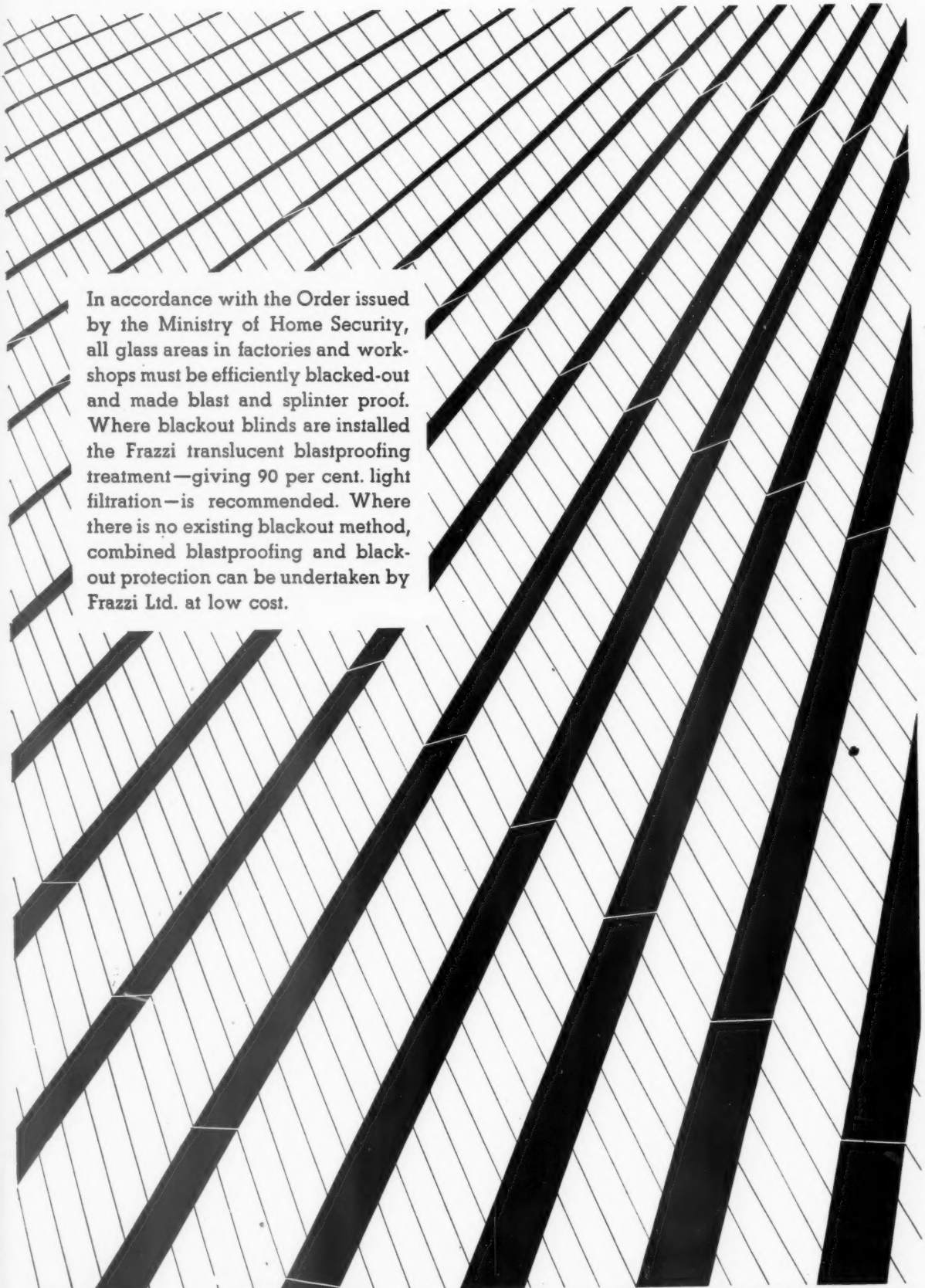

In accordance with the Order issued by the Ministry of Home Security, all glass areas in factories and workshops must be efficiently blacked-out and made blast and splinter proof. Where blackout blinds are installed the Frazzi translucent blastproofing treatment—giving 90 per cent. light filtration—is recommended. Where there is no existing blackout method, combined blastproofing and blackout protection can be undertaken by Frazzi Ltd. at low cost.

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THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
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The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

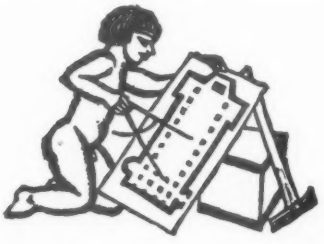
THURSDAY, MARCH 5, 1942. NUMBER 2458: VOLUME 95

PRINCIPAL CONTENTS

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this JOURNAL *should not be taken as an indication that they are necessarily available for export.*

Owing to the paper shortage the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*

In common with every other periodical and newspaper in the country, this JOURNAL *is rationed to a small proportion of its peace-time requirements of paper. This means that it is no longer a free agent printing as many pages as it thinks fit and selling to as many readers as wish to buy it. Instead a balance has to be struck between circulation and number of pages. A batch of new readers may mean that a page has to be struck off, and conversely a page added may mean that a number of readers have to go short of their copy. Thus in everyone's interest, including the reader's, it is important that the utmost economy of paper should be practised, and unless a reader is a subscriber he cannot be sure of getting a copy of the* JOURNAL. *We are sorry for this but it is a necessity imposed by the war on all newspapers. The subscription is £1 3s. 10d. per annum.*



from AN ARCHITECT'S *Commonplace Book*

"The painter should grind his own colours; the architect work in the mason's yard with his men; the master manufacturer be himself a more skilful operator than any man in his mills; and the distinction between one man and another be only in experience and skill, and the authority and wealth which these must naturally and justly obtain."

John Ruskin.

NEWS

★ *The B.C.F. hut, most convincing example of pre-fabrication yet shown in England* *page 168*

★ *The architectural organization of the Hostels in this issue, under William Holford* *page 170*

A.A.S.T.A.

A meeting is to be held on Saturday, March 14, at 3 o'clock, in the Small Conway Hall, Red Lion Square, W.C.1. Its title is "Co-operation for Greater Building Output," and the main speakers will be Mr. Harry Adams, London Divisional Secretary of the A.U.B.T.W., and Mr. Kenneth Campbell, A.R.I.B.A., of the A.A.S.T.A.

MAINTENANCE SCHOLARSHIPS

The Architects' Registration Council of the United Kingdom offers for award in June, 1942, certain Maintenance Scholarships in Architecture. The Scholarships will consist of a grant for the payment, in whole or in part, of the School fees and necessary subscriptions, instruments, books, etc., and, when necessary, a maintenance allowance not to exceed as a rule £100 a year. The Scholarships will be renewable from year to year until the student has finished his or her School training. They will be available for students of British nationality who could not otherwise afford such training to enable them to attend Architectural Schools approved by the Council. The Scholarships will be available both for students who have already begun their training and for students wishing to begin their training. They would not normally be granted to students under 17 years of age.

Particulars and forms of application may be obtained from the Secretary to the Board of Architectural Education, Architects' Registration Council of the United Kingdom, 68, Portland Place, London, W.1.

Copies of previous years' examination papers may be obtained on payment of 6d. The closing date for the receipt of applications, duly completed, is March 17, 1942.

STANDARD SCHEDULE OF PRICES

The Minister of Works recently approved the proposal of the Central Council for Works and Buildings that a Standard Schedule of Prices should be prepared, suitable for valuing the class of building and constructional work included in the Government's building programme. The Schedule was prepared by a special technical sub-committee, has been accepted by the Central Council, and is being adopted by the Minister forthwith. It will shortly be on sale by the Stationery Office.

The prices in the Schedule have been fixed with reference to stated rates of wages for tradesmen, labourers and navvies, and to basic prices of the principal materials, a list of which is given in an appendix. Using these declared constants with allowances, based on practical experience, for the use of mechanical and other plant in the various operations, rates have been built up which ensure a uniform margin over cost for overhead charges and profit in each trade. In using the Schedule adjustment should be made for the increase or decrease in the costs of labour and of materials where they differ from those used in making up the prices in the Schedule.

The adoption of the new Schedule will enable anyone inviting tenders to issue completely priced bills of quantities on which contractors will be asked to quote a percentage on or off. The knowledge that they are working on a series of prices calculated on a uniform basis from declared constituents of value will greatly facilitate the work of contractors in determining what the percentage addition or deduction should be. The Schedule will be equally usable as a basis for valuation where no bills of quantities have been prepared before operations are started.

In cases where it is necessary to put work in hand before a scheme has been worked out in detail, or where it is desired to invite tenders for projected work, the extent of which cannot be accurately foreseen, the Schedule will form a reliable instrument for valuation of the work done with such percentage adjustment of the rates as the contractor may quote in his tender. It will, moreover, obviate the use of the cost-plus form of contract for all work of the character defined in the Schedule in those cases where urgency is such that no time is available to prepare detailed bills of quantities.

The framers of the Schedule have, further, used inclusive descriptions for some of the items. This has been done without interfering with the usual method of costing and estimating, and will simplify the process of measuring the work.

While the Schedule was directed specifically to the valuation of buildings to be carried out by the Ministry of Works and Planning, it is obviously equally suitable for use in connection with any building of similar type. Both Government departments and local authorities should find it useful.

The Schedule is, again, primarily meant for war-time building, but the principle upon which it is based could well be applied and continued into the post-war period. Such a Schedule of Prices, prepared to include the class of building required for redevelopment and the rebuilding of damaged areas, or the present Schedule amplified and extended to embrace structures of a more permanent and elaborate type, could, it is felt, constitute a real step to great stabilisation of conditions affecting the pricing of tenders—a result which would operate both in the national interest and in the well-being of the industry itself.

The Employers' Federations have welcomed and endorsed the Schedule.

PAYMENT BY RESULTS

The Minister of Works has appointed a Sub-Panel of the main Joint Advisory Panel to advise him on problems arising in Scotland in connection with the establishment of the Government Scheme for Payment by Results under the Essential Work (Building and Civil Engineering) Order, 1941. The Chairman of the Sub-Panel is Mr. J. B. Galbraith, Ministry of Labour and National Service, Deputy Chief Industrial Commissioner for Scotland.

h a n d i n g o v e r

This issue of the Journal illustrates and describes two groups of war workers' hostels which are now being completed for the Government by Professor William Holford. Architects will be interested to see these buildings for at least two reasons: they are the first large war building scheme to be published in an architectural journal; and they show that, despite the revelations of the last two years, war building schemes are not all built in bogs, inefficiently planned and painfully ugly. The pages which follow show everything about hostels except the residents comfortably installed. The photograph above tries to fill this last gap. The young ladies may have rather special smiles, but they have one advantage over those appearing in most Press photographs—they ARE war workers. The young gentleman is a visitor.

Members of the Sub-Panel have been appointed as follows:—

Messrs. John I. Loudon, Robert Brown and A. G. Hutton (Scottish National Building Trades Federation [Employers]); Messrs. C. Wood, John Strain, J. Brittle A. McTaggart, A. Henderson (alternative) (National Federation of Building Trades Operatives [Scottish Branch]); Messrs. J. Crowley, R. A. Whitson, George Duncan and W. Watson (alternative) (Federation of Civil Engineering Contractors [Scottish Section]). Joint Secretaries: Mr. Maurice Scott and Mr. L. H. Gray, Ministry of Works. Meetings of the Sub-Panel will be held in Glasgow.

DEMOLITION

The Ministry of Works wishes to remind contractors that before starting any demolition job they ought to make enquiries as to whether a licence should be obtained under Defence Regulation 56A from the Ministry of Works. No such work may be done without a licence if the estimated cost, together with the cost of any other work (in the categories covered by the Regulation) which was carried out on the property during the previous twelve months, exceeds £100.

These categories are: Construction, reconstruction, alteration, repair (including repair of war damage), maintenance, decoration, redecoration, demolition, and protection of premises against hostile attack.

No licence is required if work of the above categories is done under direct contract for a Government Department.

The need for scrap metals of all descriptions becomes more urgent every day and one of the most fruitful sources of supply is from the demolition of damaged buildings. Where the amount of scrap obtainable is high in relation to the work involved, the Ministry encourages demolition. Persons undertaking demolition work are therefore urged to apply for a licence as soon as possible.

R.I.B.A.

The following members have been elected:—

January 13: *As Associates (2). (Overseas).*—Finch, Lancelot (University College, Auckland, New Zealand) (Oamaru, New Zealand); Jonas, Kurt, B.ARCH., M.A. (Rand) (Johannesburg).

February 10: *As Fellows (12).*—Bloomfield, Henry Lancelot (London); Blythin, Charles Frederick (Croydon); Bridgwater, Derek Lawley (London); Fowles, Alec John, F.S.I. (London); Lumsden, David Adams (Birmingham); Lynch, Thomas Joseph (London); Marsden, Fred (Daybrook, Notts.); Mitchell, Capt. Edward Arnold (London); Rew, Noel Ackroyd (Berkhamsted, Herts.); Rice, Edwin Marshall (Oxford); Cox, Frank James (London); and Walters, James Henry

(Congleton). *As Associates* (8).—Anderson, George Johnstone (Robert Gordon's Technical College, Aberdeen) (Aberdeen); Bell, Philip Edward (The Polytechnic, Regent Street, London) (London); Christofides, Costas Loizos, B.CIV.ENG., B.ARCH. (University of Liverpool) (The Wirral, Cheshire); Cooper, Mrs. Lorna C. (Victoria University, Manchester) (Manchester); Corr, Francis Michael (University of Liverpool) (Londonderry, N. Ireland); Craven, Eric George (Leeds School of Architecture) (Leeds, Yorkshire); Meadows, Walter (University of Liverpool) (Wigan); and Todd, Kenneth Jack (The Polytechnic, Regent Street, London) (Lancing, Sussex). *As Licentiates* (6).—Baker, George William (Easington, Co. Durham); Burgess, Horace Claude (Woking, Surrey); Palfrey, Arthur, P.A.S.I. (Exeter); Perriam, Gilbert Harold Alfred (London); Stuart, Charles Hector (Birmingham); Wright, William Newcome, J.P., F.S.I. (London).

SALVAGE

The Exhibition showing how war weapons are made from waste paper now on view at Ford's showrooms in Regent Street is to remain open until the end of the month. We are informed that the exhibition is proving a great success; no fewer than 70,000 people have visited it since it was opened on February 10.

The result of the £20,000 waste paper salvage competition was announced last weekend. First prize-winners in each area were :—

Scotland.—Area No. 1, Darvel. No. 2, Markinch.

Northumberland, Cumberland, Durham.—Keswick.

Yorkshire.—Meltham.

Lancashire, Westmorland, Isle of Man.—Prescot.

