

BRITISH SCHOOL IN THE LEBANON

THE TEACHING SIDE

Index of Brief

<u>Item</u>	<u>Paragraphs</u>	<u>Pages</u>
A. <u>GENERAL</u>	1 - 7	1 - 3
B. <u>TEACHING ACCOMMODATION</u>		
Hall	8 - 12	3 - 4
Library	13 - 15	4 - 5
VI Form Study Room	16	5
Classrooms	17 - 18	5
Geography Room	19 - 21	6
Music Room	22	6
Division Rooms	23	6 - 7
Science Laboratories	24 - 28	7 - 8
Lecture Theatre	29 - 35	8 - 9
Wood/Metalwork Room	36 - 39	9 - 10
Art and Craft Room	40 - 43	10 - 11
C. <u>ADMINISTRATION AND STAFF ACCOMMODATION</u>		
Administration	44 - 46	11
Staff Room	47	11 - 12
Medical Facilities	48	12
Stock Rooms	49	12
Storage		
(a) Caretaking Materials	50	12
(b) Pupils Equipment	51	12
D. <u>SANITARY AND CLOAKROOM ACCOMMODATION</u>	52 - 54	12 - 13
E. <u>PROVISION OF MEALS</u>	55	13
F. <u>DAY BOYS</u>	56 - 57	13
G. <u>DETAILED PLANNING OF SPECIAL SUBJECT ROOMS</u>	58	14
H. <u>FUTURE EXPANSION</u>	59 - 61	14
- <u>SCHEDULE OF ACCOMMODATION</u>	Appendix A	
- <u>SOME PLANNING POINTS ON LABORATORIES</u>	Appendix B	

THE TEACHING SIDE

A. GENERAL

1. This brief is written on the assumption that it is not proposed to provide much more teaching and ancillary accommodation than would be the case for an equivalent school in England, and that while the buildings will be comely and serviceable in accordance with best British practice, there is to be no attempt for mistaken prestige reasons to make them monumental. The prestige of the school in a very short time will depend upon its conduct and not upon its skyline or roofline as seen from some distant vantage point.

2. The architect's original statement speaks of classes planned for 24 but the size of the rooms provided for these numbers of approximately 500 sq. ft. is standard size in England for 30 pupils. So that without enlarging the areas and for purposes of assessing costs per place we can safely think of the school as a 2-form entry school from 11 to 18, taking in each year 2 forms of 30 pupils each. (They will not of course necessarily for every subject be taught in groups of 30; there will be sub-divisions for different purposes). On the assumption of 60 pupils a year from 11 to 16 and 60 pupils all told staying on beyond this age, some of them to 18, the total numbers in the school will be 360.

3. A Grammar School in England for these numbers would by regulation have to have a teaching area of not less than 16920 sq. ft. In practice it would not be possible under present cost regulations significantly to exceed it. In the schedule of accommodation (Appendix A to this document) some 600 sq. ft. have been added for good measure, for prestige or because the school is largely boarding or for whatever reason may appeal. The small school is at some disadvantage inasmuch as relatively it may require a greater number of specialist rooms than a larger school.

4. It would be foolish to build a school of this kind without having in mind the possibility, indeed the hope, that it will prove sufficiently successful to expand into a three-form entry school, i.e.

a school taking in three forms a year. On this same basis and ratio of VI form pupils to main school this gives a school of 540. If the present trend in England for more pupils to stay longer at school is equally applicable in the Lebanon, the number of 90 staying beyond the age of 16 will steadily increase. For a school of 540 with 90 in the VI form, the teaching area required in England would be 25,380 sq. ft., that is approximately 8,500 more sq. ft. If the VI form rose by another 40 to 130 another 2,000 sq. ft. would be required.

5. If it is thought that expansion of this order is likely it will be desirable to plan the buildings right from the start to allow for this. I am not suggesting that the architects should be asked to plan any extensions now but only to demonstrate by blocked-in areas that such expansion is easy and feasible. In many respects therefore this school for 360 should be looked at as if it was an instalment.

6. It must be evident that the monumental type of planning in large masses is bound to be less adaptable than a series of free-standing buildings loosely knit together by open and informally shaped courts, each of which is capable of expanding according to its own needs. Further it must be remembered, since human beings are subject to the forces of gravity a much closer association between inter-related subjects e.g. the branches of science, can be built up if the rooms concerned are adjacent horizontally rather than vertically. There is plenty of room to group self-contained smaller blocks of buildings around and upon the acropolis which if not so impressive from the distance will provide a much more intimate (and more interesting because it cannot all be seen at once) environment for the inhabitants, with greater possibilities for providing more areas for smaller groups to stand about and converse. One of the disadvantages of boarding schools, if finance rules out the provision of individual study rooms, is lack of privacy and the sense of always being in the mass. This is accentuated if the buildings are concentrated in great blocks and minimised if they are skilfully scattered to make a series of less exposed and more secluded patterns.

