fort enormously.

Q.—Then your proposal is that Government should acquire that area for the High Court and the Secretariat?

A.—Yes.

Q.—Have you thought how the cost will work out either way?

A.—I have not thought it out. My opinion would not be very valuable.

Q.—Have you discussed it with any one?

A.—No.

Q.—But on general grounds you advocate the removal of the Secretariat and the High Court?

A.—Because there is no other place in the Island to accommodate these buildings.

Q.—Then you think that the High Court and Secretariat should be in the centre of the town?

A.—Yes.

Q.—You would not advocate the removal of the Secretariat and the High Court to the Cotton Green?

A.—I don't think that would be very convenient.

Q.—Have you any other reasons for suggesting the removal of the High Court?

A.—I think they want the site for the University around the University building.

Q.—What do you think of Major Hepper's scheme of taking the Railway overhead across the Maidan to a Terminus opposite the Queen's statue?

A.—I cannot give an opinion on that.

Q.—Would it be an advantage to the health of the City if dairies were removed outside the City?

A.—It will be a great advantage, but it will be very difficult to control them if they are removed right outside the city. They have none of the amenities which they have here, I mean water supply, etc.

Q.—If they are removed to, say, Salsette, or to any other area, can special licenses be issued for controlling them?

A.—It would be possible to do it.

Q.—And could the control be made effective by inspection?

A.—Under the control of the Municipality or of some responsible body inspection can be made effective. But it could not be left to any private individuals to supervise the dairies.

Q.—Would it be practicable to devise a scheme for the Municipality to control them?

A.—It would be possible.

Q.—I do not suggest that the Municipality would be prepared, or well advised, to go into the milk trade. I mean to say that the private dairies, supplying milk to the city, should be under Municipal inspection, and only dairies holding licenses should be allowed to sell milk in Bombay.

A.—Yes. It could be done. It would require a severe Act as in England. Formerly Manchester had no control over the dairies in Cheshire, and up till very recently I do not think they had any power. The Corporation of Manchester had power to disallow selling milk unless the dairy farms labelled all their milk according as it is pure milk, separated milk, or skimmed milk. But until we get that sort of thing here, it would be very difficult to have efficient control over the dairies. I should think that in this country it might be easier, as there is no systematic milk trade.

Q.—And therefore it would be establishing an organisation for the first time, and if it is done under proper control might it not prove advantageous?

A.—It would prove advantageous.

Q.—You are not at present convinced that it could be worked?

A.—You will have to amend the Act a good deal so as to control the dairies outside the limits of the Municipality so as to bring them under our control.

Q.—And your condition is that it is essential that it must be so arranged that the Municipality have control over the milk that would come into Bombay?

A.—Yes.

Q.—These things being assumed, would it be an advantage to have dairies outside?

A.—Yes. It would be an advantage.

Q.—Have you read the Town Planning Bill which is being introduced in the Bombay Council?

A.—Yes.

Q.—You would adopt that?

A.—Yes. That is my idea.

Q.—Would you apply it in the case of congested areas?

A.—Yes.

Q.—That is to say, coupled with the principle that all the beneficiaries under any scheme would have to contribute to the cost?

A.—Yes.

Q.—Would it be practicable, in your opinion, to apply such a scheme in widening roads?

A.—Yes. I do not see why it should not be practicable in Bombay as in other cities of the world.

Q.—You don't see *prima facie* any reason why it should not apply to congested areas?

A.—I do not see why it should not be.

Questions by the Honourable Sir Pherozeshah Mehta.

Q.—Do you really think that the Town Planning Act could be practically made applicable to congested areas in a city like Bombay?

A.—I do.

Q.—Can you give me an instance in which the Town Planning Act has been applied in Europe to such areas?

A.—I know there are many.

Q.—You have given no consideration to the financial aspect of the question?

A.—Not a great deal. Very little.

Q.—Take Kalachowki and Mahaluxmi. How do you apply this Act to areas of that character?

A.—I would apply that part of the Act which refers to old areas.

Q.—How long would it take? Half a century?

A.—Perhaps half a century.

Q.—You will admit it is certainly more suitable for open areas?

A.—Yes.

Q.—With regard to the milch cattle stables in the city, they are a horrible nuisance from a sanitary point of view?

A.—Yes, they are.

Q.—Then the Municipality should acquire cheap lands outside the city and build stables there and let them out on hire as they do the markets. The Municipality have built the markets. They have stalls there and they let them. What is your opinion? That the Municipality should acquire cheap lands outside the city, build stables, and then let them out on hire, asking of course for legislation to enable them to keep strict supervision over the stables and the dairies, as we do at present over the markets?

A.—As you know, we have three stables in Bombay belonging to the Municipality. They are the most expensive in Bombay. We have to supply them with a large amount of water. We have to spend a lot of money on keeping them clean. If we are prepared to do that outside the Island, we shall have to provide them with water and drainage and dispose of the sewage, and it would be a large undertaking. But it is worth doing if that is the only alternative. But we shall have to keep these dairies under everlasting systematic supervision. But it looks rather hopeless to form another branch of the Municipality for the purpose of supervising these dairies outside the City. I think gradually private people will form large Companies and do it themselves, if we put restrictions on the milk which comes into Bombay.

Q.—If you think that the Municipality will not be able to control the dairies, do you think that we can trust the private Companies?

A.—There must be constant inspection at the entrance, and every gallon of milk must be labelled as to whether it is cow's milk, skimmed milk, or buffalo's milk.

Q.—That would require a very large establishment also?

A.—Not so large as the other. We have power now to impose on licensees certain conditions.

Q.—It has been said in the course of the controversy that a good deal of milk is at present got from distances as far as Kalyan. What is your experience? Is it a very large quantity?

A.—Yes. A very large quantity comes into Bombay from long distances.

Q.—How much of the city milk is brought in that way?

A.—A large quantity and in different conditions, sometimes with straw in the vessels to prevent the milk from shaking. Some dairies bring it in cans as in England. It is all sold in the city. They do not guarantee that it is pure.

Q.—Your remedy is that you should leave it to private Companies only subject to the inspection of the milk as it enters the city?

A.—I do not think that any other Municipality has ever gone into the trade itself.

Q.—Do you think that private Companies will be forthcoming for the formation of dairies?

A.—There are now three very large syndicates before us.

Q.—Now with regard to Fort North. You know that when plague first broke out in the city, Capt. Lock was in charge of this part, and you remember that in the report which he made he stated that there are certain plague centres in Fort North which if improved could make the place sanitary, and you also know that thereupon the Corporation represented that this should be taken up by the Improvement Trust, and the Trust refused.

A.—Yes.

Q.—Do you also know that one of the functions of the Improvement Trust is to remove the insanitary parts of the City? And now you say that Fort North is one of the most insanitary parts, and the mortality there compares unfavourably with other parts of the City. I suppose you are of opinion that the Improvement Trust should have really taken up this improvement very long ago?

A.—Yes.

Q.—You know that the other objection they took was that the cost was very large?

A.—Yes. It was large.

Q.—The improvement of Fort North would have a very favourable effect on other parts of the City?

A.—It will affect the other parts. The general health of the City will be improved. People going out from these houses will probably go into new and less-crowded houses.

Q.—You said that most of the residents in Fort North were by no means wealthy people?

A.—There are some rich people. But the majority are middle class.

Q.—You are aware that some rich people prefer to live in the close atmosphere of Fort North instead of going outside?

A.—Yes. I think they must gradually go.

Q.—You are aware that the Municipality impressed upon Government several times that Love Grove should be removed?

A.—No. I am not aware of that.

Q.—Bodwell Legg was the first expert consulted, and he advised that the Love Grove Pumping Station should be removed to the south of Colaba. Do you still think that it is impossible to make that alteration now?

A.—It would be very ill-advised to take it to Colaba. You will have to bring it right through the centre of the population.

Q.—Is it not the opinion of experts that you could take it to the south of Colaba?

A.—It was given about 50 years ago.

Q.—Recent experts say it now.

A.—Since these suggestions were made, sanitary engineering has developed enormously during the last twenty years.

Q.—Will it be easier to carry it into the main ocean?

A.—Yes. It is possible.

Q.—You don't think there is much chance of success in our new scheme?

A.—I don't think so.

Q.—Then we have embarked upon a foolish project?

A.—That is my opinion.

Q.—Do you think that unless the nuisance at Worli is removed there is not much chance of its being favoured as suitable for residential quarters?

A.—I don't think so.

Q.—Do you think that Mahim Woods would be preferred to Worli for residential quarters?

A.—If communications are improved.

Q.—According to your idea, I take it, the improvement of Mahim Woods would be best carried out by the Town Planning Act.

A.—Yes. I think so.

Questions by the Honourable Mr. F. L. Sprott.

Q.—You say that one of your suggestions is to remove the outfall. How do you propose to treat the sewage?

A.—The idea is to filter it and let it go into the sea north of Trombay.

Q.—Is the sewage system sufficiently spread to enable you to deal with the sewage in the rains as well as in the hot weather?

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A.— I think that is the stormwater drainage system. The whole of the stormwater must pass separately into the sea.

Questions by Sir Bhalchandra Krishna.

Q.—Do you recommend the scheme of taking the sewage out to Trombay ?

A.—If it is practicable.

Q.—Supposing that it is possible, will it considerably remove all the malarious conditions and the bad health of the city ?

A.—Yes. It will all disappear. The storm-water drains should be improved and made to run separately into the sea and the sewage proper should be dealt with separately.

Q.—How do you consider that it will then improve the sanitary condition ?

A.—The land will be filled with proper soil.

Questions by Mr. G. Wittet.

Q.—These stormwater drains which are open now, is there any reason why they should not be covered ?

A.—It will be an improvement, but only as a temporary measure. There is a proposal to cover it from Bellasis Road to Clarke Road.

Questions by the Chairman.

Q.—I gather from what you say that, on general principles, you are opposed to the Municipality trading in milk, *i. e.*, to the Municipality building stables for cattle and letting them out on hire as they do their markets ? You prefer that they should not go in for that ?

A.—Yes.

Q.—Instead of that, the whole of the control of milk should be as in London, and control should be exercised by the Municipality ?

A.—If a man is once convicted for selling milk which is not up to the standard, then he will not be allowed to sell milk again.

Q.—Is there any particular reason why that system should not be brought into force in Bombay ?

A.—Yes. Stringent legislation will have to be enforced here, because that would automatically make the owner employ suitable methods for supervising his own milk.

Q.—Would there be any smuggling in that way ?

A.—I daresay there would be. But licensed depôts can be kept in certain distributing centres. In that case all the milk would be brought to some fixed place, and every person selling milk should have a license.

Friday, the 11th December 1913.

JAMES W. MACKISON, Esq., EXECUTIVE ENGINEER, BOMBAY MUNICIPALITY.

Questions by the Chairman.

Q.—I see in the statement which you sent to the Municipal Commissioner you discuss in the forefront of it the removal of the Love Grove Sewage Station, and you express the opinion that when the works connected with it are carried out the foreshore from Mahalaxmi to Worli will be rendered sweet and suitable for a residential quarter. We had an opinion from Dr. Turner the other day to the effect that even after the Love Grove Pumping Station was dealt with, as proposed, by the extending of the outfall further out to sea the nuisance in his opinion would remain. Is that also your opinion ?

A.—I do not think so. There may be a slight nuisance just at the Station, but that can be considerably mitigated if not entirely remedied by the use of exhaust fans. As far as the sewer is concerned, it is proposed to carry it about $\frac{3}{4}$ mile out to sea, and then the sewage will not be thrown back on the shore. At the present time the existing sewer is carried out a very short distance, and the nuisance at the outfall is largely due to the sewage being discharged into shallow water, behind a rocky barrier and is subject to the action of breaking waves having a progressive horizontal motion towards the shore.

The Honourable Sir Pherozshah :—What is the distance at present to which the sewage is carried ?

A.—To a distance of about 700 feet, but if the sewer is carried out to sea as proposed, the outfall will be about 4,000 feet from the Station, and the sewage will be discharged at a depth of 24 to 30 feet below the surface of the sea at low tide.

The Honourable Mr. Sprott :—Have you any information, Mr. Mackison, as to the direction of the winds?

A.—There is a chart which shows that 73 per cent. of the wind blows from a westerly direction.

The Honourable Mr. Sprott :—Would there be a strong current?

A.—Only feeble.

The Honourable Mr. Sprott :—The effect will then be different?

A.—It will be slightly different, but one great advantage over the existing conditions will be that the sewage will be passed through a very fine screen in the new detritus chamber and will be in such a state of comminution as to render it less liable to be conveyed shorewards by wind and wave action and the danger of obstruction by sedimentation will be diminished.

The Chairman :—We will take another point, Mr. Mackison. Dr. Turner's view was that even assuming that the scheme was entirely successful and that there was no nuisance from the sea the effect of handling crude sewage at the Pumping Station was almost impossible of remedying in such a way as to remove all smell at and about the Pumping Station. Do you think so?

A.—I agree that there may be a very slight local nuisance, but I think it can be remedied by the use of Exhaust fans. The nuisance is very slight at the present moment inside the Station.

Q.—But it is your opinion that even if it is found to be somewhat of a nuisance at the site of the Pumping Station, that could be remedied to a very large extent, and it is your opinion that the remedy for the evil from that cause can be applied to an extent which will not deter people from passing by the Pumping Station?

A.—I am satisfied that that difficulty can be surmounted. I may mention that it will be necessary to have another Station in the Northern part of the Island.

Q.—The other thing that Dr. Turner said was that, assuming that the nuisance is eliminated altogether, there will still remain for practically 6 months in the year the nuisance caused by the open storm water drain.

A.—We hope to remedy that by putting down a large installation of pumps at Worli and the channel will be pumped dry in the fair weather season.

Q.—But will these open drains continue, if they remain as they are, to be a nuisance during the monsoon?

A.—Yes, unless they are arched over. During the monsoon they are not so bad owing to the greater dilution. The storm drains should cause no great nuisance and the fact that we are putting in these pumps and draining off the whole of the water in the channels will enable us during the dry season to find out if improper connections have been made; and if so, we will cut them off and connect them to the sewers.

Q.—Then there are other sewers.

A.—Yes, the sewers are distinct from the storm water drains, but a good deal of surface sillage gets into the storm drains.

Q.—But apart from the road water there is a good deal of sewage getting in?

A.—Yes.

Q.—Are you taking steps to see that there are proper connections?

A.—We are doing so as far as we can, but it is very difficult to find out where the connections are. We will be able to detect improper connections and remedy the nuisance when the pumps have been installed and the channel is pumped dry.

Q.—I understand that there is a scheme to modify the direction of the storm drains.

A.—The proposal is to divert the present Love Grove storm water drain so as to connect it with the main Worli channel.

Q.—You are proposing to instal pumps at Worli to deal with surface water?

A.—Yes.

Q.—Then you think that the pumps erected at Worli will be sufficient to dry up the whole of the channel?

A.—Yes, they will be sufficient to keep down the whole of the storm water during the monsoon and to dry up the channel in the dry weather.

Q.—You said just now that it will be necessary ultimately to have another pumping station elsewhere in the North of the Island when the drainage system is extended to the Northern portion of the Island. Has that scheme been taken in hand yet?

A.—The matter is under consideration and a report has been called for.

Q.—Then you will have a separate Pumping Station to the North of the Island, but it will go out to the same outfall, and I suppose that would not be put in hand until we have seen whether the measures taken at the Love Grove Pumping Station are successful.

A.—The Love Grove outfall sewer will be of sufficient capacity to carry the sewage from the North of the Island.

Q.—Is that work in hand now?

A.—We are calling for contracts for the outfall sewer only.

Q.—When do you expect it will be completed?

A.—In 1915, about two years hence.

Q.—Well, Mr. Mackison, the other point about which Dr. Turner spoke was that he hoped that, even if the scheme were a partial success at Love Grove, the Mahim foreshore, at all events, would be a habitable area and would be suitable for residences.

A.—Yes, it would be.

Q.—Assuming that the Mahim foreshore and the Worli foreshore would be suitable for residential purposes, will the communications as at present projected be sufficient for the wealthy classes that will establish themselves there?

A.—The projected communications will be sufficient but I don't think the wealthy classes will establish themselves on the Worli foreshore. The foreshore, is bare rock from end to end on the sea face. Before houses can be built there, soil to a depth of 3 or 4 feet will require to be imported and spread over the whole area, and on the foreshore a road will require to be constructed. The heat radiated and reflected from the rock surface would be intense.

Q.—Then you think that the first thing to have will be a foreshore road?

A.—Yes, taking off from Love Grove.

Q.—When you get about 20 to 30 feet above the rock on the foreshore on the Worli side you come across a certain amount of soil suitable for vegetation?

A.—Very little, indeed. Practically the whole sea face is bare rock.

Q.—Then you don't think the wealthy classes would go there?

A.—I think not.

Q.—Not even if you construct that road?

A.—No, and unless the foreshore road is to be constructed, I think it will be necessary to increase the width of the Love Grove Worli Road to 80 feet, that is, from Hornby Vellard right through to the entrance of Mahim.

Q.—Your idea is that from Love Grove the road should meantime be on the right?

A.—I think so. The adjoining area will be mostly occupied by the working classes, because it is close to the mill district.

Q.—On which side?

A.—On the right hand side.

Q.—And on the left hand side?

A.—It is quite suitable for the middle classes.

Q.—Do you think that the Love Grove Worli Road ought to be widened to 80 feet?

A.—Yes, if the foreshore road is not to be constructed.

Q.—And if it is to be constructed?

A.—It can remain 60 feet wide as at present.

Q.—And the extension Southwards from Love Grove to Tardeo Road, will that require further widening?

A.—Yes, that requires widening. Lines have been laid to 50 feet, but this is not sufficient. A wider road is required from Sandhurst Bridge to Tardeo and the Hornby Vellard.

Q.—And as regards Mahim foreshore, do you consider that will attract the wealthy classes?

A.—Not the wealthy classes. In fact, I think there is a little misunderstanding about the Mahim foreshore altogether. There is a large number of houses already built there, and very little land is now available. Only a few houses can now be built on the foreshore but there are considerable areas of unbuilt on land further from the sea.

Q.—Houses for what classes?

A.—I should say small bungalows for the middle class people.

Q.—People who spend up to how much?

A.—Say between Rs. 600 and 700

Q.—Not above that ?

A.—No.

Q.—Your scheme of expansion includes opening out that area very considerably. That is to say, it includes, according to your map, building roads North to South to Mahim Woods ; that is to say, your left hand road more or less approximating to the coast.

A.—That is the Mahim Bazaar Road which is to be widened and partly diverted. Then there is the extension of DeLisle Road and the widening of Lady Jamshedji Road.

Q.—And you don't think with these connections and communications that the class of people resorting to Mahim will be the wealthier classes ?

A.—No, I don't think so.

Q.—Then what is your idea regarding the destination of the wealthy classes ?

A.—I think a few may go out across the border to Salsette, but not very many. I think they may remain on Malabar Hill, Cumballa Hill, the Fort, and on the reclamation if it comes on.

Q.—You don't think they would want to go to Mahim and Worli ?

A.—I don't think so.

Q.—Supposing we were to deal with the Mahim Woods with a view to developing the area into a better class residential estate, do you think such an idea would be a failure because of the existence of houses occupied by the less well-to-do people ?

A.—Yes, but I think the opening up of the main roads will at once develop the area. The land will be taken up very quickly, but not by the wealthier classes. There may be a fringe of the better class houses along the main avenue, but I don't think this will be general.

Q.—Then you design these very great improvements in roads and communications to Mahim Woods much more as communications Northwards than as agencies for the development inside it ?

A.—For both purposes. There will be very considerable development of the whole area, and I think the wealthier classes will use the improved means of communication and travel by motor car to Salsette.

Q.—When you design, for example, this great Western Avenue Scheme to DeLisle Road, as your scheme does, and into Lady Jamshedji Road, you design it chiefly as a North and South thoroughfare for connecting Salsette with the City, and you do that under the belief that so far as the migration Northwards by the better classes is concerned it will not be a resort to Worli and Mahim ?

A.—It is not merely a main road to Salsette although that is a necessary provision. It is really a road badly required for the people resident in the locality. There is no suitable road there at present. It is required even for the present population, and it will be very much more required in the near future. The idea in so designing the road was to ensure adequate future means of communication, to develop the district, to spread the people over a larger area and to relieve overcrowding.

Q.—Take the connection from the South end of Lady Jamshedji Road down to the corner of DeLisle Road. Is that a road which you propose from the development point of view or communication point of view ?

A.—Both for development and communication. It is very much needed for both. The development will depend on the easy means of communication. The new road makes a short cut to the mill area.

Q.—Have you made actual enquiries as to the cost of making that road ?

A.—I have given that in my report. The cost of acquiring the vacant land, within set-backs, in the portion of DeLisle Road extending from Haines Road to Elphinstone Road would amount to about Rs. 1,86,318 exclusive of land belonging to the Municipality and Railway ground. The cost of securing the land required for the extension of DeLisle Road through the Mahim Woods and for widening Lady Jamshedji Road would be about Rs. 4,05,544. That is, for the acquisition of ground only.

Q.—And you say that you leave frontage exclusive of Municipal property extending to 7,434 feet for subsequent acquisition, the land value of which will be about Rs. 4,15,018.

A.—Yes.

Q.—What is the average cost of land at Mahim ?

A.—We purchased land recently in connection with the cross road from Matunga Station to Mahim Bazaar Road. That is a new road under construction across the heart of the district. The land here was about Rs. 2 a yard. Rs. 3-8-0 was the highest price we paid at the junction of Lady Jamshedji Road and that included palm trees, wells and walls.

Q.—There are various East and West connections right across the Island, some of which are projected and some of which have been carried out. There is one from Curry Road. Is that regarded by you as very important?

A.—Yea.

Q.—Why do you regard it as so important?

A.—With the exception of the overbridges at Curry Road and DeLisle Road there is no other convenient connection to the Mill area from the new Harbour Reclamation.

Q.—There is a little Improvement Trust land there?

A.—A small section between Government House Gate Road and Soparibag Road.

Q.—Then in spite of the new road to be constructed from Sewree to the junction of Soparibag Road and Elphinstone Road you regard it as very important?

A.—I regard it as a very important connection to the industrial centre.

Q.—At the end of your letter you refer to reclamation. You are under a slight misapprehension, Mr. Mackison, in supposing that we are discussing any definite reclamation scheme, but I see you say here, "This Reclamation in my opinion would effect a marked reduction in temperature?" Are you referring to any particular part of the old Reclamation scheme?

A.—I am working on what I saw in the original proposal. I have not seen the recent Government proposals. I do not know what they are. The proposal I have seen is the one starting at Colaba, encircling the wide expanse of rock at Colaba, coming towards Cuffe Parade and joining near Marine Lines Station.

Q.—Will that have a marked effect on the temperature of Colaba itself?

A.—Yes, undoubtedly. It will have a very great effect on Colaba and the Fort area. I am confident that it will reduce the temperature a good many degrees if those rocks are covered.

Q.—I do not want to go into that question exactly, but, roughly speaking, you take it that a reclamation scheme which would eliminate the exposure of rock would have a general effect on the climatic conditions?

A.—It will be very beneficial in reducing the humidity and temperature of both the Fort and Colaba districts.

Q.—It has been suggested by other witnesses that the B. B. and C. I. Railway might be diverted by an overhead arrangement rising from Sandhurst Bridge, crossing on to the Marine Lines Maidan and terminating at a terminus opposite the old Post Office. Major Hepper made that suggestion. Is that a suggestion which appeals to you?

A.—So far, it does. In fact, I have made a somewhat similar proposal in my written statement. What I propose is the construction of an Elevated Electric Railway from near Marine Lines Station to Wodehouse Road. This would obviate the construction of a number of overhead bridges and give continuous access to the reclaimed area and to the foreshore road. A branch elevated line might also be taken from Marine Lines to Bori Bunder and Fort.

Q.—Then you do not advocate Major Hepper's scheme of running the railway along the Maidan?

A.—My suggestion is that an elevated branch line screened by trees might run along the Maidan near Cruickshank Road.

Q.—As regards elevating the railway, you advocate it down as far as Wodehouse Road?

A.—Yes, and from that point gradually falling to the existing station at Colaba.

Q.—Has that any merit, other than perhaps of being less expensive, over the alternative proposal of an underground or sunk Railway?

A.—An underground Railway in this situation presents many difficulties both in regard to construction and maintenance as for the whole way it will be below sea level. Queen's Road is just about 3 feet above sea level.

Q.—There are various instances where land is below sea level.

A.—Yes, but pumping installations are kept in case of emergency.

Q.—Instead of having a tunnel, what is your opinion about a suggestion which I have heard that the railway might be lowered down to window level?

A.—I have heard that proposal, but I do not think that will so well meet this case as an elevated line because even at a few feet of depth water is found.

Q.—But it could be easily made waterproof. Could it be dealt with in that way?

A.—Well, it could be dealt with.

Q.—Effectively?

A.—I should think so.

Q.—Supposing we have 10 inches of rain in a day, could the water be pumped out?

A.—It could be controlled if there was a large pumping establishment.

Q.—What is your opinion about the overhead railway, the sunk line and the partially sunk railway?

A.—The partially sunk railway would be preferable.

Q.—And from the point of view of comfort of the railway travellers?

A.—I do not think it will affect them very much.

An overhead Railway screened by trees would be very little noticed.

Questions by the Honourable Sir Pherozeshah M. Mehta.

Q.—Have you considered the economic effects of all the beautiful improvements which you have suggested? I mean economic in a somewhat large sense, upon the people, the poorer classes, upon the Municipality, and upon the city.

A.—I think all the main roads which have been recently suggested will be remunerative. I think they will improve communications very greatly, and they are actually required for the convenience of the people. They are very serviceable roads. As regards set-backs, my view is that the set-back provisions are not at all suited for dealing with the central areas already built upon. I think the set-back clauses are applicable to cases where we are dealing with outlying open spaces which we can take up at once.

Q.—Is not that the function of the Improvement Trust rather than the Municipality?