N. Wales, Shropshire, Cheshire.—Dolgelly.

Leicester, Notts, Derbyshire, Rutland.—Ketton.

Lincolnshire.—Boston.

Warwickshire, Worcs., Staffs.—Stratford-on-Avon.

S. Wales, Herefordshire.—Llandrindod Wells.

Devon and Cornwall.—Holsworthy.

Glos., Somerset, Wilts.—Ilminster.

Dorset, Hants, Isle of Wight.—Wimborne Minster.

Beds, Hunts, Northants, Herts.—Desborough.

Norfolk, Suffolk, Cambs, Essex.—Bungay.

Berks, Bucks, Oxon.—Aylesbury.

Kent, Surrey.—Tonbridge.

Sussex.—Bognor Regis.

London (two £500 prizes).—City and Holborn.

Northern Ireland.—Omagh.

CONTROL OF TIMBER

The Timber (Charges) (No. 5) Order, 1942, has been made by the Treasury. It came into force on January 5. The Order consolidates the provisions of previous Timber (Charges) Orders, and makes a number of minor adjustments consequential to the Control of Timber (No. 21) Order, 1941.

Copies of the Order can be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2, or through any bookseller (price 3d.).

OBITUARY

Death has occurred of Mr. C. J. Norton, F.R.I.B.A., County Architect for Norfolk.

HOSTELS

FOR three reasons the JOURNAL believes that the buildings illustrated in this issue are of special importance; and two of these reasons are not in the least professional or technical.

First, the hostels shown on the following pages are among the first results of an experiment which is quite new to this country—that of moving a large number of workers to a desired area and there providing for them, not only living quarters, but very considerable recreational and welfare facilities as well. This experiment has obvious social significance; in part immediate and in part potential. The speed with which decisions had to be taken about the form and accommodation of hostels make it certain that faults will be discovered by those who manage them. But the managers will also have the chance to find out a lot of the information on which future developments in the same field—wartime or post-war—ought to be based. And it is possible that the social welfare buildings of hostels, being in semi-permanent construction, may themselves be put to post-war use.

The second reason why the JOURNAL thinks these hostels are important is because they are the largest, as well as among the first, war building schemes on which architects not on the staff of a Government department have had just those responsibilities—no more and no less—which they would naturally have been given on a pre-war scheme of the same size. From the outbreak of war architects asked that they should be allowed to play this part throughout the general field of war building. Their request was not granted, and it was only by strange routes, not unhelped by the commentaries of the Select Committee, that a small number of architects have come eventually to positions of influence in the direction of war building. If, therefore, the buildings illustrated in this issue are in some ways more successful than those built under other direction, there seems a moral to be drawn; and morals can usefully be drawn even when, for the moment, the war building machine is slowing down.

The third reason for the importance of these hostels is the biggest reason. They may be the last, as well as almost the first, of their kind. With very few exceptions, building for war production must be limited in future to small-scale additions to the workshop space of existing industrial areas. Such additions may be accompanied by the building of small hostels; certainly they must be accompanied by provision of canteens and nursery centres. But it must be small-scale, and, above all, *judicious*, carefully thought out building if that outstanding 30 per cent. of potential production capacity is ever to be successfully roped in. A far closer scrutiny of each area will have to be made before building starts than was necessary or possible when the first large war factories were sited. Only preliminary study of each area by

industrial, social welfare, labour and transport advisers—with a town planner as co-ordinator—will enable a Supply Department to be sure it is placing a building where it will do most good.

The JOURNAL hopes that of this more delicate phase of war building architects and town planners will be given a greater share than they had of the first. For it is work for which all town planners and many architects have been specially trained.

The Architects' Journal
45, The Avenue, Cheam, Surrey
Telephone: Vigilant 0087-9

NOTES & TOPICS

PRE-FABRICATION IN ACTION

The most convincing exhibition of prefabrication yet seen in this country in action was on show at Grosvenor House of all places. The B.C.F. hut is not what the title suggests, just another kind of army hut, this time made out of concrete, but a flexible system of construction, capable of being adapted to suit almost any purpose.

★

The exhibition is excellently set out, starting with a number of axonometrics showing how adaptable the unit system is. The designs include, as far as I remember, hostels with married quarters, hostels for single people, and clinics, as well as cottages, and it is quite clear that only space set a limit to the number of possible uses.

★

After this follows a series of photographs and drawings which describe without any need for words, the parts used and the various stages of assembly, even showing how the parts are loaded on a lorry. The finished product is a plain but inoffensive building with a rather nasty roof, which is said to give at least as good protection against bomb blast and splinters as any ordinary building. I should say better myself. Very little steel and scarcely any wood is used and the type of skill required for assembly could be learnt in a very short time.

★

The system has been worked out by the British Concrete Federation, new since this war, and formed because the Ministry of Works and Planning wished to be in a position to negotiate with a complete industry. The Ministry itself has had a hand in the hut.

★

QUESTION TIME

I would like an authoritative answer to the following questions : (ONE) A long row of terraced houses, say eighteenth or early nineteenth century, loses through enemy action *one* house by itself in the centre of the row. The rest are intact and in good condition as houses of that age go, though possibly obsolete inasmuch as their design no longer conforms to current family habits. After the war should (1) the missing house be restored as before to match the terrace ; (2) should the missing house be rebuilt in new style to serve as prototype to a block which will one day be replanned altogether ; (3) should the site be left empty till replanning takes place five, fifty or a hundred years hence ?

★

(TWO) From the seventeenth to the nineteenth century London, like most other European cities, was built on the principle that a square or street was an architectural unit. Competitive commercial building broke through the convention which now remains only vaguely operative in a few byelaws and in what may be termed architectural tradition. Should this tradition be made alive again in post-war reconstruction, or should horizontal alignment be abandoned altogether—as in New York, for instance—for vertical grouping ? At present we have violated the symmetry of square and street without evolving any other bond of unity.

ANY OLD IRON

The melting down of the railings which have for long guarded the privacy of London's Squares prompts the hope that as we gained daylight saving in the last war, we will gain these squares by this, for they were not always so railed in against the public. The argument hitherto has been that legally they were private property and that to throw them open was to invade the rights of landlord and tenant. In fact so seldom did either use his rights or keys that the community could claim with justice that the rights were of no value to the owners. Exceptions were the tennis courts at Gordon Square. Now that railings have gone one notices how much larger the squares seem, and secondly how badly the gardens have been maintained. The shrubberies are usually full of rock-laurel, and those awful rockeries are all too common. Most of them want a good clean up and shave.

★

Who is to be their guardian ? And quis custodit ipsos custodes ? Personally I would not trust the L.C.C. We should find the grass, flowers and trees were being insidiously done away with in favour of utilitarian penthouses, conveniences, cab-shelters. We shall be lucky if we get rid of the A.R.P. shelters which the squares accommodate now. The urge to turn them into parking places will need resistance. It wants a special Trust and I don't mind giving my own nominees. They would be Clough Williams-Ellis, John Summerson and St. Barbe Baker, with Christopher Tunnard to advise them.

ASTRAGAL

The hostels illustrated in this issue were visited by H.M. the King and Queen on Thursday last. They are seen here during their tour of inspection of (top) a factory and (below) one of the hostels. A guard of honour was formed by the local Home Guard Unit which includes a number of the architects and specialists engaged on hostel work.

THIS is the first publication of any large-scale hostel accommodation constructed during the war. It provides living quarters and social welfare accommodation for war workers on sites in two districts of England which the King and Queen visited last week. There are two schemes divided into two main groups — referred to as Group 1 and Group 2. The architect's organization consists of a central office—with site planning department, drawing office, materials and progress sections, closely linked with the agents' and various consultants' offices—and two chief site architects' departments which control construction on Group 1 and Group 2. The chief site architect's organization for Group 2 has attached to it a smaller version of the central office together with consultants' offices. The various sites are grouped geographically in two's or four's under the control of site or group architects, assisted by clerks of works, who are responsible to the chief site architect of their group. This organization differs in two ways from that which would probably have been used on a pre-war job of the same size. First, there is far closer collaboration between architects and consultants and quantity surveyors. Their various offices adjoin one another and consultants or architects can at once be consulted on any point which concerns them. This collaboration has been of great benefit.

Secondly, war-time conditions have compelled the architects and their consultants to exercise close control of many aspects of work which before the war would have been left wholly to the contractors. It is probable that war has almost doubled the work that the "professions" had to do. This again has been of benefit—if only because it has greatly increased the architects' and consultants' knowledge of the problems of building contractors.

HOSTELS

EARLY in 1941 the housing requirements which were then thought necessary for single workers in war factories were formulated into a building programme and instructions were given by the Ministry of Works and Buildings and Supply for hostels to be built in various parts of the country.

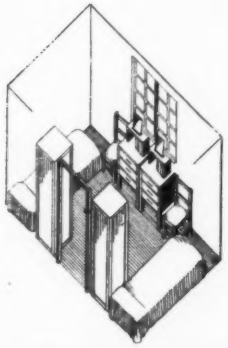
The JOURNAL illustrates in this issue typical buildings from a large group of hostels—or, as they are now being called, residential clubs—for the Ministry of Supply. These buildings are a fulfilment of a need which, like most wartime needs, made itself felt at a time which compelled a large number of decisions to be taken, and a considerable executive machine to be created very quickly. Now, a year later, when the buildings are beginning to be occupied, revisions inevitably suggest themselves. Things considered vital in 1941 seem now unnecessary, and a year's experience has suggested several ways in which the original programme should be extended.

Some of these desirable changes have only recently been discovered, and others were realized almost as soon as construction began. But the over-riding need for speed in construction, and consequently for a smooth sequence of operations on the sites, prevented big changes being made during the construction period—although it should be added that throughout this period the major preoccupation of both architects and client Department was always the changes which could, or could not, be made.

Now that some experience of management is being gained, and the buildings for this stage of the construction programme are finished, it is possible to look round and consider what should happen next. For such a review this picture of a group of hostels should be very useful. It is a picture intended to be informative and not critical; for in an undertaking by which so many people are affected and for which responsibility was so widely shared, it would be a waste of time to try to award praise or blame.

While these hostels were building, the situation concerning labour for war industries changed. The hostels were intended for occupation by men or women as the local situation required. It is now probable that they will be occupied almost exclusively by women, and that these will be "directed" into war industries rather than attracted by the comfort of the accommodation offered. It was, however, realized from the start that the social welfare requirements of a community of 1,000—1,500 women are greater than those of a mixed community. Surroundings must be cheerful and accommodation labour-saving and healthy. Thus, apart from the semi-permanent nature of hostels and their partial segregation of one sex, they are examples of industrial town-planning in the form of satellite villages grouped around a common centre of employment. For these reasons the social buildings in each hostel plan have gained in relative size and importance compared with the dormitory units, until, in the plans illustrated, they represent half the total of accommodation.

It has been frequently asked whether hostels have been designed to have any peace time use. Of this it can only be said that the materials available at the time, and the services and A.R.P. provision demanded, have given at least a semi-permanent form to the social welfare buildings, and presumably must do so in the case of future schemes. It therefore seems the more necessary to plan future layouts as though they were for permanent development, and to allow for the later replacement of light hutting with permanent carcassing without alteration to foundations, floors or services. Hostels, though built for an industry which will change or vanish after the war, have an amount of social capital sunk in them which makes their post-war survival possible, and each year of war will increase that possibility. It seems certain that hostels are already more than wartime makeshifts; with School Camps and British Restaurants they will affect the social pattern and the institutions of post-war Britain.



Axonometric of cubicle.

CLIENT'S INSTRUCTIONS

It was not possible for the Client Department to issue instructions at the outset for all the accommodation which was eventually found to be necessary. First instructions were to lay out and construct sleeping blocks for which huts had already been ordered, and to prepare plans for other accommodation on the basis of certain type plans.

On earlier sites land had to be set aside for social welfare and ancillary buildings until their final accommodation and certain controlling factors—such as A.R.P. requirements—could be decided.

The simultaneous start on a considerable number of sites has compelled adherence to first type plans for many buildings. Buildings arising from later instructions, when both the Client Department and the architects had had time for fuller study, have plans more fully suited to their purpose. Layouts, services and construction of all buildings except the huts mentioned above were the responsibility of the architects and their associated consultants. It was also the architect's and consultants' responsibility to organize and administer the entire building of the hostels.

SITES

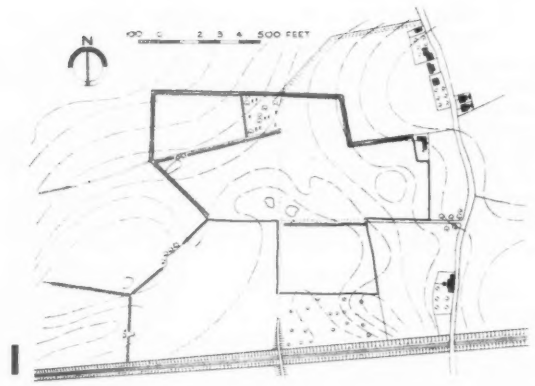
Sites vary in size from 15—30 acres, and almost all have some serious disadvantages. These disadvantages had to be accepted in order that the sites acquired should comply with certain rigid requirements.

First—and contrary to popular belief—only land of negligible or very low agricultural value could be used. The sites had also to be within certain areas, and groups of sites had to be within certain distances from each other and other fixed points. Attention had to be paid to levels, economical drainage, water and power supply, access, rights of way and local town planning schemes, as well as to the views of the local officers of the Ministries of Labour, Health and Transport. Site acquisition officers were thus faced with choosing one of a few alternatives, and had no liberty to look for sites which were ideal from the viewpoint of planning and amenity. Preliminary surveys were made of three times the number of sites eventually acquired.

Social welfare group of a hostel from near the main entrance. The recreation wing is in the left foreground with the barn roofs of the canteens beyond. On the opposite page, the entrance front of a dormitory unit.

The sites vary from flat and featureless agricultural land of poor quality to parkland with sharp differences of level and many good trees. Hedges, trees and ponds have been retained with the least possible interference, and boundary hedges have been acquired with the sites to ensure their maintenance.

The areas required for the various sites were adequate for the accommodation originally required, but additions to ancillary buildings after acquisition has caused some sites to be more tightly planned then is desirable. A hypothetical site showing typical site conditions is illustrated in I on the opposite page.



LAYOUTS

A number of conditions tended to limit closely the freedom with which sites could be laid out. These included the size of sites (a number of which were bought before the architects took over), A.R.P. stipulations, the use of prefabricated single floor hutting for dormitories and the reservation of a considerable open space for games. Vehicular roads and service runs had also to be kept to minimum length.

Within these conditions the architect had to deal with two main building units — the dormitory blocks and the social welfare groups. There were in addition ancillary buildings whose number tended to increase and which, for the most part, had to be disposed around the social welfare groups. These various factors had to be reconciled with each other in a very short time.

