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# SOUTH AFRICAN ARCHITECTURAL RECORD

*THE JOURNAL OF THE CAPE, NATAL, ORANGE FREE STATE AND TRANSVAAL PROVINCIAL INSTITUTES OF SOUTH AFRICAN ARCHITECTS AND THE CHAPTER OF SOUTH AFRICAN QUANTITY SURVEYORS*

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EDITOR
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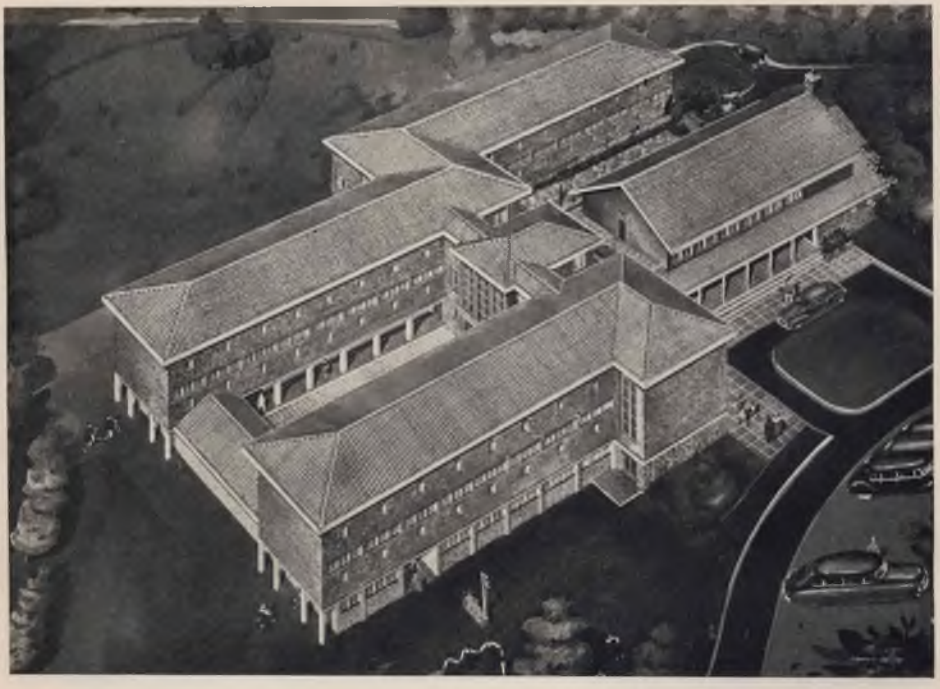
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VOLUME 35

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Perspective Drawing of the First Premiated Design.

Kantorowich, Hope and Barnett, Architects.

# ARCHITECTURAL COMPETITION FOR THE NEW HIGH SCHOOL AT HARRISMITH, ORANGE FREE STATE

The welcome decision to make the design of the new High School at Harrismith the subject of an architectural competition was largely due to the absence of an Architectural Department in the Provincial Administration, and the fact that the Public Works Department is responsible for the provincial building programme. As a result, the architectural authority in the Public Works Department, conscious of the advantages of the competition system in extending as widely as possible the range of architectural skill which can be brought to bear on a problem, recommended to the Provincial Authorities that the school be put out to competition. It is to be hoped, that with the successful outcome in this instance, that other projects which the rapid developments in that Province will make necessary, may form the subject of further competitions.

The competition was open to all architects registered in the Union. It was organised initially by the Public Works Department on behalf of the Provincial Administration. The assessors were Professor D. P. Britz, B.A., B.Ed., Director of Education, of Bloemfontein, Mr. W. D. Howie, A.R.I.B.A., M.I.A., of Johannesburg and Mr. R. T. Spottiswoode, M.I.A., of Pretoria. The four premiated awards were respectively £400, £250, £150 and £100.

The congratulations of the profession are due to the winners, Messrs. Kantorowich, Hope and Barnett of Cape Town, and to Messrs. Marris and Downie of Cape Town, Messrs. Visser and Friel of Bloemfontein and Mr. L.