A.—My opinion is that the Improvement Trust ought to take up the built on portions and deal with those parts, but that the unbuilt portions should be dealt with by the Municipality. The great thing is to do this sort of thing quickly. If you lay down lines for set-backs on built on areas and start slowly at one end of the street paying Rs. 20 a yard for the land, by the time you get to the other end the value may increase to Rs. 200 a yard. The Municipality under an expeditious scheme will get the benefit of the betterment.

Q.—How is the Municipality getting the benefit of the betterment at all?

A.—If you take up land just now, it will make a very great difference as the present value is low. In a few years the price of the same land will go up to three and four times its present value.

Q.—You do not calculate interest?

A.—I would, but the increase in price and assessment returns will be enormous in comparison.

Q.—You are aware, Mr. Mackison, that the Improvement Trust Act has recently been amended by putting in sections about Deferred Street Schemes. Do you think it was a mistake?

A.—I think it is a great advantage. It is, however, more applicable to built upon portions.

Q.—But you know it was advocated on the ground that it was more applicable to open spaces than to unbuilt areas. You consider that was a mistake?

A.—I consider it is the duty of the Municipality to provide thoroughfares and for the Improvement Trust to deal with crowded and insanitary areas.

Q.—My question is this. Don't you think the Improvement Trust is really a Department of the Municipality, not in regard to status and rank and dignity, but for the development of the City?

A.—Their work is more to pick out congested areas, and deal with them. The Municipality should in general provide main lines of communication.

Q.—You consider that the Improvement Trust is really a Department of the Municipality for the development of the City?

A.—So far, it is.

Questions by the Honourable Mr. F. L. Sprott.

Q.—Mr. Mackison, you say that you think that the people who will go to the Worli and Mahim area will be the middle class people?

A.—Yes, I think so.

Q.—Will that area be efficiently served by the existing road communications, or what would you suggest?

A.—I would advocate trackless trolley trams or the motor omnibus.

Q.—It has been suggested that a solution of that would be a loop line of the B. B. and C. I. from Mahim passing round across Hornby Vellard and rejoining at Grant Road.

A.—An Electric railway is always better than a tramway in that very much greater speed is attained, but the area in question is not sufficiently distant from the existing railway to justify the construction of another line.

Friday, the 6th February 1914.

Questions by the Honourable Sir Pherozeshah Mehta.

Q.—You say in your written statement, paragraph 2, “The Governor in Council in 1903 after mature consideration came to the conclusion that adequate means of locomotion in Bombay demanded an eastern, a central, and a western trunk line of roadway and urged that the immediate needs of the City should be met by the provision of the following works etc.” What do you mean by “mature consideration”?

A.—By “mature consideration” I mean that prior to formulating the Government Resolution, the Governor in Council had invited, received, and considered the opinions of numerous important representative bodies as to the development of Bombay.

Q.—Do you consider that the scheme was framed simply as a scheme of road communication or also as a sanitary measure for the improvement of the insanitary areas of the City? Do you consider that this scheme is equally calculated to give facilities for road communication and for the improvement of the insanitary areas of the City, or is it one more than the other?

A.—Rather more for the road communications than for the improvement of insanitary areas.

Q.—You know that at the present moment in the heart of the City there are many insanitary areas and slums which really require to be opened out if the health of the City is to be improved?

A.—Yes.

Q.—I think you will admit that in any really well considered scheme for the development of the City both should go hand in hand?

A.—Yes, but it is necessary at the outset to provide adequate road communications so as to give the requisite facilities for convenient transit and for building expansion and thus to prevent the existing congested and insanitary conditions being reproduced.

Q.—Does that apply to this extent, that while that is done you need not touch the sanitary improvement of the City?

A.—My idea is that concurrently with that we must take in hand the improvement of the insanitary areas in the heart of the City.

Q.—If that is so, and all your resources practically are devoted to one, what are you going to do with the other?

A.—I would not devote all the resources to one.

Q.—You know that the Municipality, at your instance I am glad to say, have been laying down regular lines for a large number of set-backs?

A.—Yes. That is so.

Q.—Now if the spaces and the buildings within those regular lines are taken up, as you suggest, have you calculated the liabilities of the Corporation?

A.—I have prepared a statement and find that the cost of acquiring the vacant land and buildings within the regular lines recently laid down will amount to a comparatively small sum.

Q.—What I am asking you is whether the Municipality has been laying down a very large number of regular lines both in the built and unbuilt portions of the City.

A.—Within recent years the lines laid down have been more in the unbuilt portions.

Q.—But are there not any in the built?

A.—I think very few in the built portion. We have been careful of late to take up vacant lands as far as possible.

Q.—What I mean is this. They may have been laid down before your time, but the acquisitions would be made as they fall due?

A.—Previous to my time many set-back lines were laid down in built upon areas, but a few years ago a list of the more important streets was prepared and since then the acquisition of set-backs has, except in special cases, been restricted to such streets. I am now revising the set-back lines with a view to reduce expenditure.

Q.—At present the liability of the Corporation in regard to the acquisition of set-backs both in the built and unbuilt portions of the town on the regular lines which have been laid down is a very large one?

A.—Yes. The total liability is large but the actual annual expenditure is to a great extent determined by the number of building proposals received. The acquisition of set-backs is optional and a quarterly statement of incurred liability is prepared so that the number of acquisitions may be regulated accordingly. The total amount paid for set-backs during the 14 years 1899 to 1913, amounted to Rs. 52,59,582 and the amount of liability outstanding for

land acquired at the close of the last financial year (1913) was Rs. 3,25,505. (The witness here produced a statement * regarding set-backs).

Q.—This is only a statement of liabilities. You have been going on taking set-backs without any sanction from the Corporation, and the Corporation really does not know what its liabilities are until we ask for reports from time to time. Is it not so?

A.—Set-backs are taken up as they occur, i.e., when building proposals are received and therefore the amount which may be required in any year is indefinite.

Q.—These have been acquired without any budget grant?

A.—A budget grant of Rs. 1,00,000 has been made for a number of years but the amount has been found to be insufficient and has been exceeded. The actual expenditure in 14 years has been Rs. 32,59,582.

The Chairman.—That has been spent.

The Witness.—Yes. That has been spent and further liability of Rs. 3,25,505 incurred.

The Honourable Sir P. M. Mehta.—Unfortunately the practice has been to go on acquiring set-backs in the best part of the City without any budget provision, but the Municipality does not pay up the amount all at once, so that very often in the Budget you do not know what is the liability incurred? What I want to know is that the liability is very indefinite and may be very large?

A.—Yes. It depends on the number of buildings being constructed and that varies with the prosperity or otherwise of the trade in the City. The set-back lines in the centre of the City are being revised.

Q.—If the Corporation has to devote its resources to street improvement purposes, how are the insanitary areas of the City to be improved?

A.—The work should be divided between the Municipality and the Improvement Trust.

Q.—Now improvement by set-backs is a somewhat slow process. Is it not?

A.—Very slow. It depends upon the number of applications for permission to re-build and various other things.

Q.—Do you say then that the improvement of the insanitary areas is to remain untouched for a long period of time?

A.—Certainly not.

Q.—How are the insanitary areas in the heart of the City, of which there is a large number, to be improved?

A.—That should mostly be done by the Improvement Trust.

Q.—Now if the resources of the Improvement Trust are so exhausted that they say they cannot take up any more Improvement Schemes, what are they to do?

A.—The Municipality should assist by raising further taxation, if necessary.

Q.—Do you know what is the rate of taxation per head in the City now?

A.—I think it is now below Calcutta.

* Accompaniment to the Executive Engineer's No. S & B/14976 of 4th February 1914 to the Municipal Commissioner addressed through the Chief Accountant.

Set-backs paid for.

Year.	Capital.	Revenue.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.
1899-1900	.....	60,984 4 9	60,984 4 9
1900-1901	.....	1,05,008 14 11	1,05,008 14 11
1901-1902	.....	1,27,430 1 8	1,27,430 1 8
1902-1903	.....	82,189 14 9	82,189 14 9
1903-1904	.....	1,12,128 7 5	1,12,128 7 5
1904-1905	.....	1,48,751 15 5	1,48,751 15 5
1905-1906	79,736 0 2	1,57,747 15 7	2,37,483 15 9
1906-1907	1,90,118 7 11	1,18,347 2 8	3,08,465 10 7
1907-1908	1,53,791 11 10	1,00,000 0 0	2,53,791 11 10
1908-1909	3,98,183 1 5	1,00,000 0 0	4,98,183 1 5
1909-1910	2,92,501 2 2	1,00,000 0 0	3,92,501 2 2
1910-1911	1,54,672 1 10	1,00,000 0 0	2,54,672 1 10
1911-1912	2,41,054 1 2	1,11,313 0 0	3,52,367 1 2
1912-1913	2,10,729 9 1	1,14,894 0 0	3,25,623 9 1
Tota	17,20,786 3 7	15,38,795 13 2	32,59,582 0 9

Amount of Liability outstanding for land acquired for set-backs Rs. 3,25,505-2.

Q.—Would you be surprised to learn that the local Municipal taxation in the City per head is larger than either Calcutta or Madras or any other City?

A.—I do not know.

Q.—Have you considered it from an economic point of view?

A.—Yes.

Q.—Now with regard to the cost of all your Improvement Schemes such as improvement of insanitary areas, etc., don't you think it acts as a burden upon the poorer classes of the City?

A.—I don't think the recent proposals will have that effect.

Q.—You are confining yourself persistently to open spaces. I am now talking of the burden upon the rate-payers from the acquisition of all set-backs. But you have to consider the burden upon the City as a whole.

A.—I think the burden due to the acquisition of set-backs will increase in a less proportion than the revenue received from expansion of the City.

Q.—You know that one of the causes of over-crowding in the City is that people cannot afford to pay the rents and therefore they are obliged to crowd themselves in one room.

A.—I think it is so.

Q.—You say that if you build roads and communications people might go out, but will all that process of going out appreciate or depreciate the property in the City?

A.—It will depreciate the back lying areas in the City.

Q.—If property will depreciate in future, is not what you say about the heavier cost of acquiring properties not well-founded?

A.—I don't think there will be much depreciation of property except in the back lying areas. The buildings fronting streets will maintain their value.

Q.—You said that the Corporation should address itself to preparing main lines of communications, etc., and that the Improvement Trust should look to the crowded insanitary areas. Then do you think that the Legislature made a mistake in including Street Schemes as well as Improvement Schemes under the functions of the Trust?

A.—The operations of the Trust should in my opinion be more directed towards the development of areas and not so much to providing main lines of communication.

Q.—Do you know that as an actual fact that the Improvement Trust has devoted a greater portion of its resources to Street Schemes than to Improvement Schemes?

A.—Yes, but it is necessary in the first instance to lay down Street Schemes, otherwise the spreading of the population on account of Improvement Schemes could not be controlled.

Q.—I am very glad to see that you hold very strong views about improving the area in North Fort between Hornby Road and Church Gate Street and all that space. You consider that the Improvement Trust should undertake the improvement of this area?

A.—Yes.

Q.—Do you consider that the improvement of that portion in the Fort is very essential from a sanitary and road communication point of view?

A.—Yes. I think it is.

Q.—Do you think that such an Improvement scheme would be practicable and within reasonable limits?

A.—Decidedly.

Q.—Are you aware that when plague broke out in the City, the Plague Officer, Captain Locke, reported that it was very necessary that that area should be improved?

A.—Yes.

Q.—The Municipal Commissioner thinks that he has the power of widening DeLisle Road to 100 feet without referring to the Corporation. There is a Committee appointed which questions that power.

A.—I think the Commissioner has the power, but I know that others hold a different opinion.

Q.—You know the proposal is that this road is to be provided for the purpose of having the Bridge widened from 50 feet to 80 feet and I think you had estimated the proportion of the cost which would fall upon the Corporation as about five lakhs?

A.—My estimate of five lakhs is based on the assumption that the whole of the properties affected may be required to be taken up. This, however, is very improbable and the actual cost may, as in other similar cases, be very greatly reduced.

Q.—In your written statement, page 2, paragraph 1, you have stated “Sheikh Memon Street, another congested thoroughfare, west of, but parallel to, Abdul Rehman Street, is also being dealt with under the set-back clauses of the Act. Here again the cost is very great. About 65½ feet of frontage have been taken up at an expenditure of Rs. 2,35,611. The frontage still to be acquired extends to 2,072 feet and the estimated outlay under existing powers to about Rs. 11,66,520”. That is only with regard to one street in the City, so that the cost of acquiring this is very great?

A.—Yes. It is very great.

Q.—There is another thing in which I agree with you and that is that you do not think that migration to Sálsette will be very considerable?

A.—I don't think it will be very considerable. Eight or ten per cent. may go. As regards the working classes, they prefer to reside near their work.

Q.—You say that there is enough space at present for building mills and factories within that area on the east of Worli?

A.—There is a very large space there.

Q.—Are you in favour of sending the mills and factories to the north-east of the City?

A.—There is a large space still available but the north-east area might be used for the purpose of objectionable trades.

Q.—Even supposing there is space, would it not be desirable, taking a large view of the future, to occupy the north-east of the City?

A.—I don't think mills should be situated far from the harbour as the cost of conveying goods is an important factor.

The Chairman.—You said just now that the working classes invariably insist on living near their work and that there is no objection to mills being built near Worli and the Parel Estate on which Hospitals can be built?

A.—I do not think that that area should be occupied by industries.

The Honourable Sir Pheroze Shah Mehta.—Did you give us a list of the unoccupied lands in the City?

A.—It is very difficult to make out such a list, but I have indicated such lands by a distinctive colour on a Survey map.

Q.—Now about the Máhim Woods. You are very keen about this?

A.—Not specially keen.

Q.—Is not the best way for opening up Máhim Woods by a Town Planning Act?

A.—Yes, or by some modification of the Act.

Q.—You remember the report of Mr. Cadell. Now even he had to add this. “The Executive Engineer has proposed several cross-roads to give access to the Máhim foreshore and this is of great importance for the proper development of the area. The owners of the adjoining properties will benefit largely by these cross-roads and it is right that the corporation should demand their co-operation in the construction of them.....I hope therefore that in providing land for the main roads and for the construction of the cross-roads the owners will be reasonable in their demands.” Do you agree with that?

A.—That is what I suggested. I think that it is not the duty of the Municipality to lay out and make streets for private parties. The landowners should be made to develop their own properties.

Q.—Do you think it is conceivable that the house-owners would be so moderate in their demands?

A.—That would be rather difficult to expect.

Q.—A great deal is sometimes said about the increase of assessment in widening streets etc., and it is said that that will compensate the Corporation for any outlay which they may have incurred. Now you know that so far as assessment is concerned, the greater portion of it is spent again by the Corporation by rendering service. Is it not?

A.—Yes. It is so.

Q.—So that with the increased assessment in consequence of the improvements of and widening of the roads, and other things, the burden upon the Corporation will also increase for services to be rendered to those localities?

A.—The assessment will increase in much greater proportion than the cost for services rendered.

Questions by the Chairman.

Q.—I want to know if it is your argument that, since the cost of constructing main lines of outer communications will be very small if frontages are also acquired, therefore the cost need not be considered as delaying the process of slum improvement in the City? That is your argument?

A.—Yes. That is so.

Q.—You also said that the working classes invariably would prefer to live near their work. Surely that is not the case in many places in England where facilities by way of trains, etc., are provided?

A.—My experience of the working classes is that they prefer to live near their work.

Q.—But in England a large number of workmen go out for work by train, etc., every day. Is that your experience too?

A.—Oh yes, a certain number of tradesmen go out of the City by trains, but very few of the ordinary workpeople.

Q.—Assuming that facilities for workmen's trains were established in connection with our Railway workshops, is there any serious objection in your mind to transplant them further afield?

A.—I don't think there would be any objection when a large number are going to a common destination.

Q.—Would it inconvenience them?

A.—Not if proper facilities are provided.

Q.—Are you aware that Major Hepper suggested that Government should compel all employers of labour to provide accommodation for their workpeople, and do you agree with his views?

A.—Yes. I agree with that.

Questions by the Honourable Mr. Sprott.

Q.—In your written statement on page 3, paragraph 1, you state, "the question of adequate and convenient access to and the provision of ample accommodation for business premises in the vicinity of the Harbour are however of such vital significance that when considered in relation to the efficient working of the new Docks, that the Port Trust may justly be expected to make a substantial contribution in aid of the scheme." Will you tell me in what way it will affect the efficient working of the new Docks?

A.—Better means of communication will be provided, and while the heavy motor and bullock traffic will probably continue to follow the existing routes, the lighter traffic will be greatly facilitated and accommodation will be provided for business premises in the vicinity of the Harbour.

The Honourable Sir Pheroza Shah Mehta—At present of course there is a large cart traffic and the bulk of the traffic is carried on by bullock carts. But you know the new proposal about motor wagons. Will that relieve the cart traffic?

A.—Yes. I think it will.

Friday, 12th December 1913.

A. J. BILIMORIA, Esq., (OF MESSRS. TATA, SONS AND Co.).

Questions by the Chairman.

Q.—You have in your written statement practically limited yourself to a discussion of the reclamation scheme which we have rather barred from our discussion, so that, so far as I am concerned, I do not propose to examine you on the subject of the reclamation scheme, which is not under discussion at all, but to ask you certain general questions which the other witnesses have dealt with, that is to say, questions regarding the development of Bombay apart from any specific reclamation scheme. Have you considered at all the question of communications?

A.—I am afraid I am not prepared to answer that question. I am not very conversant with the roads.

Q.—Do you consider that the three main roads will suffice for communications between North and South?

A.—I am not prepared to answer that question, I have not studied the matter.

Q.—Have you thought out any scheme of supplementary roads in addition?

A.—No, I have not. I consider, however, that a road from Ballard Road to Hornby Road is of urgent necessity. I strongly approve of a good road between Ballard Road and Hornby Road, and I think this road will be very useful in improving an insanitary area and will provide suitable sites for business offices and shops in the vicinity of Hornby Road.

Q.—How do you propose that the construction of such road should be financed?

A.—I have not considered that question. It will be not only for the convenience of passengers who use Ballard Pier, but it will be a convenience to the general public, commercial as well as residential.

Q.—Do you think it is of such pressing need that it should take precedence of larger schemes of other development?

A.—Yes, I think it should.

Q.—Why do you think so?

A.—Because I think that that part of the city is insanitary—it is just near Hornby Road, it is practically the heart of the business centre—if it is opened up, we will have many sites suitable for offices and shops.

Q.—To a further question you say “I think if you make this road, it will assist people in getting sites for offices and shops because it is just near Hornby Road. It is practically now the principal business centre of Bombay.” But has the position been reached at which that road is a necessity for provision of office accommodation?

A.—I think more offices will be required in a few years' time, and this site will be most useful.

Q.—If that site is not available, where would office accommodation tend to migrate?

A.—I think it ought to be centred in the locality of Hornby Road. I believe all the buildings between Hornby Road and Waudby Road will be taken up for offices, and I do not think there is any space for extension to the north of, say, the Gaiety Theatre or the Empire Building, and so it may go up a little further up to the Cotton Green.

Q.—To the South?

A.—Yes, to the South.

Q.—Do you think the demand for office accommodation will extend to Apollo Bunder?

A.—Not quite up to the Apollo Bunder, but up to Waterloo Mansions, the Hotel Majestic, the Cotton Green, Colaba, Wodehouse Road, etc. I believe that when the Cotton Green and the Colaba Terminus are removed, that locality will supply the demand for office and shop accommodation in the Fort.

Q.—Supposing the Colaba Terminus is not removed?

A.—Then it will be so much short.

Q.—Do you think that offices will go further than the Museum?

A.—I do not think they will go further than say, the Hotel Majestic or three or four buildings further up.

Q.—And the further area remaining is the Cotton Green?

A.—Yes.

Q.—If that remains, what will be the tendency of the wealthy people?

A.—I think the higher classes will prefer the western foreshore and will go to Worli if the Pumping Station there is removed, and will go further up to Mahim and Salsette if good roads are constructed.

Q.—Do you know the nature of the Worli foreshore?

A.—No.

Q.—It was suggested yesterday that it is not suitable for residential quarters, because it is bare rock there.

A.—I understand only a part of it is.

Q.—Apparently, the whole of the foreshore, according to the witness in question, is bare rock. Would that in your opinion prevent buildings being erected?

A.—I do not think entirely. It might be a little more expensive.

Q.—The better class people would also go to Mahim?

A.—Yes.

Q.—And it was also suggested yesterday that there is not very much space left at Mahim, and that Worli is unsuitable for the reasons stated, Mahim being taken up very largely by second class people, that is, the less well-to-do people. Do you know the scheme for the opening up of Mahim area?

A.—I believe there was a scheme to open up Mahim Woods, but, if the cost is prohibitive and the loss of revenue to Government is very considerable, and if vested interests are affected, a wholesale development of this area should be avoided in favour of a scheme of gradual development by private individuals and by construction of roads.

Q.—And you think the wealthy classes would oust the less wealthy?

A.—There will be more land near the foreshore to the East, which can be taken up by the other classes.

Q.—The suggestion yesterday was that the foreshore was almost entirely taken up.

A.—I do not think so. There are only a few bungalows already taken up, near the Bandra Causeway.

Q.—Assuming the nuisance at Love Grove is removed and so forth, will any road supplementary to the existing road system be necessary to further the colonisation of that area?

A.—Yes, I believe so; but I have not studied the question of roads.

Q.—You think it might be necessary?

A.—Yes.

Q.—The Western road is being widened to 60 feet up to the storm water channel, and it is in contemplation to widen one of these roads and take it up to Lady Jamshedji Road. Would anything in addition to that single 60 foot road be necessary?

A.—I would prefer it to be 80 feet wide, but I think that the proposed road would do.

Q.—And it has also been suggested in evidence that it would greatly accelerate the colonisation of that part if the B. B. and C. I. Railway built a loop line, taking off at Mahim Station and joining the main line again at Grant Road. Do you think that would further assist in providing accommodation of a satisfactory kind for that area?

A.—Well, I cannot exactly say; I have not formed any opinion.

Q.—Well now, leaving aside if you can from your mind the question of any given scheme of reclamation, I want you to answer the question regarding the provision of sites for Government requirements.

A.—I think the Secretariat, the High Court and other Government institutions must remain in the Fort. The University buildings should also, if possible, remain in their present position, but I am of opinion that Elphinstone College, the College of Science, etc., should be removed from the Fort to some other locality, say the Northern part of the Island, or even to Salsette, where there would be ample space available for play-grounds, etc. In the same locality and vicinity the proposed new educational institutions should be provided for, thus turning it into more or less a University quarter.

Q.—Have you considered the educational aspect of that proposal?

A.—Yes; even after considering that aspect I think the whole of the buildings should go.

Q.—No, you don't think that the whole should go, the University should remain and the Colleges should go.

A.—Yes, that is what I would prefer.

Q.—Have you considered it from the educational point of view?

A.—I have read Mr. Justice Heaton's evidence. I think, it might be necessary to remove the University Hall and the Library also. What I propose is that the Elphinstone College, and the College of Science and all the educational buildings which are made available by their removal should be given for Government offices.

Q.—I understand what you mean: Remove all these buildings to some other place, including the University. Have you considered the question of sentiment in making that proposal? Sentiment cannot be ignored altogether in cases of that kind, about the actual bricks and mortar which constituted the University Buildings. Have you considered the question whether any sentiment exists in respect to University Buildings themselves, and, if so, whether that sentiment is worth anything or not?

A.—I do not think the sentiment is more than in other cases of a similar character. I think there is not so much sentiment. A University quarter should be in a locality where a large area is available and I think it would be better to override the sentiment, if there is any.

Q.—You think it is a case where it is worth while to override the sentiment?

A.—Yes.

Q.—Suppose for a moment your suggestion were adopted, what would you do with the University Buildings?

A.—I would hand them over to Government.

Q.—For the moment we do not want them.

A.—I am told that Government want certain buildings for St. George's Hospital, the College of Commerce, the Ladies' College, Government Law School, a Hostel for Law students, a better Hostel for Elphinstone College, a building for a College of Physicians and Surgeons, a Home for Incurables, and so on.

Q.—You say you would hand over the University Buildings to Government for some purpose if they required them.

A.—Yes.

Q.—Don't you think some of these buildings which you propose should be taken up by Government would cost a great deal?

A.—I think however costly the buildings may be, the sites are more valuable, so it makes a difference.

Q.—You would scrap the buildings?

A.—I should say yes. I know of some buildings in Hornby Road erected some years ago when the sites were cheap (I know of one or two buildings personally) which before completion were sold at a profit of 80 per cent.

Q.—But Government might not look at it quite from that point of view. They want to have a practical suggestion?

A.—Well, I think there would be investors who can take up plots and erect offices there.

Q.—Then you would actually allow the University buildings to be demolished and offices erected there?

A.—Well, I do not see why they should be demolished. They are not, after all, such big buildings, except the Rajabai Tower, which, of course ought to remain.

Q.—Perhaps you will remember that, when there was a question of erecting a little building connected with the University Hall in the University Gardens some time ago, there was some opposition to it.

A.—If the University Hall and buildings remain there, I should prefer to have some building upon the vacant land around it. I would not consider that opposition.

Questions by the Honourable Sir Pheroze Shah M. Mehta.

Q.—I see you do not attach much value to sentiment. Now let us take it in this way. Your proposal is of a two-fold character as regards educational institutions. One in which you allow the University Buildings to remain there and remove all the rest, Elphinstone College, the College of Science, etc., to the North of the Island, and the other is to remove them all to the North of the Island or as far as Salsette. Now let us take the first one. When the two University Buildings remain there, you know what they are used for?

A.—Yes.

Q.—For what?

A.—Offices for the Registrar in one building, and the other building is only rarely used during the year, for Convocation purposes and meetings of the Senate.

Q.—Well now, you know that what is called the Rajabai Tower is used as University Library?

A.—Yes.

Q.—Are you also aware that it is contemplated in the near future to enlarge this Library and make it more useful for students and graduates than it is even now?

A.—Yes.

Q.—Now if the College of Science, etc., were removed, the students would be deprived of the use of that Library?

A.—Yes.

Q.—That would be a very serious drawback?

A.—Yes.