Most conditions could be satisfied by either of two layout forms. Type 1 placed the social welfare building in the middle of the site with the playing space beside it and the dormitory units disposed almost symmetrically around it. This type saves space but not roads or service runs. It is also depressingly confined and institutional in effect, and gives no sense of direction to people moving about the site, and takes no account of aspect. Only one of this type of layout has been used.

Type 2 layout disposed the dormitory units in a loose ring around the site and kept the social welfare group towards one end of the site near the access road. This type is more suitable for flat than sharply contoured sites but has several great advantages over Type 1. The "village green" in the centre of the scheme prevents any sense of confinement and the road and service ring is economical and gives a sense of direction. This layout also allows variation in grouping of the social welfare centre, and keeps heavy traffic and visitors off the bulk of the site. It also allows aspect to be considered to some extent.

A third type of layout, by using a more flexibly shaped dormitory unit, allows hilly sites to be laid out with much closer attention to contours and aspect. This type 3 layout uses dormitory units with 2 wings instead of 4, and these 2 wings can be rotated to a considerable degree about the central "spine" of the unit in order to suit site levels. In this type of layout there is also greater freedom in placing the social welfare group, and minor natural features like hedges and shrubs can almost always be retained. Its main drawback is the greater number of dormitory units which are needed; this drawback is believed to be more than offset by its advantages.

The layout plans of these hostels have thus moved continuously—if not very far—away from rigidity towards informality. The hostels have therefore become less like a sanatorium, or other closely linked building group, and more like a village which has an unusually good community centre. There were two main reasons, apart from efficient use of sites, for this movement towards informal types of layout. The first was that such loose layouts are less conspicuous from the air, or at least are more easily mistaken for normal rural or semi-rural development. The second reason was the belief that residents would like their off-duty surroundings to be as uninstitutional as possible and that the more informal the layout the easier it would be for a resident to feel that she was living in a "garden village" rather than any form of barracks. But the question inevitably arises whether by doing so the architects, with the consent of the Client Department, are giving the residents what they want or what someone else thinks they want or ought to want.

This is a question which will be answered after longer experience of hostels management. There is a strong case for making it possible for a girl, at the cost of a walk of a few hundred paces, to read or write peaceably in a dormitory unit away from the noise and crowds of the community centre or to sit outside with a reasonably good view. On the other hand a town-bred woman may object to the chance of getting wet on the way to supper and on the way back. The later layouts provide a compromise between these two views. It is possible for residents to enjoy some of the advantages of living in the country and those accustomed to towns are well catered for in the community centre.

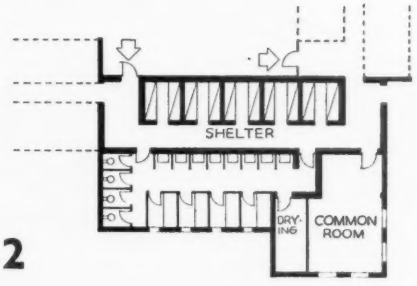
Hostels.

The plan forms and structural methods which could be used for hostels was limited by a number of factors. Predetermined sizes for many rooms and A.R.P. requirements could not be varied, and prefabricated hutting for many dormitory units had already been ordered. Above all, the probability of frequent changes in available materials and of deterioration of transport services made it desirable to keep to structural methods which demanded only common materials, and the building skill ordinarily available in any locality. The short period allowed for building was another reason for avoiding "specialist" construction in which a small hold-up might seriously upset the sequence of following trades.

Materials easy to obtain—bricks, cement, hollowpot, precast beams and a minimum of timber and steel—therefore formed the basis of all constructional systems designed by the architects and consultants. Thus the wings of dormitory units on certain sites was the only portion of the structure in which enemy action or transport failure could cause a serious delay.

As has been stated elsewhere, improvements both in plan and structure suggested themselves during the course of the work, and to some small extent were introduced when shortage of labour compelled construction on some sites to be slowed down. In plan, these improvements show themselves in greater freedom in layout. In construction, they allowed preference to be given to two out of the five structural systems used for dormitory wings. No alteration was found necessary in the two structural systems evolved for the social welfare buildings.

DORMITORY UNITS



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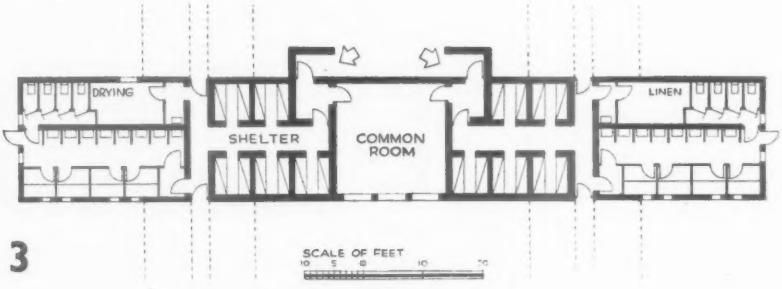

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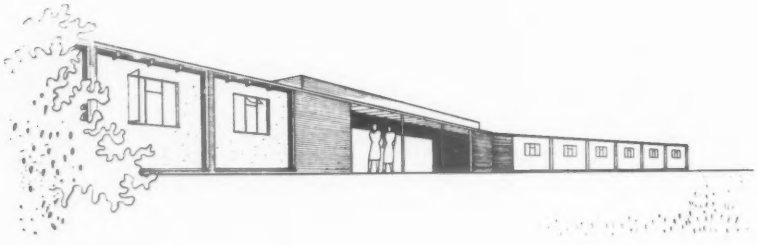


Dormitory units give accommodation for sleeping and washing, together with a common room and A.R.P. shelter. They are of two types, the H unit and the L unit. In both types there is a central brick spine, through which the unit is entered, consisting of the common room, the shelter, the lavatories, a clothes drying room, linen room, cleaners' room and box room (**2** and **3**).

The bedrooms are in standard wings. The H unit, which accommodates 94 girls and two stewards, has four wings; the L unit, for 47 girls and one steward, has two wings. In the L unit the angle between the wings and the central spine can be varied through 150°, thus allowing the block to follow the contours and giving greater flexibility in layout.

A.R.P. accommodation is provided for two-thirds of the occupants of each dormitory unit (based on the three shift system of work at the factories), and is planned for sleeping in three-tier bunks, six girls to each compartment.

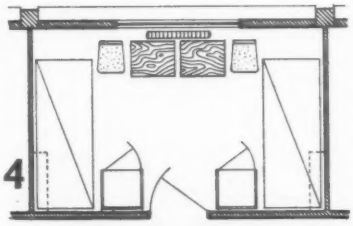
The construction of the central spines is 13½ in. and 9 in. brickwork, with 4 in. mass concrete floors with a monolithic granite finish. A polishing floor paint is used in the lavatories; elsewhere the floors are lino covered. Roofs are 6 in. in situ R.C. slab over A.R.P. shelters, and elsewhere either an in situ slab or patent fibre slab on hollow tile beams. Partitions are hollow tile, with the exception of W.C.'s and the screens between the lavatory basins, which are ½ in. asbestos sheets and 3 in. diameter asbestos posts; ¼ in. asbestos doors and 3 in. diameter asbestos door posts have been used in the bathrooms and W.C.'s to save timber.

Above, the entrance front of an L-unit. On the opposite page a dormitory corridor. The walls are pale yellow, the truss tie beam is blue, the floor covering brown lino, and furniture stained grey, red or green. Bottom, a dormitory block. This earlier type does not relate to plan **3**. *Door is orange, and window frames and columns white. Hutting and brick surfaces are matt painted.*

The bedroom wings are of five structural types: Timber and plasterboard (two types); precast concrete: brick and hollow tile; and "patent" brick and hollow tile. All five types are approximately 72 ft. by 18 ft. 6 in. internally, and are divided into six double bedrooms on each side of a central 3 ft. passage, each bedroom measuring about 12 ft. by 7 ft. 6 in. Each bedroom is furnished with two beds, hanging cupboards, chests of drawers, chairs and bookshelves (**4**).

With the exception of the brick and hollow tile type, the bedroom wings are standard prefabricated huts, of which the most interesting is a proprietary type (**5**). Wall units approximately 4 ft. wide by 8 ft. high are framed in 4 in. by $\frac{3}{4}$ in. with 3 in. by $\frac{1}{2}$ in. nogging, and delivered with an external covering of plasterboard and waterproof felt. These are bolted to prepared foundations and spiked together, and the joints between the units covered with waterproof felt strips. The roof trusses at 4 ft. centres are of two 4 in. by $\frac{3}{4}$ in. with two 3 in. by $\frac{3}{4}$ in. ties, knee braced to the walls. 4 in. by 1 in. purlins take either plasterboard and felt or corrugated steel sheeting. The hut is lined with plasterboard, and hollow tile bedroom partitions are built up to tie level, the remaining space being closed in plasterboard.

The brick and hollow tile bedroom wing (**6**), which is used on sites to which standard huts were not allotted, was evolved by the architects. Its design was largely conditioned by the shortage of bricklayers, and the shortage of timber for joists and shuttering. 9 in. brick walls are built up to D.P.C. and floor slab level, with 9 in. brick piers above at about 12 ft. centres. A precast beam of 4 in. hollow tiles threaded on reinforcing rods spans from pier to pier above the window, and similar beams at 3 ft. centres span across from this on to the hollow tile passage partition and cantilever 1 ft. 6 in. to the centre line of the wing. The wall panels are filled in with 4 in. hollow tile and rendered, and a tile cill is laid on the D.P.C. The roof is of patent fibre slabs, secured with wires looped, during casting, round the top reinforcement of the beams. It is covered with 2-ply roofing felt.



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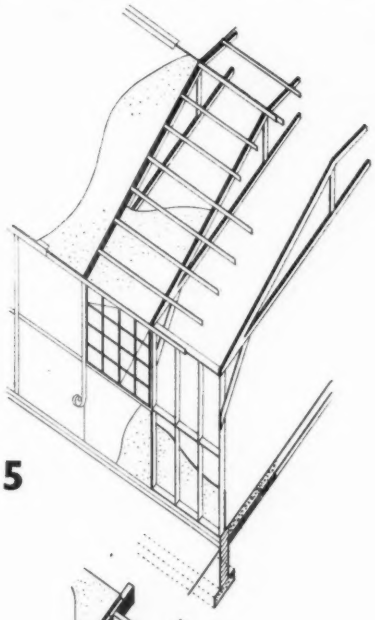

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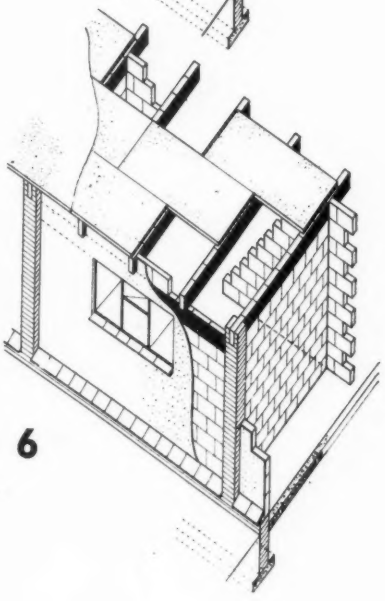
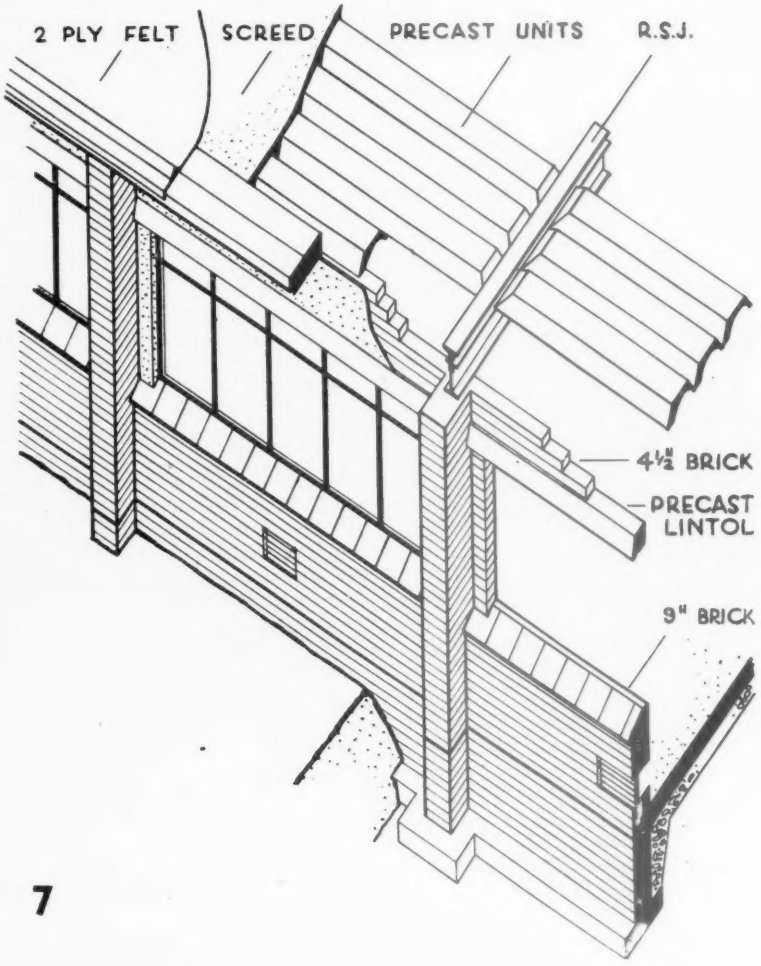


6

Hostels.



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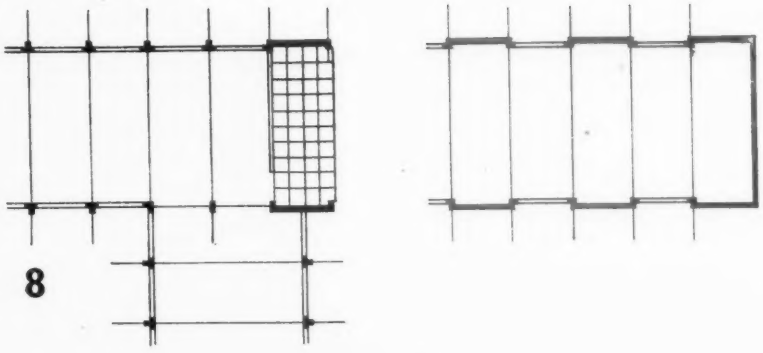


8

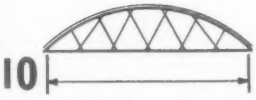
SOCIAL WELFARE

These buildings form the largest and structurally most permanent units on the sites, and are made up of the two main structural types shown on this and the facing page. Both types are designed on a 10 ft. bay unit, which was found to make the best use of available stock units, such as roofing, and allowed for the largest precast units to be handled by manpower. In planning, the 10 ft. bay also gave a convenient minimum sized room. Standardization was applied to piers and stanchions, wall panels, windows and lintols, roof beams and precast roof units including eaves, and roof trusses. This was the limit of standardization that could be applied, with available materials, without impairing the flexibility in design of each building; and yet was sufficient to allow standard plans to be accommodated to varying ground levels on different sites.