7. Those who live a collegiate life soon get used to the idea of going from one place to another in the open. Boys will continually be moving from classrooms and labs. to their houses and back again and the fact that open planning may mean walking across a court to get from history to science is something that can be accepted. If it can be accepted in the English climate presumably it can in the Lebanon. Later on no doubt if it were ever thought desirable covered ways, pergolas and so on can be added. At the start with the possible exception of one or two main links they will be a luxury to be forgone. On balance I believe it is beneficial to the quality of the work if boys have to walk a few yards in the open air between periods.

B. TEACHING ACCOMMODATION

The Hall:

8. The Hall should be planned as a Hall and not as a Hall Gymnasium. It will be available for free-standing exercises but should not be disfigured by wall bars, beams and ropes. Stretching exercises of this sort can be provided by tubular steel apparatus which can be fitted along one of the sides of the hard-paved area outside, e.g. by a slight extension to tennis court area. It should be worth exploring whether if the Foyer to the Hall is of single storey height a couple of classrooms could be put above it which, when the school is enlarged to a 3-form entry could become a gallery. The Hall should be at ground floor level with free access to a terrace and lawn or paved court.

9. A vital requirement of a School Hall is a chair store which is easily accessible. Clever schemes for pushing chairs under stages or raised aisles rarely in practice work. Unless the task of setting out and putting away chairs is reduced to the absolute minimum of effort the Hall will either be left full of chairs and other activities will suffer, or it will always look unseemly with banks of chairs all round the edges. A chair store with wide doors should at some point open directly off the body of the Hall at floor level.

10. The stage should be as flexible as possible and if possible of a depth of 20 ft. from tableau curtains to back wall. It should have ample height, R.S.Js or beams supporting the stage ceiling should be left uncovered to carry suspension gear for lighting equipment and curtain drapes etc. There should not be a narrow proscenium opening; rather the tableau curtains should go virtually the whole way across the stage end of the Hall. Great flexibility can now be obtained by building the stage or part of it in movable blocks.*

11. Storage for scenery is important. Under the stage is not satisfactory unless the ground so drops away that adequate headroom is easily obtained. Storage for portable gymnastic equipment and for games equipment will be essential and an area 28 ft. x 10 ft. is suggested. This would house portable gymnastic, small gymnastic and games apparatus. In a boarding school there is also likely to be plenty of personal games equipment. This will at first have to be kept in the houses though later when the School comes to possess a sports pavilion some of it may be transferred there.

12. Ventilation requires particular attention since the Hall is likely to be used for examinations in the summer.

The Library:

13. This was in the original scheme a smallish room planned to house 5,000 books. This is quite inadequate. Looking to the future there should be room for at least 12,000 books, especially in a boarding school and in one which is bilingual. The revised Library is scheduled at 1200 sq. ft. In the first instance it would be possible to have a partition dividing the room into a Library proper of 800 sq. ft. and an annexe of 400 sq. ft. which could be used either as a teaching room or as an annexe for light fiction and magazines. But 1200 sq. ft. in the long run may well be not enough and one of the classrooms should also be planned adjacent so that eventually there will be no difficulty in extending it to 1700 or 1800 sq. ft. The room should be among the most attractive in the whole building and should be treated with special care.

*I can help here if desired. We are at present pioneering work along these lines in Leicestershire.

The target figure for books should be kept closely in mind, so that the requisite shelving for the books concerned can be fitted satisfactorily into the room. If it is decided to have book-shelving projecting into the room from stanchions, in order to make study bays, a distance of at least 12 ft. should be allowed between these projections.

14. The quality of light must be really good both in the Library and in the VI Form Study Room (paragraph 16). This applies equally of course to the artificial lighting, which at the same time should be of handsome appearance.

15. A librarian's small workroom (say 60 sq. ft.) should be so placed that supervision of the library or libraries is possible.

The VI Form Study Room:

16. This is essential in a school which is going to develop advanced work. It is where, in addition to the Library, pupils in the VI form will do their private study. The lighting, as in the Library, both artificial and natural, must be really good. It can also be used, if necessary, to take larger VI form groups. It can serve out of school hours as a VI form club room. It should not be furnished like an ordinary classroom but should aim to have comfort and dignity. It should be situated in close relationship with the Library. As with the Library, it would be advisable to plan it so that it can later be enlarged, e.g. by the absorption of an adjacent classroom or Division Room.

The Classrooms:

17. These are best sited together but they should be so disposed that a further wing can be added. It is immaterial whether they form a continuous building with the Library complex or not but they should be near it.

18. Economy will probably preclude the provision of a separate store to each classroom but adequate built in cupboards should be provided. Aspect of teaching rooms will be important - the tendency in England to give most rooms a sunny aspect may well be inadvisable in the Lebanon unless protective devices (which presumably cost more) are employed.

Geography Room:

19. Good daylight and artificial lighting conditions are essential; both should be as shadowless as possible. Effective blackout will be required, with due attention to ventilation when in use. At least one sink with draining boards is necessary.

20. A store room is very desirable. If placed at the chalkboard end of the room it will be convenient to arrange for back projection, with a screen behind a removable blackboard.