Q.—Then again, you know that the offices of the University are located there and these offices are of special value at the time when examinations take place, which are very numerous now. There are six monthly examinations lasting almost throughout the whole year. Now would it not be very inconvenient for the candidates, because they would have to come to the University for various purposes, to have a college so distant as Salsette? They would have to go for examination and other purposes connected with the University offices. They have to obtain a lot of information at different times which they could not get from anybody but the University Registrar. Would it not be most inconvenient to them to come from long distances to the University offices?

A.—No, I do not think the inconvenience would be so very great. Even now they come from long distances.

Q.—Then again, there are two other colleges—big important colleges—one at Chowpati, Wilson College, and the other at the end of the Esplanade, the St. Xavier's College. What would you do with them in that case? Would you require them to remain there or remove them?

A.—Would it be a question of compelling?

Q.—Of course, these Colleges belong to those people. It would be some sort of compulsion. What would you do with them?

A.—I should prefer them also to go.

Q.—Then all those students learning there would have to go all the way to the Fort for various University purposes?

A.—It would not be very often in the year.

Q.—Oh yes, it will be very often.

A.—Just as clerks have to go the various offices, so the students might go to the University offices.

Q.—Now the other alternative you suggested is that everything should go out. Now what would be the gain by putting them all in Salsette? Is that a more healthy part of the Town?

A.—No; we want more space for offices and Government buildings and these must be in the Fort.

Q.—So really you require educational institutions removed for the purpose of making way for commercial offices. Otherwise you would not?

A.—No.

Q.—Then the North of the Island is by no means so healthy a place as where the University buildings are at present?

A.—There are not many hostels.

Q.—Never mind the hostels at present; but the colleges themselves are at present situated in far more healthy localities than they would be in any portion of the North of the Island?

A.—They would not be in such an unhealthy locality there. I do not think that Matunga or Dadar would be unhealthy.

Q.—Would it be as healthy as the present locality?

A.—Yes, probably it would be.

Q.—Would the surroundings be of a character to harmonise with the status and the requirements of colleges?

A.—I should say more so.

Q.—You have pointed out that Dadar and Matunga might be the places where these institutions should be removed. When the Improvement Trust's Scheme is developed, what class of people do you think will chiefly occupy those places?

A.—The better parts would be taken up by the middle classes and others by the poorer classes also.

Q.—A large number of chawls will be there?

A.—But the University quarter should not be in the locality where the chawls are.

Q.—That locality would have a large number of chawls.

A.—My idea is that, if Dadar and Matunga are properly developed, they will be suitable for middle class people, for bungalows, gardens, and so on.

Q.—And any chawls for the work people who inhabit at present the North of the Island?

A.—In my estimation there is at least 1,000 acres of land which can be utilised for better class people.

Q.—Intermixed very largely with habitations for the poorer classes?

A.—They need not be.

Q.—Do you propose that we should turn out the poorer classes from that part?

A.—I mean the new area which is practically not occupied at present.

Q.—I am talking of the surroundings. I quite admit you might find some open area, but you know it is a very important consideration for educational institutions as to what surroundings they are amidst. What I ask you is, would not many portions of that locality be occupied by the poorer classes and chawls for the poorer classes. Now would that be a desirable surrounding for educational institutions of the sort of Wilson College, Elphiustons College, College of Science, and so on?

A.—It is not desirable, but I think it can be avoided if proper plans are made. I think the University, the Colleges, and other buildings would require a very large area; then it would be practically one district. It would have nothing to do with chawls.

Q.—Take it that you do find 1,000 acres in which you locate all these institutions, but still what would be the surroundings around that area? What I am trying to point out to you is that the surroundings around educational institutions which house a very large number of young men—and if you have a Ladies' College, young women—ought to be of a desirable character. Now would the surroundings of a mixed population such as alone we could expect to occupy that part be suitable surroundings for the educational institutions of the character of these Colleges?

A.—I do not think it would be very desirable.

Q.—Now I come to what I consider the most important part of the evidence. The Chairman has told you we are not considering *the* Reclamation Scheme, but still there is a lot of evidence on the records giving opinions one way or another. Mr. Bilimoria, you have had a

very long acquaintance with landed property in the City, as you were managing from very early days all the properties of the late Mr. Tata, and not only were you managing them but you were instrumental in acquiring and leasing several properties?

A.—Practically all the buildings were erected after I joined.

Q.—So you are thoroughly conversant with land transactions in the City of Bombay?

A.—Yes, fairly.

Q.—Now Mr. Tata, as you are already aware, always looked at a thing very thoroughly and made careful enquiries, and he was always in the habit of employing the best of experts he could get. As regards the Hydro Scheme, the Iron and Steel Co., and so forth, he always laid stress upon employing the best experts on any particular subject. I suppose in the same manner, he employed competent people to study the reclamation scheme.

A.—These particular people were not employed by the late Mr. Tata, but by Mr. Ratan Tata.

Q.—And they were very eminent people?

A.—I suppose they are the best firm of Reclamation Engineers in the world.

The Chairman.—Who were they?

A.—Jacob and Davis of New York City.

The Chairman.—Did they come out here?

A.—They sent a representative, Mr. B. H. M. Hewett.

The Chairman.—How long was Mr. Hewett here?

A.—About three months. He actually made 10 or 12 schemes of reclamation on the Western foreshore and at Dadar and Matunga, where Mr. Tata has got a large area of land, and he gave us detailed costs of all the schemes.

The Chairman.—He made 10 or 12 schemes in three months?

A.—Yes; I think in three or four months. The report was not given by Mr. Hewett, as representing Messrs. Jacob and Davis. They sent in their report after considering all the facts laid before them. Mr. Hewett turned out all the schemes in three months.

Sir Pherozeshah.—Those schemes related to the whole of the Western foreshore?

A.—He took them by bits. Chowpati, for instance, was taken in two or three ways for reclaiming. Then he took Marine Lines to Back Bay Baths. Then he took Marine Lines in another way. So it was worked in different ways.

Q.—I see, Mr. Bilimoria, when you say different schemes, some of them you mean were schemes working on the same basis but in different methods?

A.—Not one full scheme, but in certain sections and by different methods of reclamation.

Q.—Then you are able to say from the reports which the firm you employed made that the figures in their estimates and those put forward in the Government estimates differed very largely?

A.—Yes. They very considerably differed, and we sent them the Government estimates too later on, and we had a report from them again.

Q.—I see that you go so far as to say that when the Government Engineer's estimates were sent to them, they thought it was almost improbable or even impossible to do it within their estimates?

A.—Yes.

Q.—They were of opinion that it would take a very much longer time to perform the work by the Government scheme?

A.—Not only reclaiming. For instance, the life of the dredgers, they said, was not so very long. As a matter of fact, they told us that the dredgers of the Port Trust were also coming to the end of their usefulness. Mr. Hewett told us that the dredgers of the Port Trust, if utilized for the reclamation, would not last long, they would not go on for ever.

The Honourable Mr. Sprott.—No, I don't suppose they will last for ever. Was it their opinion that the Port Trust dredgers would not have a life sufficiently long if they are employed?

A.—They said they could not be utilised for the proposed new reclamation scheme.

The Honourable Mr. Sprott.—They also referred to the Port Trust dredgers. Was it their opinion that the Port Trust dredgers would not have a life sufficiently long to carry out the work which, I may say, they have already done?

A.—We had been told that it was considered that these dredgers might do for some other purpose.

The Honourable Sir Pherozeshah Mehta.—That shows that there was some idea of taking them over for the purpose of the reclamation. Besides they have pointed out that the state of things during the time of the reclamation would be by no means of a desirable character?

A.—I don't know why we should have all the ills and unsightly things. Our descendants ought to have a little bit too.

Q.—Then I want to take you to the last paragraph of your written statement. "It has been stated that the buildings on the Colaba Reclamation are now all occupied, and that the Improvement Trust obtained very high prices for the plots. The latter statement is quite correct, but that does not prove that the lessees of the plots are realising a good return on their investments." Is that so?

A.—Yes. I really think so, that the rents have on the whole not been raised very much, nor are the places less vacant than they used to be.

Q.—What is your experience? Are places still vacant?

A.—The rents have not appreciably gone down, nor has the percentage of vacancies increased.

The Chairman.—In what area is that?

A.—I say even in the Fort and the Apollo Reclamation.

The Honourable Sir Pherozeshah.—Which part of the Fort?

A.—Even Hornby Road, for instance, in Albert Buildings.

Q.—Since when did the rents in Hornby Road begin to decline?

A.—About two or three years ago one of the offices in Albert Buildings which was I believe occupied by Sir Charles Armstrong's firm. After they vacated, we could not let the place for a long time, and we had to divide it by partitions and had actually to accept about the same rent, and we have never been able to increase the rent there.

Q.—You would have if you could?

A.—Yes. As a matter of fact, that building belongs to the Indian Institute of Science.

The Chairman.—You have never been able to raise the rent?

A.—I believe the rent of that property is actually less than it was four or five years ago.

The Chairman.—It is very exceptional. But I may state for your information that we have collected the particulars about rents, and we find that they have gone up very considerably since 1907. There is only one case on record where there has been a decline, and in ever other case there has been a very considerable increase.

Mr. Bilimoria.—Will you allow me to tell you, Mr. Chairman, that some of the buildings in Rampart Row were let long ago on long leases at ridiculously low rents, and the leases having expired, the rents were of course increased until very recently properties belonging to Nowrojee Wadia were let at very low rents. So far as my experience goes—we have many buildings there—we have about ten or twelve buildings belonging to the Board of the Institute of Science and others belonging to the Bombay United Building Company, Limited.

The Chairman.—Could you give us a list of your buildings and the rents now charged by you?

A.—Yes. Some of these buildings have been recently erected, but even there we have not got increased rents. As a matter of fact, the properties given to the Institute were valued by Mr. Lowndes as an Arbitrator. It is a printed report giving all the rents at the time, and we could exactly compare the rents prevailing. There was a rise of about 10 per cent. when the properties were vested in the Treasurer, but since then there has been no appreciable increase.

The Chairman.—On the whole, there is a decided increase?

A.—Yes.

The Honourable Sir Pherozeshah.—You said that many of the plots in Princess Street, when sold by auction for the first time, realised very high prices, but the investors hardly got their net returns, and in some cases not even 3½ per cent.?

A.—There is a specific case of a Company of which I am Managing Director.

Q.—As a matter of fact, the Improvement Trust was fortunate enough, because when they put up the extension of the high roads, they got exceptionally high prices, but those people who bought them and built upon them found that they paid too much?

A.—Yes.

Q.—I see that all you have said is about the big Reclamation Scheme, but the Chairman has been good enough to inform you that we are not considering any particular Scheme of Reclamation. What would you say to some small Reclamation Schemes in a convenient part of the Island? You know that the Apollo Reclamation proved very remunerative. Now I should like to ask if they took a small bit of land for Reclamation in any part of the Island, what would be your opinion of undertaking a scheme of that character?

A.—If undertaken by Government itself for its own purposes.

Q.—Say by Government to locate all the big offices and such other buildings as they require. Supposing there was a small Reclamation for the purpose of enabling Government to erect the buildings which they require there. What would you say to that?

A.—I would not approve of it, because there is a lot of vacant land in Bombay which could be utilised with advantage.

Q.—But you are prepared to hand over the University Buildings to Government?

A.—But it appears they do not want any more buildings. They can acquire some of the buildings in the vicinity.

Q.—Where could they acquire? Take for instance the Secretariat which has been pinching upon a very important educational institution, but it could not help doing it. All the Record Offices are in the rear of the Elphinstone College. It would be a very good thing if the Elphinstone College was relieved of that incubus. Where will you suggest sufficient space for that purpose?

A.—I think there are some buildings which they can acquire. I would not like to say anything quite specific about them.

The Chairman.—Would you mind telling me privately what it would cost Government to acquire them?

A.—About Rs. 200 to Rs. 300 per square yard.

The Chairman.—And is it your opinion, on the reports of your American expert Engineers, that it would cost more than Rs. 200 to Rs. 300 per square yard to reclaim?

A.—Certainly not.

The Honourable Sir Pherozeshah Mehta.—I now come to the last paragraph of your written statement, where you state "I quite agree with Mr. Bharucha's view that the cost of reclamation, whenever it is absolutely necessary, say twenty or thirty years hence, will not be greater than it would be now, in fact it will be much less if we consider the important item of interest on the proposed outlay." Is that the only ground on which you say that the cost will not increase as time goes on?

A.—We cannot predict if labour will be dearer. But at least there is this consideration that, if it is carried out, when it is wanted twenty or thirty years hence, it will not be so expensive because the big item of interest will be saved.

Q.—This is rather a vague statement?

A.—Well, it is rather vague, but so far as interest is concerned, it is a very big item.

Q.—Now about Worli and Mahim Schemes. What would you say as to Worli being fit for residential quarters, if the outfall is to stay, of course with the improvement we are now carrying out, of carrying it further into the sea?

A.—I think it will attract a certain number of people.

Q.—Also the foreshore of Mahim?

A.—Yes.

Q.—The space which is called the Mahim Woods, what class of people are likely to go there?

A.—Mostly middle class people, but on the Western Shore even some of the richer classes would prefer to go.

Questions by the Honourable Mr. F. L. Sprett.

Q.—With regard to your remark that the Government estimates were very much too low, and with reference to the Scheme for Reclamation by pumping, can you tell me what rate was assumed by these American experts?

A.—I give the details of Scheme A which is the Chowpati Scheme.

Q.—The rate for filling is what I want.

A.—They say that all working including dam, etc., would come to about Rs. 1,11,25,000 :—
 Prime cost of Plant so much.
 Operation of Plant so much.
 Finishing Rs. 2,00,000.
 Contingencies 15 per cent.

Q.—They give you no details as to the cost, so that there is no means of judging whether they are excessive or not?

A.—They have worked out the cost of dredging and bringing the earth from Uran.

Q.—They have given you no details? They have merely given you the total for each class of work?

A.—May I read out the figures which relate to one part—the Chowpati Scheme, so that you may take whatever you want? (Reads the details).

Q.—Then they give the prime cost of the plant? Could you kindly give me that?

A.—Rs. 10,60,000.

Q.—And operation of plant?

A.—Rs. 7,09,000.

Q.—Finishing?

A.—Rs. 2,00,000.

Q.—Otherwise something like Rs. 4 per 100 cubic foot?

A.—But there are other items which I have not mentioned.

Q.—May I know the rest?

A.—15 per cent. Contingencies; 5 per cent. Engineering; and the loss of interest for five years.

Q.—Well, these are expenses. But the net result is that the filling is going to cost about Rs. 4 per 100 cubic foot?

A.—I have not calculated that.

Q.—That is so. The Port Trust rate is just about half. I do not say it is exactly half but it is somewhere in the neighbourhood of half.

Question by Sir Bhalchandra Krishna.

Q.—You said that the University Buildings and all the Institutions should be removed to the North of the Island as far as Salsette. Where would you remove the Institute of Science that is now rising near the Secretariat? Do you include that also and the present buildings to be handed over for Government purposes?

A.—Yes.

Questions by Mr. G. Wittet.

Q.—You said in your statement that as regards the question of further work to be done by the Government Engineers your American Engineers emphatically say that they consider it in the highest degree improbable and even impossible that the work could be carried out within the estimates submitted by the Government Engineers. When they made that statement, had they got before them the data of the Government Engineers?

A.—We sent them all that we could get, and they have in fact criticised them.

Q.—You had obtained all the facts on which the Government Engineers had based their estimates?

A.—When we sent them the Government Estimates, they criticised them.

The Chairman.—Have you got those criticisms?

A.—I could not like to show them. They are confidential.

The Chairman.—You speak in your statement about the Government Engineers' estimates and Mr. Wittet very properly wants to know the data, which are apparently what you refuse to give, namely the later criticisms of your Engineers?

A.—If you want them I am willing to give them. But there is a portion in this report which relates to some private Reclamation Schemes of Mr. Ratan Tata at Dadar and Matunga.

The Chairman.—I do not want you to give me anything which you consider confidential. I simply want to see if your statement stands unchallenged.

A.—You ask for what?

Q.—I ask for the later criticisms of your advisers on which they based their condemnation of the estimates of the Government Engineers.

A.—(Witness takes and reads a letter). This is a letter written to us by Messrs. Jacob and Davis in which they thank us for our letter and then they go on to say that Mr. Hewett is in some other part of the world at present, and they await his return before making their final report, and then they criticise in detail.

The Honourable Sir Pherozeshah Mehta.—When was that?

A.—That was in their letter dated the 8th January 1913.

The Chairman.—And it is their letter of the 8th January 1913 which is your authority for making that statement?

A.—That letter, as also their letter of 21st March 1911.

The Honourable Sir Pherozeshah Mehta.—If that portion relating to your private Dadar and Matunga Schemes is eliminated, would you have any objection to make over to the Committee the rest of their report?

A.—I would have no objection.

Q.—All those letters except that portion which relates to your private schemes?

A.—Do you mean the letters or the Reclamation Estimates?

The Honourable Mr. Sprott.—We should ask Mr. Bilimoria to give us both.

The Chairman.—You have in your evidence quoted your Engineers as the authority and you said then that, as regards the question whether the work can be done for the sum estimated by the Government Engineers, they emphatically say that they consider it in the highest degree improbable or even impossible, so that really I should like to know—of course it is open to you—if you are prepared to withdraw that statement, or if you would like that to go on the record. In the latter event, the Committee are more or less bound to ask you to produce the letter on which you base that statement.

A.—Oh, yes. I am quite prepared to give that letter.

Mr. G. Wittet.—If the Reclamation was carried out on the lines of the Government Engineer's estimated figures, you would not favour it?

A.—I would not favour it even on those figures.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—In your written statement you say at the very end of it, last but one sentence, "In fact it will be much less if we consider the important item of interest on the proposed outlay". That is to say, if it is undertaken 20 or 30 years hence, you consider that there will be an important saving in the item of interest on the proposed outlay. What do you mean by it?

A.—My opinion is that the space available in Bombay should be first utilised, and then later on, perhaps 20 or 30 years hence, the Reclamation will be useful.

Q.—Then I take it the other way that the Government wants the Reclamation now, and the land is not utilised for about 20 years, then it will certainly be more expensive than if the Reclamation were taken up 20 years hence. Suppose you prepare the land now, and then it is left vacant. 20 years hence it will cost you almost double the original price with the compound interest. You don't contend that the loss of interest will be over the whole period of 20 or 30 years if the Reclamation were delayed for that period?

A.—No. I mean that the plots will not be so rapidly taken up as Government believes, which would mean that the lands would remain vacant for a very long time, and then when they are actually taken up by the public, they would have cost more than they had been estimated for.

Q.—Your meaning is that the revenue to be derived from the Reclamation Scheme will not be realised as early as is anticipated, and that there will be a certain amount of loss in the shape of interest for 20 or 30 years? Is that so?

A.—Yes.

Q.—You say that the road from Ballard Pier to Hornby Road which you advocate so strongly will be a sanitary improvement. What is your idea of sanitary improvement?

A.—I think that this scheme was one of the schemes originally intended to be carried out by the Improvement Trust. This area was considered very insanitary, as there are many small lanes. If that locality is opened out, it will render it more sanitary.

Q.—I quite admit that, but my point in asking you is what is your idea about an insanitary area?

A.—Unhealthy.

Q.—Unhealthy proportionate to or in comparison with other areas. Is it not?

A.—Yes.

Q.—Have you looked at the mortality returns of the Fort North for the last 15 or 20 years?

A.—No.

Q.—If you find that the mortality returns of the Fort North are actually below the average of the whole City, would you still regard it as an insanitary area comparatively?

A.—No. I would not.

Q.—You would not advocate the expenditure of public funds in improving the area the mortality of which is below the average?

A.—I would not do it.

Q.—Now with regard to providing offices, do you think that public expenditure should be incurred in order to provide sites for the accommodation of offices?

A.—I think they ought to pay a proportion, because the building of offices will bring in revenue to the expending parties.

Q.—Revenue in what sense?

A.—Suppose the Municipality undertakes it, then they will receive higher taxes.

Q.—But that is for the Municipal services rendered. If they get larger revenues they have got to spend money in rendering Municipal services. My point is there is a very heavy loss involved on the public purse. But would you advocate the incurring of that expense out of the public funds for the purpose of providing office accommodation?

A.—I would not advocate spending the public money entirely for providing office accommodation, but what I say is that the sites will be more valuable, the rents will be higher and the revenue also will be higher.

Q.—I want you to distinguish between the two classes of revenue. One class of revenue to the Municipality is for taxes against which Municipal services are rendered, and the other class is in regard to the profits in the appreciation of land values of frontages. If the appreciation of the land values takes place for frontages, and if the actual scheme shows a substantial loss, who should bear it?

A.—Of course, when the Municipality embark upon it, they ought to consider whether the revenue would be lost.

Q.—Assume that the revenue is a loss?

A.—Then somebody else should pay a portion of the cost.

Q.—Who is that somebody in your opinion?

A.—I think the Port Trust.

Q.—That is, if it would be a public improvement, and not merely for providing offices?

A.—Yes.

Questions by the Chairman.

Q.—You said that you would recommend that Government should for its purposes for buildings acquire properties in the neighbourhood of Rampart Row and elsewhere and build offices there, and that it would cost about Rs. 200 per square yard?

A.—I said that Government should acquire buildings suitable for the offices, and not to build there, nor to pull down the buildings which are already there, but acquire buildings suitable for offices.

Q.—Acquire buildings bodily?

A.—Yes.

Q.—What plots can you suggest?

A.—Well, that is a personal question. I cannot mention any definite properties. I think there are some properties.

Q.—You have told Mr. Wittet that even though the Government calculation is correct and that the cost of Reclamation per square yard is as low as was estimated, even then you do not recommend any form of reclamation whatever?

A.—No.

Q.—And assuming for a moment that Government are unable to obtain suitable buildings and quarters for the different offices, then they will have to either acquire buildings more or less unsuitable at a very high rate, or to reclaim at a cost of Rs. 9 per square yard. Assuming that calculation is correct, do you still consider that Government for their own purposes are not justified in acquiring that new area by reclamation?

A.—You mean only for their own purposes? If it is so, I think they are fully justified. It is an administrative act of their own. What has the public got to do with it?

Q.—But you said very definitely in reply to Sir Pherozeshah's question that you would not recommend reclamation?

A.—As a citizen, I would not.

Q.—What I say is, would it be better for Government to reclaim the land and build there if it is less expensive than acquire the buildings?

A.—That is a matter for Government to decide.

Q.—I want your opinion. You are a citizen entitled to have your opinion. Assuming that you look at the matter from an economic point of view, I would like to have your personal opinion?

A.—You have the Secretariat and you want additional accommodation.

Q.—I am putting it to you in this way. I want you to assume that Government have need of land for buildings which they can only acquire either by taking possession of more or less unsuitable buildings at a very high rate, or by adding to the available area in the neighbour-

hood of the Fort, which can only be done by reclamation, and I am asking you as a citizen capable of forming your judgment on ordinary matters of business whether you would, in these circumstances, recommend them to acquire the buildings?

A.—Yes. Because I am convinced that Government could do more economically by acquiring the buildings.

Q.—Let us assume that it is more economical to reclaim. Do you still recommend that Government should not reclaim?

A.—I should say it depends on whether Government wants to reclaim or not.

Q.—I am telling you that if Government want say 20 acres for their purpose and cannot get those 20 acres without acquiring unsuitable buildings, are Government, in your opinion, wise or foolish to reclaim those 20 acres?

A.—I should say they would be wise in reclaiming the 20 acres. But there are so many assumptions.

Monday, the 16th February 1914.

The Chairman :—I understand that Mr. Sprott wishes to cross-examine Mr. Bilimoria with reference to the following statements. In Mr. Bilimoria's first statement, dated December 5th, 1913, he wrote,* "Then as regards the question of whether the work can be done for the sum estimated by the Government engineers they emphatically say that they consider it in the highest degree improbable and even impossible." That, I understand from Mr. Bilimoria, is made on the strength of a report† dated the 21st March, 1911, from Messrs. Jacobs and Davies in which precisely the same words occurred. This firm of engineers wrote as follows, "All this is entirely beside the question of whether the work can be done for the sum estimated by the Government engineers, which from the data collected on the ground last year by our representative we consider is in the highest degree improbable, and we may even say impossible." Well now, the point on which we wish Mr. Bilimoria to explain matters is that he wrote his memorandum quite recently, and that in addition to their report of the 21st March 1911, he had before him a further report,‡ dated January 8th, 1913, from the same engineers to whom in the meantime had been sent the details of the Government estimates. The American engineers among other things report as follows:—"Mr. Hewett has sent us notes on your letter, but has not gone into the amount of detail we should have preferred him to go into under the circumstances, so that it is again incumbent upon us to give our ideas to Mr. Hewett as to what we desire to know regarding this matter, etc.," and then they go on to say, "With all the knowledge we possessed through Mr. Hewett, we wholly endorsed his report as a thoroughly conservative document, etc.," and then further on they say, "Not knowing the details of the scheme, we are in no position to criticise the figures as given by the Government," and again they proceed to say, "We do not know the nature of the wall with which they propose to retain this reclamation." "We do not know whether they presume on the cost of a new plant or on the use of an existing plant," etc. "We do not know the length of the wall to retain the Government scheme." "We do not know what the Government may have done with regard to such provisions." Then in paragraph 8 they say, "Owing to the conditions laid down by you" (*i. e.*, by Messrs. Tata and Sons) "that the investigation" (*i. e.*, the investigation conducted by the American engineers) "was a private and confidential one, it was not possible to make the extensive series of borings made by the Government, and as such soundings as were made showed a lack of material available for some of the larger schemes, it was impossible to do otherwise than estimate for the bringing of the necessary fill from elsewhere. While we consider the Government cost figures as impossible on such a scheme as we deem proper and sufficient, they none the less had 1,300 borings from which to judge of the nature and quantity of material available." And then the last quotation I will make before asking Mr. Sprott to begin is this. "On the other hand, as we have stated, it would be quite improper for us to criticise the Government estimates, not knowing fully the conditions under which they are made; and the only alternative we could suggest is simply the publication of our report."

Those are the various statements on which I understand Mr. Sprott wishes to ask Mr. Bilimoria to make an explanation.

Questions by the Honourable Mr. F. L. Sprott.