Lasersohn of Johannesburg, who were placed respectively second, third and fourth.

**THE PROBLEM**

Candidates were required to design a school within a total cost of £100,000, the portion to be built immediately amounting to £70,000. The scheme was to be so designed that the latter portion would be complete and architecturally effective in itself while permitting the subsequent additions to be made without structural alterations or serious interference with the routine of the school.

In broad outline the accommodation required was as follows:

1. ADMINISTRATION

Principal's and secretary's offices and stores, staff room and lavatories, tea kitchen.

2. TEACHING

Seven classrooms, a bookkeeping and a typewriting classroom, two combined science laboratory and lecture room units.

3. GENERAL

i) Library and reading room.
ii) Assembly Hall with stage, dressing rooms, and projection room.
iii) Boys and girls lavatories and cloakrooms.
iv) Bicycle shelter, boiler room, stores and natives' quarters.

A swimming bath with change rooms for 30 boys and 30 girls was required as a separate entity.

The site is on a slight eminence to the east of Harrismith town, with good views to the north, east and west, and a considerable fall in the latter direction. The promoters required the teaching accommodation to be orientated slightly east of north on account of the severe winter conditions.

The following are extracts from the reports of the assessors and the authors.

The Assessors collected 95 packages from the offices of the Secretary for Public Works, Vermeulen Street, Pretoria, all of which had been received within the stipulated time limit.

A preliminary examination of the designs submitted resulted in the disqualification of 16 competitors for the following reasons:-

Designs Nos. 10 and 84 each failed to include a Report and Estimate of Cost available to the Assessors. (Clause 13).

Designs Nos. 14, 45, 66, 68 and 69 were submitted in the form of prints of original drawings (Clause 25).

Designs Nos. 21 and 22 failed to comply with the requirements of the Promotors. [Clause 27 (b) ].

Design No. 26 was submitted in alternative forms under one application. (Clause 13).

Designs Nos. 35, 42 and 85 comprised drawings executed either wholly or in greater part in pencil. (Clause 25).

Design No. 48 included a Report to which was attached a letter which disclosed his name. [Clause 12 (f) ].

Design No. 94 was submitted in the form of unmounted drawings.

Design No. 95 was submitted in the form of incomplete drawings.

It was clear at the outset of this Competition that the resolution of required orientation of the greater part of the scheme and the nature of the contours of the site would constitute a major problem in the design of the school building. Furthermore, with the high ground at the North-East corner and the majority of pupils arriving at the site by way of Greyling Street, the arrangement of the access to the building would be an important factor in the design. The Assessors felt that competitors, while reconciling the difficulties mentioned above, had to keep in mind the views of the school buildings, or the main approach, particularly as seen down Mauritz Street, as well as so disposing the buildings that they took advantage of the most favourable position on the site and that the future provision of swimming bath, tennis courts and net ball field was well integrated with the main buildings.

The arrangement of the provisions for future extensions to the initial scheme constituted a further planning problem which few competitors have succeeded in solving in a completely satisfactory manner. Many schemes incorporated the well-tried expedient of filling in classrooms under the completed superstructure, others planned to confine these extensions to a separate wing, thereby, in each case, facilitating the work entailed, and correctly interpreting the intentions of the Conditions.

After a thorough and protracted examination of the remaining designs submitted the Assessors selected designs Nos. 6, 29, 30, 31, 37, 44, 52, 55, 57, 62, 63, 82 and 88 for further consideration.