21. Two large suspending globes will need to be fixed and the ceiling should be strong enough to take these.

The Music Room:

22. It will probably not be feasible at first to set aside a room which will be used exclusively for music. The amount on the time-table may not justify it. Nonetheless, a teaching room equipped with light stackable furniture should be built at the back of the stage or in close relationship with it. This room, isolated from the main teaching blocks will be best placed for such music lessons as take place. It will also be invaluable as an assembling room for dramatic performances, concerts, etc. If two small sets of lavatories and basins are built along with it the needs of a green room will be met. It is essential that this music room/classroom should have good storage room for instruments and music. It should be so designed that two or three small individual practice rooms can be added later.

The Division Rooms:

23. Four Division Rooms are proposed in the revised scheme. They should be planned in pairs divided by a movable sound proof screen which, when pulled or folded back will leave two classrooms of 600 sq. ft. each. When these screens are out of use they should, if possible, fold into recesses. It is important that these rooms, when opened up in this way to their double size, should be considerably longer than they are wide, with windows running along the long side, so that when they are halved to form Division Rooms (which will ultimately be their major use) they are not too awkwardly shaped. The Division Rooms should be associated with the

Library and VI Form Study since they will primarily be required for the smaller VI form groups and the time will come when this section of the school will tend to become rather a senior precinct.

The Science Laboratories:

24. Three of the laboratories might be planned for chemistry, physics and biology respectively and the fourth for general science. The laboratories should be so sited that it will be easy to add on another pair of laboratories. They should be planned in pairs, each pair having an adequate preparation room not less than 300 sq. ft., sandwiched in the middle of each pair, serving both laboratories in the pair. It is advantageous if the chemistry and biology laboratories have centrally situated benches with sinks and drainage. The other two could have centre tables and services which can be moved, i.e., flexible connections for gas and L.V. electricity from concealed points in the floor to the requisite supply points on centre tables. Sinks, both free-standing and within side-benches would be at the side of these rooms. If and when the school is enlarged to 3-form entry, the arrangement desired is likely to be an elementary and advanced laboratory, separated by a preparation room, in each of the three branches. This means that whatever laboratory is in the first phase linked with chemistry will presumably be converted to the second chemistry laboratory; the remaining two will need to be converted to physics (or biology) and the two new ones will be for biology (or physics). This should be borne in mind from the start in regard to planning of lay-out and services.

25. There should be a dark room in the immediate vicinity of physics. This will be available for photography as well as for experiments with light. Ventilation will need attention and black-out must of course be 100%. The room should be painted black.

26. There should also be a balance room adjoining chemistry. This room should be about 20 ft x 10 ft. A built-in shelf of very smooth concrete will be required on both the long sides of the room and must be firm.

27. A science library, probably on semi-permanent loan from the school library, should also be housed in the laboratories. Venetian blinds or some efficient means of affording protection from glare will be essential. It is desirable to have a very small separate store near the laboratories, so that dangerous chemicals can be safely stored.

28. The laboratory block should be planned as compactly as possible on the ground floor - preferably a single storey block. Biology should have easy access to a green house - future if it cannot be included in the initial scheme. The possibility of adding a biology pool later should be kept in mind, and space should be available near at hand for livestock and pets.

29. The Lecture Theatre should have raked or stepped seating and provision for making notes. It is desirable to seat as many people as possible compatible with the provision of adequate gangways and of sufficient space for comfortable lecture-bench seating. This Theatre should seat about 60 people which will make it possible to combine classes. There should be a preparation room behind the demonstration end of the room. Rear projection facilities for film-strips and slides should be provided via a mirror in the preparation room.

30. It is satisfactory if the steps of the Theatre are not more than 6 inches to 8 inches high and 3 feet 2 inches deep, though the steeper the tiering the better the result. The first step should be not less than 4 feet from the Demonstration Bench.

31. At the rear end of the Theatre in the centre there should be a stand for cine projector. Under the stand should be included storage facilities for the projector and a few films. There are a number of suitable alternatives for providing a screen at the chalkboard end of the Theatre.

32. There should be a hidden circuit from the projector to built-in speakers at the front end of the room. There should also be a hidden circuit for a demonstration voltmeter, ammeter and galvanometer. For this, extra good cabling must be used. The large dials would be located above or at the side of the chalkboard.

33. Whether black-out is achieved by blinds or curtains or by omitting windows altogether (this latter course can be very effective in the case of lecture theatres) ventilation needs careful watching. A windowless Theatre might particularly commend itself in a climate like that of the Lebanon.

34. There should be a master switch on the demonstration bench for all the lights except those for the chalkboard. For the lights to the chalkboard there should be a separate switch. If possible there should also be switches for the lights at the back of the Theatre near the stand for the cine projector.

35. This room will be useful not only for science demonstration but for other subjects requiring visual aids, for clubs and societies, for lectures and talks to sections of this school. If appropriate it should be wired for television.

The Wood/Metalwork Room:

36. Some hard paving, possibly covered, is valuable in connection with the Art and Handicraft Rooms for large work like boat building, stage scenery, stone carving, etc. that cannot easily take place in the rooms.