SYSTEM 1 is used for the smaller units such as lounges, games rooms, offices and ancillary buildings. (**7**) 9 in. by 18 in. brick piers at 10 ft. centres take R.S.J.'s of 25 ft. standard span. The roof, which is covered with 2-ply roofing felt, is of precast units, with special precast eaves which provide a stop for the screed and fixing for gutters, and for upstands where no gutters occur. The panel walls are formed of 9 in. brickwork below the windows, brick or tile cills, standard windows of two depths, precast lintols, and 4½ in. rendered brickwork above the windows. Typical variations in plan and elevation are shown in **8** and **9**.

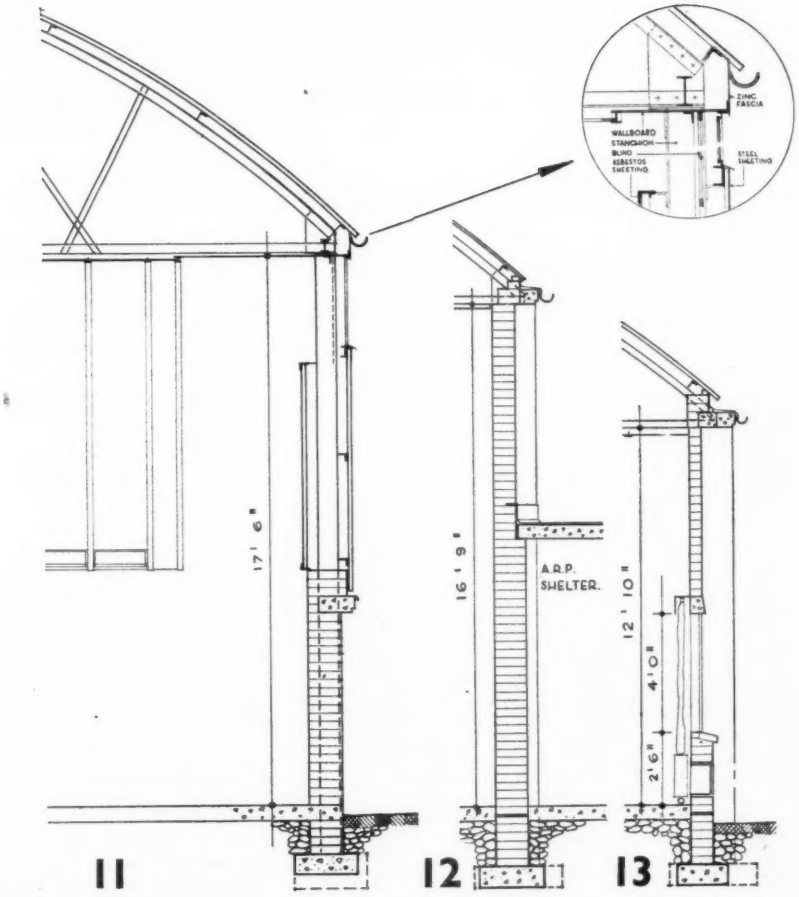
9

Left, a games room, showing typical use of "System 1" construction. Panel over windows is cement rendered and guttering and downcomers are asbestos-cement.
On the opposite page, canteen block. The canteens on this earlier site are arranged end to end and not side by side as later. Materials are brick, rendered brick, and corrugated steel.

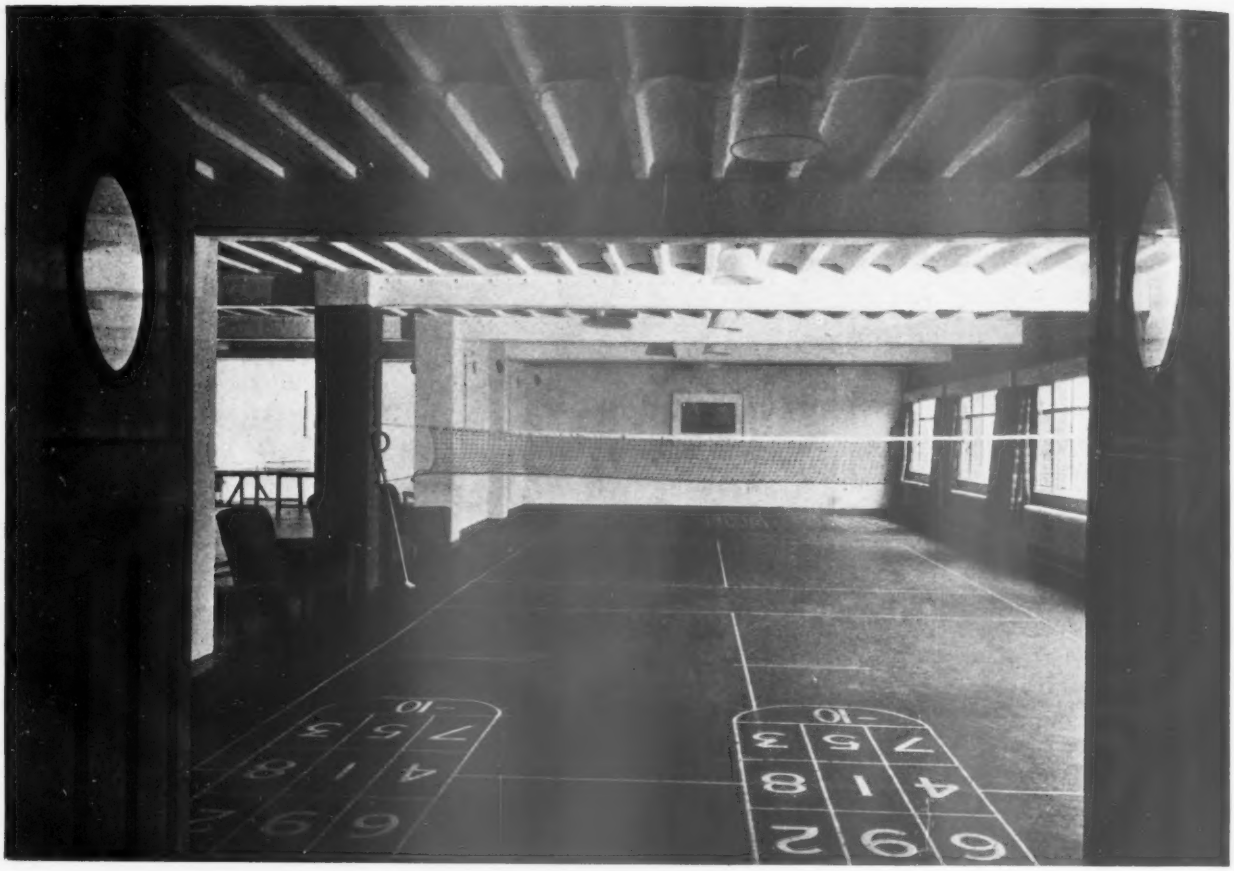


SYSTEM 2. The larger spans for halls, canteens and kitchens are of three sizes, 35, 40 and 50 ft., and employ light steel roof trusses. Three types of structure are used: Normal brick piers and panel walls with windows at low level (**13**); and brick piers and panel walls without windows, with A.R.P. shelters flanking the building (**12**). In both these types the eaves are formed with the standard precast eaves units used in System 1. The third type has steel stanchions with reinforced brick blast wall panels 6 ft. high, two skins of corrugated sheeting, and high level windows. Black-out blinds are pulled up vertically by chains from the cavity between the internal and external sheeting, and run in the stanchion flanges at each end (**11**). Typical plans using these three forms of construction are shown in drawings **17**, **14** and **20** respectively.

The majority of the trusses are curved, on account of cheapness, lightness and pleasing appearance, and are covered with corrugated steel sheeting. Internally they have a lining of wallboard on steel T's. In the kitchens, in order to give extra height, this lining follows the curve of the roof, and the trusses are exposed.



Hostels.



Top, a games room, showing the standard 10*-ft. bays used in System* 1 *construction and exposed soffits of precast units. Above, a hall with flanking air-raid shelters. On the opposite page, corridor in an administration building and a perspective of a recreation building.*

Hostels.

The social welfare buildings are planned as one group, and comprise a number of standard units linked flexibly together according to particular site conditions. In all cases the administration offices form the pivotal unit in the group, with entrances formed in the flexible link at each end. To one end of these offices is linked the canteen and kitchen unit and to the other end, the lounges, games rooms and hall. The hall is provided with a separate entrance for the use of visitors coming from other hostel sites, and is reached by residents through a foyer which communicates with the lounges and administration offices. The canteen and kitchen unit is standard on all sites, but the halls vary in accommodation and equipment, and the planning of the whole of this side of the building group varies considerably.

The final social welfare grouping is carefully related to the main access road for vehicles so that heavy traffic is confined to a small portion of the whole site.

14 shows the standard arrangement of canteens, kitchen and ancillary accommodation. The canteens seat 250 persons each, and at weekends the kitchen must be able to serve up to 1,500 persons at each meal.

The arrangement of food stores and food reception and preparation rooms is self explanatory. Minor improvements in planning suggested themselves for later sites, but the advantages of keeping so large a building unit standardized kept this unit virtually unchanged even on smaller sites.

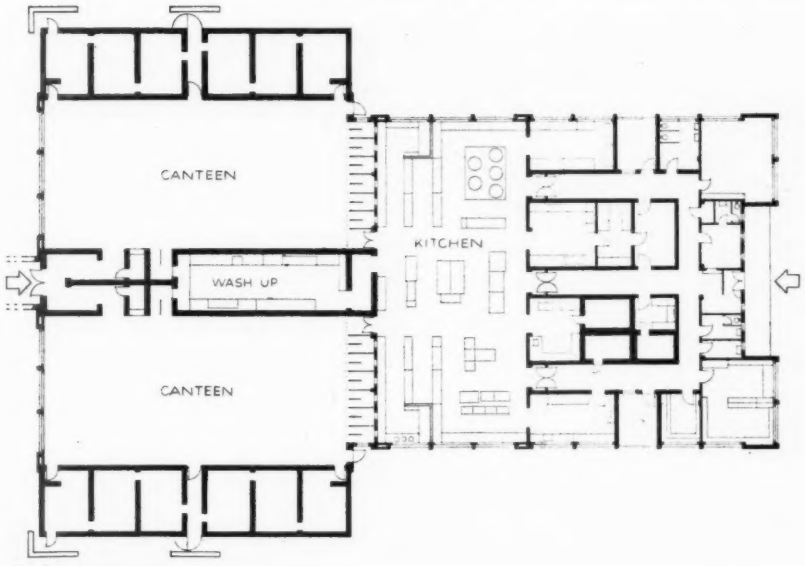
A.R.P. shelter accommodation with walls of A.R.P. strength is enough to hold all persons likely to be in the block at any one time.

15, the Administration building, is the centre of all activities on the site. Residents report to this building on arrival, and come there to interview the management, to telephone, fetch and post letters and buy miscellaneous small goods at the shop. For this reason, considerable waiting space is provided in the corridor, and there is considerable lavatory and cloakroom accommodation. The cloakrooms can also be used by women coming to the canteen for meals and to the recreation rooms.

The control centre for A.R.P. is also in this building, and is linked by telephone to dormitory units and fire-watching posts.

The Recreation building, of which a typical arrangement is shown in **16**, contains Lounge, Reading Room, Writing Room and Games Rooms, and is closely linked with the Assembly Hall. The Lounge, and usually the Reading Room, have fireplaces, and the Lounge is always placed so that it and Assembly Hall Foyer can share a bar.

The Games Rooms are planned in a projecting wing in order to cut down annoyance at noise coming from them. In most cases a loggia with a good aspect has been provided for summer use, between Reading and Games Rooms.



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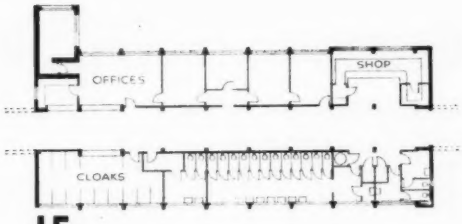

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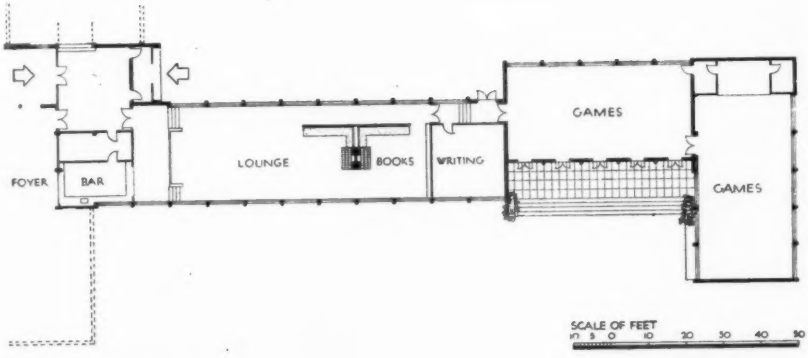