Following a further detailed study of the schemes the Assessors unanimously decided to make their Award as follows:-

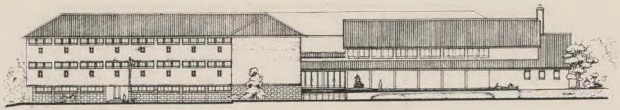
| | | | |
|---|---|---|---|
| First | Premiated | Design .... .... .... | Design No. 55 |
| Second | ,, | ,, .... .... .... | Design No. 63 |
| Third | ,, | ,, .... .... .... | Design No. 31 |
| Fourth | ,, | ,, .... .... .... | Design No. 82 |

**FIRST PREMIATED DESIGN — DESIGN No. 55**

The author of this scheme has succeeded in providing a compact design without lengthy circulations. The access to the building for the pupils has been well thought out and



WEST ELEVATION



SOUTH ELEVATION



SECTION A-A



SECTION B-B



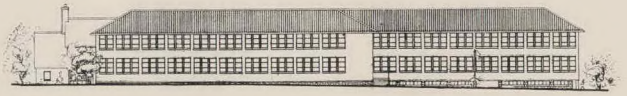
SECTION C-C



SECTION D-D



SECTION E-E



NORTH ELEVATION



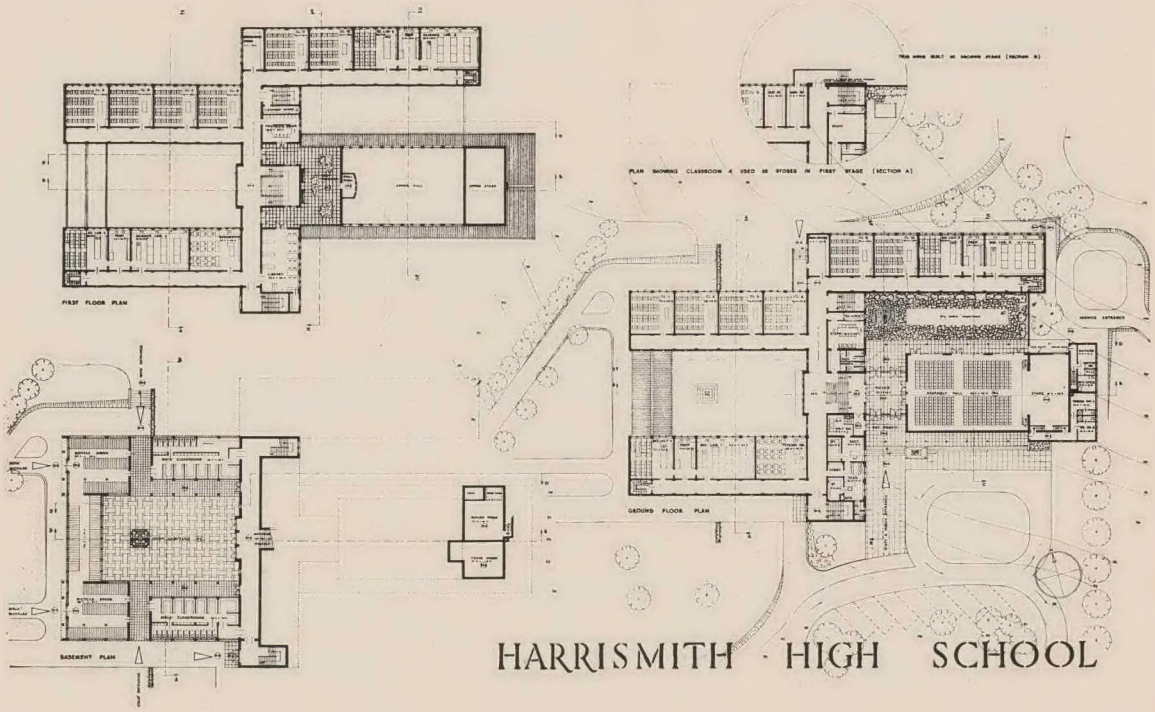
EAST ELEVATION

# HARRISMITH HIGH SCHOOL

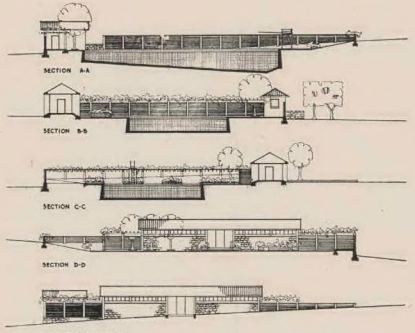
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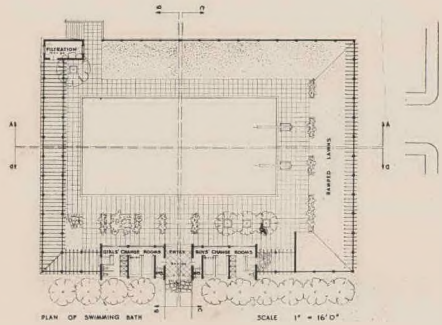
**First Premiated Design.**