Q.—First of all, turning to Mr. Bilimoria's evidence before us; I think you will find that he said that the Government estimates had been to the American firm of engineers and had been criticised.

A.—No, I said that we only sent them a copy of the reply made by Government in the Legislative Council to Sir Henry Procter's question. This is all that was sent to them and

* Appendix C, page 145.

† Appendix C, page 185.

‡ Appendix C, page 187.

in it no details have been given. In fact our engineers say that they have not got the Government estimates. All that we sent them was the Government reply above referred to. (Witness here produced a printed copy of the reply.)

Q.—Do you think you were justified in saying that when you sent them, according to the shorthand report of your evidence here, which I believe is correct, the Government estimates, they criticised them?

A.—What they criticised was the figures given. They had no other details.

Q.—What is the value of that criticism?

A.—That is for you to consider.

Q.—You say also in this evidence that your authority for making this statement was a letter of January 8th, 1913, and a letter of the 21st March 1911, *i. e.*, the statement that "it was in the highest degree improbable and even impossible for the work to be done within the Government estimates". Now that letter of January 8th, 1913, specially disclaims all ability to criticise the Government estimates in any way. As they have no details, they do not know how those estimates were arrived at. They have no knowledge of the section of the wall, the length of the wall, or of the amount of materials that were available. That being so, do you think that you were justified in saying that your engineers have criticised the Government estimates?

A.—They have got their own detailed estimates, and in the absence of Government details they said all they could, and it is now for you to consider.

Q.—I think you published your written evidence?

A.—Yes, my written statement.

Q.—May I ask you if you have published the American engineers' letters in which it is shown that it is improper to criticise?

A.—I published only my first written statement, and the evidence that was taken was not published.

Q.—Your statement as a representative of Messrs. Tata Sons and Co. published in the local newspapers would have a considerable influence on the public at large. Don't you think that with this knowledge before you you should have published the qualifications contained in their further letters?

A.—I am perfectly willing to publish everything. My verbal evidence was not published, by the direct instructions of the Chairman. All that I published was the written statement.

Q.—Do you think that your evidence should remain on record in view of the further letter from your engineers which you have received?

The Honourable Sir Pheroze Shah :—We cannot ask him that. It is for him to withdraw. The evidence was taken before the Committee.

The Chairman :—The point is whether on consideration he is prepared to modify the opinion he then gave before the Committee.

The Witness :—Yes. I can modify the statement.

Q.—Do you wish to condemn the schemes entirely?

A.—I say I made these statements expressly after reading all our engineers' letters. That is my opinion. It may be wrong.

The Chairman :—He is perfectly willing to modify the opinion he has placed before the Committee as best he can in the light of the further reports from their engineers.

The Honourable Mr. Sprott :—As regards the cost of the scheme and the impossibility of the scheme being carried out under the Government estimates, to my knowledge there is no evidence in these papers. Personally to my knowledge there is nothing in these papers about the scheme being an impossible one.

The Honourable Sir Pheroze Shah :—We can ask Mr. Bilimoria to supply us with all the reports, and it is for us to ask him how far he is prepared to modify his statements in the light of the further reports from their engineers.

The Chairman :—On consideration he is inclined to modify them.

The Witness :—I have taken some pains to go into the matter, but in the absence of the details of the Government scheme I am considerably handicapped. But still you can make an inference from our figures.

The Chairman :—It is the view that in your published statement the opinions you then gave were based on your engineers' reports. But in the light of the later reports which you have now received, we have to ask you whether you still adhere to the words which you then used.

A.—I am prepared to modify them.

Friday, 12th December 1913.

CHUNILAL V. MEHTA, Esq., LL.B.

Questions by the Chairman.

Q.—You express the opinion that the Improvement Trust ought to accelerate their rate of progress in providing chawls for the poorer inhabitants. Do you regard that as a matter which should take precedence over the development schemes, that is to say, street schemes and so forth and improvement schemes, apart from actual chawl construction?

A.—Yes.

Q.—You say “I do not approve of Grant Road being the terminus for long distance traffic”, that is to say, you do not wish to cut off the B. B. & C. I. long distance traffic at Grant Road, but you wish to take it on to Colaba as before?

A.—Yes.

Q.—Now as regards the railway between Grant Road and Colaba, have you thought of any ameliorations which might be effected so as to render it less a nuisance to the public?

A.—No.

Q.—Apart from electrification, you have not thought of the question?

A.—No, I have not thought about it.

Q.—Did you notice in the course of the evidence recorded a suggestion that a railway might be brought overhead along the maidan to a terminus opposite the old Post Office?

A.—Yes.

Q.—You do not agree with that?

A.—I have not studied that.

Q.—You say that part of the Cotton Green might be utilised for St. George's Hospital. I want to ask whether you have reflected if Old Government House at Parel might not be utilised for the European General Hospital.

A.—I am afraid it will be too far out for the patients that go into the European General Hospital now.

Q.—Well, I may explain to you that in point of fact Parel is not very much farther than the Cotton Green.

A.—Yes. But it will be too far for the friends of the patients. They could easily go into Colaba during their office hours when they come to the Fort; they will find it difficult to go to Parel.

Q.—I see you recommend that sites for Government institutions should be provided for by reclamation in Back Bay, but you go on further and say that reclamation would meet the demands of the wealthy classes. I presume that you are dealing with the hypothesis that a definite reclamation scheme was under discussion, but assuming that there is no reclamation for residential purposes, where do you think the trend of migration of the wealthy classes would be? Where would they chiefly go assuming that there is no reclamation?

A.—They would continue to crowd around what space there is at Colaba and the two Hills. I do not think they would go very much farther out until absolutely compelled.

Q.—You do not think they would go to Mahim and Worli if they could help it, even if the Love Grove nuisance was entirely abated?

A.—Do you mean if the nuisance of the Pumping Station is removed? In that case, as a last resort, they would go to Worli and Mahim, if the nuisance is removed.

Q.—What do you think would be the objection or obstacle in the way of their going there if the foreshore was entirely sweet?

A.—Well, they would prefer to be near their places of business and near places where they could get recreation, and so long as they get that accommodation, they would not like to go to greater distances.

Q.—In your evidence I think you have made it clear that middle class people will go to Mahim. I do not think I need trouble to ask you more questions about that. I see you say there would be no objection to restricting industries to the North of the Island and so on, and Matunga and Mahim should certainly be saved from further construction of factories. You say “I think the low-lying area known as Mingutwadi and the area to the East of Naigaum may be made use of, etc.”

Won't building them at Naigaum rather render unpleasant the approaches to your residences in Matunga in Schemes V and VI?

A.—No, I don't think so, because it will be eastward in the first place.

Q.—But would it not spoil the locality and render it less attractive for residences if people have to go there when the number of factories is fast increasing?

A.—I should not think that would be a great objection.

Q.—Your idea is that all the residences will be on the West side on the western road up to the storm water reservoir, and it does not very much matter even if in the eastern portion of the Island a multiplication of factories takes place?

A.—Yes.

Q.—I would suggest to you that the whole of that area is too windward, for instance, the site where there is to be the King Edward Memorial Hospital immediately on the West. Is not that a drawback in your opinion? Would it not add to the number of possible inconveniences?

A.—I think they are full enough. After all, the King Edward Hospital will be made use of by people who are used to such inconveniences.

Q.—But you do not think, as a matter of fact, that you will very much spoil the eastward area?

A.—No.

Q.—I see you are in favour of provision, in developed localities, of small open spaces as well as larger recreation grounds, but you mention specifically that the young children must have small open spaces even in crowded localities. I take it you mean just sufficient space to play on, and not what you would call a park or recreation ground?

A.—No; that applies more to the crowded localities. Even in crowded localities I should say provision should be made for them now, especially in these days of rapid transit, motor traffic and so on.

Questions by the Honourable Sir Pheroze Shah Mehta.

Q.—What would you say to mills and factories being pushed further North-East. Would that be better than the locations you have suggested?

A.—As I have said, there is no objection to doing that. At present even in Naigaum there are several mills and that space can be utilised. I think if mills choose to go to that spot, then they should not be prevented from doing so.

Q.—Then, after all, there would be a great deal of crowding of factories and mills in one locality. Would it not be desirable, as that part is already occupied by a certain number of mills and factories, that the future location should be further on?

A.—No, I don't think so. My main point is that mills and trade should be given every possible facility. They are the best judges of what place suits them so long as they do not create a nuisance.

Q.—They are the best judges of what?

A.—Of what suits them.

Q.—Of course, they all want to make profits, and they would consider that as suitable which gives them the largest profit, but that might not be quite consistent with sanitary and other considerations.

A.—Of course, the Municipality has the power to prevent them from creating a nuisance.

Q.—What powers have they for preventing them from building?

A.—They have the power now. If they create a nuisance, the Municipal Commissioner can prevent factories being built.

Q.—Do you include under that term mills also?

A.—Yes.

Q.—Do you say the Municipal Commissioner has the power of preventing a mill being built upon an open area of ground?

A.—Yes, if it is likely to cause a nuisance. Supposing anybody wanted to build a mill in Girgaum now, I think the Municipal Commissioner has power to prevent it.

Q.—You won't find space to build in Girgaum, but if there is space—always assuming that there is space—what power has the Municipality, if they (builders of mills, etc.) comply with the bye-laws, to prevent them from building?

A.—Well, they have a definite power now.

Q.—Where is it?

A.—I could not tell you the section.

The Honourable Sir Ibrahim Rahimtoola.—I think it is section 390.

Mr. Chumilal.—In addition to that, I think the Corporation also passed a Resolution. There was a Committee appointed to consider this very question, whether factories, including mills, should be allowed to be built at random and whether certain areas should not be absolutely debarred to factories.

Q.—The Committee decided that, as far as possible, no licenses should be granted to factories of a noxious or dangerous character.

A.—I think it went further than that. It referred also to dangerous trades, dangerous or noxious factories and so forth.

Q.—Trades of that sort will be carried on by means of factories?

A.—Not necessarily. There might be other trades. A slaughter-house, for instance, would be a very great nuisance and yet it might not require any factory or machinery. However, it referred to trades which require licenses and referred also to trades carried on in factories.

Q.—That was a question as to how far the Commissioner should exercise discretion in granting licenses?

A.—Also to factories and trades. I think both the Committee and the whole Corporations expressed themselves very strongly on that point, with regard to the Commissioner's discretion in these matters regarding objectionable factories; also factories worked by machinery carrying on business which might not be noxious or dangerous.

Q.—That is to say, any factories, however harmless?

A.—Yes. He exercises his discretion in all cases.

Q.—Every license is placed at his discretion, but what does the Corporation say?

A.—The Corporation says that in cases where the erection of a factory would create a nuisance to the inhabitants of the locality there the Commissioner should not grant permission for erection of a factory.

Q.—Supposing that the Corporation had not the power to prevent it, would you then recommend that there should be legislation for the purpose of requiring mills to be built further North than what you have suggested? Would you see any objection to that?

A.—No. I do not see any objection.

Q.—Would it not be desirable?

A.—Yes, it may be desirable.

Q.—What I was going to ask is, would it in any way go against the interest of trade? Would it hamper industries in any way?

A.—It would, if it is going to give any preference to existing mills.

Q.—Do you think it would give preference to existing mills, to require future mills to be built further up than what you have indicated?

A.—Yes; until at any rate all the means of communication were provided, it certainly would be giving preference.

Q.—Some witnesses have said that that question does not affect very much the means of further communications; that that would not affect the value of industries very much. Do you agree with that?

A.—No.

Q.—Unless proper means of communication were provided, it would be hampering the new industries in favour of the old ones?

A.—Yes.

Q.—You recommend that the Improvement Trust should accelerate its operations for building chawls of the poor. How far are you prepared to go in that direction? Would you say that the City as a whole is bound to provide chawls for the greater portion of the poor within its jurisdiction? How far would you go?

A.—Only for the poor displaced; and not for the others.

Q.—Would you not be in favour of providing accommodation for the poorer classes in general at the expense of the rate-payers or of the public, either the Municipal exchequer or the Provincial exchequer if we can get any grant?

A.—I do not see why it should be done.

Q.—You do not think that it is the function of the general body of Municipal rate-payers to provide chawls for the sanitary accommodation of the poorer classes?

A.—No.

Q.—You do not consider that providing sanitary chawls would be a general benefit to the City also?

A.—Yes. It would be a benefit to the City, but the cost of it should be borne by the trade generally, and those who benefit by the improvements, like the large employers of labour.

Q.—I would not confine myself only to the rate-payers in the City itself, but to other bodies also; then do you think that other bodies should bear a share of the burden for providing sanitary accommodation for the poorer classes?

A.—They should provide the accommodation themselves.

Q.—It should be made compulsory upon them to provide sanitary accommodation for those whom they employ?

A.—Not compulsory. For instance, the millowners have been given certain facilities, which I consider very great, and they should fully avail themselves of those facilities.

Q.—But Sir Fazulbhoj told us that now in consequence of the rise in the cost of material they are not likely to take advantage of those facilities which have been provided for them under the amended Act. What have you to say to that?

A.—Well, I do not see why they should not take advantage of those facilities, because the terms are so favourable that in 28 years' time the property becomes their own.

Q.—A large number of millowners say that they are not in a position to undertake that responsibility.

A.—It must be the case with mills which are not financially sound.

Q.—If these people do not come forward, what then?

A.—I think they will come forward.

Q.—Would you compel them? It is a good object as you say.

A.—Yes. It is a good object.

Q.—Being a good object and as these people are able to bear it, should we not compel them to do in the general interests of the City?

A.—In that case other employers of labour should also be compelled.

Q.—But then if the millowners are well able to bear the cost—and it is a most desirable thing to do in the general sanitary improvement of the City—don't you think the policy should be a compulsory policy?

A.—Yes.

Q.—Only you say that if this compulsory policy is to be applied to millowners, it should also be applied to other employers of labour?

A.—Yes. They should be asked. Of course, primarily it should be the duty of the Improvement Trust to provide at least for those who have been displaced by their operations.

Q.—Now we are talking of employers of labour, like the Port Trust, the Railway, etc., and each should provide sanitary accommodation for its labourers. They must be compelled to do it?

A.—Yes.

Questions by the Honourable Mr. F. L. Sprott.

Q.—You say that you would not compel mills to go further North if they were handicapped in competing with others. Is it not one of the great factors in the economic working of the mill that it should be able to get its raw materials such as cotton, coal, etc., cheaply to the mills?

A.—Yes.

Q.—Is not the possession of a railway siding an important factor in that respect?

A.—It would be a very great advantage.

Q.—How many mills in Bombay are on a railway siding?

A.—Perhaps very few, only one.

Q.—It is practically impossible on the right hand side, on the West side—I mean in the West of the Harbour Branch Railway for such mills to obtain those facilities. Don't you think that would compensate for any disadvantages in the way of housing the people at such a distance?

A.—No. I don't think that would.

Questions by Mr. Wittet.

Q.—You say that you think that the presence of the outfall at Worli would prevent that district becoming fit for residential quarters. But if that outfall were entirely removed or done away with, do you think that would attract the well-to-do people to go and live there?

A.—If the nuisance is removed, then people would prefer to go and live there.

Q.—In view of the pumping station, would you still be inclined to put mills in the Mahim area, taking into consideration the winds from the other side?

A.—Yes. I do not think it will seriously affect it.

—You have the North-East wind?

A.—Of course, the smell to a great extent will be abolished.

Q.—There are chawls there too. Do you think it would be advisable to keep that area clear of the mills now?

A.—I do not think it will be a serious thing. If the Pumping Station and the outfall are removed, then perhaps it would be better to save that space.

Questions by the Honourable Sir Ibrahim Rahimtoola.

Q.—I understood you to say that you would not make it obligatory for future factories to be erected in a particular part of the City if that obligation gave any preference to existing factories in other parts of the City, and when you said that I believe you meant that the existing factories should not secure any preference as a whole?

A.—Yes.

Q.—That is to say, you will take into consideration the value of the different sites in this locality and the value of the site which you would get in other parts. You would take the question of supply and the cost of labour into consideration, together with the transit charges for raw material, coal and stores, and you will also take into consideration the transit charges for the manufactured goods to be carried; and having considered all these matters, you would determine whether the new factories would in any way be prejudiced or advantaged by restricting them to a particular site?

A.—If there is an advantage, no compulsion is necessary. They will voluntarily go.

Q.—Then as regards the compulsory provision of sanitary accommodation by the employers of labour which you have advocated, would you compel them to provide for all the workmen that they employ, or for any portion of them? You said that if the facilities provided under the Improvement Trust Act are not taken advantage of, you would agree to a certain amount of compulsion being laid by law to the provision of sanitary quarters for the work people they employ. Would you impose that legal obligation for the entire number of their work-people, or for any proportion of that number?

A.—I should not say that they should provide for absolutely every one, but for a certain proportion less than the full number.

Q.—What is your idea of that proportion?

A.—They might provide for about half.

Q.—In this connection I venture to suggest that a fair apportionment of the cost be recommended between the various bodies for all these improvements, and your view is that the cost of these improvements, road communications and others which are being carried out, should be apportioned between the various bodies. What bodies are they?

A.—I contemplate, speaking generally, the trade, and in the trade would be included the Port Trust and the Railway.

Q.—You would have a contribution from the Municipality?

A.—Yes.

Q.—And from Government?

A.—Yes.

Q.—And you think that the cost should be borne by all these bodies, by the trade, by Government, by the Municipality and by Railways?

A.—Yes.

Q.—Have you any idea as to the proportions in which these different bodies should bear the cost?

A.—Well, I should think they might do so in the same proportion as is being done in Calcutta. I believe that the Calcutta Improvement Trust spends about twenty-one lakhs a year, and it obtains about eleven lakhs from the City, and the remaining ten lakhs from the jute locks, the terminal tax and the stamp duty. The Government contribution is about one and a half lakhs.

Bombay, on the other hand, spends about thirteen lakhs, and makes up nine lakhs and seventy-three thousand from the Municipality, and the rest from Government in the shape of interests on the returns on Schedules C and E lands, so that you will see that the proportion which Bombay City has to pay is very much larger than Calcutta City has to pay, and as all these improvements must affect not only the City but the Presidency and trade generally, I do not see why they should not be asked to contribute more.

Q.—Do you think that all these three bodies should contribute on some equitable basis towards the cost of these large improvements that are being carried out?

A.—Yes.

Questions by the Chairman.

Q.—You have not quite answered Sir Ibrahim's last question. You have not given the indications of the proportions. I gather that you suggest that the Calcutta analogy should be followed in the same proportion as regards the provincial assistance in Bombay in its improvements. Is that so?

A.—Yes.

Q.—How much would that work out?

A.—It works out in Calcutta for the City I believe 55 per cent. and 45 per cent. for the Government and the rest.

Q.—Have you worked out the percentage in Bombay?

A.—I think Bombay City pays about 74 per cent. and the balance of 26 per cent. is paid by others.

I would like to say one word with regard to Mr. Sprott's question. I said that railway sidings would be an advantage, but of course compared with the labour question the facilities for getting labour would be very small.

The Honorable Mr. F. L. Sprott.

Q.—Would there be much less facilities of getting labour in the North-East of the Island than in the South?

A.—Yes. For the present.

Q.—Until the employers build their own chawls?

A.—Even then, I do not know if the labourers will be wedded to their present residences.

Q.—Is not most labour imported labour in a sense?

A.—Yes. They all live in the mofussil, but for the time they are in Bombay they live here together.

Wednesday, December 17th, 1913.

MAJOR A. D. G. SHELLEY, R. E., AGENT, B. B. & C. I. RAILWAY.

The following is the substance of Major Shelley's evidence :—

(By the Chairman.)

It is rather impracticable to locate the terminus of a large railway system in the air as Major Hepper proposes to do. Also it has been settled that it is not practicable to take the B. B. and C. I. long-distance traffic into Victoria Terminus, which is not even sufficient for the requirements of the G. I. P. Railway. Grant Road is the B. B. and C. I. Railway station in Bombay which is most used by Indian long-distance passengers. A good deal of space would be required for an overhead terminus at Church Gate. There must, for instance, be 'stabling' and station accommodation and conveniences, which it would hardly be feasible to provide in the air.

The location of a terminal overhead station on the Marine Lines Maidan would probably necessitate the entire Maidan being sacrificed, and it is possible that the station would also occupy some of the Maidan in front of the High Court if an entrance from Church Gate street be required. There must be room for engines to run round, and there might not be room for this on the Marine Lines Maidan. Moreover, the public would object to these structures on the Maidan, which would be decided defacements.

As a method of removing the drawbacks attaching to the present line of Railway parallel to the road, to take it overhead on the present alignment would rather intensify the drawbacks. The Railway would be obvious even when trains were not running. An iron structure, too, would probably not be practicable so near the sea. The work would have to be constructed of masonry.

As to the possibility of sinking the line—trouble and expense would arise on account of station arrangements and the removal of water by pumping. This last disadvantage would attach even to partial sinking. To cope with the water would be a big task. You could certainly tunnel, but that would be expensive. A big Pumping station would be required somewhere. My original proposal was to have a station on reclaimed land, to the South of Church Gate station and as near it as possible. I have no figures as regards the cost of

tunnelling. The project would be costly but should not be ruinously expensive. The distance from Grant Road to Wodehouse Bridge is about $2\frac{1}{2}$ miles. The tunnel would be probably built by cut and cover. To tunnel would be the best way to abate the present nuisance, if the Pumping station were not found to be an even greater nuisance than the Railway itself. Probably the best site for a Pumping station would be near the lowest point, between Church Gate and Marine Lines. The Pumping station would have to be fairly close to the line of rails.

(By the Hon'ble Mr. Spratt.)

Pumping would be rendered necessary by the water coming in at the ends of the tunnel and also filtering through its lining. It would be impossible to answer fully about the water without examining gradients. The entrance to the tunnel could not be at Grant Road and above flood level without raising the line there, which would involve heavy expense as the whole station and yard levels would be affected.

It is a great convenience to have the ordinary terminus arrangements at the terminus station. At busy times of the day there are specially long trains, and these would still be necessary even with electrification.

(By the Hon'ble Sir Ibrahim Rahimtulla.)

Even when the Cotton Green is removed, there will still be a small local goods Station at Colaba. A scheme to quadruple the B. B. and C. I. Railway has been adopted, but at present not South of Grant Road. It was originally contemplated to quadruple as far as Colaba. The question of the requisite land was considered in case the quadrupling should be necessary. But quadrupling South of Grant Road will not be practical politics for the next ten years, I hope.

As to making Grant Road a central terminus while maintaining also a terminus at Church Gate, there would be trouble in increasing the accommodation at Grant Road. The area at Colaba at present is insufficient.

It is difficult to say whether long-distance trains will be run to the Harbour to meet Mail steamers.

(By the Chairman.)

Even when the Cotton Green is removed it will not be possible to do with a smaller area at Colaba than at present. There is no proper accommodation there now for the reception of long-distance traffic.

(By Mr. Wittet.)

It is impossible to say whether, if Colaba were retained, it will be ultimately necessary to quadruple South of Grant Road. Electrification would in any case postpone the necessity for many years. It would be possible to put the line underground to within about 600 yards of Colaba. I do not think the heat would be worse than in any other tunnel.

Tuesday, March 17th, 1914.

W. A. CHAMBERS, Esq., F. R. I. B. A.

The following is the substance of Mr. Chambers's evidence :—

The Association of Bombay Architects, Civil Engineers and Surveyors, of which I am President, addressed a letter dated April 16th, 1913, to the Municipality regarding the Municipal by-laws. I agree with all that is in that letter. I suggested therein that the Municipal Act be amended to enable the Municipal Commissioner to condemn one room in a house as unfit for human habitation under section 378. I suggested also that the $63\frac{1}{2}^{\circ}$ rule would be suitable for the outskirts of Bombay but not for the Bazaar. Much money has been put into real property in Bombay and the value of the mortgaged property is based usually on the rentals. If you brought in the $63\frac{1}{2}^{\circ}$ rule you would practically ruin everyone who had advanced money on mortgage in Bombay. In Calcutta the rule applies only to the rear and front, not to the sides of a building. In Calcutta a builder must leave space to comply with the $63\frac{1}{2}^{\circ}$ rule in the rear, and no matter what the height of the building is, he has to leave a clear space of only 6 feet from his boundary at the sides. The Bombay rules are more severe than this.

The difficulty of applying the $63\frac{1}{2}^{\circ}$ rule to the Bazaar is so great that I would not trouble about that portion of the City but would attract people to live outside in the suburbs by erecting sanitary dwellings there.

I would appoint a body to settle disputes as to the application of all by-laws. Too much power in the hands of one man is a mistake. I think that building rules should be strict, but that appeals with regard to them should lie to an indifferent and experienced body as is the practice under the London Building Acts.

APPENDIX E.

EXCLUSION OF THE MAHIM WOODS PORTION FROM IMPROVEMENT TRUST SCHEME V.

Before the Improvement Trust sent up Scheme V to Government for sanction a petition covering nearly 17 printed foolscap pages purporting to be made by "the landowners, residents, and ratepayers of the F and G Wards of Bombay" was presented to Government in 1900. The petition, as summarised in its paragraph 75, urged that the Mahim, Dadar, Matunga and Sion schemes would deprive people of their ancient possessions and occupations and would send them into exile by thousands without any means of shelter or maintenance; that in ousting these people Government would break promises and covenants dating from the time of the Portuguese and early native rulers and made when men were first invited to leave their distant homes to populate the Island; that to compel the Forasdars to part with their lands would be a breach of faith and would amount to repealing Act VI of 1851; that Government, being in equity entitled only to rents of lands held under different tenures, should not acquire the land for the speculative purposes of the Trust; that the schemes were unnecessary; that sites nearer the City were available for the accommodation of both poor and rich; that the schemes were based on false calculations and would not pay; that the authorities might encourage private enterprise, and that the construction of the Port Trust Railway would open up new residential localities.

2. Scheme V was submitted to Government in August 1901.

Government replied in October, 1901, stating that they were not inclined to sanction any part of the Scheme comprising lands to the West of the G. I. P. Railway, one reason given being that it did not appear desirable to include the Mahim woods within the area of the Trust's immediate operations but rather to encourage building in the open lands to the east and north when they had been raised to the requisite level. Government, however, expressed a desire to afford every facility for the rapid development of the portion of the Scheme lying to the east of the G. I. P. Railway.