37. The Wood/Metalwork Room should provide space for:

10 dual Woodwork Benches (say 5' x 2'6")

2 Island Metalwork Benches (say 10' x 3')

1 Metal Lathe (later one or two more may be required)

1 Drilling Machine

1 Grinder/Polisher

1 Brazing Hearth

1 Wood Lathe

Ten woodwork benches provide for a class of 20; if smaller classes are expected the number can be reduced. Though not ideal these benches can be fitted with moveable flat tops so that Technical Drawing or written work can be done in the room, if it is essential for its full use.

38. A storage space for timber and metal should be provided, not less than 18 feet in length to allow for long pieces of material. Something like 20 feet of built-in cupboards would also be most valuable for storage of tools and work in progress. These should be 8 feet high with 2 shelves up to 3 feet and fitted with sliding doors. The rear door of each pair should be of chalkboard and the front one of pin board for display.

39. Cill height of windows should not be below bench height. Good lighting and ventilation are essential. The floor of the workroom should be of wood block but the store can be of grano. A sink with hot and cold water must be provided.

The Art and Craft Room:

40. This should be in close association with the wood/metalwork room. It should be so planned that a second art and craft room can be added later. It should face in a preponderantly northern direction. If and when a second room is added one of the two will presumably be primarily concerned with the more messy crafts, the other with the cleaner ones. From the start there should be some provision for work with clay, and this can be concentrated at one end of the room, preferably where a quarry floor with gulleys for easy washing down will be laid. Cost may preclude at the start the provision of a kiln but this is certain to be required before long in an adjoining room of about 80 sq. ft. Another small room for glazing adjacent to the kiln room would be desirable at the same time. There should be a sink at either end of the room and any sink associated with clay work must have a clay trap.

41. There should be a separate store room and in addition wall benches with cupboards underneath should provide further storage.

42. It is important that art and craft rooms should have as much display space as possible, e.g. by restricting fenestration on all but the northernmost wall to the minimum. Roof lights may help to achieve this. Display facilities should be provided for three dimensional work as well as two. One or two display cabinets in carefully selected positions in the school as a whole would provide

an additional stimulus. Similarly specially prepared fine plaster surfaces for mural paintings by the boys not only in the art and craft room but in other suitable places - e.g. the dining rooms - should be considered.

43. It would be an advantage if there was some hard paving in the immediate vicinity of the art and craft room.

C. ADMINISTRATION AND STAFF ACCOMMODATION

Administration

44. There should be an administrative centre on similar lines to that included in the original scheme, i.e. providing for

The Headmaster
The Deputy Headmaster (Lebanese)
The Deputy Headmaster (British)
The Bursar
Secretarial and Clerical Services
A small waiting room and small room for the use of inspectors.
Lavatories for both sexes.

45. The Deputy Headmaster (Lebanese) should have a room of similar proportion to that of the Headmaster. He would be responsible for the Lebanese records and returns and will require adequate secretarial assistance. The Deputy Headmaster (British) will not require more than a very small study room.

46. The Administrative section should be so placed that it is easily accessible to visitors without passing through any of the teaching rooms. At the same time if possible the Head's room should have a good view of the surrounding area and the Head should have a means of egress which will not bring him face to face with an unwelcome visitor.

The Staffroom:

47. This should for preference be in the library VI form study room area of the school. There should be a main space for talk and a contiguous smaller space for marking and quiet study. If gowns are to be worn there should be a lobby where they can be hung. It will be desirable to provide a small separate annexe or curtained recess with a sink and stove where hot drinks can be made. A small

changing room with a shower should be included for the P.E. master and also for members of staff not living on the campus who may wish to participate in games. The staff lavatories should be in the immediate vicinity - for both sexes since there will almost certainly be some women members of staff. The womens lavatory should have a small space with seat and mirror for makeup.

Medical Facilities:

48. It is assumed that medical facilities will be provided in the houses rather than in the teaching block, or in a specially designed sanatorium or sick bay.

Stock Rooms

49. A store will be needed for central stock and this should be easy to get at from the administrative wing and from the hub of the school. The size of this store will inevitably depend on the position regarding the issuing of text-books. 6' x 20' is likely to be a suitable minimum size, but, if the space has to serve for the issuing of text-books purchased by individual pupils, then a much larger area, with room for some administrative work to be undertaken, is certain to be required.

There will probably need to be a separate stock-room for arabic texts.

Storage of Caretaking and Cleaning Materials:

50. Adequate space must be provided for the Caretaker and for the cleaning utensils and materials that are likely to be under his control. He should be provided with a sink of his own and means of drawing water for buckets without having to lift them up.

Storage of Pupils Equipment:

51. It is presumed pupils will keep their work books as well as personal belongings in their houses.

D. SANITARY AND CLOAKROOM ACCOMMODATION

52. The number of sanitary fittings (urinals and W.C.s) for a school of 360 boys in England would be 24. Of these probably two thirds would be urinals and one third W.C.s. In calculating urinals each 2' length is taken as the equivalent of one fitting.