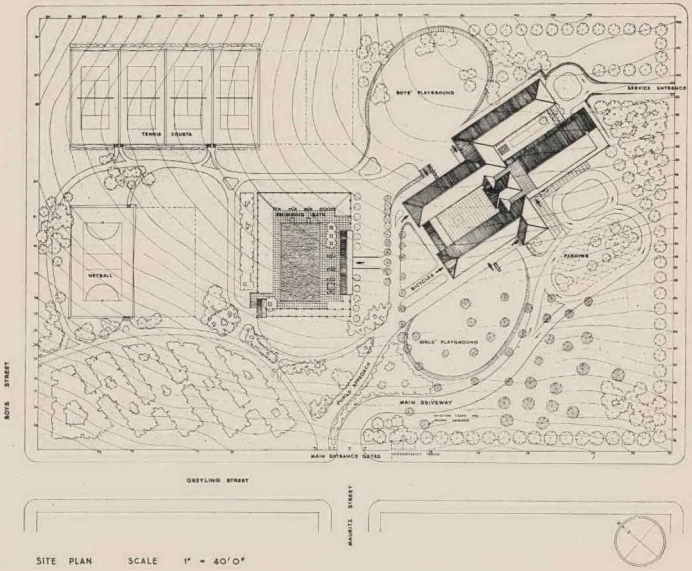
**Kantorowich, Hope and Barnett, Cape Town.**




# HARRISMITH HIGH SCHOOL




# HARRISMITH HIGH SCHOOL

**First Premiated Design.**

circulation within the building well arranged. The daily movement of pupils to and from the Hall, to the playgrounds and to the Cloakrooms is very satisfactory. The Hall lends itself to use for prize-giving and speech-day functions, and the opening of the Hall onto the formal terrace would extend its use on such occasions.

The public or parents visiting the school are catered for separately and do not require to enter the body of the school.

The arrangement of future extensions is well planned.

The generally competent planning of this project is supplemented by a sound character in the elevational treatment, which renders the building pleasing from all aspects. The Assessors feel that this scheme will be a positive architectural asset to the town of Harrismith.

The impression gained was that the project would be a costly one to construct, and the Assessors, after careful examination, have satisfied themselves that it could be completed within the 10% limit of cost allowed.

In respect of Design No. 55 the Assessors recommend that:-

1. The arrangement of the Principal's office, store and lobby be improved to admit of more satisfactory furnishing of the office and lighting to the lobby.
2. The arrangement of the Staff common room and lavatories be improved to provide better access to the Staff common room and adequate privacy to the entrances of the two lavatory units.
3. The ceilings to classrooms and corridors be not sprayed with "Limpet" asbestos, but finished with plaster.
4. The terrazzo paving suggested in the Courtyard be replaced with concrete paving slabs.
5. The orientation of the tennis courts and netball field be improved.

---

**FIRST PREMIATED DESIGN: Author's Report**

A. PLANNING

*Site:* The buildings have been placed high up in the East corner of the site. Here, the best views are commanded, and it is noteworthy that, although the buildings lie on a southerly slope, none of the classrooms is at a lower level than the surrounding terrain over which it looks. The buildings mass up effectively from the town approach from the West, the rise in the site up to the entrances enhancing and dramatising the structure.

Great care has been taken to make use of the existing avenue of fir trees to protect the buildings from the blast of the West wind. Of the existing gum trees as indicated on the site plan supplied, only one has to be felled.

The necessarily skew angle of the buildings to the site boundaries has been resolved by careful attention to the site planning of trees, playgrounds, swimming bath and approach paths.