3. On 14th November, 1901, the Chairman replied that the inclusion of the Mahim woods was effected subsequently to the preparation of the first rough scheme so as to remove the obstruction offered by them to the sea breeze. It was urged that the area would make a very desirable residential locality for Europeans who found difficulty in getting comfortable quarters in the City; that it was not proposed to clear all the trees but only to 'open up' the woods; that to exclude the area would be to perpetuate undesirable building development and to affect prejudicially the portion of the scheme on the east of the G. I. P. Railway, and that it would be many years before revised Municipal powers could come into force.

4. Then followed Government Resolution No. 1095 of 24th February 1902, in which the reasons for declining to sanction the portion of Scheme V relating to the land west of the B. B. and C. I. Railway were given as follows:—

"His Excellency in Council is unwilling to accord sanction to that portion of the Scheme which relates to the lands to the west of the B. B. and C. I. Railway, as he is of opinion that the conversion of this area into building sites for villa residences is not a scheme which appears to be justified on grounds either of urgent sanitary considerations or of financial expediency and may well be left to private enterprise. His Excellency in Council as at present advised is further of opinion that it is much more to the interest of the Trust and of the City that the Board should push on with the reclamation and development of the area immediately to the northward of the first two portions of the present scheme, where the land is at present of comparatively little value, than that they should include the Mahim woods within the sphere of their operations. The acquisition of land closely studded with cocconut palms must be costly, and any wholesale demolition of them is to be deprecated, as there is no want of fresh breezes on the Dadar-Dharavi flats. The other sections of the Scheme with a northward extension can be made very accessible by means of workmen's trains on the adjacent railways and by a further development of the tramway system along the main road. By undertaking immediately the raising of the low-lying lands the Trustees will render a most valuable public service, for they will provide sites for temporary quarters which will be habitable in the monsoon months, and will not have to be vacated, demolished and re-erected annually, as at present, by those who seek a refuge from the overcrowded or evacuated tenements in the old town. Furthermore the people who resort to these temporary habitations will become accustomed to this part of the Island as a place of residence and to getting to and fro for their work, and this fact will raise the value of this area for building sites and so advance the Trustees' financial interests. The temporary quarters should be allocated according to the alignment of the future streets and building plots, and the erection of permanent buildings should be permitted only as well constructed and well sewered roads are completed. In this way a well ordered extension of the City will be effected under satisfactory sanitary conditions, according to a well devised plan, and a much needed system of comprehensive action and control, which has been so conspicuously wanting in the fortuitous extensions that have taken place during the last 50 years."

The petitioners of 1900 then asked for a copy of the Government Resolution and were informed that it had been published in the newspapers.

5 In April, 1902, the Trust asked for reconsideration of the orders, urging that, if lands adjacent to and better placed than land in the Scheme were in the market without any obligation imposed on the owners to raise ground levels and to provide roads and accessories for the development of building plots, the Trust's operations would be handicapped unfairly. Another of the Trust's objections was that, if private owners disposed of their lands for the construction of buildings without regulations, the area west of the Railway would be built over in the same unsatisfactory manner as the suburbs in Matunga, and it would be impossible subsequently to construct the roads necessary for the suitable opening up of the area without purchasing the sites and buildings constructed at a largely increased cost. It was further represented that suitable Municipal regulations for the orderly extension of the suburbs were not likely to be arranged for some years. The Trust agreed that it would be highly undesirable to destroy the Mahim woods. They stated that an endeavour had been made to maintain the woods undisturbed, that the Board's proposals were to construct a Park to the west and two main east and west roads through the woods for the suitable ventilation of the building area comprised in the Scheme, and that only to the east of the existing road through the woods did the proposals contemplate building operations, the remainder of the woods affected by the Scheme remaining intact.

Government replied to this representation in a Government Resolution of 9th May, 1902, stating that no sufficient grounds had been shown for modifying the views expressed in the Government Resolution of February 24th.

6. The Trust then took legal opinion and represented that Government had no power to modify a scheme but must either sanction or refuse to sanction. Government conceded that they were unable to dissent from this view, but pointed out that the Chairman in his letter of 14th November, 1901, had asked that the scheme as far as it affected the area East of the B. B. and C. I. Railway might be sanctioned so that the work of acquisition and filling might be begun, and that the question of the portion west of the B. B. and C. I. Railway might be held over for further consideration and enquiry.

7. On 25th July, 1902, the Trustees returned to the attack, strongly urging reconsideration. They recapitulated the previous arguments and quoted an address read in November, 1899, in which the Board had intimated that the schemes which they had formulated contemplated offering facilities for numbers of the better classes to take up cheap building sites in the north of the Island, hoping by these means to encourage a migration of the population which had already begun and thereby considerably to lessen the overcrowding which was so great an evil in a large part of the City. The Trustees represented also that the development of the area in question should be undertaken in advance of the appearance of the population, so as to ensure orderly development at reasonable cost; that, as the Municipal Commissioner had appealed to the Trust to undertake this duty, the choice lay between the Trust and the owners; and that in regard to the latter alternative it was inconceivable that the 3,000 or 4,000 persons interested would take the necessary joint action. They also represented that if the area to the west of the B. B. and C. I. Railway were omitted the remainder of the scheme would be unprofitable and that if the Board found it necessary to abandon the modified scheme the abandonment of Scheme VI would almost necessarily follow because it would not be practicable to arrange for rapid communication between the extreme north of the Island and the City unless the area represented by Scheme V carried a population sufficient to warrant the provision of rapid and cheap communication through the whole area of Schemes V and VI. The Trustees asked finally that if doubts still remained as to the expediency of meeting their wishes Government should indicate the nature of those doubts and permit the Trustees to offer further explanation.

8. Government replied on 14th August, 1902, reiterating the finality of the exclusion of the western portion and pointing out the doubtful legality of the proposal to revoke the concession made to the Mahim memorialists. It complained that the Trustees had made no allusion to the request in the Chairman's letter of 14th November, 1901, that a modified scheme might be sanctioned at once. Government hoped that the Trust would spare no effort to carry out effectually such a modified scheme as might be practicable, in order to make adequate provision for the housing of the industrial classes and the poorer portions of the community.

9. On 5th June, 1903, the Trustees in a brief letter once more urged reconsideration, repeating the former arguments and urging that the creation of a most desirable suburb to receive the overflow of the population of the City was so vital that they hoped Government would reconsider, even although the grant of sanction might necessitate review of the decision passed by Government in regard to matters of much less importance which might be at conflict with the wishes of the Trustees. With their letter the Trustees forwarded a copy of a letter dated 14th May, 1903, from Dr. Turner to the Municipal Commissioner recommending the inclusion of the western portion on sanitary grounds.

10. A Conference of representatives of Government, the Corporation and the Improvement Trust, was then held on 6th July, 1903. At the Conference, Government laid stress upon the

Trust's dealing separately with the Mahim woods as a Scheme by itself, in which ventilation for both Schemes V and VI should be suitably provided for.

The Trust thereupon resolved, on August 18th, 1903, to frame "a skeleton scheme dealing with the area west of the B. B. and C. I. Railway which it is necessary to acquire for providing building sites for the expansion of the City, and with a view to the suitable ventilation of Schemes V and VI and to render those schemes attractive to a mixed population. Such a scheme should embrace, as far as can at present be foreseen, the parts of the Mahim woods which it is essential to acquire for the Board's purposes." In the meantime the portion of Scheme V east of the B. B. and C. I. Railway was to be submitted to Government for sanction.

11. On 5th May, 1905, the Trust submitted for sanction a modified scheme for the area east of the B. B. and C. I. Railway, and on 19th July, 1905, they wrote protesting against any proposal to erect carriage and wagon shops between the two railways, urging that such buildings would greatly prejudice Schemes V and VI, that this northern part of the Island would be closely populated within 20 and 25 years, and that the correct policy would be the eventual removal of all the Railway workshops outside the Island.

The Improvement Trust was informed on 1st September, 1905, that it would be simpler to omit from the Scheme the whole of the area between the Railways and that their objections to the erection of workshops would be fully considered.

12. On 28th February, 1906, the Trust submitted Scheme V for sanction, which was accorded by Government on 2nd May, 1906.

13. No separate Scheme for any part of the Mahim woods has been sent to Government for sanction.

APPENDIX F.

SIR ALFRED HOPKINSON'S REPORTS.

November 1913.

Dear Mr. Vice-Chancellor,

I have now had the opportunity of visiting all the buildings of the University and its colleges in Bombay, of seeing something of the manner in which the examinations are conducted in the temporary structures which are erected from time to time and also of seeing the plans of the New Science Institute and going through the building in course of erection.

In view of what I have seen and heard already, I feel the importance of the question of the accommodation for the University—of providing a suitable home for it—being dealt with as urgent, in order to carry out its proposed development and for bringing into operation the suggestions which have already received the sanction of the Senate. This need not interfere with future extension.

I have also seen the valuable report (dated June 24th, 1913) of the Building Committee appointed by the Syndicate.

I venture accordingly at this early stage to bring before you the following suggestions for consideration and the opinion which, as at present advised, I have formed on this subject which may be summarised as follows:—

I. That it is essential for the University to have a definite location—or home—where its business can be carried on and such developments of advanced work as may be determined on, may be provided for.

II. That any scheme now executed should be capable of future extension, as necessity arises.

III. That having regard to existing buildings and conditions it is not practicable to remove the University as a whole to a new locality and start as it were *de novo*.

IV. That it is not impossible to provide what is necessary in the central situation in which the University is now placed.

V. The essential requirements may be stated as follows:—

(a) A first-rate library, well-arranged and catalogued, where members of the University and the staffs of the recognized Colleges when in Bombay will find the works of reference they require to consult and where they may read and pursue various branches of advanced study and research. In fact a true University Library.

(b) Accommodation for conducting the examinations of the large number of candidates who are presenting themselves.

(c) Meeting rooms for the authorities of the University, the Senate, the Syndicate and the various committees and boards which are engaged in its business.

(d) Suitable offices for the Registrar and clerical staff.

(e) Lecture rooms, special class rooms or seminar rooms and private rooms for the professors and members of the proposed teaching staff who may be appointed to take up the advanced work contemplated by the University.

(f) Some rooms where the teaching staffs of the University and its colleges and also, so far as practicable, students of the University may meet.

(g) A large lecture hall where from time to time distinguished men of letters or science, whether members of the University or coming from a distance, may deliver addresses or lectures either to members of the University or to others who take an interest in science and learning and so stimulate interest and exercise an influence in promoting intellectual life.

VI. Dealing separately with these heads:—

(a) The University already possesses a beautiful Library building in a situation which is readily accessible. This building should as early as possible be devoted *solely* to library purposes, the offices of the Registrar and clerical staff and the meeting place of the Syndicate removed. Until this is done the proper arrangement and organization of the Library is not possible. Probably one of the wings on the ground floor could be set apart as a special reading room for those who wish to undertake from time to time some serious study in the library; another portion, which need not be large, should be set aside as a Librarian's room and for cataloguing.

(b) I understand that on the east side of the New Science Institute, accommodation can be provided for examining about 800 students at once; others could be provided for in the University Hall, and possibly arrangements might be made for others in some structure of a temporary character on the north side of the site reserved for ultimate extensions of the Institute or in some of the rooms which may be erected as hereinafter suggested. The special accommodation for the small number of women students might perhaps be provided as at present in one of the Colleges—a plan which is not entirely without its advantages. The erection of a temporary structure from time to time each year on vacant land at a distance from the University offices is open to obvious objection, and if a heavy storm occurred while examinations were in progress the continuance of them might after a few minutes become impossible for a time at least. I ought to say that, so far as I can judge, the actual conduct of the examinations is carried on in a most efficient and business-like way, having regard to the very great difficulties which those who have charge of them have to contend with. At a later date, the question of the possibility of holding University examinations simultaneously at some other centres: *e. g.*, Poona, Karáchi, and Ahmedabad may perhaps be considered. I cannot help feeling that it must be a hardship in many cases for candidates to travel long distances immediately before examination and to live in a strange place. A student may be unable to do himself justice under such circumstances and in some cases the question of expense may also bear hardly upon candidates.

(g) The carefully-planned Hall erected out of the benefaction of Sir Cowasjee Jehangir Readymoney would I believe provide for this requirement. The present University Hall though a handsome and dignified building well suited in some ways for ceremonials is, I understand, owing to its acoustic properties unsuited for the purpose of addresses or public lectures.

(c), (d), (e) and (f). These four requirements remain to be provided for and until (c) and (d) at least are dealt with it will be impossible to put the Library on a proper footing or carry out the necessary re-arrangements there. I recognize that it is important not to sacrifice the amenities of the present attractive surroundings of the University Hall and Library and I do not regret that it was found necessary to abandon a suggestion for erecting a very large building on this site and having regard to the facts above referred to, it does not appear necessary to do so. I believe that a building to meet requirements (c) and (d) and also (e), at all events in part, might be erected on the east side of the present open space, preferably towards the southern end. Such a building might be of the character proposed in the report of the Committee of June 24th, 1913, though, in view of recent experience in England, there are some modifications which would be worth consideration. I believe, that such a building might be so arranged as not to diminish appreciably the advantage derived from an open space adjoining the University building and even to add to the fine appearance of this part of the city. These requirements (c) and (d) and part at least of (e) are really urgent. Until they are dealt with the schemes already sanctioned cannot become effective. At the same time however—whether carried into execution at once or not—the further extension which will be required under head (e) and the matter included in (f) should be taken into consideration. If (c), (d) and the part of (e) immediately required are provided for at the southern end of the east side a very similar building *mutatis mutandis* could be afterwards placed at the northern end. Before however any plans are adopted the question of avoiding noise from the street will have to be very carefully considered in consultation with the architect.

The opinion that it would be preferable to build now at the southern end of the open space is based on the assumption that no additional land in the neighbourhood can be used for the University. If it is possible that, at some future time, the space between University Road and the Science Institute or any substantial part of it may become available for University purposes I should decidedly recommend that the new buildings *immediately* required should be placed at the north-eastern corner and so admit of the laying out and use of any additional space acquired and of the southern side of the University property, being dealt with in a complete scheme. If a continuous space along the whole frontage from the University Library to the Science Institute could be devoted to it wholly the site of the University and the two colleges adjoining would not I believe be surpassed anywhere.

If such a scheme as suggested were carried out the essential present requirements of the University would be met, the Hall and Library would be preserved for the purposes for which they were intended and having regard to conditions already existing, I believe that a good solution of the present pressing question as regards this aspect of University development would have been arrived at. I may add that the proximity of the magnificent Museum now in course of erection will be a most valuable asset to the University. For the study of important subjects such as Archæology, Anthropology and Fine Art, it is of the utmost importance to have a good Museum close at hand, the same considerations will apply, as soon as the additional wings of the new Museum are erected, to Natural History and to Geology (including especially Petrology and Mineralogy) and its practical applications. The presence of men of high scientific attainments and learning in these subjects would also be a valuable help in enabling the Museum to be of practical use for educational purposes.

I have of course not gone into minute detail with regard to the various matters above mentioned but if you think it desirable I should be happy to meet or communicate with the Building Committee and the architect and for the reasons abovementioned I have thought it desirable to bring this matter forward separately and as early as possible, although other important matters must of course be left for much fuller information and consideration.

Believe me to be,
Yours most faithfully,
ALFRED HOPKINSON.

To the Vice-Chancellor of the University of Bombay.

LAW.

In order to place the instruction in this subject on a satisfactory footing it appears to me that several changes are urgently needed:—

I. I am satisfied that the students require more assistance and direction in their studies. I agree fully with the Committee of Inspection and with the Principal as to this. Lectures alone are not a sufficient training. I recommend the appointment of two well trained lawyers who would devote their whole time to the work of the Law School. The office of the Chief Librarian might be combined with the other duties of one of the persons so appointed. Having had long experience of Law Teaching I attach great importance to the opinion expressed by the Principal in his remarks on the Committee's report that generally the Teachers of Law should be in actual touch with practice. This however does not apply to such subjects as Roman Law and I think that it would be advantageous and that waste of power would be avoided if one of the persons to be appointed as I have suggested, also gave the lectures on Roman Law—possibly the other might take Jurisprudence or Equity. The exact subjects would depend on the special qualification of the persons appointed for the tutorial work. This work might include holding small classes in which questions are put and answered verbally—setting of hypothetical cases which could be dealt with by the students either verbally or in writing—advice as to books to be read and the mode of referring to cases and the looking up of enactments and authorities bearing on any question. A certificate of having satisfactorily attended classes of the Tutors and performed the exercises set should be required from candidates for the degree in addition to the usual certificates of attendance at formal lectures. Many of the students, I understand, who take the degree and who are admitted to practice have never had any training for their profession beyond what can be obtained from attending formal lectures and reading text-books alone. I do not believe that this can be regarded as sufficient and the best substitute for reading in a barrister's chambers or being articulated is such tutorial work as I have suggested.

The students would probably also derive advantage from attending the Courts under some direction and making notes of reports of cases there. These notes should be shown to the teachers from time to time and commented upon, and the class of cases to be attended could be selected by them.

II. I do not consider it desirable for students of Law to attend a very large number of lectures, but I do think that having regard to the wide range of subjects taken the number now given in the Law School should be increased and that some of the lectures should be given at early hour when students and teachers are fresh for work. It is I believe necessary also to divide the very large classes. Very few lectures could regularly keep alive the attention of a class of 300 especially when many come late in the day after other work.

III. In my opinion the regulations as to the subjects for the examinations require some modification. I doubt the possibility of the average student taking up such subject as negotiable instruments, insurance, patents and other parts of mercantile law in his first year. On the other hand I think there would be a great advantage in introducing a course on the outlines of Constitutional Law. I think some change should be introduced as regards the prescribing of text-books for study. There is a fear that a definite prescription of a list of text-books may lead to cramming; for example in getting up by rote the decisions in a list of named leading cases. I would also point out that the ground to be covered is so wide in some branches as to render it desirable to make a slight addition to the number of papers set.

IV. In view of the range of study required and of the fact that the right to practise really follows from obtaining the degree, a two years' course seems to me too short especially as many of the students do not devote all their time to legal study or practice. Any great and sudden change might cause hardship, but I would suggest that some of the subjects now taken in the first year should be postponed to the second, *e. g.*, mercantile law; that the examination should take place in October before the opening of winter term in November and that for the second examination courses should be prescribed to cover three terms,—two winter and one summer,—the students normally taking the second LL.B. at the end of March.

V. *Accommodation*.—(a) As this is the only Law School in the Presidency and so far as I can judge rightly so—the need for hostel accommodation is specially urgent. (b) There should be some suitable rooms where the Tutors and, when possible, some of the other members of the staff could meet small classes of students or at times see them individually. (c) Arrangements must be made to provide for the increased number of lectures and division of classes. This question is of course intimately connected with that of the rearrangements required in Elphinstone College. If rooms for about 100 students were provided the need would probably be met.

VI. I believe that it is important to secure the cooperation of the Law teachers in the work of examining. The questions usually set in Law Examinations are—as I know by experience—far from being the best test of a student's real knowledge of the subject. One does not find it out until one has had actual experience both of teaching and examining. I quite agree as to the necessity of having external examiners as well. I should also suggest that a *vis à voce* examination in Law might be added with advantage.

As regards cost, in view of the facts referred to in the report of the Inspection Committee, the appointment of two capable young men, at say Rs. 300 a month, to such positions as I have suggested should not be difficult. I agree with the Committee of Inspection in urging the pressing need for placing the studies in the Faculty of Law on a better footing. I do not say that the proposals above made cover everything that is desirable, but I believe that if adopted a substantial advance would be made. If desired I should be happy to go into further details on the matter, after consultation with those interested in the Law School.

MEDICINE.

The functions of the University as regards Medicine may be considered under two heads:—

- (1) Post Graduate study and research.
- (2) The training of the medical student until obtaining his qualification.

(1) Applying the principle of encouraging those branches of study and research that can be carried on more effectively in India and especially in Bombay than elsewhere, I feel strongly that the policy of the University should be to do all it can to promote careful study and research in Tropical Medicine and Hygiene. The amount of material unfortunately is enormous, but the advance made in the knowledge of the causes, the cure and prevention of disease, especially of tropical diseases, has been one of the greatest triumphs of science in recent years. The opportunities in Bombay for still further promoting this invaluable work in extending knowledge and relieving suffering are exceptional. I know of nothing more likely to add to the repute of Bombay as a centre of scientific work, nothing more likely to benefit the country than the establishment and development of a great school of Tropical Medicine in connection with the Laboratories at Parel. The number of students would necessarily be limited and only those who had already graduated or given evidence of attainments at least equal to those of graduates, should be admitted, but the beneficial results from training really competent men and promoting research of a really fruitful kind would be unlimited. Such a school would no doubt draw capable investigators from other places as well as from the Presidency, even from Europe and the United States. Already the University has established a special degree in Hygiene. I would earnestly urge the encouragement of this subject and trust that there may soon be established in connection with the Laboratory at Parel, a school—well equipped and well manned—that the work of its successful students will be recognized by the award of University distinctions and that the influence of the University will be used to promote this kind of research which can best be carried on here and from which the most valuable results may be expected.

APPENDIX G.

SUPPLEMENTARY WRITTEN STATEMENTS.

"TOTHU TERRACE,"
Gilder Street, Grant Road,
Bombay, 11th March 1914.

To

THE SECRETARY,
TOWN PLANNING COMMITTEE,
General Department, Secretariat,
Bombay.

Sir,

I have the honour to submit herewith my Notes suggesting means to remove the impediments now standing in the way of suburban passengers, and thus afford a greater facility than at present to the people desiring to live in the suburbs, as I know of many, who, though willing to live outside the City, are unable to do so in the absence of such facilities. I have, therefore, to request you to be so good as to place them before the President of the Committee for such action as may be considered necessary.

I regret I could not submit them earlier owing to my long absence from Bombay.

I have the honour to be,

Sir,

Your most obedient servant,

P. E. GHAMAT.

Facilities for Promoting Development of Bombay.

Various witnesses have expressed their opinions before the Bombay Development Committee suggesting several improvements involving a large expenditure. Owing to my long absence from Bombay I do not know what these opinions are, nor do I profess to know much of finance, but as an old suburban resident in the past, I can speak with certainty that one of the simplest measures for the future well-being of Bombay is to afford facilities to the middle class men to encourage them to live in the suburbs. I would, therefore, confine my remarks to suggestions for increasing at moderate costs the facilities that are now available at our hands. Some years ago I had expressed through the columns of an English daily that though there are many middle class men who desire to live in the suburbs, they are unable to do so unless they find easy and frequent communication with the City and unless there exists some controlling body to watch their interests. As the matter stands now, the Departments concerned in the matter have everything their own way, and we, therefore, require a central controlling body nominated by Government to look into matters relating to the interests of the suburban people, and bring round the respective Departments to such terms as would promote the object of developing the suburbs. In giving effect to the proposals herein contained the most important assistance will have to be given by the local Railway, as without their aid and co-operation nothing could be done towards the furtherance of the project. But the question is: Will they be prepared to give us the required assistance at the sacrifice of their revenue? With all their desire it seems very likely they could not bear a continuous loss, if any. We must, therefore, engage our attention to secure means to assist them and other Departments directly concerned in the development, from a sum to be created by a terminal tax, if possible, as proposed below. A tax of 2 annas, 1 anna and 6 pies for first, second and third class respectively, be levied on all passengers travelling with ordinary tickets by rail and coasting vessels from and to Bombay beyond the suburban area and a tax of Rupee 1 and annas 8 on first and second class passengers using the overland route. A similar tax of 8 annas, 4 annas and 2 annas per month, and double this amount per quarter on each season ticket and free residential pass holder for first, second and third classes, respectively, be imposed. A terminal tax of a somewhat similar nature, obtains in Calcutta. If the amount so realized be not sufficient for the purpose, I think, our Municipal and Improvement Trust bodies which are

more interested in the question of removing the congestion and making the City sweet and healthy, should come forward to contribute a certain amount until such time the loss automatically disappears.

The co-operation of the following Departments, namely, the Railways, Tramways, Postal and Telegraph, Telephone, Municipal and Police, will surely not fail to develop the suburbs.

Railways.

2. First let us take the G. I. P. and the B. B. & C. I. Railway Departments both of which are a Government concern, but worked by different managements. Are they showing a substantial progress in the direction of developing the suburbs? The answer is no. The B. B. & C. I. Railway, which may claim—and very rightly—the credit of inhabiting the suburbs skirting their line, do a great deal in providing an increased train service and working their local trains punctually, but that is not all that we require. Our needs are much greater as explained hereafter. The G. I. P. local train working is, I am sorry to remark, not a happy example to note, as their trains seldom keep time partly owing to the pressure of traffic on their tracks, and partly to the faulty arrangement of shunting their local trains to sidings at roadside stations to allow Mail, Express and Through Passenger trains to precede. The local passengers on this Railway have hitherto endured with much patience the hardship, and we earnestly hope that all these will be put to an end shortly when the quadrupling of their line to Kalyan is complete. This Railway have of late years done much in improving their main line service but at the sacrifice of local train travellers. Their policy in running their Mail and Express trains from Victoria Terminus to Kalyan direct without halting at Byculla and Dadar is not worthy of appreciation. We would not grumble if they preferred to run their trains for pleasure-seekers and race-going people direct from Bombay to even Poona, but all that I contend is that their trains carrying mails ought to stop at important stations for the convenience of the Postal Department and the middle class public. This through running is done under the excuse of acceleration. It may be an acceleration to the Railway Company, but not to such public who have their residences in distant localities and suburbs, for the reason that the intending passengers are required to leave their homes much earlier than they would, if they had an option of joining trains at a station nearer their quarters. Our City is divided into 7 Wards A to G, and the following is the population of the respective Wards according to the census of 1911:—

Ward.	Population.	
A	67,859	} Group 1.
B	130,358	
C Market	30,172...	
Dhobi Talao	38,684...	
Other Sections	114,544...	68,856
D	111,055	} Group 2.
E	226,470	
F	95,221	
G	120,103	
Harbour, Docks, Railways	44,979	
Military and Homeless	44,979
Total	979,445	

Now, Victoria Terminus having been situated in the A Ward, is nearer to the residents of A and B Wards and to those of Market and Dhobi Talao sections only in C Ward, and is therefore, convenient for their purpose. The population of this area, however, comes to only 237,073 as against the remaining population of Bombay, namely 667,393. This latter figure is exclusive of 44,979 persons who frequent Harbour, Docks, etc., and is also exclusive of people residing in the suburbs. It will thus be seen that the Victoria and the Colaba Termini are not convenient to 14.1 per cent. of the total population of Bombay. The latter figure, namely 71.41 per cent. may appear inflated, and it may be said as argument against it that the travelling public in the latter group 2 does not bear the same ratio to that in the former group 1, and that, therefore, if greater facilities were in the ordinary course given to people in the former group, it would be in the fitness of things. But this kind of argument can be met with on a further consideration, namely, that the people residing in group 2 as well as those residing beyond it as far as Ghat-Cooper and Borivli, are most of them poor and middle class men and cannot be expected to undergo the extra expenses of catching the trains at Victoria Terminus from their respective dwellings. And as it is intended to have the Northern part of the Island populated by the poor and middle class men, it is desirable to fix suitable stations within the City for their convenience when travelling up country. I regret to observe that this erroneous policy of the G. I. P. Railway has of late been followed by the B. B. & C. I. Railway, which have their terminus at Colaba at the southern extremity of the Island. I can see that in working the Down trains from Bombay both the Railways can find some convenience in better accommodating their traffic, but there seems to be no good ground for their doing so on the Up journey to Bombay. How this arrangement hampers the postal communication, has been explained in paragraph 4 (iv) below.