53. The number in the teaching area of a boarding school with the boarding houses close at hand need not be as great. The boys will come straight to school from their houses and will, for various reasons, be frequently going back there. Probably 12 urinals and 6 W.C.s would be sufficient. They should be distributed among the teaching blocks but a rather large number should be in the vicinity of the hall available to the visitors at public functions. The lavatory accommodation serving the hall should be in two blocks one of which can be allocated to women visitors on special occasions.

54. Washing facilities should also be provided on the ratio of one wash basin for each sanitary fitting and these should be provided in the sanitary blocks. Cloakroom accommodation, to the extent that it may be necessary, should be sited adjacent to the sanitary block, or as near as possible.

E. PROVISION OF MEALS

55. These should be linked with the boarding arrangements and will be found under that section.

F. DAY BOYS

56. It may be found that cost limits will force a limitation in first instance on the number of boarders. If this is so the school may have to start off with more day boys than is ultimately intended until finance is available by gifts or otherwise to build more boarding houses.

57. So long as the day boy element is not too large it is a matter for consideration whether they should have separate premises of their own and constitute for competitive purposes a separate house or houses, or whether they should be divided among the boarders houses. The second alternative has two advantages (i) the provision of separate accommodation for them is avoided and the cost of it saved. This may be essential at the start if economies are required. (ii) It helps to mitigate the inevitable situation in a school mainly boarding of the boarders looking upon the day boys as a lower form of life.

G. DETAILED PLANNING OF SPECIAL SUBJECT ROOMS

58. At a later stage if I could be of any help with the detailed layout of the various labs, practical and special subject rooms I should be happy to get the comments of our various specialist advisers.

H. FUTURE EXPANSION

59. Although it is assumed that the school may expand to 540 or more it would be premature to try to fix now a firm schedule of accommodation to meet that eventuality. None the less it is important to set out the main considerations which should not be lost sight of in the first phase.

60. It is pretty certain that an expansion of this order would entail:

- (1) More classrooms (probably not less than 4)
- (2) More division rooms (probably not less than 2)
- (3) More science laboratories (not less than 2) and possibly a maths laboratory.
- (4) Possibly a second lecture theatre
- (5) One additional handicraft room and/or one additional art and craft room
- (6) A gymnasium

61. These including a traditional gymnasium could scarcely all be provided within the normal costs which would be applicable to an additional teaching area of 8500 square feet (see paragraph 4). In this event if extra money cannot be obtained some selection will have to be made. At this stage it would be absurd to try to determine what the priorities should be and what should be eliminated. If, however, the gymnasium were to be of an open air type it might well be possible to make all the above additions within the normal cost of providing 8500 sq. ft. of traditional teaching area. (Much experience is being gained at present in Leicestershire in the use of open air gymnasia and this could be put at the Governors disposal). At this stage it would be prudent so to plan the building that all these additions can conveniently be made without substantially replanning the school

BRITISH SCHOOL IN THE LEBANONSuggested Schedule of Teaching Accommodation

2 F.E. + 60 VI Form Instalment of 3 F.E. Grammar
School + 90 VI Form.

Group	Teaching Space	No. of Spaces	Area of each space sq. ft.	Total teaching area of each group sq. ft.	Remarks
A	HALL	1	2,800	2,800	Excludes Stage Area
B	LIBRARY	1	1,200	1,200	
C	GENERAL CLASSROOMS	1	700	7,050	VI Form Study
		1	600		
		6	500		
		1	800		
		1	750		
D	PRACTICAL ROOMS	4	Science Laboratories	950	6,550
			Lecture Theatre	800	
			Wood/Metal	1,000	
			Art & Craft	950	
TOTAL				17,600	

Some Planning Points on Laboratories

The following general points of planning may be useful:-

- (1) Biology Laboratories should have mainly north light.
- (2) Generally Laboratories can have windows on the two long sides of the room but the windows on one side should be at a high level so as to give increased wall-space, to a height of say 7 ft.
- (3) Stanchions which may interfere with continuous 'runs' of side benches should so far as possible be avoided.
- (4) Services should be capable of being easily opened up.
- (5) Steps must be taken to avoid the clogging of waste pipes from sinks and, in the case of the chemistry labs. to avoid damage of waste pipes by corrosives etc.
- (6) Effective black-out will be needed in the Lecture Theatre, Physics Laboratories, the General Science Laboratory and the (Elementary) Biology Laboratory. The other labs. need not be blacked-out.
- (7) All mains electric points must have safety sockets. (This should apply throughout the school).
- (8) Control switches for mains electricity and stop-cocks for gas and water should be conveniently placed in each laboratory (i.e. not far from the Demonstration Bench). In the case of the Lecture Theatre they might be near at hand in the relevant Prep Room.
- (9) Non-ferrous plumbing is essential for Physics. For Chemistry plumbing etc. should be used that is impervious to chemical action.
- (10) In Physics Labs. a Mechanics Beam is required and can be situated over the gangway between the demonstration bench and the front 'row' of centre benching. Since the beam can be at near ceiling height it may help to leave an exposed girder.
- (11) Vertical sliding chalkboards are best for Laboratory use. If these prove too expensive consideration should be given to having a vertical sliding board in the Lecture Theatre only. Generally speaking glare to chalkboards (throughout the school) will be reduced if the boards are slightly tilted.