*Gates:* The main gates enter the school grounds opposite Mauritz Street. The main approach swings away to the East to a parking area enclosed in a roundabout, and turns back on a second circle to deliver passengers at the Main Entrance. The main approach thus progressively unfolds the building composition in a three-dimensional way, and terminates at the very heart of the scheme, facing the Entrance Porch.

The pupils' approach leads directly to the boys' and girls' playgrounds, and to the bicycle sheds, swimming baths, and sports grounds.

*Buildings in General:* The buildings form a very compact group. This was considered highly desirable to withstand the severe climatic conditions in Harrismith. Such a building also makes for ease of control and for a reduction of circulations to a minimum length. The ground floor levels of the various wings conform closely to the natural slope of the ground, and advantage is taken of what fall there is to house the cloakrooms and bicycle sheds at a lower ground floor level. The minimum of excavation and of high foundation walls is thus required.

The form of the building group is partly symmetrical and partly asymmetrical. The symmetry is exhibited from the West or pupils' approach, and is expressive of the dual approaches for boys and girls. The Southern elevation presents an asymmetrical appearance expressive of the single direction of the Main Approach.

*Main Approach:* A covered way along the South of the Assembly Hall leads to the Entrance Porch which is protected by the North-South wing from the West wind. When the Assembly Hall is being used, entry to the school will be through the Main Foyer. On other occasions, visitors will enter a Waiting Room off the Entrance Porch before being received by the Headmaster via his secretarial control.

*Pupils' Approach:* The Bicycle Sheds form a screen to the Lower Courtyard, into which the main approaches for the pupils lead. The Bicycle Sheds stretch from one wing to the other and can be partitioned at any intermediate point, if necessary, in proportion to the number of bicycles owned by boys and girls.

From the Bicycle Sheds, and from each playground, gates lead to the Lower Courtyard, which can be used as an assembly space. Pupils can then march up the ceremonial Main Staircase, through the Main Foyer, to the Assembly Hall.

Covered ways surround the Lower Courtyard on three sides and lead to the Cloakrooms and Lavatories, which are planned in close relationship to the playgrounds. These

facilities are used mostly at recess periods, and pupils can clean themselves up before entering the school circulation proper.

Two subsidiary staircases, leading each to subsidiary entrances from each playground, are provided at strategic points in addition to the Main Staircase.

It is a special feature of the scheme that, although all approaches are from the West, all are well protected from the direct blast of the West wind.

*Headmaster and Staff Common Room:* The Headmaster's Office and Staff Common Room are planned in a North-South wing on either side of the Main Staircase. They are therefore centrally placed to all the classrooms and to the main circulations.

The Headmaster's Office is approached in two ways: one, for visitors, from the Waiting Room and, the other, for pupils, through a lobby, from the school circulation.

The Staff Common Room and Staff Lavatories are placed on the other side of the Main Staircase, thus removing these elements slightly from the Main Entrance doors. The Lavatories are close at hand to the Main Foyer and Assembly Hall, and could be used by visiting audiences.

*Classrooms:* The ordinary Classrooms are grouped together in the North wing, enjoying the best view and light. Two of the laboratory units are planned, one above the other, in the southern wing, together with the typing and bookkeeping classrooms. The latter are placed near to the public approach drive, making them especially convenient for night classes. The remaining two laboratories are grouped at the eastern end of the North wing. Service stairs link the pairs of laboratories in each case. In the final scheme, it can be decided whether the two pairs of similar laboratories should be grouped together one above the other or not.

The laboratories have deliberately not been placed in one group so that the movement of children from classrooms to laboratories between periods may be spread evenly over the whole of the corridor circulations.

*Library and Prefects' Room:* The Library is placed on the first floor, over the Headmaster's suite and facing East. It is also conveniently placed near to the Main Approach for the use of night-time classes and for extra-mural work.

A Prefects' Room has also been included on the upper level, facing East onto the Upper Courtyard.

A roof terrace over the Main Foyer gives access to the projector room in the Assembly Hall.