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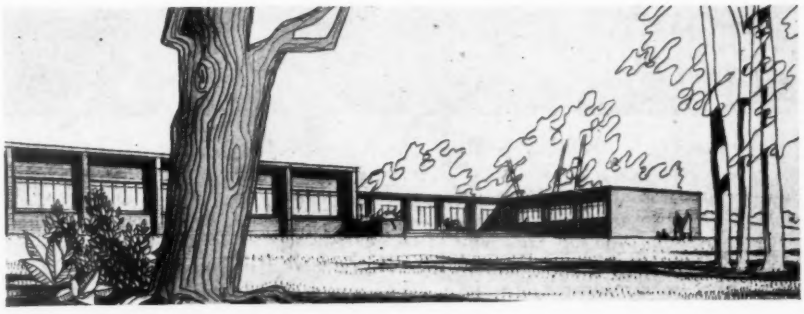
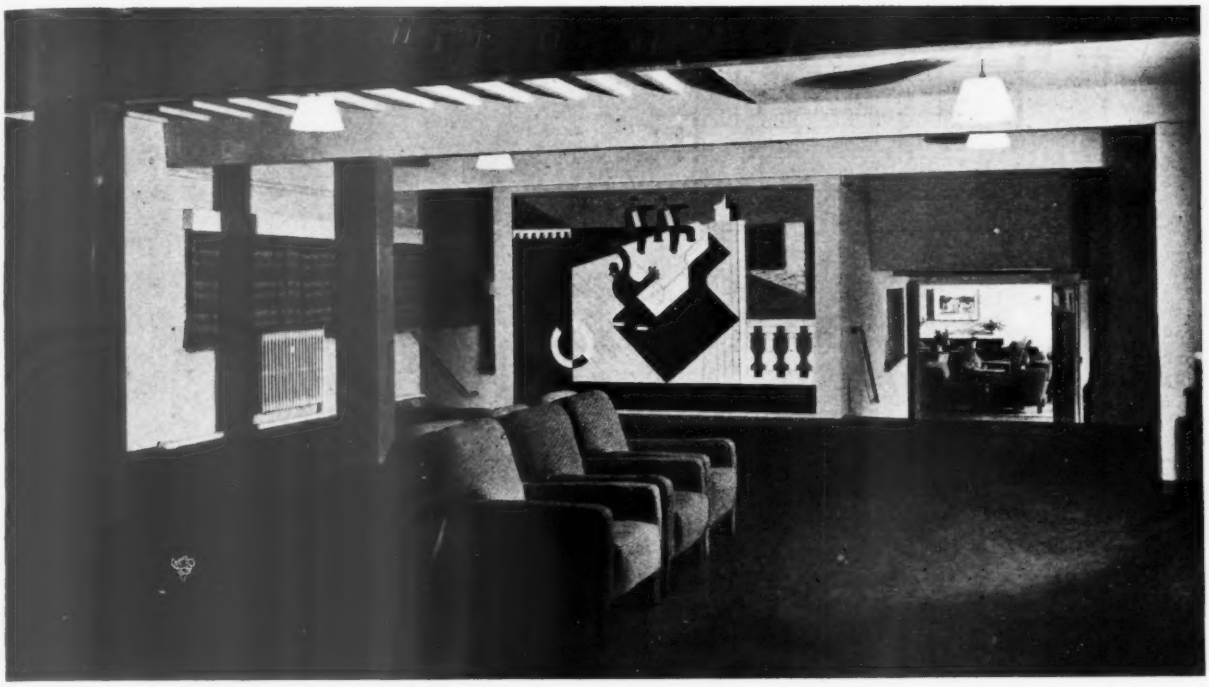


Top, a canteen. Walls are pale yellow, servery walls pale blue. Ceiling is white with blue strips and red vents. Floor is brown lino; and tables have cream lino tops and blue legs. Curtains are folkweave. Above, a reading room, distempered off white with fireplace wall pale green. Curtains are folkweave and the picture is one of the Shell series chosen and framed for all hostels. On the opposite page, a foyer to an assembly hall with lounge beyond. Walls are stippled and painted pale blue-grey with dark blue skirting. Handrails are gloss painted turquoise. Floor is brown lino, furniture brown, and curtains folkweave. The mural in water paint on smooth plaster is one of a series done by members of the architect's staff.

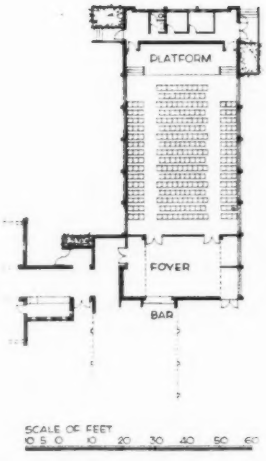


HALLS

There are four different types of hall; 250 and 350 seaters with a platform and provision for a 16 mm. cinema projector (**17**, **18**), and 350 seaters and 600 seaters with a full stage and a 35 mm. projector (**19**, **20**). They are intended for concerts, dances, plays, cinema performances, gymnastics, games and social functions, and all have a level auditorium and folding seats that can be stored when not required. The platforms are large enough for a dance band or concert party, and the stages are fully equipped for theatrical performances, with the usual electricians' gallery, scenery grids, orchestra pit and full-size cinema screen. All halls are provided with dressing rooms, generally at stage level, and in a few cases where the ground falls steeply they are planned under the stage to save cost.

All halls have a foyer which communicates with the rest of the social welfare group, and most can also be entered independently from the outside by visitors. Cloakrooms and lavatories are provided off the foyer, and a bar which serves both the foyer and the lounge.

The perspective, right, shows one of the 250 seater halls with the administration unit on the right, linked to the hall by the main entrance to the social welfare group.



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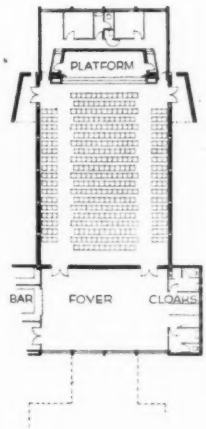

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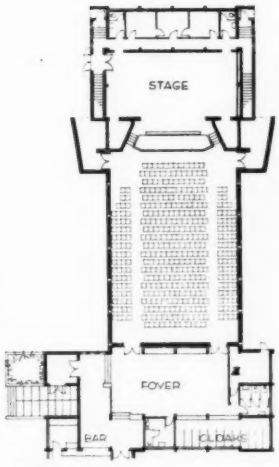

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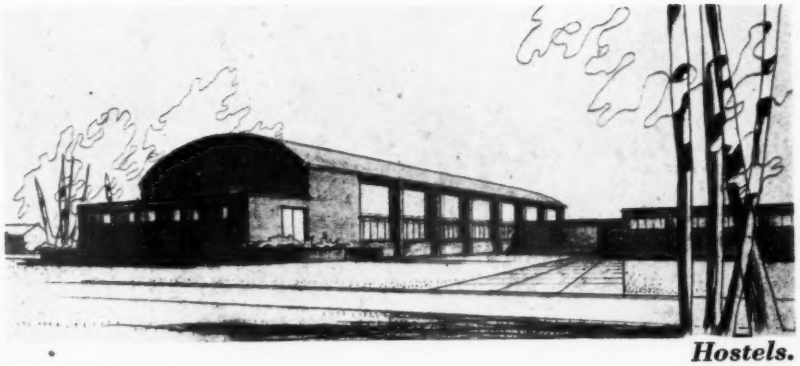
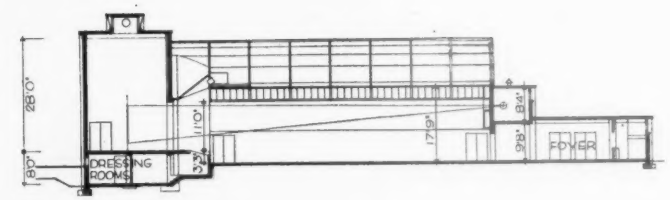
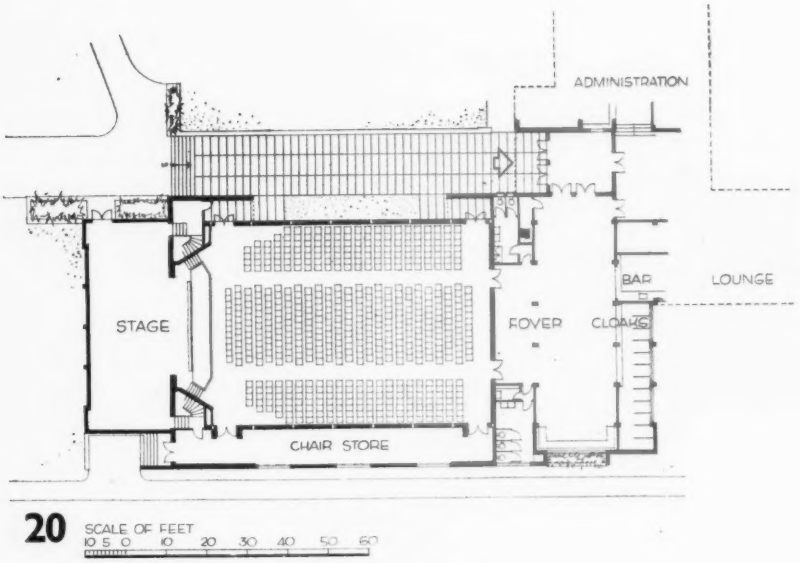


Hostels.



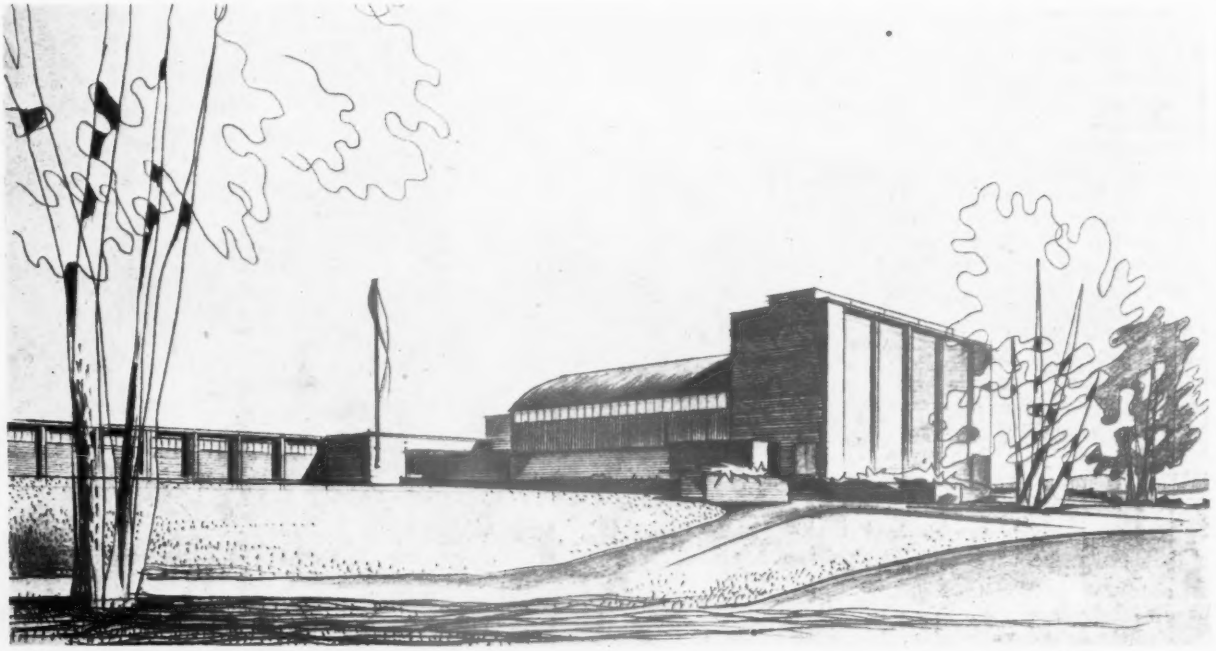


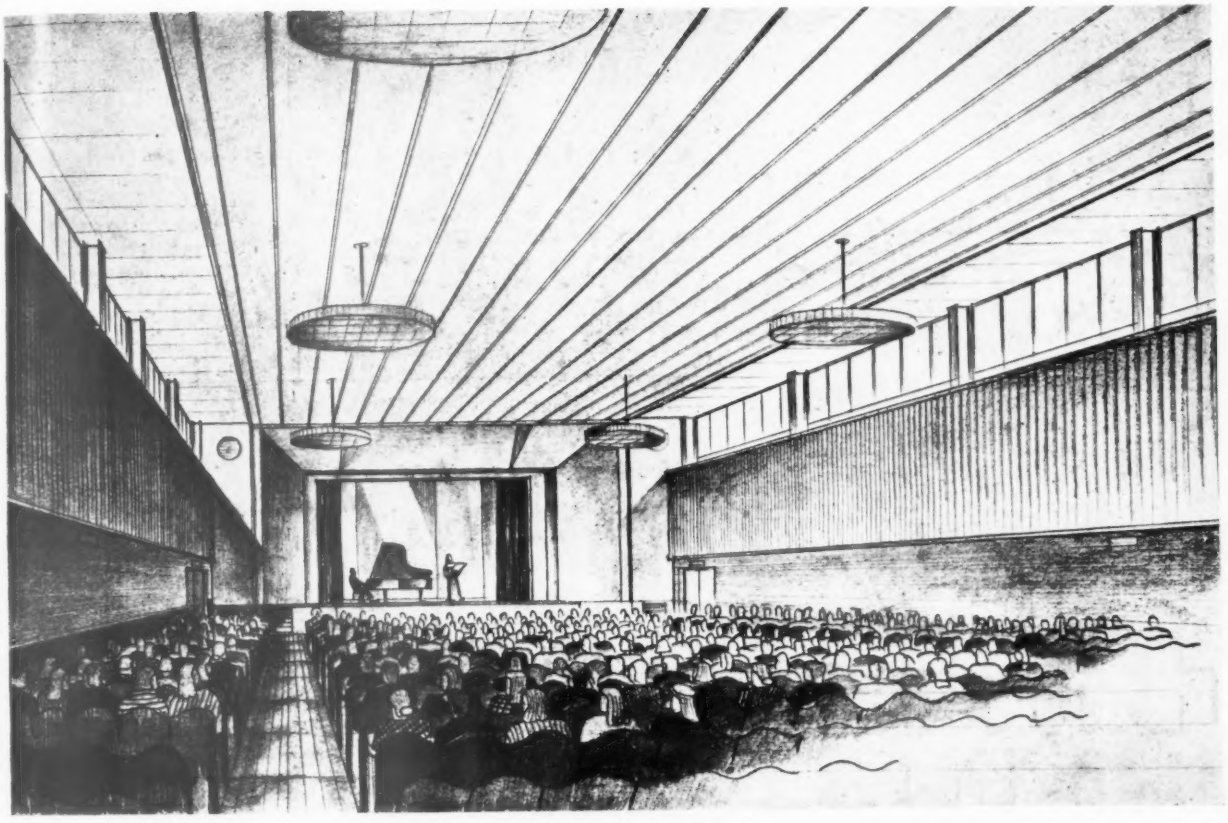
20 SCALE OF FEET 10 5 0 10 20 30 40 50 60

The 600 seater hall (**20**) is a steel framed structure with 6 ft. high blast walls flanking the auditorium and continuous windows at high level on both sides along its whole length. Details of the walling system and blackout are shown in **11**. The full-size stage does not differ from that of the 350 seater hall, except that the dressing rooms are planned underneath it. A large chair store is provided alongside the auditorium, whereas in smaller halls the chairs are stacked under the stage. The cinema projection and rewinding rooms are over the foyer, as in all other halls with 35 mm. projectors.

Below is an external view of the 600 seater hall, with the administration offices on the left, and the main entrance in the centre.

Below, one of the large halls seating 600 people and, on the opposite page, above, the interior of the same hall. These halls are equipped for full scale cinema, theatrical or orchestral performances, and in later types have clerestory windows to allow of their use for other recreational purposes in daytime. At night, the windows can be covered with counterbalanced mechanically operated screens.