- (12) Lighting to all chalkboards requires careful watching, but this applies particularly to all those in the Science Department.
- (13) A fume cupboard will be needed in the Science Lecture Theatre, in the Elementary Chemistry Laboratory and in the General Science Laboratory, whilst three fume cupboards should be supplied for Advanced Chemistry. All these cupboards should, if possible, have extractor fans.

The fume cupboard for the Lecture Theatre can be to one side of the chalkboard and there should be access to the cupboard both from the Prep Room and from the Theatre itself. The fume cupboards for the Elementary Chemistry Labs. and for the General Science Lab. and one of the three for the Advanced Chemistry Lab. should be reasonably near the chalkboard, at a point of easy access to an external wall.

The remaining two fume cupboards for advanced Chemistry can be situated anywhere convenient at the opposite end of the room. It is economical to put these two cupboards together making one extractor fan of slightly increased power serve the two cupboards. Chemistry Prep Room should, if possible, be served in the same way as the Lecture Theatre Prep Room.

- (14) A high pressure water supply should be available in the Advanced Chemistry Laboratory.
- (15) Particularly in Chemistry Labs. paint should be used which is impervious to chemical action and floors and furniture must, so far as possible, possess a similar immunity.

BRITISH SCHOOL IN THE LEBANON

GENERAL NOTES

1. The briefs on the teaching and residential sides assume that the main services are reasonably accessible and make no provision in the costing for abnormalities in these respects. It is not known for example whether a sewage disposal plant will have to be provided for the site as a whole, or a generating plant to supply electricity, or a pumping station for water.
2. The question of air-conditioning is one which will generally affect all buildings. No exceptional provision has been made for air-conditioning. The costs do, however, provide for the circulating of air by means of forced flow units.
3. No additional cost has been allowed for weight-bearing roofs, which tend to be more expensive than the roof provided solely for the purpose of protecting the building. It is assumed that with the extensive nature of the site there is no need to go to the additional expense of providing weight-bearing roofs, unless there is some special purpose, e.g. laundry, for which such a roof is necessary.
4. The costing is based on the provision of straightforward buildings. Nothing has been allowed for fancy materials or expensive ornaments.
5. The building and furnishing to current standards and at current prices in the United Kingdom taken together exceed the target of £400,000. A very important factor must be the relationship between building and furnishing costs in the United Kingdom and Lebanon. While a number of items will have to be imported it may be that local materials can be worked more cheaply. Whether to proceed on the basis of these briefs, or to modify them for better or for worse, or to defer the scheme altogether for the time being will no doubt depend to a great extent on an analysis of comparative building and furnishing costs in the two countries.

COSTING

6. A statement showing the "Assessment of Costs" of the various sections of the project is attached as Appendix "I" to this document. A summary of these costs is given at the end of the appendix. The following paragraphs

explain more fully, where it is considered necessary, the basis of assessment of some of the costs.

School Building - Calculation of Nett Cost

7. The calculation of the nett cost of the school building has been assessed on the Ministry of Education formula for secondary schools. The Ministry takes into account in the first place the number of school places to be provided and assesses a cost for each place. The Ministry recognises that it is more expensive per pupil to build small schools than the larger schools and it is therefore necessary that some weighting be given in the case of smaller schools. To achieve this the Ministry increases the number of places for the smaller schools on a sliding scale, although the cost per place remains fixed at £290. The number of places used for costing purposes are known as 'cost places'. For a 2 form entry Grammar School with a Vith form of 60 pupils (360 pupils) the Ministry allows a total of 425 places as such a school is considered to be a small secondary school. It will be noted, in the calculation of cost shown in Appendix I that 425 'cost places' have been used. It will also be noted that in the calculation of furniture costs (Appendix II) the same number of 'cost places' has been used, as for the teaching side of the school, the Ministry's method of calculation of the cost of furniture and equipment (until a recent relaxation of controls) being £33 per cost place.

8. The Ministry's formula for calculating the cost of new schools includes the cost of providing kitchen and dining facilities. In this exercise this element of cost has been left under the assessment of the school building, although it is proposed to provide the kitchen and dining facilities in connection with the boarding houses. An appropriate deduction has, however, been shown against the boarding house costs as this money will be available from the teaching building side.

9. It has been assumed that cloakroom facilities would be virtually eliminated on the teaching side of the school in view of the provision made in the boarding houses and, in addition, the omission also of the Medical Inspection Room would reduce the nett cost. No deduction has been made for this purpose as there is need to provide additional office accommodation

in the school for the Bursar and Records Staff and the fact that the Architect needs to plan his buildings so that they are easily capable of expansion to three form entry may result in a small measure of additional cost.