*Use of School at Night:* At night the subsidiary entrance and stairs from the girls' playground would serve as convenient access to the typewriting and bookkeeping classrooms and to the Library.

*Assembly Hall, Stage and Dressing Rooms:* The arrangement of the Assembly Hall and its ancillary accommodation is self-explanatory. Escape Doors to the Upper Courtyard are part of large sliding-folding doors opening the Hall to the Courtyard, which can be used as an auxiliary space for serving teas when fetes and similar functions are held. The clerestorey windows can be blacked out for cinema performances by lifting mechanically operated vertically sliding screens over them.

A chair store is provided under the Stage.

The Assembly Hall is so placed that, if used during the day for any noisy purpose, it would not disturb any of the classrooms.

*Native Quarters and Boiler Room.* These are planned at the East end of the Assembly Hall. Service deliveries of coal and scenery are effected from Bell Street. The smoke from the Boiler Chimney is blown clear of the school buildings by the prevailing winds.

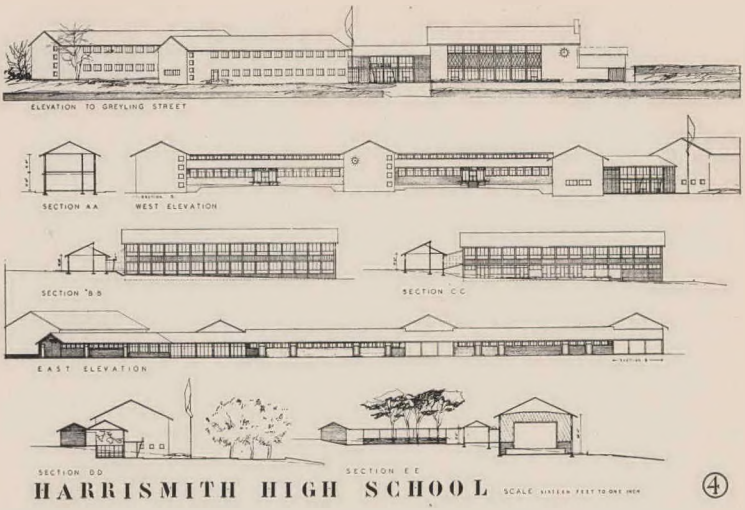
*Stages of Development:* It was decided that Section B of the programme should be capable of being constructed in one single self-contained wing so that the building operations would not interfere in any way with the running of the school. The new classrooms should also be as conveniently located in relation to the Cloakrooms, Staff Quarters and Assembly Hall as those previously built.

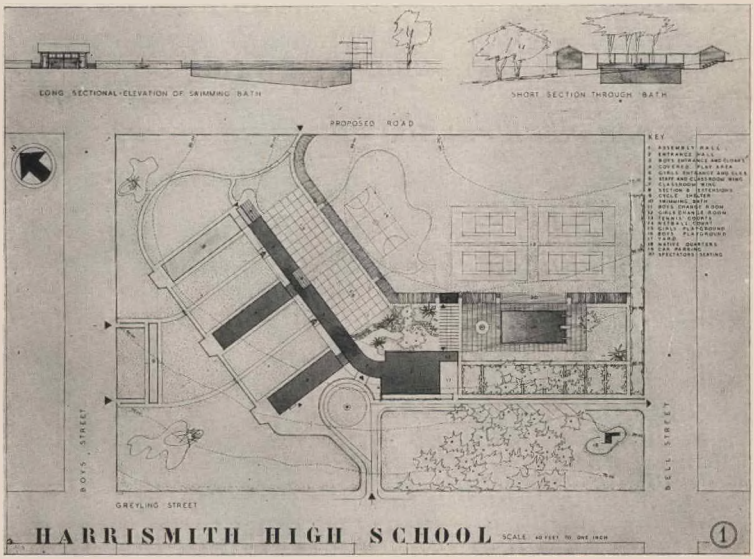
The building forms a complete architectural composition at both stages and the second building operation, supplied with materials from the Service Drive to the East, takes place with the very minimum of distraction and discomfort to the rest of the school.