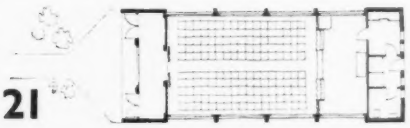




The halls are of varying sizes, some having full stage equipment and others only a platform such as that shown in the photograph. Every hostel has a hall of some kind, but the decision as to size and stage equipment was governed by geographical and other reasons. Usually one site in a group of two to four has a fully equipped 600-hall which would be used for bigger shows.

Right, a hall seating 350. Ceiling is white with scarlet strips, walls are three shades of grey, doors are pale blue-green gloss. Curtains are folkweave. The light fittings, designed by the architects, are wire and parchment.

Hostels.



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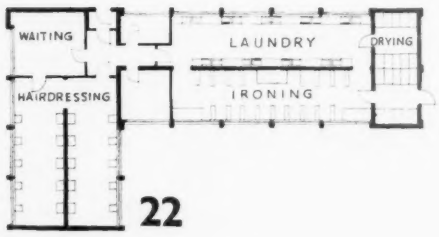

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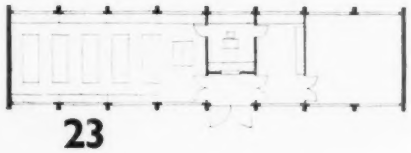

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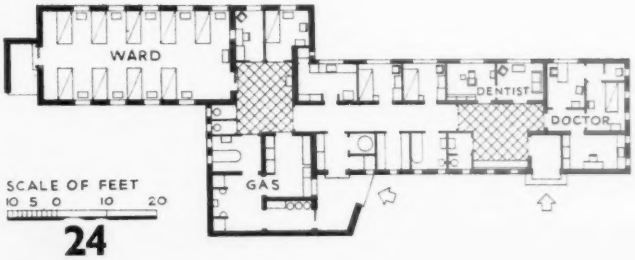


24

ANCILLARY

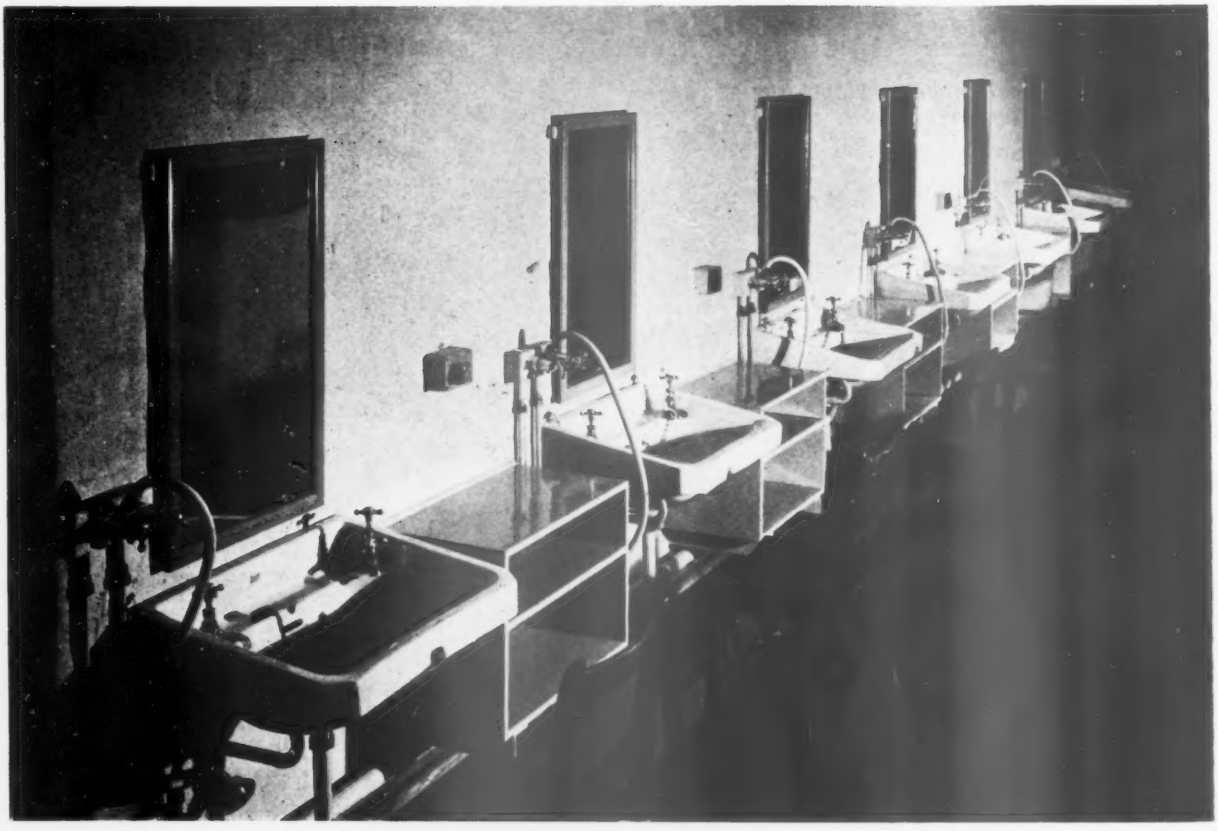
There are a large number of ancillary buildings on each site, and they fall into two main groups; those which are needed for the efficient running of dormitory units and social welfare buildings—in this class come sick bay, transformer stations, bedding stores, workshops and garages; and those which were added when the probable needs of the residents had been more fully thought about—such as the laundry and hairdressing building. Of the full range on a site four examples are shown on this page.

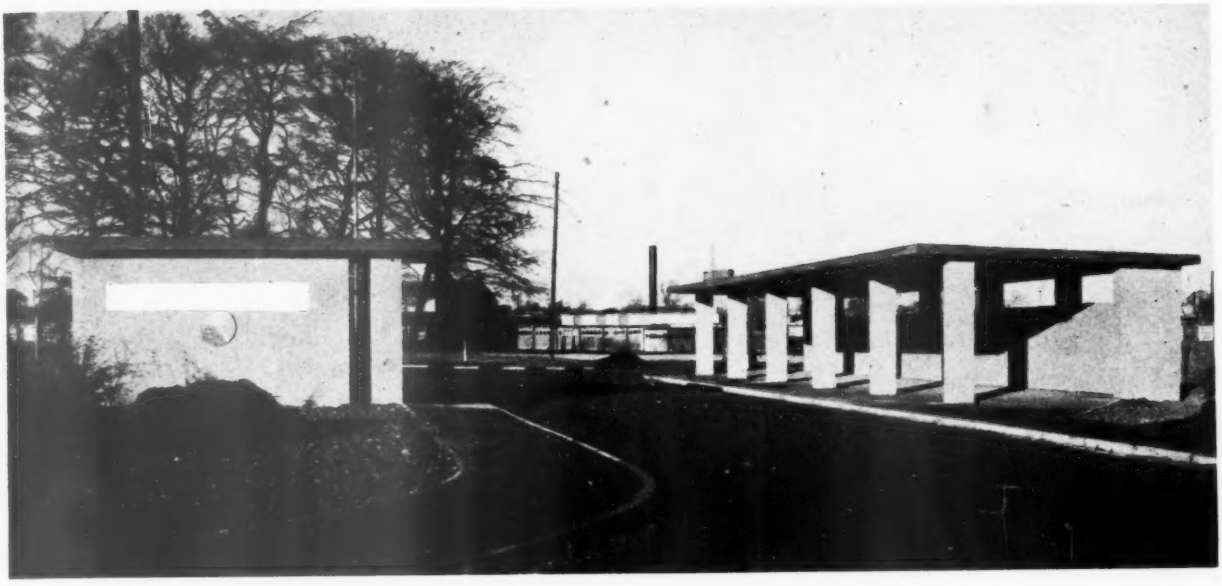
21, the Chapel, can accommodate a congregation of about 70 people, and is designed for use by any denomination. For this reason only a raised platform and simple pulpit has been provided at the chancel end.

22, Laundry and Hairdressing, allows women residents to wash, dry and iron smaller garments. Residents can either do their own hairdressing in the Hairdressing Room or professional hairdressers can attend on certain days.

23, Bedding Stores, Workshops and Garages are built in standardized 10 ft. bays with 4½ in. rendered walls. The arrangement varies according to site conditions.

24, the Sick Bay, contains ward accommodation for 9, an isolation ward, medical officer's room with dispensary, dentist, waiting room, A.R.P. First Aid centre, and ancillary accommodation. The ward accommodation can be varied.



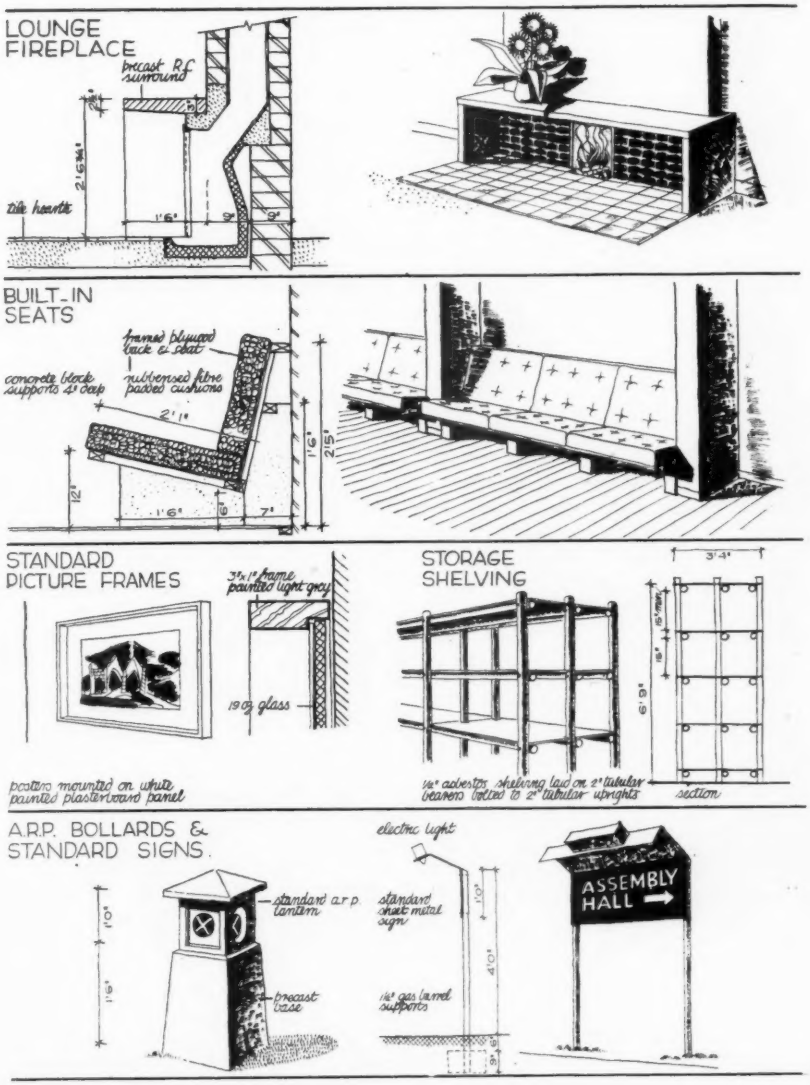


DESIGN IN DETAIL

Within the restrictions of wartime building the architects have tried to provide good detail for the very large number of fittings and types of equipment. A few typical examples are shown in **25**. The lounge fireplaces have a facing of header bricks with a vibrated concrete surround and a tile hearth. Built-in seats are provided in the lounges, often combined with the fireplace, and in some of the foyers to the halls. The pictures hang in the social welfare buildings and the common rooms of the dormitory units. The storage shelving for kitchens, bedding stores, etc., is of asbestos cement; and a similar system of framing, with sliding trays and strained rope hangers, is used in the drying rooms in the laundry. The A.R.P. bollards are used to mark crossings of roads and paths on the site.

Top, the entrance to a hostel site from the main road, looking past the porter's lodge and bus shelter to the social welfare group and boiler house in the background.

Facing page, hairdressing room. Pale yellow walls, shelves grey gloss with front edges bright yellow, ceiling white, and floor brown lino.



A lounge. Pale orange walls, with fireplace wall pale blue. Fireplace surround white and brown gloss. Ceiling distempered very pale orange. Light brown carpet and dark brown upholstery. Blue lino tops to tables. "Shell" poster. Curtains folkweave.

Above, a chapel. Walls, off white distemper, joinery grey gloss paint. Ceiling, plasterboard distempered crimson, and pale blue tubular beams. Curtains are blue and white woven fabric.

Hostels.

FINISHES AND COLOUR

The speed of construction, need for cheap building and shortage of skilled labour made it impossible to achieve a good finished appearance in hostels in the usual ways. Joinery detail was cut to a minimum, and a good finish to the actual structural materials could not be attempted.

A good final appearance, both internal and external, had therefore to be obtained by a few contrasts between applied textures and, more generally, by colour. Carefully considered schemes were developed to this end.

Externally, the majority of building surfaces was matt painted in a few neutral shades, bright colours being confined to doors and a very few other points. Contrasting wall textures were brick, cement rendering, corrugated asbestos cement and bitumen-felted plasterboard.

For internal decoration a range of colours was specially prepared and standardized throughout all hostels. Paint manufacturers collaborated in matching these colours in oil paint and distemper. No plaster was used on internal walls and texture was given cheaply to uneven wall surfaces by a patent rendering applied by brush and stippled. This rendering also minimized trouble from brickwork efflorescence.

The colours are divided into four main groups, each group having as its basis two or more complementary colours from which the remaining shades in that group are derived with the addition of black or white. The basic colours are as follows :—

Group "A"—Yellow, Violet, Yellow-Green, Orange.
" "B"—Yellow, Red, Blue-Violet.
" "C"—Scarlet, Blue-Green.
" "D"—Scarlet, Blue, Blue-Green, Green.

Group "A" is closely related to Group "B," "C" to "D" and "D" to "B," thus an interchange of shades between related groups is possible. The division of the colour range into definite but related groups enabled distinction to be made between the colour

schemes in the various rooms and at the same time maintain continuity of colour throughout the buildings.

Examples of colour schemes used are :—

Assembly Halls : Scarlet and blue-greens. These two colours have almost equal reaction to the light of modern electric lamp, and they have long been associated with the theatre.

Lounges : Yellow, red and blue-violet. Soft browns and powder blues have been produced from this colour range.