Boarding Houses

10. The possibility of reducing the estimated cost of the boarding accommodation by the omission of the Assistant Housemaster's accommodation and also that for the Assistant House Matron is set out in parenthesis on page 2 of the Appendix I, where the total cost of the boarding accommodation has been recalculated to allow for these omissions.

FURNITURE AND EQUIPMENT

11. A schedule of 'Furniture and Equipment Costs' is attached as Appendix II to this document. Lists of the individual items covered by the estimated costs are attached to the appendix.

School Building

12. The cost of furniture and equipment, as mentioned in paragraph 7 above, has been based on the number of cost places permitted by the Ministry of Education for the size of the school and calculated at the cost per place for furniture and equipment of £33. It will be noted from the schedule of furniture and equipment costs (Appendix II) that a deduction has been made to the extent of £5 per cost place in respect of built-in furniture which it is customary in this country to meet out of the nett cost of the school building.

Boarding Accommodation

13. The figure of £8,515, shown as the cost of furniture and furnishing for the boarders (Appendix II) does not include any sum for double-tier beds and storage units. These should be found either from the nett cost of building the boarding houses, an element having been allowed for this in the cost per square foot, or as built-in furniture. The built-in unit and bunks are estimated at £19. 10. Od. per boarding pupil if manufactured by a furniture contractor and the Authority's experience in providing built-in furniture in Training College Hostels confirms that it should be possible for the building costs to cover this expenditure. It will probably be

cheaper if the built-in furniture is made by the builder's joiners during the course of erection, but in assessing this unit we have priced for their manufacture by a furniture contractor and our costs would probably be reduced if the builder himself provided them.

14. On the notes attached to Appendix II, the savings which would result from the omissions referred to in paragraph 10 above are shown, together with some other minor savings which could be achieved should the Governors so desire.

BRITISH SCHOOL IN THE LEBANONAssessment of Costs

	£	£
1. <u>Site:</u> Purchase of Site		68,000
2. <u>School:</u>		
(i) <u>Net Cost</u>		
Ministry of Education formula for 2 F.E. Grammar School with 60 Vith form pupils. 425 cost places at £290 per cost place		
Net cost = £123,250 - say	123,000	
(For explanation of cost places -see paragraph 7 of General Notes.)		
(ii) Site Works (10% of net cost) approx.	12,000	
(iii) Gross Cost	135,000	
(iv) Architects' fees, 6% of Gross Cost (iii)	8,100	
(v) Q.S. fees and printing (taken at 4% of gross cost (iii) to cover also possible Consultants' fees)	5,400	
Total cost of School building	<hr/>	148,500
3. <u>Boarding Accommodation:</u>		
(i) <u>Net Cost</u>		
Total area of boarding houses, less Housemaster, School Matron and Kitchens (42,400 sq.ft. - 9,600 sq.ft.) = 32,800 sq.ft. at £3. 5. Od. per sq. ft. (mid-point of Ministry of Education costs for Training College Hostels Circular 6/60) =		106,600
4 Housemasters' Residences (Ministry of Education Allowance for Head Teacher's House) @ £3,500 + £300 for study =		15,200
1 School Matron's accommodation (based on £3. 5. Od. per sq. ft. approx.)		2,000
2 Kitchens of 1700 sq.ft. each (based on £4 per sq.ft. being Authority's experience of actual cost of building Kitchens)		13,600
Extra cost on 4 dining rooms - additional height at £300 per room		1,200
Boiler House (estimated)		8,000
Additional cost for building on stilts estimated at £2,000 per house		8,000
		<hr/>
Total	=	154,600
	(C/fwd)	

	£	£
B/Fwd	154,600	
Deduct proportion of cost of Kitchen included in costing of School building (see paragraph 8 of General Notes)	9,000	
	<hr/>	
Total net cost	145,600	
(ii) Site Works (10% of net cost (i))	14,560	
	<hr/>	
(iii) Gross Cost	160,160	
(iv) Architects' fees (6% on Gross Cost (iii)) approximately	9,600	
(v) Quantity Surveyors' fees and printing (taken at 4% to cover also possible Consultant's fees)	6,400	
	<hr/>	
Total cost of Boarding Accommodation		176,160

(If it is decided to omit the Second Assistant Housemaster and the Assistant Matron in each boarding house, the total cost of boarding house provision would be as follows:-

Total Net Cost.....	£140,000
Site Works	£14,000
Gross Cost	£154,000
Architects' fees etc.	£9,240
Q.S. fees etc.	£6,160
Total Cost	<u>£169,400</u>

4. Bursar's House:

Ministry of Education's allowance for Head Teacher's House (1300 sq. ft.)	3,500	
Architects' fees	210	
Quantity Surveyors' fees (2½%)	<u>90</u>	
Total Cost		3,800

SUMMARY OF COSTS

A. Site	£68,000
B. School Building	£148,500
C. Boarding Accommodation.....	£176,160
D. Bursar's House	£3,800
E. Furniture & Apparatus	£38,677
(see separate schedule)	
	<hr/>
	<u>£435,137</u>

BRITISH SCHOOL IN THE LEBANONFurniture and Equipment CostsCalculated on Current Prices in Britain