The problem of the uneven number of classrooms called for in the two stages (i.e. seven and five, respectively) has been solved by partitioning Classroom 4 in the first stage, and using half of it for the Stationery Store and half for the General Store. In the second stage, two new stores, one above the other, are built. The four new classrooms plus the completed Classroom 4 make up the final number required.

The columns and beam ends required for tying in the second stage structure to the first are cast with the initial building and are dressed over with a temporary facing wall.

*Swimming Bath and Playing Fields:* These elements are self-explanatory. The Swimming Bath has been placed out of view of the classrooms so that if swimming lessons form part of the curriculum, they will not disturb the working of the rest of the school.




**Second Premiated Design.** **Morris and Downie, Cape Town.**

**SECOND PREMIATED DESIGN — DESIGN No. 63**

The author of this project has succeeded in designing a building of great simplicity both in construction and design.

Careful consideration has been given to siting, approaches and circulations, and to the disposition of the various elements.

The building exhibits good detailed planning and economy in construction with the one disadvantage of attenuated circulations. Further additions are well arranged.

It was felt that more durable materials could have been specified for internal and external finishes in order to avoid heavy maintenance expenditure.

**AUTHOR'S REPORT**

*SITE LAYOUT*

The layout of the site and buildings is the logical outcome of a study of the following basic factors:- (a) Contours, (b) Aspect required, (c) Approaches, (d) Prevailing winds.

(a) CONTOURS

An examination of the contours of the site show that a building of any considerable length would have to be designed with frequent changes of floor level unless planned to follow approximately the line of the contours. It was considered that changes of level should be avoided as far as possible to avoid complication in the building forms and construction, and in the internal circulation.

To this end the main circulation channel has been planned to follow approximately the contour line 90.00. The classroom blocks, which are forced by the required aspect to be planned across the contours, have been sub-divided into three comparatively short wings and placed on the downhill side from the main corridor. This enables the main circulation corridor to be planned as a mezzanine level between the two floors of the double storey classroom blocks and to be connected to them by half flights of stairs.

(b) ASPECT

The required aspects for the classrooms has been obtained simply by planning the axes of the wings at right angles to the main corridor. The staff rooms have been planned with the same aspect as the classrooms.

(c) APPROACHES

The approach to the main entrance is by a drive running up the slope from Greyling Street. The Entrance and the Assembly Hall are planned to close the vista obtained when looking up Mauritz Street. As the greater proportion of the students will come from the direction of the Town the major Boys and Girls entrances have been placed in Boys Street, but access to the site could be obtained from all four bounding roads, and paths lead directly to the Playgrounds and Cloakrooms.

(d) PREVAILING WINDS

The buildings, playgrounds and swimming-bath area have been planned so that as far as possible the buildings form a continuous screen providing shelter from the cold winds.

*SITE ANALYSIS*

It will be noted that the childrens' entrances are separated from the vehicle approach.

The recreational areas form a continuous group terraced round a part of the site that has comparatively less slope.

The existing trees take a natural place in the general layout.

The classrooms are divided from the noisier playground side of the school by the cloakroom blocks. The degree of separation of the two playgrounds can be regulated as desired.

*TEACHING ROOM WINGS*

The chief factors influencing the design of the Teaching Rooms are (a) Good natural lighting, (b) Ventilation, (c) Sun control.

(a) NATURAL LIGHTING

The aim of contemporary school design is to improve the light at the corridor side of the Classrooms and even out the intensity of light, as far as possible, throughout the Classroom. In double storey blocks with pitched roofs, these aims can best be met by increasing the window area and window head height to improve the light penetration into the room, and by providing vertical and horizontal fins in the windows to reduce the lighting at the places nearest the window wall.

(b) VENTILATION

Cross ventilation can be provided across the corridor.

(c) SUN CONTROL

The eaves overhang and provision of horizontal hoods to the windows can be designed to cut out direct sunlight from Classrooms during the hottest parts of the school year, and to admit the sun during the Winter months.