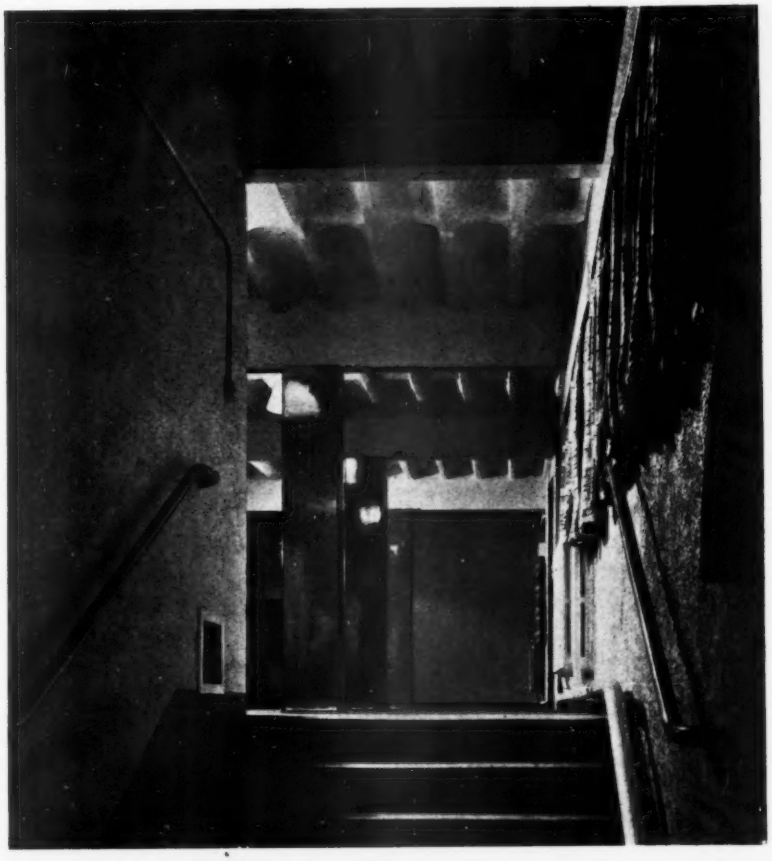
Dormitory units : These buildings form the major part of the painting problem, and contained over one million yards of wall and ceiling surface. A very large saving in painting labour and organization was achieved by spray painting wall and ceilings in one colour—pale yellow—and by relying on furniture and curtains to provide relief.

Small areas of other colours were, however, used for contrast and as an aid to direction. Lower members of roof trusses and end door in each corridor were painted a distinctive colour, or, on some sites, the inside of the door lining was picked out in the distinctive colour.

FURNISHING.—The Ministry of Works and Buildings were responsible for furnishing all hostel buildings. The majority of the furniture has been specially designed for hostels and similar buildings, and was mass produced on a large scale. The standard of design is reasonably good—certainly when the immense difficulties of wartime are considered. The folkweave decorative curtains prepared for later sites are successful both in quality and design.

POSTERS.—The internal appearance of the hostels has been very greatly aided by the use of framed posters. These were chosen by the architects from the G.P.O., Shell, Underground and Railway Companies' series, and have been cut out and mounted with a wide white surround, deep and narrow white frame, and are glazed. The result has been very successful, and each hostel has about 30 of these pictures in the public rooms.

Murals have been painted in the foyers of the Assembly Halls and in some cases in the Games Rooms. All these murals have been done by members of the architect's staff or, in one case, by an architect on a week's leave from the Army. They have been the cause of much enjoyable discussion—possibly by the residents, certainly among the architects.



Top, steps up to a foyer. Pale blue-grey walls and turquoise gloss handrails, ceiling pale green. Columns, rendered brickwork gloss painted dark blue.

Above, hatches and rails in a canteen. Walls, brick distempered pale blue with column dark blue. Rails and hatches are bright yellow.

SERVICES

HEATING.—The heating and hot water supply system used for hostels is of a special interest in that buildings resembling a small housing estate in total accommodation, and to some degree in layout, are served from two boiler houses.

The methods used for all hostels are substantially the same—the main difference being that Group 1 boilers are designed to use a particular grade of fuel while those of Group 2 are designed to burn fuel of widely differing qualities and are therefore somewhat more complex.

Steam and hot water are distributed through mains on steel supports which for the most part run along buildings just above roof level. Between buildings, mains are run overhead for reasons of economy and easy maintenance, except when crossing roads.

Each cubicle has a radiator under individual control, and hot water is supplied to dormitories by calorifiers. Canteens and kitchens are equipped with unit heaters and extract fans. The assembly halls have a plenum system supplying about 800 cu. ft. of warm air per hour per person.

Group 1: Heating and hot-water services are provided by two types of boiler house on each site. Boiler House No. 1 comprises two vertical cross tube steam boilers and two sectional cast-iron heating boilers. The boilers are fired either by underfeed bunker-type coal stokers automatically controlled or by hopper-type automatic stokers. The steam boilers provide steam for the kitchen and laundry and for the hot water service storage calorifier supplying hot water to the kitchen. From the heating boilers, overhead flow and return mains are taken to community centre buildings and some dormitory blocks. The hot water heating boilers in Boiler House No. 2 are similar to those in the other boiler house and feed the remaining buildings on the site.

Group 2: Two types of boiler house are provided for each site. The No. 1 type contains steam boiler, which provides steam to kitchen, laundry, unit heaters in canteens, etc., and to heater battery for the ventilation of the assembly hall as well as hot water heating, and domestic hot water to the central buildings. The No. 2 type boiler house contains cast-iron sectional boilers, which provide low pressure hot water heating and domestic hot water to the hostel units.

The plant in Boiler House No. 1 comprises two boilers of the economic type with duties varying from 3,000 to 5,000 lbs. of steam per hour from and at 212° Fahr. with coal of a calorific value as low as 10,000 BTV per lb.

To handle this low-grade fuel a sprinkler type of stoker has been installed for each. Forced draught is employed with apparatus for extracting grit from the flue gases. Both excessive grit and soot is liable to become a source of annoyance with the coal that is being used and to deal with the latter, steam operated soot blowers have been installed.

Boiler House 2 contains either two or three Ideal G.R. Pattern cast-iron sectional boilers. These boilers are fired by a special ram type of stoker. This type of stoker is possibly the first used for burning low-grade coal in sectional boilers.

PLUMBING.—In plumbing work the use of metal has been reduced to a minimum. Cold water supply and waste pipes are of light gauge steel with compression fittings or bronze welded joints. Rainwater pipes and gutters are of asbestos cement. Roof flashings were carried out in acqualite.

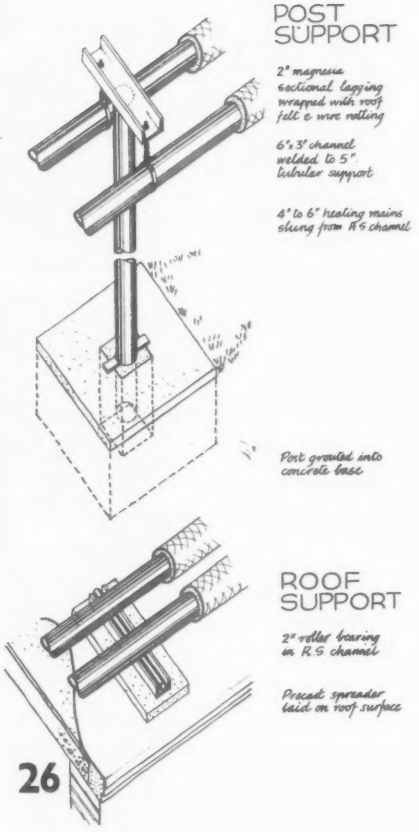
WATER SUPPLY.—Water is obtained from local companies or from boreholes; and storage tanks, varying from 500,000 to 20,000 gallons, are provided, on certain sites, these tanks being kept topped up by booster pumps.

The general layout is a 4 in. cast-iron ring main with secondary piping from 2 in. downwards.

For fire-fighting purposes, in addition to the usual appliances, there are natural ponds fed from the ring main, from which water can be drawn. Some sites have also double line hydrants fitted in the ring main, and the sites with overhead storage tanks have a connection on the delivery pipe from the tank. In Assembly Halls with stages, a hose reel is fitted fed from the ring main.

DRAINAGE.—Some sites are drained on the separate and others on the combined system.

Stoneware, concrete and porous pipes of varying diameters up to 24 in. diameter have been incorporated in the surface water systems, while glazed stoneware pipes, of 6 in. and 9 in. diameter with some individual connections of 4 in. diameter, have been used



26, *steam and hot water mains. For reasons of economy and neatness, the mains are run along the flat roofs of buildings wherever possible.* (*See page 178, below.*)

Above, sinks and plumbing in laundry. The amount of pipe-run has been kept to a minimum and troughs are used for wastes for ease of clearing and to save metal.

on the foul water systems. Existing facilities for the purification and disposal of sewage provided by local authorities have generally been utilized without alteration.

Several pumping stations, one of which serves two sites, have been installed, each station housing an electrically driven automatically operated pumping unit. An entirely separate stand-by pumping unit is also provided.

ELECTRICITY.—Supply is taken from local companies and the grid, and is transformed to 400/230 volts for power and light.

The distribution is taken from a terminal pole by the switchroom by means of overhead lines to each building on the site. The conductor is bare, hard-drawn copper with Weathertex V.I.R. cable for services into the buildings.

Internal wiring consists of tough rubber-covered cable in Dormitory Blocks and other buildings of light construction, and wiring in conduit in brick buildings. Where possible, conduit has been buried in roof slabs.

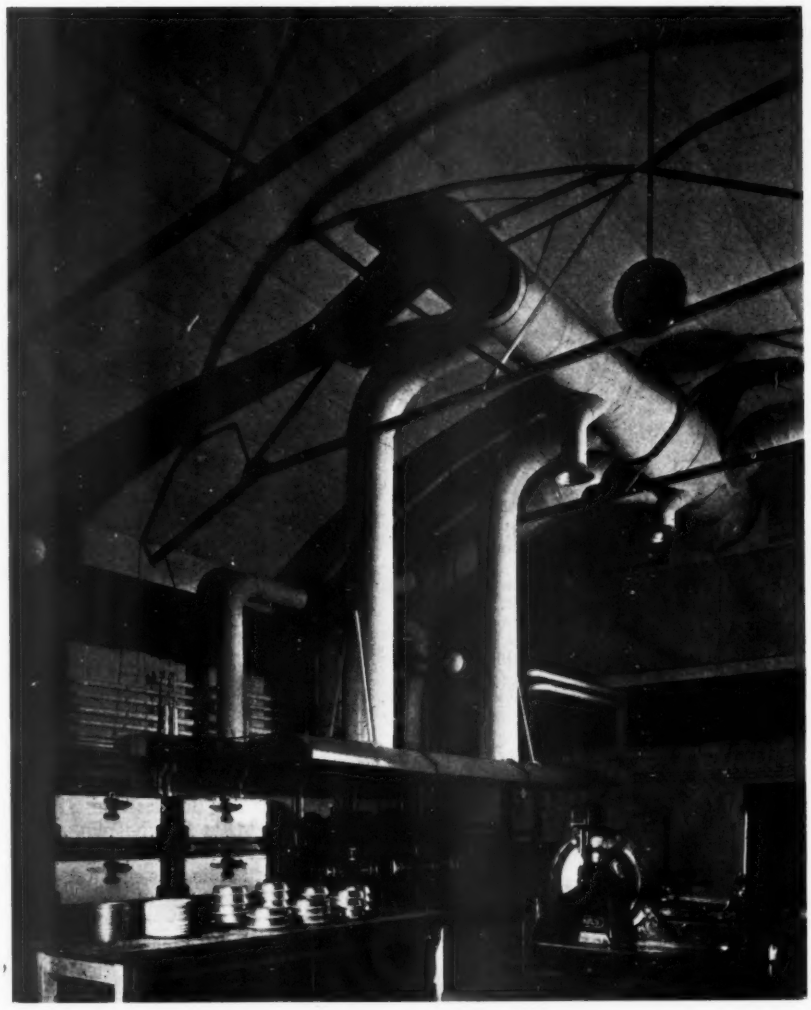
In the 350 and 600 seat Assembly Halls a complete system of theatre lighting is installed consisting of floats, battens and spot lights, arranged for three-colour control by means of a stage board fitted with dimmers in a similar manner to an ordinary theatre or music hall stage. The larger halls are also being fitted with a complete cinema equipment with standard projectors and sound equipment.

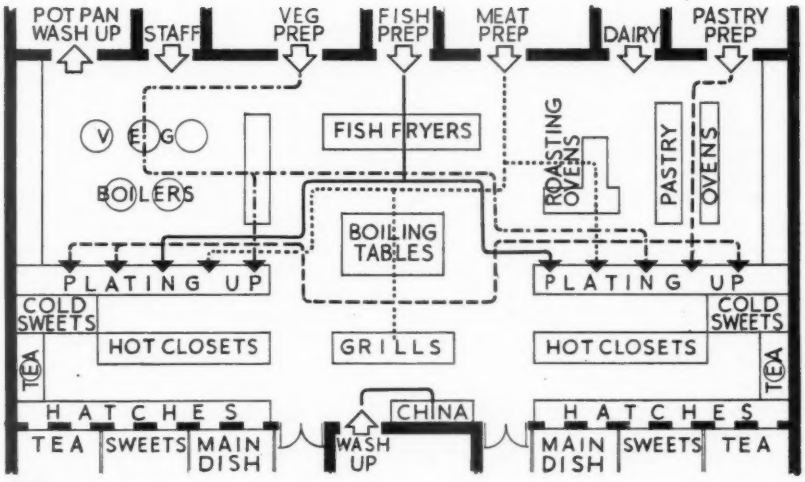
All high temperature cooking apparatus in the kitchens is electrical, the total installed cooking load being about 140 kw. per site.

COOKING.—The kitchens, besides having a large number of ancillary store and preparation rooms, are very fully provided with both steam and electrical equipment. The whole equipment is capable of providing a wide variety of meals, and it is possible to supply full meals cooked by either steam or electricity should one or the other fail.

The layout of the principal equipment is shown on this page

Preparation rooms are connected with the kitchen by wide corridors, and after cooking the food is moved to " plating up " tables near the hot closets under the serving hatches. After " plating up " the food is stored in the hot closets until residents fetch it on the cafeteria system—a system which depends for its efficiency on smooth flow and quick service.





27

Top, part of a kitchen. Walls are distempered off white. Trusses are in blue-green gloss paint and ducting in yellow gloss.

★ *WHICH of the following three bases would you consider reasonable and proper for the charge of architects' scale fees?* - - - - Q 876

★ *IS a contractor entitled to charge for haulage of materials and bus fares for his men?* - - Q 879

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential; and in no case is the identity of an enquirer disclosed to a third party.

Questions should be sent to—

THE ARCHITECTS' JOURNAL
45 THE AVENUE,
CHEAM, SURREY.