<u>School</u>	£	£
425 cost places at £33 per place being Ministry of Education Circular 304 Standard (See para. 12 of General Notes)	14,025	
Less		
(i) Reduction as no fixed gymnasium apparatus is being provided	500	
(ii) Allowance on the assumption that built- in furniture to the extent of £5. per cost place will be found from nett building cost in accordance with Ministry of Education Circular 304, i.e. 425 x £5 =	2,125	
	<u>2,625</u>	11,400

(Note: It is estimated that the cost of furnishing the additional 600 sq.ft. for additional office accommodation to serve the needs of both school and boarding house would be met from monies which would normally be required for cloakroom fittings and medical inspection rooms not provided in the teaching side of the school - see also para. 9 of General Notes.)

Boarding Houses (4)

Furniture, furnishings etc. for study/bedrooms for 272 boys (see para. 13 of General Notes)	8,515	
4 Housemasters' Residences	3,919	
8 Assistant Housemasters' Flats	1,452	
1 School Matron and 8 House Matrons	1,471	
8 Maids' rooms	840	
House Matron Sewing/Work Room and Dispensary	530	
Day Boys' Common Rooms	750	
Senior Boys' Study Rooms	550	
Sick Rooms	610	
School Matron's Sick Bay	300	
Laundering equipment	400	
Fire fighting equipment	90	19,427
Heavy Canteen Equipment for 400 places	5,538	
Light Canteen Equipment for 400 places within Ministry Standards	1,872	
Dining Room Furniture for 400 places within Ministry Standards (including provision for staff and visitors) plus kitchen and domestic staff.	1,140	
	<u>8,550</u>	
Less reduction of 65% on cold room equipment normally provided from building bill	700	7,850
		<u>£38,677</u>

**UNITS INCLUDED IN COSTINGS OF FURNITURE FOR ACCOMMODATION FOR
HOUSEMASTERS, ASSISTANT HOUSEMASTERS, SCHOOL MATRON, HOUSE MATRONS, ASSISTANT HOUSE MATRONS AND MAIDS:-**

	Divans with Mattresses	Wardrobes	Chests of Drawers	Dressing Table and Stool	Occasional Chairs	Bedside Cabinets	Sets of blankets and pillows	Curtains and Carpets or Rugs	Dining Table and 4 Chairs	Sideboard	Fire-side Chairs	Occasional Tables	Bookshelf Units	Writing Desk and Armchair	Sink Unit	Cooker/ Cooking Unit	Kitchen Dresser Unit	Kitchen Table and Chairs	Refrigerator	
4 Housemasters' Residences each having:-																				
2 Double bedrooms each having:-	2	2	1	1	2	2	2	✓												
1 Single bedroom	1	1	1	1	1	1	1	✓												
1 Sitting/Dining room								✓	1	1	5	1	2	1						
1 Kitchen															1	1	1	1	1	1
8 Assistant Housemasters' Apartments each having:-																				
1 Single bedroom	1	1	1			1	1*	✓												
1 Study/Sitting room					1			✓					1	1		1				
9 Rooms for Matron, 4 House Matrons and 4 Assistant House Matrons, each having:-	1	1	1	1	1	1	1*	✓												
8 Maids' Bed/Sitting Rooms each having:-	1	1	1	1	1	1	1*	✓				1								

‡ Combined Unit

* Including sheets, pillow cases and towels

UNITS INCLUDED IN COSTINGS OF FURNITURE FOR:-

(a) Matron's Sewing/Work Rooms
and Dispensary (4)

1 Electric sewing machine
1 work table
1 table
1 chair
1 stock cupboard
1 low cupboard
1 armchair
Electric irons, iron boards
miscellaneous items, etc.

(b) Day Boys' Common Rooms (4)

15 chairs (tubular steel)
5 occasional chairs
3 easy chairs
2 occasional tables
2 teachers' tables
2 book shelves
1 low cupboard
23 lockers
Curtains

(c) Senior Boys' Study Rooms (4)

1 writing table 10'
4 occasional chairs
4 easy chairs
4 arm chairs
1 occasional table
4 wall lamps
Curtains
Carpet

(d) Sick Rooms (4) and Sick Bays
(School Matron) (2)

2 beds and mattresses
1 wardrobe
1 table
2 bedside cabinets
1 armchair
1 nest of book shelves
2 occasional chairs
2 sets bed linen and blankets
2 rugs
Curtains

NOTES ON APPENDIX II

1. Rugs

If rugs were to be omitted from the dormitory furnishings an overall reduction of £412 could be made.

2. Curtains

If louvred shutters were to be provided from the building bill, it may not be necessary to provide curtains in dormitories, in which case there would be a possible saving of £844.

3. Blankets

If blankets were not to be provided for boys' dormitories, there could be a saving of £1,632.

4. Second Assistant Housemasters and Assistant House Matrons

If it is decided to omit the second Assistant Housemaster and Assistant House Matron and the provision for the first Assistant Housemaster reduced to that required for a bachelor, the cost of furnishing would be £1,300 less.