2. (i) In my notes dated the 17th November 1902 to the Agents of both the Railways I had urged upon the necessity of fixing 3 stations for halting Mail and Through Passenger trains. I still maintain that owing to an increase in the population, of the Northern part of the Island and the diminution of the population of the City caused by dispersion of the suburbs up to Ghat-Cooper on the G. I. P. and Borivli on the B. B. & C. I., it is quite essential to have mail train stoppages at Byculla and Dadar on the former and Grant Road and Dadar on the latter Railways. This measure will divide the city stations so as to give one central and one northern mail station on each Railway besides the Terminus. How inconvenient and expensive it must be for the outgoing as well as incoming passengers residing at the suburbs extending up to 20 miles, and in localities far away from the termini of the two Railways to go to the southern extremity of the City to join mail trains, can very easily be imagined. As remarked above no business-man ever regards this method either accelerative or economical. It is not accelerative because it compels passengers from the central and northern parts of the Island including the suburbs to leave their houses long before the departures of the mail trains, and thus the time occupied in reaching the respective termini more than compensates the 5 or 10 minutes saved by the non-stoppage at Byculla and Dadar or Grant Road and Dadar. To be more clear I would give two examples:—

1st—A business-man residing at Kurla intending to travel by the 21 o'clock Calcutta Mail train is now required to leave Kurla by the 19.28 local train, *i. e.*, an hour and a half before the mail's departure. If the train stopped at Dadar, he would have to leave at 20.23 saving nearly an hour, and also the train fare from Kurla to terminus and back.

NOTE—Even then he does not ensure his travelling by the train, as both the Railway Companies have laid down a rule by which they reserve to themselves the right to cancel any local trains or giving any previous notice to the public.

2nd—A passenger having his residence at Tank Bunder intending to travel by the above Mail train has to leave home at the latest at 20 o'clock. If the Mail halted at Byculla, he could leave late by half an hour.

The foregoing examples prove that the public do not gain in time, nor do they find it economical as shewn by the following examples.

2. (ii) Persons travelling a long distance always have some luggage with them and have therefore to take up a hack victoria for the carriage of themselves and their baggage. The victoria fare from Tank Bunder to Victoria Terminus is Rs. 1-2-0, and if one has to take a carriage for himself and another for his luggage he would have to pay Rs. 2-4-0. Deducting therefrom annas 12 the hire for the two victorias from Tank Bunder to Byculla Railway station, he entails an extra cost of Rs. 1-3-0 and this sum amounts to a tax, which is, if not more, at least equal to cover a journey of 32 miles by rail in the case of a 2nd class and 98 miles in that of a 3rd class traveller by mail train. This is for the forward journey, and a similar disadvantage is experienced on the return journey. The enhancement of 1st and 2nd class passenger fares by 50 per cent, up to first 300 miles, the increase of 33 to 50 per cent. in the cost of meals provided in the Dining Cars, and lastly the additional charges incurred by people in going to and from the termini of the Railways, have made the travelling of the Bombay public much more expensive than before. With these facts before us who could say that the present arrangement of working mail and express trains through, is either accelerative or economical.

2. (iii) It is said that the system of so working prevails on the English Railways. That may be, but India is not England, and every arrangement that is convenient to England, cannot be followed with the same advantage in India, and especially in one of the largest cities in the Peninsula where every effort is being made to encourage people to live in the suburbs. The Improvement Trust have a big project to have an Eastern Avenue and provide nice residential quarters at Matunga and its surroundings. For all these combined reasons, we must appeal to our Railway managements to fix once for all our mail and express train stations in the manner suggested above. If they are not disposed to halt their trains at Byculla and Grant Road, as a last measure they should stop the trains at Dadar, and thus have at least 2 Mail stations within the Municipal limits of the City for the mail line traffic. It is more with this object in view that I have suggested the starting of upcountry trains of both the Railways from one terminus at Victoria stations, as shewn in paragraph 6 (8) below.

Tramways.

3. Though the electric tramway can never be an efficient substitute for the railway, its promoters can render us best assistance by taking early steps to sanction extensions to their existing lines. Unfortunately, the relations of our Tramway Company do not seem to be friendly with the Bombay public, who protest against their demand to charge half an anna more under the proposed zone system. While the latter urge upon the retention of one anna fare over the old horse-tracks, the former on the other hand express their inability to undertake any extension and insist on charging full fares for children. This idle controversy hampers the development of the City. It is observed that some people are opposed to the additional half anna fare only because they think that the Company should stick to the letter of their agreement. But this in the end is in no wise a fair policy and conducive to the interests of the public. I think, it is time now that a definite and final agreement ought to be made by the Corporation, whereby

(1) An equitable mileage rate be fixed for a period of at least five years on the lines indicated below, instead of the proposed zone system, which compels a passenger to pay proportionately a higher fare in case he takes up a car and join it a few yards beyond the last point in a particular zone.

(2) Children's half fare be provided.

(3) Greater travelling facilities be afforded to the public by providing direct cars at all hours.

(4) Extensions of the tramway as promised by the Company be completed within three years from the date of the sanction of the new tariff.

(5) Alterations in the present cars which are built without any regard to the climatic conditions, be insisted on.

3. (i) The lines of tariff charges referred to in clause (1) above are:—

(a) A one-anna fare be authorized for a distance not exceeding $4\frac{1}{2}$ miles with a proviso that the Company ought to provide direct cars on their different sections, and passengers who elect to travel by cars involving one or more transfers (not exceeding 3) be subjected to a 5 pice fare irrespective of the distance travelled. This fare will discourage people who instead of taking a direct car bound for their destination join a different route car and alight at the last Junction with the object of proceeding onward. The effects of the new rate will be that a passenger from Lal Bag (old terminus) can travel up to Church Gate Street or Town Hall by the shortest route in a direct car for one anna only, but if he travelled with a transfer ticket he would have to pay a quarter anna additional fare. Again, a passenger from Flora Fountain to Paidhoni ($1\frac{1}{2}$ miles) *via* Market or Kalbadevi can travel in a direct car for an anna, but he will be liable to pay 5 pice fare if he chooses to take up a Girgaon car and transfer at Bori Bunder or Dhobi Talao Junctions.

(b) A 5 pice fare be also provided for a journey over $4\frac{1}{2}$ miles and up to 8 miles, and a 6 pice fare for over 8 and up to 11 miles.

3. (ii) These fares will give the mileage rates as under:—

A—Up to $4\frac{1}{2}$ miles	...	...	...	2.66	pies per mile
B—Over $4\frac{1}{2}$ and up to 8 miles	...	...	...	1.88	" " "
C— " 8 " " 11 "	...	...	...	1.63	" " "

It will be seen from the above ratios that a passenger travelling under scale B gets a reduction of 29.7 per cent., and that under C 38.7 per cent. These fares are based with the idea of conveying longer distance traffic at cheaper mileage rates, as without such a provision people will not be encouraged to inhabit the Northern part of the Island.

(c) In cases where the Company are unable to provide direct cars, the present one anna fare need be enforced over the sections worked formerly by horse traction.

If the above proposals are not acceptable to the Company, a compromise suitable to the requirements of both the parties, namely, the public and the Company, ought to be immediately resorted to rather than allowing the question to hang on for an indefinite period.

3. (iii) With the settlement of this question the following routes may be opened up:—

(a) Sassoon Dock to Mahim. The present Sassoon Dock—Frere Road—Wari Bunder line may be extended from a point at the G. I. P. new Wari Bunder Goods Office crossing the Railway at Elphinstone Bridge, to the Junction of Girgaon and Hughes Roads *via* the Sandhurst Road, thence through the Kennedy Bridge to the Gowalia Fire Brigade Station, Tardeo and Mahaluxmi Roads, Vellard and Worli to Mahim Fort. This line will thus serve the districts of Fort, Mandvi, Wari Bunder, Umarkhadi, Bhendy Bazar, Null Bazar, Khetwadi, Chaupati, Gowalia Tank, Tardeo, Mahaluxmi and Worli.

(b) Wari Bunder to Sewri *via* Tank Bunder; and a branch line to join Tank Bunder with the Parel Road near the present Byculla station, *via* the Victoria Road.

(c) Parel Terminus to Sion: In sanctioning this extension the important suburb of Dadar where the G. I. P. and B. B. & C. I. Railways meet, should not be overlooked. In this connection I produce below extracts from my letter, dated 16th March 1908, to the Managing Director of the Company:—

“There can be no doubt that unless the tram service is extended to Dadar the long-felt want of the suburban residents, including those of the Salsette, which is to obtain quicker and cheaper communication between the City and the suburbs, would not be supplied.

I hear, it is in contemplation to have an extension up to the end of Vincent Road near Matunga. Even if this be true, the necessity for constructing the tramway up to Dadar Station should not be ignored, both in the interest of the travelling public and the Company. Vincent Road, which is said to be included in one of the schemes of the Improvement Trust, has undoubtedly a bright future,

but a considerable number of years must perforce elapse before it is largely populated. Even then the traffic available to the Company would not, I think, be so large as that which could be secured now and hereafter by laying down the tracks along the Dadar Road as far as the G. I. P. Station. This extension will place within easy reach a greater suburban area by way of affording to the people residing in the suburbs beyond the Dadar Station of both the Railways, a direct communication with the City instead of requiring them to use either of the Railways up to Grant Road or Byculla stations to catch the tram, in cases where their destinations skirt the tram tracks. To take an example: A person from Bandra or Northwards desiring to proceed to a place between Victoria Garden and Lalbag or its surroundings, has at present to travel by rail up to Grant Road and take up there a tram car spending one anna fare in addition to the Railway fare from Dadar to Grant Road, which is also one anna for a third class passenger. Now, if the Company provided the suggested service from the Dadar Station, he would be able to accomplish the very journey with a saving in time and money, as it will not entail upon him the necessity of travelling from Dadar to Grant Road by rail. Even the extension will be much availed of by the residents of the already largely populated district of Dadar and its environments, and I firmly believe that it will also attract a fair proportion of the traffic now carried by the two Railways.

“For the above reasons, the choice of the extension should be in favour of the Dadar route. I would, therefore, request you to consider the desirability of laying the tracks along the Dadar Road up to the compound of the G. I. P. Dadar station, and thence to Vincent Road instead of going over the entire length of the Vincent Road from the point where the Dadar and Vincent Roads meet. In plain words the projected line from the existing Parel Terminus be so constructed as to run past the G. I. P. Dadar station.”

3. (iv) In the circumstances stated above, I am still of opinion that even if it is decided as I find from newspapers, to have a continuous tram line from the present Parel Terminus to Sion *via* the Vincent Road, due consideration should be given to have an alternative line along the present Dadar Road up to the G. I. P. Dadar Station, whence running at a right angle it should meet the Eastern Avenue line at Vincent Road. This will give us besides the chord, a loop line from the Junction of the Dadar and Vincent Roads.

Postal Department.

4. The Railways and Tramways will supply our wants as carriers, and to establish quicker postal communication between the City and the suburbs the assistance of the Postal Department will be necessary. No one can deny that they are progressive and first of their kind in introducing reforms. They do a good deal to improve the communication between Bombay and other Cities in India and places abroad. But I regret to observe that they lag much behind in the matter of increasing the local facilities. The deliveries of letters at most of the sub-offices are far from punctual, and several times the first delivery (7-30 a.m.) letters posted within the City on the previous evening, are not to hand till the time of the second delivery (9-30 a.m.) when people are away for their offices. The despatches of different Mail trains have to be closed much earlier at sub-offices, and similarly delivered much later owing to the Railway Company's running their Mail trains direct between Bombay and Kalyan and Palghar. These and similar other delays and inconveniences if detailed herein, will take up much space. However, it would not be out of place to invite the attention of this Department to give consideration to the following points:—

(i) It should be so arranged that inter-communications within the City Post Offices should take place in 3 hours the most.

(ii) Most of the Post Offices abut on the Tramway line; it would perhaps be better to utilize the tramway for carrying local letters between the different offices. I think that at certain intervals a mail-guard should be run on the rear platform of a tram car with a few bags which need not necessarily be large owing to their containing local despatches only, and which may be delivered to a postal person awaiting the car's arrival at the stands nearer the several sub-post offices. This method would prove quicker and cheaper than that intended to be employed by motor agency.

(iii) Travelling letter boxes may also be tried on a few cars on each section. They may be fastened in the rear in a convenient place where the public may have access to them without entering the car.

(iv) Up-country “despatches” and “deliveries” are mostly attended to by the General Post Office and this is the main cause for the delays we now experience. Postal bags brought by Mail trains are overcarried to the Fort whence they are sent to the respective sub-offices and the suburbs. Why should such a multifarious procedure be allowed, when the Island presents natural facilities at Dadar where the G. I. P. and the B. B. & C. I. Railways meet, and where the Harbour Railway as proposed in paragraph 6(9) can be made to meet. Bags for places north of Byculla and Grant Road should be unloaded at Dadar, and carried therefrom by motor cars. A similar arrange-

ment may prove advantageous to send despatches to Dadar to be picked up by the Mail trains of the two Railways. Communications from and to the suburbs north, may also be distributed at Dadar. The Railway Mail Service can also transfer through mails quicker between stations on the G. I. P. and B. B. & C. I. Railways. All these could be arranged only by the assistance of the Railway Companies by halting their trains carrying mails at Dadar even without incurring an extra pie. When efforts are being made to expand the City northwards the Post Office are retrogressively moving in this direction, as in the past they used to interchange through Mails with advantage at Dadar.

(v) At places far remote from the Railway Stations, combined Post and Telegraph Offices may be opened.

Other Departments.

5. The facilities expected from other Departments are mentioned in paragraphs 6 (13 16) below.

Facilities.

6. With these introductory remarks, I would briefly summarize herebelow the nature of facilities which would contribute to the promotion of the population in the suburbs:—

(1) Reduction in the present ordinary tickets 1st and 2nd Class fares over the local section, and an assurance that the season ticket rates now in force will not be enhanced.

(2) Issue of season-tickets at reduced rates to workmen on production of certificates, and servants of milk vendors, entitling them to travel by certain trains only.

(3) Provision of punctual, speedy and, if possible, semifast train service at regular intervals suiting the convenience of office people and workmen.

(4) Instead of stopping the train service between 12 and 5 in the morning there should be about 3 local trains each way at intervals up to Kurla on the G. I. P. and Andheri on the B. B. & C. I. Railways. One of these Up trains having a carriage or two to hold vendors' goods may be run to facilitate the bringing of milk from the suburbs.

(5) If no central controlling body as suggested above is organized, there should be one control over the local area, say Bombay-Kalyan or Thana including the Harbour Railway, and Bombay-Virar or Borivli, and the local traffic over these sections be worked by either of the present three administrations or jointly. There should be interchange of local trains so as to provide direct service between Victoria Terminus and Virar or Borivli and Colaba and Kalyan or Thana, and also between the stations within these limits and the Harbour Railway. In short, all these three Railways should be worked as if it formed part of one concern only. It is a curious fact to note that while up to the year 1880 the travelling public enjoyed the facility of having a couple of trains in the morning and evening, running between Bandra and Victoria Terminus (then Bori Bunder), now that when we are badly in need of it owing to the harbour, docks, and the goods termini of both the Railways being situated in the east, we should remain without the same facility as before.

(6) Season-tickets available on more than one Railway may be issued at special rates. Single, Return and Season-tickets fares from Bombay to Dadar should be the same on both the G. I. P. and B. B. & C. I. Railways. The season-tickets on one line could then be made available on the other under a special arrangement. Similarly, holders of Return tickets may be given the option of returning by the either Railway.

(7) The B. B. & C. I. line from Grant Road to Colaba must continue for local service. Considering the large number of passengers carried by the Railway on this part of the line, it would not be but right to recommend its retention.

(8) Though in the past I apprehended some difficulty to have one terminus for the reception of long distance traffic of both the railways, it seems to me that Victoria Terminus station with its increased accommodation can now well be utilized for the purpose. All the Mail and through Passenger trains should run on a special track which the G. I. P. contemplate providing up to their Dadar station whence the B. B. & C. I. Railway working on their own tracks should meet their main line at a point north of their Matunga Road station. Even if the Railway Companies are opposed to stop at Byculla, we would have two stations in Bombay, one in the North at Dadar and a Southern terminus in the Fort for up-country trains.

(9) This being arranged, we may direct our attention to the convenience of the people inhabiting the Eastern shore now opened up by the Harbour Railway. After connecting this new Railway with the G. I. P. somewhere near Victoria Terminus or further up, the local train service should be so arranged that a train starting from Victoria Terminus passing over the Harbour Railway should divert at a point on the Mahim Branch section and arrive into G. I. P. Dadar station, whence it may run on to Victoria Terminus over the present G. I. P. road, and *vice versa*. In plain words, we would thus

get a circular road by which a train starting from Victoria Terminus can return to the same station in a loop, as stated above. The residents of the Eastern part desiring to go up-country, or having business connection with the heart of the City, will find it convenient to change for the main line of the present Railways at the joint station at Dadar.

(10) The erection of Mills in the heart of the City has taken up much of our valuable ground fit for habitation, and the circumstance that the employees thereof desire to find quarters in close proximity to their work, [compels us to drive the ordinary public to the suburbs. It should, therefore, be decided that no more mills or extensions thereto will be allowed to be erected within the present Municipal limits of Bombay.

(11) The Dhobi Ghat should be removed from Mahalakshmi, the Slaughter House from Bandra and the Milch Stables from the densely populated localities to the suburbs.

(12) Post Office facilities have been enumerated in paragraph 4 (i to v).

(13) Tramway extensions as suggested in paragraphs 3 (ii) (a) to (c).

(14) Telephonic communications be established northwards in the suburbs.

(15) Other facilities we might expect from our Municipality in the matter of procuring land for the disposal of the dead and for erection of religious places, as well as supply of pipe water and provision of markets so far as their limits are concerned. Outside Bombay, the respective Municipalities should be asked to provide these facilities.

(16) Increase in the staff of Bombay and Salsette Police for maintenance of order. The Police Commissioner of Bombay can also, in the case of the former, be useful, if in issuing licenses to conveyances on hire, he were to make it incumbent on a few of such license holders to have their stables in the northern parts of the City instead of all in the heart of the town.

THREE STATEMENTS RECEIVED FROM MAJOR H. A. L. HEPPER, R. E., AGENT, G. I. P. RAILWAY, WITH HIS LETTER OF FEBRUARY 18TH, 1914,
GIVING FIGURES TO SHOW THE GROWTH OF SUBURBAN TRAFFIC.

Statement (i) showing the number of Season Ticket passengers and earnings of the Bombay Local and Suburban traffic from stations south of Kurla to stations Kurla to Thana during the half year ended 30th June 1912.

	Kurla.		Ghatkoper.		Vikhroli.		Bhandup.		Mulund.		Thana.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Bombay	53,740	6,569	132,340	12,393	680	81	3,700	359	1,000	93	246,700	24,762	472,860	44,257
Musjid	61,000	4,355	94,850	8,572	2,560	238	7,200	443	240	22	11,600	1,197	178,320	14,827
Mazgaon	21,120	1,399	1,980	214	...	...	2,080	203	120	13	9,760	723	35,060	2,582
Byculla	28,180	1,763	4,120	345	520	41	800	80	...	...	9,180	856	42,800	3,085
Chinchpokli	3,180	180	440	30	...	...	680	68	...	...	120	13	4,420	289
Currey Road	6,480	330	1,200	134	...	...	.....	...	...	...	720	48	8,400	512
Parel	85,280	1,921	4,600	113	...	...	3,160	77	...	...	77,800	2,424	170,840	4,535
Dadar	22,200	666	4,140	260	240	19	600	46	...	...	7,080	560	34,260	1,551
Matunga	3,600	77	1,680	62	...	...	480	35	...	...	1,240	31	6,400	225
Sion	3,660	81	680	19	40	10	800	68	...	...	720	61	5,900	249
Total ..	323,840	17,341	245,400	22,212	4,240	389	19,560	1,367	1,360	128	364,920	30,675	959,260	72,112

G. I. P. RAILWAY.

Statement (ii) showing the number of Season Ticket passengers and earnings of the Bombay Local and Suburban traffic from stations south of Kurla to stations Kurla to Thana during the half-year ended 31st December 1912.

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	Kurla.		Ghatkoper.		Vikhroli.		Bhandup.		Mulund.		Thana.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Bombay	88,500	6,405	113,400	10,998	...	...	1,800	128	360	33	241,180	24,174	444,740	41,634
Musjid	64,220	4,434	57,420	5,797	360	35	1,760	113	...	...	15,120	1,428	138,880	11,807
Mazgaon	20,200	1,315	2,240	248	...	...	80	3	...	...	11,360	975	33,880	2,571
Byculla	29,820	1,833	4,740	362	240	19	250	28	...	...	* 20,000	1,397	65,080	3,639
Chinchpokli	4,260	242	400	27	...	...	1,000	96	...	...	120	13	5,780	378
Currey Road	8,200	424	880	62	...	...	.....	...	...	...	800	59	9,830	515
Paral	70,360	1,716	3,640	99	...	...	* 1,760	46	...	...	61,520	2,009	137,280	3,870
Dadar	25,800	788	4,000	239	80	6	280	23	...	...	8,100	718	38,060	1,771
Matunga	20,220	221	200	15	...	...	40	3	...	...	* 39,364	1,432	59,820	1,671
Sion	3,720	56	560	32	...	...	760	56	...	...	1,200	104	6,240	278
Total	335,100	17,494	187,480	17,777	680	60	7,260	404	360	33	398,764	32,309	929,640	63,167

* These include contractors' cooly tickets.

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G. I. P. RAILWAY.

Statement (iii) showing the number of Season Ticket passengers and earnings of the Bombay Local and Suburban traffic from stations south of Kurla to stations Kurla to Thana during the Quarter ending 31st March 1913.

	Kurla.		Ghatkeper.		Vikhroli.		Bhandup.		Mulund.		Thana.		Total.	
	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.	No.	Rs.
Bombay	33,446	3,127	51,521	4,965	21	2	821	75	81	11	119,370	11,925	205,260	20,105
Musjid	27,463	2,019	23,433	2,051	369	52	400	46	...	...	8,465	814	60,130	4,981
Mazagon	8,304	623	1,051	128	...	...	828	81	...	...	5,088	399	15,271	1,226
Eyculla	14,899	977	1,288	122	77	7	248	17	...	...	* 21,431	1,808	37,643	2,431
Chinchpokli	1,520	97	98	10	...	...	240	23	...	...	177	13	1,975	143
Curry Road	4,156	240	489	34	...	...	.....	...	...	...	237	21	4,882	295
Pard	29,227	808	1,677	49	...	...	360	9	...	...	26,105	875	57,369	1,741
Dadar	12,217	461	1,847	124	22	2	.....	...	...	...	3,724	285	17,810	872
Matunga	36,748	456	601	26	...	...	160	8	...	...	22,476	581	59,985	1,066
Sion	2,354	60	81	17	...	...	393	32	...	...	478	48	3,306	157
Total	170,034	8,807	82,036	7,521	489	63	3,450	286	81	11	207,491	16,269	463,631	33,017

* These include contractors' colony tickets.

No. E/517 of 1914.

OFFICE OF THE SURGEON-GENERAL
WITH THE GOVERNMENT OF BOMBAY:

Poona, 2nd March 1914.

From COLONEL R. W. S. LYONS, M.D., I. M. S.,
Surgeon-General with the Government of Bombay;

To B. W. KISSAN, ESQUIRE,
Special Officer, Salsette Building Sites, Bombay.

Sir,

With reference to your letter No. 69, dated 9th January 1914, forwarding a proposal from Major Glen Liston, to locate St. George's Hospital at Parel when moved from its present position, I have the honour to inform you that I consider the Hospital, if removed, should be located near to its present site for the following reasons:—

During the year 1913, out of 2,063 in-patients and 1,067 out-patients treated in St. George's Hospital, 1,294 in-patients and 624 out-patients or 62 per cent. and 58.5 per cent., respectively, were admitted from Lower Colaba, Apollo Bunder, Fort, Prince's Dock, Board Ship, Crawford Market, Dhobie Talao, Charni Road, Chowpatti, Tardeo, Grant Road, Malabar Hill, Girgaum and Kalbadevi—all nearer to the Fort than Parel. The European and Eurasian population of the area from which these patients come, *viz.*, from A, B, C and D Wards excluding Upper Colaba and Mahalaxmi, is 9,373.