Telephone: VIGILANT 0087

Q 876

ENQUIRER, LONDON.—*A fairly large country house was commenced before the war, and the contract made no provision for increase of prices consequent upon war conditions. The building was well advanced before any substantial additions to cost occurred, and the client then agreed to pay the contractor the increases in the cost of labour and materials but not profit on these increases. Since the completion of the work the client also agreed to make the contractor an ex gratia allowance in consideration of certain other extra costs, not precisely ascertainable, and arising out of, for instance, the diminution of output of operatives and the extra haulage charges on materials obtained from unusual and scattered sources of supply. Which of the following bases would you consider reasonable and proper for the charge of architects' scale fees:*

1. *The nett total ascertained in accordance with the contract prices;*
2. *The contract price plus the agreed additions for increased costs of labour and materials:*
3. *The gross settlement sum including the foregoing and the ex gratia allowance made by the client?*

Travelling time and out-of-pocket expenses increased by the war are, of course, charged as usual and do not directly enter into this question.

The questions raised depend to some extent upon the agreement between the Architect and the Building Owner; we assume, however, that it was agreed that fees should be based on the total cost of work executed.

The agreement between the Building Owner and the Builder that payment should be made for the nett cost of price increases was outside the scope of the Contract and, as such, was not a matter for the jurisdiction of the Architect.

If a friendly relationship exists between the Architect and the Building Owner, the Architect would normally pass and certify the extras referred to above and charge for so doing in accordance with the scale originally agreed upon. At the same time, in our opinion, the Building Owner would not be liable for such fees unless he had authorized the Architect to deal with the matter, and in any case the Architect should justify any additional fee charged by passing and certifying the extra due to the Builder.

The above remarks apply also to other payments such as "an ex gratia allowance in consideration of certain extra costs not precisely ascertainable" with these exceptions:—

(*a*) An Architect would be unwise to assume that he is to advise upon and certify the amount in question, even if a friendly relationship does exist between himself and the Building Owner;

(*b*) The work involved might not justify a pro rata fee and the proper fee might be ascertained on a time basis.

If the work has not already been done it is obviously best for the Architect to point out that his agreed fee covers only Contract work (including variations carried out under the Contract) and to seek fresh instructions.

Q 877

ARCHITECTS, LONDON.—*We have a number of jobs for which the R.I.B.A. 1939 Form of Contract was used, which allows (amongst other things) the nett extra cost of increased wages.*

The Uniformity Agreement has been applied to several of these jobs; it appears in principle to cover the working arrangements of labour employed in these contracts, but the advisory pamphlet does not mention the employer's side of this question. We have in mind a particular contract on which contractors tendered in the first instance with schedule rates in accordance with Bills of Quantities provided. Since inception the agreement has been applied, which has meant bringing in labour from outlying districts which has increased the overhead expenses of the contractors concerned and must also have put them to considerable extra expense as regards clerical work in checking these additional items. Under the circumstances are the contractors in order in claiming for establishment charges and profit, etc., for the additional expenditure incurred? It is assumed that these particular items would be covered in the Contract in the first instance, in the schedule rates submitted. The Contractor in this particular case has so far only asked for the nett increase of wages and expenditure, etc., and not for any profit on these items.

The "Fluctuations and War Risks" Clause in the 1939 R.I.B.A. Contract provides that if there is any increase in the rates of wages, which results in an increase in cost to the Contractor, the nett increase of cost shall be added to the Contract sum. The Contractor is, therefore, entitled to the actual increased cost to himself (including the increased cost of establishment charges, if any) which occurs as a result of increased wages. The Contractor is in no circumstances entitled to increased profit.

The clause in question refers to rates of labour prevailing in the district where the works are to be carried out and in our opinion there is some doubt as to whether this extends to increased costs brought about by imported labour either by way of different rates of pay or travelling expenses. However, we have no doubt that most Architects and Surveyors would allow the total nett extra cost to the Contractor excluding profit as mentioned above.

The Uniformity Agreement does not alter or upset the Contract and the latter must be read as it stands.

Q 878

ENQUIRER, YORKSHIRE.—*Recently I sent similar advertisements to your*

. . . . . and delivered

Panels of Flexo Plywood encased in steel or other metal, with the edges sealed. Vermin-proof, fire-resistant, stiff and non-drumming.

Delivered completely finished to any size or shape, the panels are only 3/8" thick and need no battens or framing, saving time in erection, plus valuable space.

Flexometal panels are being used extensively in a great variety of applications; they are particularly suitable for dressing and lavatory cubicles and the screening of diathermy and other high frequency machines. What do *you* make from them?

FLEXO PLYWOOD INDUSTRIES LTD., SOUTH CHINGFORD, LONDON, E.4
Telephone: Silverthorn 2666 (7 lines). (Associated with Cork Manufacturing Co. Ltd.)

FLEXOMETAL

Journal and to the Yorkshire Post, stating that I was seeking essential work in the capacity of Building Surveyor or Chartered Architect. The advertisement was inserted in your Journal but the "Yorkshire Post" refused to publish it, stating that it would be an infringement of the Restrictions on Engagement Order. This appears to me to be absurd as numerous advertisements appear constantly in the lay and professional press. May I have your comments?

The Restriction on Engagement Order does not preclude employees from advertising on their own behalf providing they have already registered for employment with the Ministry of Labour and report the resulting engagement *before* it is actually made. We suggest that you take up the matter with the *Yorkshire Post*.

Q 879

ARCHITECT, MONMOUTHSHIRE. — *The roof of an existing school was found to be seriously affected by fungus, and owing to the urgency of the matter, a local Contractor was given the job of stripping the roof, and renewing defective timbers, etc., on a time and material basis.*

The Contractor's account for this work amounted to £545 0s. 0d., in which he charged for haulage of materials and bus fares for his men. The men's time was charged at "Dayworks on Jobbing Work," viz. 30 per cent. on labour and 15 per cent. on materials.

I shall be glad to have your expert advice as to whether the Contractor is entitled to charge for bus fares and haulage of materials; also, as this job is much larger than ordinary jobbing work, can I reduce his percentage?

The school is approximately three miles from the Contractor's yard.

It is difficult to give definite advice as to the proper amount to be paid for work done in the absence of a contract or any form of agreement. In our opinion the Contractor is only entitled to make a reasonable charge, having regard to the nature of the work. There is no obligation, statutory or otherwise, to pay in accordance with the National Schedule of Daywork Charges, although it does serve as a guide as to what is reasonable if the work is similar to that outlined in the Schedule.

We consider that work carried on continuously, and amounting to about £545, could not possibly be considered to be "jobbing work," and if you have difficulty in persuading the Builder on this point, you should write to the Chartered Surveyors' Institution, 12, Great George Street, London, S.W.1, or to the National Federation of Building Trades Employers, 82, New Cavendish Street, London, W.1, who in collaboration with the London Master Builders' Association were responsible for the Schedule.

We would draw your attention to the Ministry of Home Security Form of Prime Cost Contract for Emergency Work, obtainable from H.M. Stationery Office, and suggest that payment in accordance with the terms of that contract would be reasonable. Briefly, this contract allows for the cost of labour, materials, sub-contracts, cartage, insurances and the hire of heavy or mechanical plant (including steel scaffolding), with the addition of 2½ per cent. for tools and ordinary plant, plus a further percentage for overheads and profit. The percentage for overheads and profit would be 12½ per cent. for a job of this particular size. Assuming that insurances cost about 4½ per cent., the addition to the prime cost is equivalent to approximately 20 per cent. on labour and 15 per cent. on materials.

Assuming that the Contractor is correct in considering the work as "jobbing work" he is entitled to charge for haulage and for travelling expenses in accordance with the National Schedule of Daywork Charges.

INFORMATION relating to some of the principal contractors, manufacturers and specialist firms engaged on the construction, equipment and decoration of the Hostels illustrated and described in this issue. Some more detailed particulars are given in the advertisements immediately following this page.

General Contractors

Bovis Ltd., John Mowlem & Co.; Sir Lindsay Parkinson & Co., and Holloway Prothers (London) Ltd.

Structural steelwork and steel scaffolding

John Booth & Sons (Bolton) Ltd. and The Burton Constructional Engineering Co. Ltd. (structural steelwork); Scaffolding (Great Britain) Ltd. (tubular steel scaffolding).

Suppliers of bricks

The Potteries Brick Company, Handley, J. & A. Jackson Ltd., T. T. Smith, The Ravenhead Brick Co., Bispham Hall Brick Co., Ltd., Arrell Brick Co. Ltd.

Hollow blocks

London Brick Co. Ltd.

Roofing and pre-cast concrete roofing units

The Ruberoid Company Ltd. (Ruberoid and Ruco Ruberoid roofing); Turners Asbestos Co. Ltd. (roofing tiles); D Anderson & Sons (roofing); The Trussed Concrete Steel Co. Ltd., Constone Ltd., Caxton Floors Ltd., Tarmac Ltd. and Girlings Ferroconcrete Co. Ltd. (pre-cast concrete roofing units); Cementation Co. ("Thermacoust" Slabs).

Heating, ventilation and hot water installation

Benham & Sons Ltd., Mathew Hall & Co. Ltd., Wm. Freer, Young Austin & Young Ltd., Ashwell & Nesbit Ltd., The Brightside Foundry & Engineering Co., and Sulzer Bros. Ltd.

Heating, ventilation and water-supply equipment and accessories

Ideal Boilers & Radiators Ltd. (boilers, radiators and fittings); Rother Boiler Co. Ltd. (cylinders and calorifiers); Glenfield & Kennedy Ltd. (valves and fittings); Horseley Bridge & Thomas Piggott Ltd. and Braithwaite & Co. Ltd. (pressed steel tanks); Vent-Axia Ltd. (Vent-Axia fans); Mather & Platt Ltd. (unit heaters); Rheostatic Co. Ltd. (motorised valves); Mathews & Yates Ltd. (cyclone fans); Ralph Smart Ltd. (sewage pumping plant).

Plumbing, plumbing fixtures and sanitary equipment

Ideal Boilers & Radiators Ltd., Adamsez Ltd., Baxendale & Company Ltd., Baldwins Ltd., A. D. Foulkes Ltd., and Geo. Hollins & Sons Ltd. (sanitary equipment); Beaven & Sons Ltd., Blackpool Plumbing Company, and Henry Tattersall Ltd. (plumbing installations); Kay & Company ("Kontite" fittings and light gauge steel tubes).

Electrical installation and equipment

W. J. Furse Ltd., Thorpe & Thorpe Ltd., H. Cash & Company, and H. Bibby & Company (electrical installation work); Clough, Smith & Co. Ltd. (overhead distributors); Electric Art Shades (1928) Ltd. (lampshades); Gent & Co. Ltd. (electric clocks).

Metal windows, glazing, glass and ironmongery

Henry Hope & Sons Ltd., Crittall Mfg. Co. Ltd., and Williams & Williams Ltd. (metal windows and doors); Pilkington Brothers Ltd. (glass); Aygee Ltd., Weirs Glass Ltd., M. Newman & Sons Ltd., and Wm. Winstanley & Co. Ltd. (glazing); Parker Winder & Achurch Ltd., and Lockerbie & Wilkinson Ltd. (ironmongery).

Insulation work and insulating materials

Newalls Insulation Co. Ltd. (insulation work); The Ten-Test Fibre Board Company ("Ten-Test" insulating board for suspended ceilings); Cementation Ltd. ("Thermacoust"); Kitson Insulations Ltd. (lagging); The Cork Insulation and Asbestos Co. Ltd. (insulation work).

Floor finishes and flooring materials

John Archer & Co. Ltd. (linoleum floor covering); Stevens & Adams Ltd. (wood flooring); Limmer & Trinidad Lake Asphalte Co. Ltd., John Dickenson Ltd., Excel Asphalte Co. Ltd., and Highways Construction Co. Ltd. (asphalte flooring); Hall & Co. (Grano) Ltd. (granolithic flooring).

Paintwork and interior finishes

Thomas Bradley & Decorative Painting Contractors (paintwork); Smith & Walton Ltd., and W. & J. Leigh Ltd. (special camouflage paint); Jenson & Nicholson Ltd., and The Indestructible Paint Co. Ltd. (paints); Kendells Stone & Paving Co., and Pollock Brothers Ltd. (plastering and tiling); Gyproc Products Ltd. ("Gyproc" plasterboard); Imperial Chemical Industries Ltd. (plasterboard and "Pioneer" wall finish); Morton Sundour Fabrica Ltd. (curtain materials).

Kitchen installations and equipment

Benham & Sons Ltd., Richard Crittall & Co. Ltd., and Ashwell & Nesbit Ltd. (equipment and installation work); Pressed Steel Co. Ltd., and Refrigeration (B'ham) Ltd. (refrigeration); Jackson Electric Stove Co. Ltd., Peerless Electrical Mfg. Co. Ltd., and Jackson Boilers Ltd. (equipment).

Stage and cinema equipment

Strand Electric & Engineering Co. Ltd. and Kalee Ltd.

A.R.P. equipment and installation work

Staffordshire Steel Construction Co. Ltd. ("Chevron" and "Monk" black-out ventilation units); Vent-Axia Ltd. (Vent-Axia fans); A. Bell & Co. Ltd. (A.R.P. shelter lanterns); Byroms Ltd. (gas-proof curtains); Shutter Contracts Ltd. (black-out shutters).

Roads, cement and concrete reinforcing materials

Dudley Boswell Ltd. and Percy Bilton Ltd. (road construction); Kendells Stone & Paving Co. Ltd. (granolithic paving); Cement Marketing Co. Ltd. and Rugby Portland Cement Co. Ltd. (cement); British Reinforced Concrete Engineering Co. Ltd. and Whitehead Iron & Steel Co. Ltd. (concrete reinforcement).

Asphalte and tar-macadam

Limmer & Trinidad Lake Asphalte Co. Ltd., John Dickenson & Co. Ltd., Excel Asphalte Co. Ltd., Tar Paving & Tar Macadam Co. Ltd., and The Neuchatel Asphalte Co. Ltd.

Refuse destructors

Heenan & Froude Ltd. (steel-cased incinerators).

Cycle parks and parking equipment

Constructors Ltd.

Prefabricated interlocking dormitory huts

John Laing & Sons Ltd.

Roofing and dampcourse by RUBEROID

Ruberoid Roofings, Ruco Ruberoid Roof, Ruberoid Slates, Astos and Pluvex Dampcourses, Zylex Bituminous Slaters' Felt, Zylex Reinforced Slaters' Felt—all have contributed to the enviable name this company bears for products of dependability

THE Ruberoid Co., Ltd., were entrusted with the supplying of Roofing and Dampcourse for these Ministry of Supply hostels. Ruberoid products were chosen because of their reputation for low cost per year of service, reliability under all conditions, and rapidity of application.

THE RUBEROID CO., LTD.,
1, MEADOW MILLS, STONEHOUSE,
GLOUCESTERSHIRE