During the same period 769 in-patients and 443 out-patients or 38 per cent. and 41.5 per cent., respectively, were admitted from Byculla, Jacob's Circle, Parel, Mahalaxmi, Matharpacady, Wari Bunder, Elphinstone Road, Thakurdwar, Ghat Cooper, Worli, Mahim, Dadar, Bandra, Andheri, Santa Cruz, Trombay, Coorla, Sion, Thana and other places. The European and Eurasian population from which these patients came—roughly Mahalaxmi and E, F and G Wards—is 7,141.

Patients from such distant places as Bandra, Santa Cruz, Thana, etc., although included above, must come to Bombay by rail and would find the Fort site as convenient, if not more convenient, than Parel, owing to the faster train service.

The Fort area will, I believe, always have a large population of shop-assistants, clerks, etc., who cannot afford to live at a distance from their work, and for whom in-door and out-door hospital accommodation will be required. Although in the Fort area the wants of the out-door patients would be met by a casualty ward and detained ward, it would be hardship to most of the in-door patients to be sent so far from their homes as Parel where they could seldom be visited by their friends. The argument in Major Glen Liston's letter, based on St. George's Hospital at present suffering from malarial infection, is an argument for removing the causes of malaria in its neighbourhood. This will most probably have been achieved within the next 5 years and before a new hospital could be built. I attach for information a copy of letter No. 41-M, dated 5th February 1914, from the Surgeon Superintendent, St. George's Hospital, to whom a reference on this subject was made, also a copy of an extract from the proceedings of a meeting of the Advisory Committee, St. George's Hospital, deprecating the removal of the Hospital from its present position, unless absolutely necessary.

I have the honour to be,

Sir,

Your most obedient servant,

R. W. S. LYONS, M.D.,

Colonel, I. M. S.,

Surgeon-General with the Government of Bombay.

No. 41-M of 1910.

ST. GEORGE'S HOSPITAL;
Bombay, 5th February 1914.

From

LIEUTENANT-COLONEL T. JACKSON, M.B., B.Ch., I. M. S.,
Surgeon Superintendent, St. George's Hospital;

To

THE PERSONAL ASSISTANT TO THE SURGEON-GENERAL
WITH THE GOVERNMENT OF BOMBAY,
Poona.

Sir,

I have the honour to acknowledge the receipt of your No. E/96, of the 21st ultimo and accompaniments and to reply as follows:—

2. In my opinion the site proposed in the old Government House compound, Parel, for St. George's Hospital is most unsuitable from the point of view of the convenience of the patients both in-door and out-door, who use the Hospital.

3. I enclose two statements showing the numbers of in-door and out-door patients for the year 1913 and the districts in Bombay where they resided. The tables show the monthly admissions. From the tables it will be seen that the majority of both out and in-patients are from the Fort, Colaba, Byculla, Mazagon and ships and for these the Parel site would not be suitable. Most of the Byculla patients come from the neighbourhood of the Sir J. J. Hospital and are a poor population living in flats and tenements. The same remark applies to the Mazagon patients. The present site of St. George's Hospital suits them and if it were moved towards Colaba even to the extreme point of Colaba it would still be more convenient than Parel. If we take the admission figures for the Fort and for ships, we find that they form more than half the in-door patients and nearly half the out-door. Patients from ships are to all intents and purposes Fort patients as most of the large docks are close to or in the Fort and the offices of ship agents who deal with such patients are all located in the Fort. The Fort may thus be looked on the source of about half the St. George's Hospital patients. There are very few admissions from the permanent dock population as the population is mostly Indian. Major Glen Liston in his demi-official letter states that most of the patients come from the mills and from the docks. From the two statements I enclose it will be seen that there is not a particle of evidence to support such a statement. Europeans employed in mills are generally a well-to-do class and consult private practitioners or get treated by their mill doctors. They do not use the hospital except rarely in case of serious illness. From the enclosed statements it will be seen that while we get a large number of patients from ships, very few come from the docks. Those from ships arrive sick in the harbour, having contracted sickness at sea. A hospital in Parel would be far from convenient for this class. In the correspondence under reference it is stated Parel is just as near the docks as the Fort. I cannot agree with this. The docks are all within easy reach of the present Hospital. Parel must be at the least six miles from Bori Bunder. All roads in the Island are said to converge to Parel, that may be, but the poor going there from say the Fort would have to use the trams or conveyances drawn by horses or motors, the two latter means would be prohibitive on account of their cost for such a long trip, so they would have to depend on the trams only. The Bombay trams are good where they exist but on the last two or three miles of the route to Parel there is but a single line of tram. It is evident therefore that in outlying places like the Fort, Colaba, the Docks the trams going to Parel must be limited in number and consequently separated by long intervals of time. How can it be said, therefore, that Parel would be just as convenient as the present hospital? I agree that if the northern and western parts of the Island were developed, that if residential quarters were built there, that if the district were drained and made fit for Europeans to dwell in and if all the Fort population migrated there, then the proposed Parel site would be a good one. It will, however, be a very long time before such a change is at all likely to take place except some unforeseen forces, working towards that end, come into operation. For the present, therefore, it appears to me hospital provision for such a contingency should not be made at the expense of the present Fort and neighbouring population. I cannot see any good reason to suppose that the Fort will not always remain the chief centre of the European population in Bombay.

4. Now as regards the malarial question, Parel is perhaps as badly infected with malaria as any part of Bombay, but as it is not so thickly populated the prevalence of malaria is not so apparent. If St. George's Hospital were re-erected in Parel, it would be no better off than now as regards malaria and not nearly so well off in other respects, for at present its site and neighbourhood are well drained. The proposed Parel site and neighbourhood are not, nor ever

likely to be so well drained, as the district is so low lying. In addition to malaria many other diseases would have to be contended with, such as tuberculosis, dysentery, diarrhoea, pneumonia, sprue, which would certainly show themselves in a large hospital if it were located in such unsuitable and insanitary surroundings.

5. To my mind the best site in Bombay for the new St. George's Hospital is the Sassoon Dock site, after this site I would put the present Marine Lines site if it could be made available, failing these two I would recommend a site on Cumballa Hill.

I have the honour to be,

Sir,

Your most obedient servant,

THOS. JACKSON, M.B., B.CH.,

Lieutenant-Colonel, I.M.S.,

Surgeon Superintendent, St. George's Hospital.

List of In-patients admitted into St. George's Hospital during the year 1913 from different districts.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Colaba	6	3	9	14	8	6	12	8	9	12	12	7	101
Apollo Bunder	4	3	2	3	8	4	4	4	3	9	3	1	43
Fort	43	37	36	42	46	45	61	73	69	92	69	74	687
Prince's Dock ... ..	...	3	...	...	1	...	5	4	1	4	3	...	21
Board Ship	16	17	15	28	36	37	40	24	46	48	50	32	389
Mazgaon	2	3	4	7	6	10	13	10	25	21	7	7	115
Market, Crawford ... ..	...	1	2	1	2	1	2	4	2	3	...	...	18
Byculla	25	16	16	29	33	28	38	42	46	45	45	51	414
Girgaum ... ..	...	1	...	1	...	2	...	4	2	...	1	...	11
Chinchpogli ... ..	...	...	1	3	...	1	...	2	...	...	1	1	9
Jacob's Circle ... ..	...	...	1	2	3	1	3	5	1	4	7	...	27
Parel	4	5	6	7	7	6	10	8	7	8	3	1	72
Dadar	1	...	2	1	2	...	...	...	2	...	...	...	8
Mahim ... ..	...	1	...	...	1	1	4	1	4	2	2	1	17
Sion ... ..	...	1	...	...	...	...	...	...	...	...	1	1	3
Thana ... ..	...	...	...	...	...	...	...	...	1	...	...	1	2
Chowpatty ... ..	...	...	...	...	1	...	1	...	...	...	3	...	5
Tardeo ... ..	...	1	...	1	2	1	...	...	1	2	1	...	9
Grant Road ... ..	...	...	...	1	...	...	3	...	1	...	...	...	5
Bandra	1	...	1	1	2	1	4	1	...	2	1	2	16
Sewri ... ..	...	...	...	...	...	...	...	1	...	...	...	...	1
Santa Cruz	1	...	...	...	...	...	...	...	...	...	3	...	4
Andheri ... ..	...	...	...	...	...	...	...	...	...	1	1	...	2
Malabar Hill ... ..	...	...	1	...	...	...	1	...	1	1	...	1	5
Matunga ... ..	...	...	...	...	...	...	...	...	1	...	...	...	1
Other places	5	7	4	13	4	8	5	4	6	8	5	9	73
Total	108	99	100	154	152	152	206	195	228	262	218	159	2,063

THOS. JACKSON, M.B., B.CH.,

Lieutenant-Colonel, I. M. S.,

Surgeon Superintendent, St. George's Hospital.

Bombay, 5th February 1914.

List of Out-patients admitted into St. George's Hospital during the year 1913 from different districts.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Colaba	3	2	4	8	4	7	7	2	9	9	9	9	73
Apollo Bunder	3	...	1	1	2	4	4	2	7	9	...	5	38
Fort	26	29	18	24	34	27	28	41	36	49	60	46	418
Prince's Dock ... ..	...	...	1	1	1	1	...	3	1	1	2	1	12
Board Ship	5	...	5	2	1	6	...	3	5	5	2	3	37
Mazgaon	4	2	2	8	8	4	8	8	9	8	5	5	71
Market, Crawford	2	3	2	...	2	...	5	1	2	5	1	2	25
Byculla	20	17	18	14	18	12	21	24	19	36	23	22	244
Jacob's Circle	2	...	2	8	5	...	5	2	1	4	5	...	29
Parel	3	2	2	4	1	1	3	2	3	3	3	1	28
Dhoby Talao	1	...	...	...	...	...	...	...	...	...	...	...	1
Tardeo	1	...	1	1	1	...	...	...	1	2	...	...	7
Mahalaxmi	1	...	...	...	...	...	...	...	...	...	...	...	1
Grant Road ... ..	...	1	...	1	...	...	1	...	...	...	...	1	4
Malabár Hill ... ..	...	...	1	...	...	...	...	...	...	...	...	...	1
Girgaum ... ..	...	...	...	1	1	...	...	...	...	...	1	...	3
Kalbadevi ... ..	...	...	...	1	...	...	1	...	...	...	...	...	2
Matherpacady ... ..	...	...	...	1	...	...	...	...	...	...	...	...	1
Wari Bunder ... ..	...	...	...	...	...	...	1	...	...	...	...	...	1
Elphinstone Road ... ..	...	...	...	...	...	...	1	...	...	...	...	...	1
Charni Road ... ..	...	...	...	...	...	...	...	...	2	...	...	...	2
Thakudwar ... ..	...	...	...	...	...	...	...	...	...	...	1	...	1
Chowpatty ... ..	...	...	...	...	...	...	...	...	...	...	1	...	1
Ghat-Cooper	1	...	...	...	...	...	...	...	...	...	...	...	1
Worli	1	...	...	...	...	...	...	1	...	...	...	1	3
Mahim	2	...	...	...	...	1	2	...	...	...	2	2	9
Dadar	1	...	...	...	1	...	1	1	...	...	...	2	6
Bandra ... ..	...	...	...	2	...	...	...	...	...	...	1	1	4
Andheri ... ..	...	...	...	...	1	...	...	...	1	1	2	1	6
Trombay ... ..	...	...	...	...	...	...	...	...	...	1	...	...	1
Coorla ... ..	...	...	...	...	...	...	...	...	...	1	...	...	1
Other places ... ..	...	4	2	3	2	2	6	5	3	2	4	2	35
Total	76	60	59	75	82	65	94	95	99	136	122	104	1,067

THOS. JACKSON, M.B., B.CH.,

Lieutenant-Colonel, I. M. S.,

Surgeon Superintendent, St. George's Hospital.

Bombay, 5th February 1914.

*Extract from the Proceedings of a meeting of the Advisory Committee, St. George's Hospital,
held on the 17th February 1914.*

* * * * *

2. Resolved that with the information before them the Committee are of opinion that the present site of St. George's Hospital is the most convenient to the great majority of the people using it. They therefore deprecate any proposal to remove it unless absolutely necessary. The site proposed at Parel would never be as suitable as the present location to the residents of the Fort and Colaba, the Shipping and the Docks, and it is from these places that more than half the patients now come.

(Signed) T. JACKSON, M.B., B.CH.,
Lieutenant-Colonel, I. M. S.,
President, Advisory Committee, St. George's Hospital.

True Extract.

JOHN DEMELLO,
Chief Clerk to the Surgeon-General
with the Government of Bombay.

MEMORANDUM RECEIVED FROM THE HONOURABLE MR. J. P. ORR, C.S.I., I. C. S., ON
APRIL 8th, 1914.

Note on the question how far compensation should be paid out of the public purse to owners of houses (i) in which rooms hitherto used for human habitation are declared unfit for human habitation or (ii) in which the Municipality require the owners when making substantial alterations to satisfy higher standards of sanitation than the minima which were prescribed by the Municipality when the houses were first built.

1. The Municipal Act and by-laws do not lay down that a builder shall (*e.g.*) leave so much open space round his buildings and no more. They leave him free to do what he likes, provided that certain minimum requirements which they prescribe in the interests of the public health are satisfied.

2. Where land is costly and the demand for accommodation is heavy, builders in Bombay have hitherto nearly always reckoned on being able to let their rooms, even if they provide only the minimum external open space and in other respects also only just satisfy the minimum requirements of the law; and they therefore build over the maximum they can build over without breach of the Municipal Act or by-laws.

3. If in course of time this reckoning proves mistaken because the standard of comfort rises, more sanitary houses are built and those best lighted and ventilated are preferred to the older insanitary buildings, the owners of the latter will suffer some loss: but they cannot expect the public purse to compensate them for this loss; for it would never have occurred, had they not preferred immediate high profits to smaller profits secured for a longer period. The necessities of the moment created an exceptional demand for accommodation. A prudent builder should have foreseen that if this demand were met not by bringing new areas under building and providing ample open spaces but by extending existing houses upwards and outwards so as to increase the density of population and aggravate the overcrowding of houses upon land, this must before long result in such insanitary congestion that the congested localities would cease to be in demand for residences and would be deserted in favour of more healthy localities in which the dwellings satisfied a higher standard of sanitation. The prudent builder would therefore at the very outset have built to a higher standard of sanitation: he would (*e.g.*) have provided his rooms with more light and air and would therefore have had to do with fewer rooms; each of these might perhaps bring a higher rent than a less sanitary room; but because the public of the middle and lower classes are not yet educated up to a standard of comfort which requires an ample supply of light and air to living rooms even if higher rent has to be paid in order to get this supply, the total rent would no doubt be for a time less than that realised from the same outlay on insanitary buildings. This initial disadvantage would however in time be compensated by the greater security of the rent. There would be no fear of loss of tenants by reason of a general rise in the standard of comfort. Indeed when such a rise would be causing an exodus from insanitary properties, there would be increased demand for sanitary housing and the prudent builder might be able to get higher rents. It would be unfair at this stage to put the imprudent builder upon an equality with the prudent builder by compensating the former from the public purse for the loss of rent due to his own improvidence. Such a step would encourage insanitary development and discourage sanitary development of building estates.

4. I think there can be no serious opposition to the view that in the cases I have so far dealt with, cases in which loss of rent accrues to owners of insanitary dwellings by the free

operation of the ordinary laws of supply and demand consequent on the competition of new sanitary dwellings with old dwellings satisfying a far lower standard of sanitation, the owners of the older buildings cannot claim compensation from the Municipality on the ground that the Municipality did not originally prevent them from building to the lower sanitary standards.

5. There is however a difference between such cases of *free* supply and demand and cases in which the law interferes with the ordinary demand by prohibiting occupation for human habitation of dwellings that fall short of a higher standard of sanitation than was hitherto enforced, at a time when popular demand, if left to itself, would be content* with a lower standard. Here it seems to me there can still be no call for compensation, provided that in prescribing the higher standard the law is acting in reasonable exercise of its rights and duties as guardian of public interests.

6. If a builder builds over every inch of his plot and gets light and air for his rooms from over the adjacent plots; and if subsequently the owners of these adjacent plots hoard him in, many of his rooms will be deprived of light and air and he will lose in rent; but he cannot reasonably expect to be compensated by those owners, much less by the public purse, on the ground that he has built in accordance with the law.

7. The argument against the grant of compensation here is that the neighbours have merely acted on their rights in hoarding the builder in and that the builder has only himself to blame if he didn't foresee this and didn't provide sufficient light and air for his house within the limits of his own possession.

8. Similarly when Government alter the law or the Municipality alter the by-laws in reasonable exercise of their rights as guardians of the public health, house owners who suffer thereby because they did not foresee and allow for such alterations when they built their houses are not in my opinion entitled to compensation. The only question to my mind is how far the alterations are reasonable. It may be unreasonable to make too sudden or too severe an alteration without providing for compensation proportionate to the loss involved in particular cases, and that is why when suggesting the standardisation of lighting and ventilation in Bombay in my 1912 lecture on "Light and Air in dwellings in Bombay," I left the question of compensation open and mentioned (*vide* Lecture § 5 *ad fin*) only one clear no-compensation case, *viz.*, the case of a builder, who deliberately constructs uninhabitable rooms with a view to getting compensation for them when they are closed.

9. I have always thought that owners of rooms satisfying a standard of lighting and ventilation which comes anywhere near half the $63\frac{1}{2}^{\circ}$ standard should be assisted by the Municipality towards making the alterations required to reach the $63\frac{1}{2}^{\circ}$ standard, and that is why I have proposed that the Municipality should on the reconstruction of 2 old buildings on either side of a common boundary insist on each owner leaving an open space adjacent to the boundary for the benefit of both himself and the other and why I have proposed the new class of improvement schemes for the broadening of open spaces at the rear of rows of back to back houses.

10. On the other hand I have always maintained and still maintain that all the worst lighted and worst ventilated rooms in the City, which no Health Officer could pass as fit for human habitation, should be closed as soon as possible without compensation. The owners have already made far greater profits from renting their rooms than they could have expected had they had any consideration for the health of their tenants, and out of these abnormal profits they ought to have put by a sinking fund to meet the cost of the alterations now required to make their rooms rentable under the new and reasonable standard criteria of habitability. They would have been closed long ago without compensation but for the flaw in section 378 of the Municipal Act, which makes it impossible for the Health Officer to condemn any room as unfit for human habitation unless he can condemn the whole house.

11. This very section 378 supplies one of many instances in which alterations of the law which involve depreciation of property are not accompanied by provision for compensating the owners of that property. There is no guarantee given to builders that when the general law or the Municipal Act or bye-laws are altered builders will be compensated for any loss† caused to them thereby.

12. When the Municipal Act was amended in 1905, many house sites must have been depreciated by the new provisions limiting height of buildings thereon, but no compensation

* It cannot justly be said that the present population is *content* with the dens I want closed; they inhabit them because they can't get anything better; and better rooms are not provided fast enough, because would-be sanitary builders are put off by fear of the ruinous competition of these bad rooms and also by want of good approach roads to new areas. *Prohibit* occupation of such rooms, and the enforced demand for better rooms will soon produce the supply; and though the occupants will have to pay higher rent they will prefer that to their old bad way of living in insanitary surroundings; moreover, the rise in rent will be eased off by provision of semi-permanent camps at low rents as suggested in my lecture as a *sine qua non* before rooms are closed.

† There will be some cases in which the creation of a 20' space behind houses by cutting down rear ends will *enhance* the value of a property, if in valuing it before alteration the fact that certain of its rooms are unfit for human habitation or are so nearly unfit that with a rise in the general standard of comfort they will in a few years not find tenants be taken into consideration.

was given to the owners of those sites. Similarly the 1910 bye-laws depreciated sites for the time being by requiring certain open spaces; and they apply to some extent to old building sites; but no compensation is given for the depreciation.

13. It has now become a public scandal that many rooms utterly unfit for human habitation are rented to poor people, who have nowhere else to go to, and it is proposed to prohibit such habitation and find sanitary accommodation for these people in temporary sheds or elsewhere (v. § 18 infra). There is no reason whatever in these worst cases why the owners should be compensated from the public purse; in my opinion it would be utterly unjustifiable to give them any compensation at all.

14. Some of these rooms were perhaps fit for human habitation when first constructed but have now become unfit through being deprived of light and air by construction of new buildings near them. *Moral*—Have necessary light and air provided* *in the owner's own land*.

15. We want to depreciate insanitary buildings and appreciate sanitary buildings; otherwise slum owners are encouraged to keep insanitary buildings unaltered and even extend them and make them more insanitary than ever in hopes of forcing † the Trust to acquire them. If there is no chance of their being able to force the Trust's hand, they will have to alter and improve the buildings to attract tenants; otherwise they will lose rent as new sanitary buildings are erected and the standard of comfort rises; and the fear of this loss should be used as a lever towards getting builders to conform to higher standards of sanitation than the minimum for the time being prescribed by law. This is done through architects in England; an architect won't risk his good name by designing to only the *minimum* requirements of the law.

16. It is now notorious that even the new Bombay Municipal bye-laws permit of construction of rooms that are insufficiently lighted and ventilated: if we give out that once constructed they will not be required to be altered without payment of compensation, builders will hurry to complete bad buildings before we can alter the bye-laws, especially if the houses are in represented areas which they expect the Trust to deal with soon.

17. In my opinion, then, the hardships which come upon the *owners* of inhabited rooms, when those rooms are closed as being unfit for human habitation, may be regarded as hardships which the owners have brought upon themselves and which they may reasonably be expected to meet by setting their houses in order at their own expense without assistance from the public purse. But the case of the *tenants* of these rooms is different. If large numbers of them were to be deprived of their dwellings all at once, the result might be the creation of fresh insanitary conditions by the overcrowding of other dwellings and an abnormal rise in rents involving fresh hardships for the poor.

18. It is therefore necessary that no room should be closed as unfit for human habitation, until it has been ascertained that the tenants can find decent accommodation in the neighbourhood without increase of rents; and, if such accommodation§ cannot be found, then it should be provided in the shape of semi-permanent huts at the expense of the public purse.

19. I suggest semi-permanent huts because the ultimate permanent provision for the accommodation of these people can best be left to private enterprise in the erection of sanitary dwellings, and the semi-permanent huts I intend only as a temporary measure for the necessary interval between the closure of insanitary rooms and the erection of permanent sanitary buildings, having rooms which the tenants of semi-permanent sheds can afford to rent, I anticipate that in the next 15 years the wages of the lowest classes will rise sufficiently to enable them to pay Rs. 3/8 or Rs. 4 as rent instead of the Rs. 2/8 of the semi-permanent sheds.

20. In localities in which there are so many rooms unfit for human habitation by reason mainly of inadequate lighting and ventilation that their *closure involves displacement of a very large number of people*, and where also the poverty of the owners of the houses or other difficulties stand in the way of such improvement of the condemned houses as will permit of the early reinstatement of many of the original tenants or the accommodation of new tenants, it may be desirable in the public interests to induce the owners to improve their houses by giving them some assistance at the expense of the public purse. I think such assistance can appropriately be given by the acquisition of land to be reserved after demolition of buildings thereon as an open space admitting of access of light and air to the condemned buildings. This open space having been provided at public expense, the owners of the

* Even this won't meet the case in which an owner originally provides an open space but afterwards builds on it. As in England the minimum open space must always remain attached to the buildings and must never be built over.

† In the new Undria Street Scheme area no less than half of the houses have been extended by addition of extra storey or otherwise since the area was first "represented". Every such addition makes the want of light and air in rooms abutting on the narrow gullies between these houses more pronounced than ever and at the same time adds to the cost of acquiring these houses with a view to demolishing them and so improving the insanitary area.

‡ Compare wording of C. B. I. Act, section 23.

§ The great strides made in building in recent years appear to have now overtaken the set-back due to demolitions in earlier years. There are now many fairly sanitary rooms vacant in houses acquired by the Trust and accommodation could be found in them for 1,000 families before it would be necessary to erect more semi-permanent huts.

buildings should be required to make further alterations in their buildings so as to bring all their rooms not merely up to the standard of being just fit for human habitation but up to a higher standard prescribed by new bye-laws including, as regards lighting and ventilation, the standard of the 63½° rule.

21. In cases in which such assistance from the public purse is not given, it would be unnecessary to insist on the immediate* adoption of these higher standards; but the owners will probably find it to their own interest to adopt them for fear of losing tenants when rooms satisfying the higher standards increase in number.

22. To minimise the cost of acquisition of the land to be used for open spaces (v. § 20) it is necessary—

- (1) to obtain for the local authority power to acquire *parts* of buildings,
- (2) to take into consideration in estimating compensation for such acquisition the primary value of the building just before such acquisition and its ultimate value after the open space is provided,
- (3) to amend the bye-laws so as to secure higher standards of sanitation including those of the 63½° rule for lighting and ventilation for all new houses, and
- (4) to enact that no old house shall have any new storey added to it, or in any other way be substantially altered, unless it is made to satisfy the higher standards at least in the matter of lighting and ventilation.

23. When the law and bye-laws have been amended as suggested above, compensation based on the difference between the primary and the ultimate values of the property acquired for open spaces will not be heavy, and it will be possible to undertake the provision of open spaces for the benefit of a large number of houses every year. At the same time substantial assistance will have been given to the owners of condemned rooms; for the cost of the necessary improvements of a particular house will be far less when a large common open space is provided for all the abutting houses at public expense than if each owner is left to provide the full amount of open space he himself requires in his own land.

J. P. ORR,
Chairman,
Bombay City Improvement Trust.

* I quite approve of the policy recommended by a Municipal Committee for securing *ultimate* adoption of the 63½° standard by making a house owner altering his house set it back to half the distance from his boundary required by the 63½° rule in anticipation of a similar set-back being subsequently enforced on the other side of the boundary.

PRESS NOTE

SUBJECT:—*Back Bay Reclamation Scheme*

An *ad interim* report, submitted by the Back Bay Enquiry Committee at the request of the Government of Bombay regarding the next season's work, has been published for general information by the Government of India.

2. In that report the Committee unanimously recommend the reclamation of blocks 1, 2 and 8; block 1 by dredging from Back Bay in the next working season, and thereafter both blocks 1 and 2 by either dredging or dry filling whichever may prove more economical or advantageous. The dredger, they say, should work three shifts. Block 8 should be completed as quickly as possible by dry filling. Storm-water drains 6 and 7 in blocks 1 and 2 should also be completed, and parapets in blocks 1 and 8 constructed in due course. This recommendation, confirming, as it does, the recommendations of the majority of the Advisory Committee and of Mr. Kay's Committee, has been accepted by the Government of Bombay, and work in blocks 1 and 8 will proceed accordingly during the ensuing working season.

3. With regard to block 7, the Committee note that its area is 6,54,000 square yards, and that the quantity of dredged filling required to fill this block is two million and fifty thousand cubic yards. They consider that if the dredger is worked efficiently for three shifts daily, the block should be completed, so far as the dredged material only is concerned, in the course of the season, at a rate of eight annas per cubic yard, and that this rate is much below the cost of any other method of filling at some future date. The cost of murum topping, development, interest and depreciation has, of course, to be added to this. The Committee note also that dredging plant is available on the spot, and that the superior staff cannot be dispensed with without six months' notice. At the same time they are impressed with the uncertainty regarding the date and rates at which the land, if reclaimed, could be disposed of, and this makes them doubtful if it would be a sound proposition financially. They therefore consider, in the circumstances, that it is for the local Government to decide for themselves whether any action, and, if so what, should be taken in respect of this block pending the decision of Government on the final report of the Committee.

4. In paragraphs 30 and 31 of their report, the Kay Committee recorded their conclusion, on the figures of cost adopted by Mr. Neilson's Committee, that the present value of the total cost of completing block 7 would amount to Rs. 48.50 lakhs, as compared with Rs. 36.97 lakhs, the estimated present value of the recoupment, and that the reclamation and development of the area would not be a paying proposition. They accordingly recommended that the reclamation of block 7 should not be proceeded with at present.

5. Government have now re-examined the financial aspect of the completion of this block in the light of the remarks made by the Back Bay Enquiry Committee in their *ad interim* report, with the following result. It would not be possible to work the dredgers 3 eight hour shifts until additional staff could be obtained from England, and it would be necessary to provide accommodation on shore for the extra men, as that on the dredgers is fully occupied. It is quite possible, however, under suitable arrangements, to work the plant 2 twelve hour shifts with the existing crews; and it is estimated, on the actual figures of the season 1925-26, that, if this is done, it should be possible to obtain an output of 20,21,300 cubic yards of consolidated filling during the coming season at a cost of Re. 0.62 per cubic yard, based on the total working costs of the plant incurred, and to be incurred, during the period 1st June 1926 to 31st May 1927.

6. As regards the output, the quantity of dredged filling required to complete block 7 is 20,50,000 cubic yards, which is slightly more than the estimated output of the plant for 2 twelve hour shifts, based on the actuals of 1925-26. During that season, however, 17 working days were lost owing to the necessity of stiffening the Colaba, and 10 working days on account of bad weather, and there seems no reason to suppose that in a normal season's working, with 2 twelve hour shifts, the quantity of dredged filling required for block 7 cannot be obtained.

7. In regard to the rate, this, as stated above, is estimated at Re 0.62 per cubic yard, which includes, however, the expenditure on dredging staff, maintenance, etc., already incurred during the current year since the close of the last dredging season on 31st May 1926. Moreover, if it is decided to abandon dredging, the present superior staff have to be given six months' notice. These two items total Rs. 3.50 lakhs and represent expenditure, which cannot in any case be avoided, corresponding to a cost of Re. 0.17 per cubic yard of consolidated filling. Allowing for this, the difference between the rate of Re. 0.50 per cubic yard suggested by the Back Bay Enquiry Committee, and the departmental estimate of Re. 0.62 per cubic yard, is only Re. 0.05, and it seems reasonable to suppose that the rate given by the Committee represents the additional expenditure in which they consider Government will be involved, if it is decided to continue dredging during the coming season, the fact that the departmental estimate is slightly lower being probably due to its being based on 2 twelve hour, instead of 3 eight hour, shifts.

8. Apart from the question of output and rate due to working the plant 24 hours per day, Government are of opinion that in one other respect the forecast on which Mr. Kay's Committee based their conclusions may reasonably be modified. The forecast is based on the assumption that the disposal of the land will take 20 years, but provision is made for the completion of the development, *i.e.*, roads, drains, lighting, etc., in 5 years. It is unusual to undertake such expenditure so far in advance of actual disposal of the land, and it is considered reasonable to spread it over 15 years, the development being completed, even then, 5 years before the last plot is sold.

9. On the basis of working the plant 24 hours per day, and taking 15 years for the development of the area, the financial position is estimated to be as follows :—

Cost of reclamation

Season 1st October 1926 to 31st May 1927

	Rs.	Lakhs.
(a) Murum filling (sealing wall and bund), 1,44,000 cubic yards @ Re. 1.57	...	2.26
(b) Dredged filling, 20,50,000 cubic yards @ Re. 0.62	...	12.71
		14.97
Establishment charges @ 15 per cent.	...	2.25
		17.22
<i>Deduct</i> expenditure already incurred or inevitably to be incurred	...	3.50
		13.72

Assuming this expenditure to be evenly distributed over the eight months, and writing it back to 1st October 1926, the present value cost on that date would be Rs. 13.45 lakhs.

Season 1927-28	...	No work done.
Season 1928-29	...	} Work of murum topping to be spread over these two years.
Season 1929-30	...	

Murum topping—

	Rs.	Lakhs.
5,84,000 cubic yards @ Re. 1.57	...	9.17
Establishment at 15 per cent.	...	1.38
		10.55

Written back from 1st April 1929 to 1st October 1926, *i.e.*, 2½ years, the present value cost is ... 9.12

The total present value additional cost of reclamation is therefore 13.45 plus 9.12 ... = 22.57

10. *Cost of development.*—Mr. Kay's Committee assumed that the gross area of 6.54 lakhs square yards in block 7 would yield a net building area of 3.40 lakhs square yards based on Mr. Davidge's provisional layout. This can be increased by a further 60,000 square yards by (1) throwing part of the proposed recreation ground into the building area, and (2) reducing by 20,000 square yards the area under roads. Thus a total building area of 4.00 lakhs square yards can be obtained, and the cost of development be reduced by Rs. 2.40 lakhs. This Rs. 2.40 lakhs may, for purposes of the forecast, be taken to balance the extra expenditure which Mr. Kay's Committee anticipate may have to be incurred on temporary arrangements for disposal of sewage. Taking then the figure accepted by Mr. Kay's Committee, Rs. 26.5 lakhs, as the cost of development, spread over 15 years from 1930-31, the present value of the expenditure on 1st October 1926 would be Rs. 13.96 lakhs. The total present value of the cost of completion of block 7 is, therefore :—

	Rs. Lakhs.
Present value cost of reclamation	22.57
Present value cost of development	13.96

Total present value cost of completion ... 36.53

11. *Recoupment.*—4.00 lakhs square yards at Rs. 25 per square yard spread over 20 years, *i.e.*, 20,000 square yards per year, bringing in Rs. 5 lakhs per annum for 20 years from 1931-32.

The value on 1st October 1926 of Rs. 5 lakhs per annum
for 20 years from 1931-32 is ... 45.43 lakhs.

According to this forecast, therefore, if the plant is worked 24 hours a day during the coming season, and the cost of development is spread over 15 years, the completion of block 7 will result in a reduction of debt at present value of 45.43 - 36.53 = Rs. 8.90 lakhs.

12. There are two subsidiary points raised in the report of Mr. Kay's Committee in regard to block 7. The first is as regards the supply of murum, paragraphs 22 and 23 of the report. The fear is expressed that if block 7 is undertaken, the diversion of murum, for sealing the sea wall and bund, may prevent the completion of block 8 by the estimated date 31st March 1928. Government have had this matter investigated and have ascertained that arrangements have already been made with the B. B. & C. I. Railway for doubling the supply of murum with the existing rolling stock, with the result that not only will there be sufficient murum for block 7, but the completion of block 8 can be considerably accelerated.

13. The second point is that of sewage disposal in block 7, dealt with in paragraphs 26 and 27 of the report of Mr. Kay's Committee. It will be seen that the Committee apprehended very considerable expenditure on temporary sewage disposal arrangements, owing to the probability that the construction of the proposed municipal outfall at Colaba might be indefinitely postponed. On an examination of the conditions it has been found that it will be quite possible to lay the system of sewers in the area in their final position, and, pending the construction of the municipal intercepting sewer, to provide a sump from which the sewage can be pumped into a septic tank, the effluent from which will flow into a neighbouring storm-water drain. The additional cost of the temporary work, over and above the cost of the sewers included in the cost of development, will amount to approximately Rs. 1.13 lakhs, which will be more than covered by the saving, Rs. 2.40 lakhs, due to the proposed reduction of the area under roads.

14. After taking all the factors in the case into consideration, Government have come to the conclusion that the balance of advantage is in favour of the completion of block 7, and they have accordingly decided to proceed with dredging from the harbour into block 7 during the coming season, working the plant 24 hours a day.

15. Government do not propose to take any further action until they have had an opportunity of considering the report of the Enquiry Committee appointed by the Government of India.

No. S.B.—1682

DEVELOPMENT DEPARTMENT

Bombay Castle, 21st October 1926

Forwarded to—

The Chief Engineer, Reclamation Branch,
 The Deputy Chief Engineer, Reclamation Branch, Marine Lines
 Section,
 The Deputy Chief Engineer, Reclamation Branch, Dredging Section,
 The Private Secretary to His Excellency the Governor,
 The Collector of Bombay,
 The Municipal Commissioner for the City of Bombay,
 The President, Municipal Corporation, Bombay (by letter),
 The Chief Officer, City of Bombay Improvement Trust,
 The Chairman, Bombay Port Trust,
 The Agent, G. I. P. Railway,
 The Agent, B. B. & C. I. Railway Company,
 The Secretary, Chamber of Commerce, Bombay (by letter),
 The Secretary, Indian Merchants' Chamber, Bombay (by letter),
 The Secretary, Millowners' Association, Bombay (by letter),
 The Secretary, Presidency Trades' Association, Bombay (by letter),
 The Oriental Translator to Government,
 The Land Manager, Development Directorate,
 The Superintending Engineer, Housing and Suburban Circle,
 The Secretary, Board of Control, Military Lands Scheme, Bombay,
 The General Officer Commanding, Bombay District,
 The Accountant General, Bombay,
 The Financial Adviser to Government,
 The Deputy Financial Adviser to Government,
 The Audit and Accounts Officer, Bombay Development Scheme,
 All Members of the Legislative Council,
 All Members of the Advisory Committees for Bombay City and the
 Bombay Suburban Division,
 All Members of the Sanitary Committee, Development Directorate,
 The Legal Department (for the reading room for the Members of the
 Legislative Council),
 All Departments of the Secretariat (except the Legal Department),
 The Honorary General Secretary, Indian Progressive Federation,
 Bombay (by letter),
 The Honorary Secretary, Servants of India Society, Bombay
 (by letter),
 The Honorary Secretary, Indian Economics Society, Bombay
 (by letter),
 The Honorary Secretary, the Bombay Central Co-operative Institute,
 Bombay (by letter).

By order of the Governor in Council,

H. ST. C. SMITH,

Deputy Secretary to Government.

No. of 1926.

Copy forwarded for information and guidance to

PRESS NOTE.

Reorganisation of the Development Department.

The appointment of Sir Lawless Hepper, Kt., as Director of Development was first made by the Government of Bombay, with the approval of the Secretary of State for India, on 8th November 1920, on an agreement of five years which expired on 7th November 1925. Government then offered Sir Lawless Hepper an extension of his appointment for a further period of two years from 8th November 1925. This was accepted by Sir Lawless Hepper, subject to the stipulation that Government should, if possible, release him at the end of the first year. In accordance with these arrangements and at his request, Government have permitted Sir Lawless Hepper to relinquish the appointment of Director of Development on 30th November 1926 and to proceed on leave preparatory to retirement on 1st December 1926. This leave will expire on 6th January 1927, from which date the appointment of Director of Development will be abolished.

As a temporary arrangement, Government have appointed Mr. K. S. Framji, C.I.E., B.A., L.C.E., F.U.B., who retired from the appointment of Chief Engineer and Joint Secretary to Government, Public Works Department, from the 2nd December 1926, to be Joint Secretary to Government, Development Department, and Chief Engineer, Back Bay Reclamation Scheme, with effect from the same date. Mr. Framji will exercise the powers of a Chief Engineer as prescribed in the Public Works Department Code. The appointment of Chief Engineer, Reclamation Branch, will now be designated Chief Engineer (Executive), Back Bay Reclamation Scheme, and will be continued, till the termination of the agreement of the present holder, with the same powers as hitherto.

No. S.C.—30.

DEVELOPMENT DEPARTMENT.

Bombay Castle, 5th January 1927.

Forwarded to :—

The Commissioner, Bombay Suburban Division,
The Collector, Bombay Suburban District,
The Salsette Development Officer,
The Collector of Bombay,
The Private Secretary to His Excellency the Governor,
The Municipal Commissioner for the City of Bombay,
The President, Municipal Corporation, Bombay (by letter),
The Chief Officer, City of Bombay Improvement Trust,
The Chairman, Bombay Port Trust,
The Agent, G. I. P. Railway,
The Agent, B. E. & C. I. Railway Company,
*The Secretary, Chamber of Commerce, Bombay,
*The Secretary, Indian Merchants' Chamber, Bombay,
*The Secretary, Millowners' Association, Bombay,
*The Secretary, Presidency Trades' Association, Bombay,
The Director of Information, Bombay (with a request to supply copies of the press note to the press, etc., to whom copies of press notes are supplied by him).
The Oriental Translator to Government,
The Chief Engineer, Reclamation Branch,

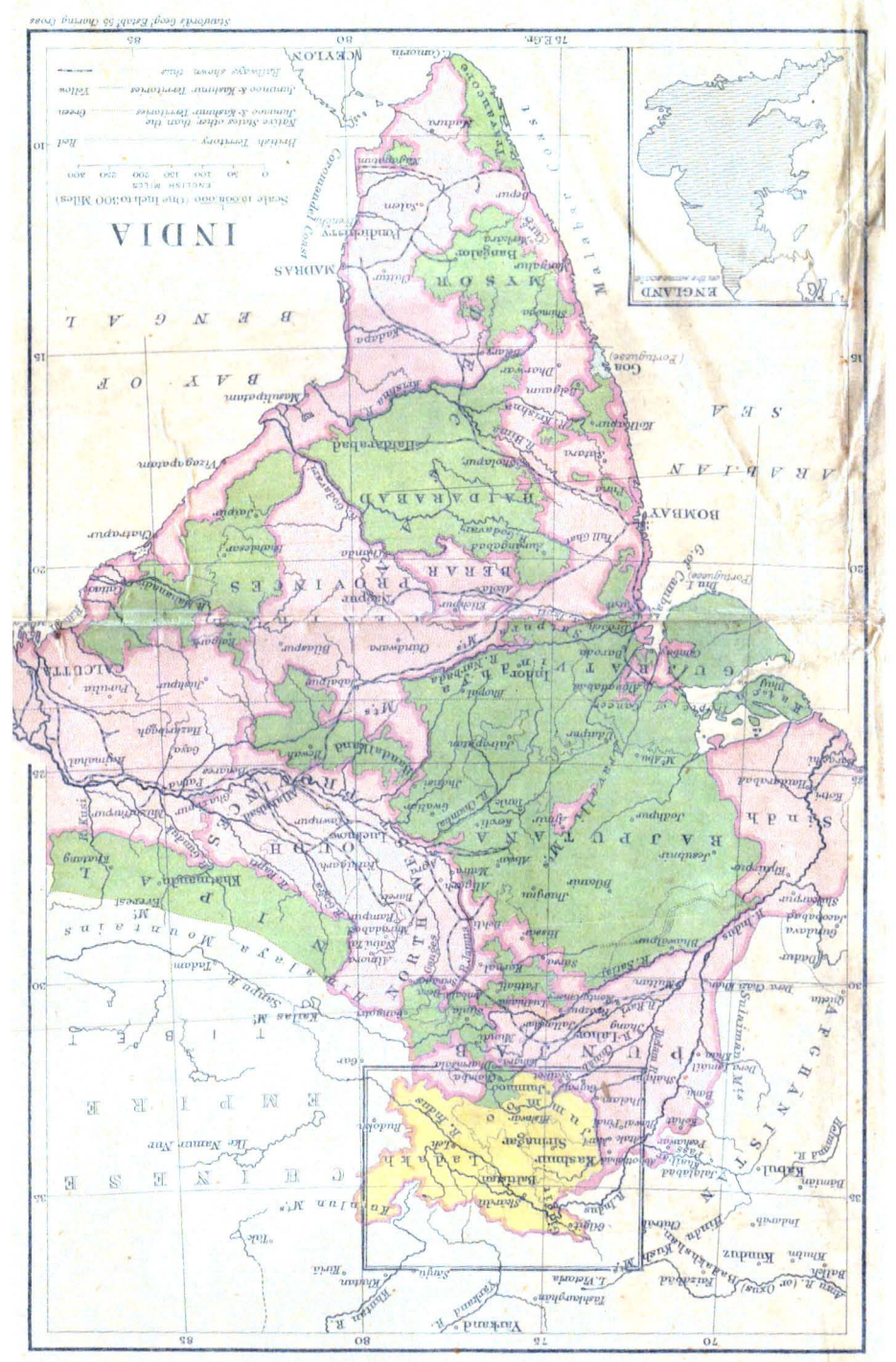
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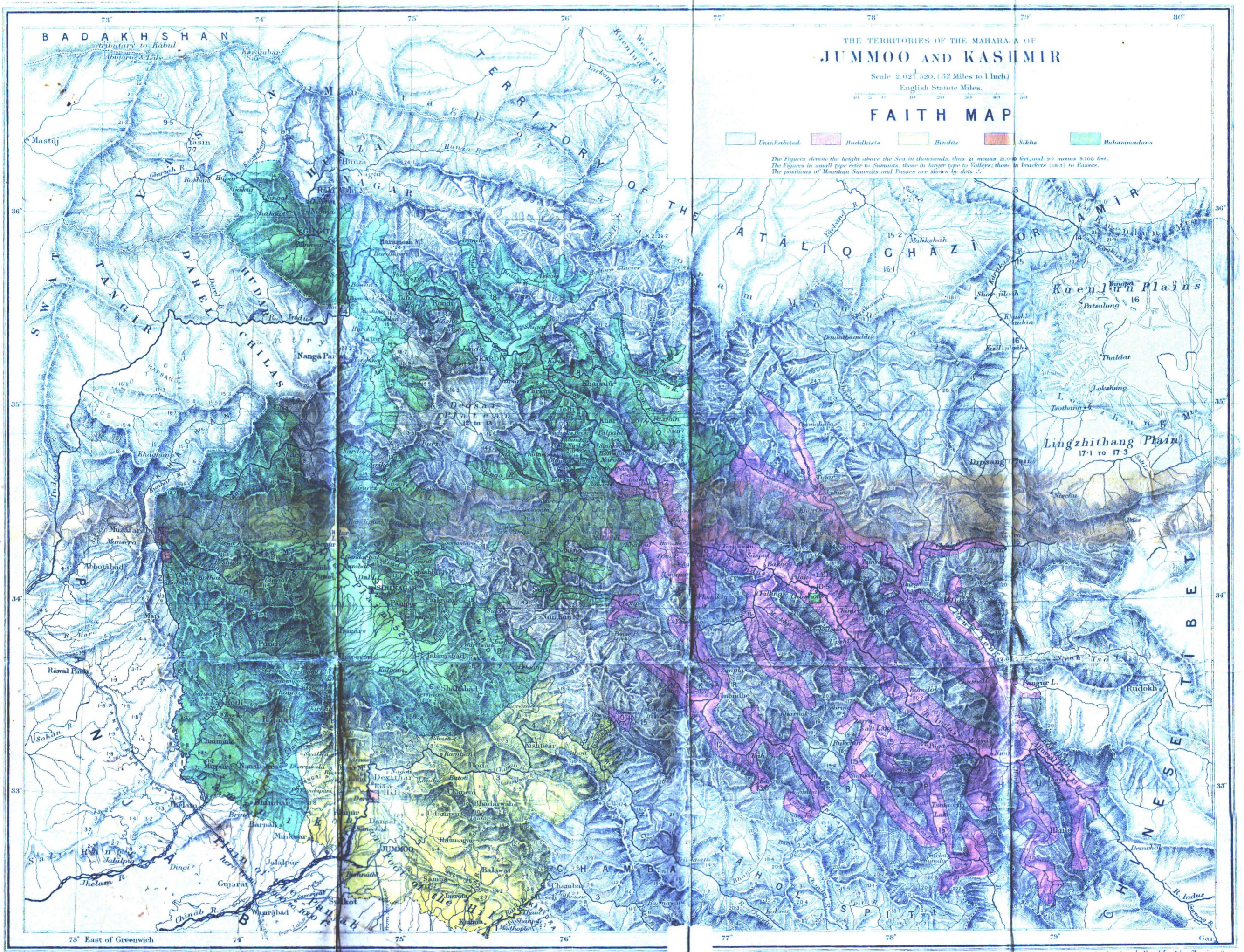
*By letter.

All Deputy Chief Engineers, Reclamation Branch,
 The Land Manager, Development Directorate,
 The Superintending Engineer, Northern Circle,
 The Executive Engineer, Suburban Division,
 The Secretary, Board of Control, Military Lands Scheme, Bombay,
 The General Officer Commanding, Bombay District,
 The Accountant General, Bombay,
 The Financial Adviser to Government,
 The Deputy Financial Adviser to Government,
 The Audit and Accounts Officer, Bombay Development Scheme,
 All Members of the Legislative Council,
 All Members of the Advisory Committees for Bombay City and
 the Bombay Suburban Division,
 All Members of the Sanitary Committee, Development Directorate,
 The Legal Department (for the reading room for the Members of
 the Legislative Council),
 All Departments of the Secretariat (except the Legal Department),
 The Honorary General Secretary, Indian Progressive Federation,
 Bombay (by letter),
 The Honorary Secretary, Servants of India Society, Bombay
 (by letter),
 The Honorary Secretary, Indian Economics Society, Bombay
 (by letter),
 The Honorary Secretary, the Bombay Central Co-operative
 Institute, Bombay (by letter).

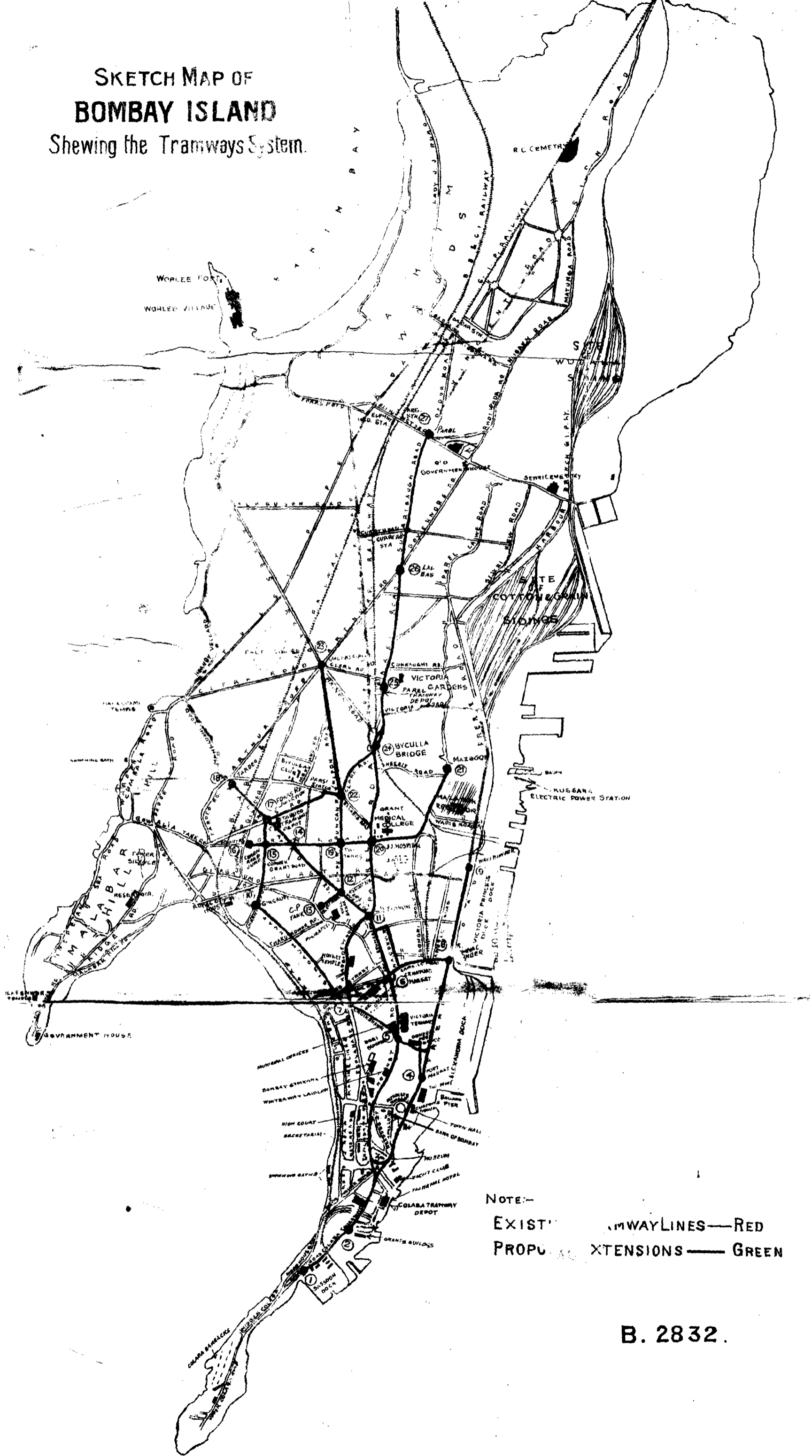
By order of the Governor in Council,

H. ST. C. SMITH,
 Deputy Secretary to Government.





SKETCH MAP OF
BOMBAY ISLAND
 Shewing the Tramways System.



NOTE:-
 EXISTING TRAMWAY LINES — RED
 PROPOSED EXTENSIONS — GREEN

B. 2832.