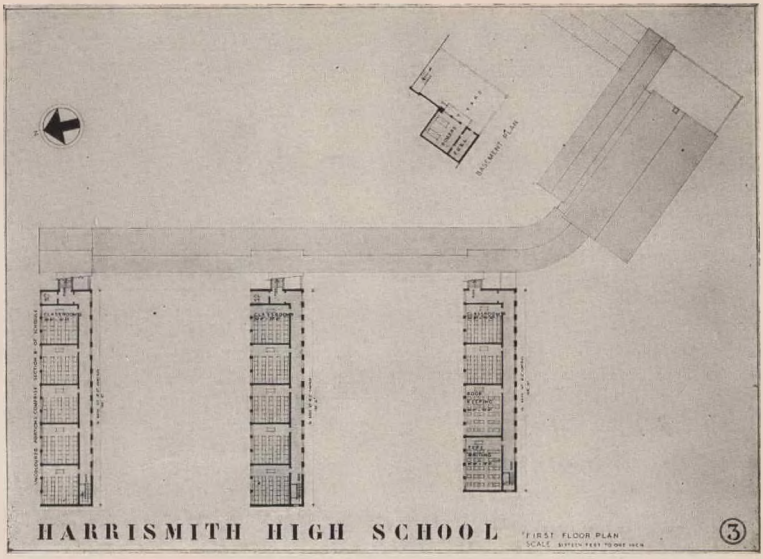
Narrow columns reduce the daylight factor at the outer row of desks but make practically no difference to the innermost row. The sub-division of window reduces the size of lintel and so increases the height of window head.

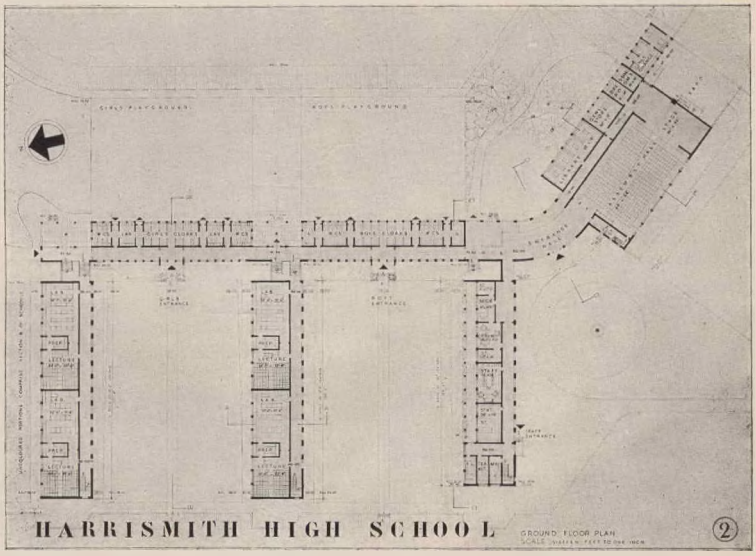
The horizontal member has the same effect as the column above.

At the same time sunlight on the outer row of desks is broken up and can be excluded almost completely during Summer months.

*STAFF ROOM WING*

The smaller units of this wing have made possible the provision of a continuous stoep overlooking the gardens between the classroom wings and to which the Principal's




Second Premiated Design.

Office, Secretary's Office and Staff Common Room have access.

The Secretary's Office and the Principal's Office together with a small waiting space open directly off the Main Entrance Hall.

*STUDENTS' CLOAKROOMS AND LAVATORY UNITS*

The Cloakrooms are most conveniently placed directly off the students' entrances. The Lavatory accommodation has been divided to provide a desirable dispersal throughout the scheme. The Lavatories can be entered with equal convenience from the Main Corridor or from the Playgrounds.

Good cross ventilation has been provided in both Cloakrooms and Lavatories.

*MAIN ENTRANCE HALL*

Advantage has been taken of the contours to provide additional height in the Entrance Hall, with a Gallery to link the Main Corridor with the Library and the Stage and Dressing Room unit.

*ASSEMBLY HALL*

The plan does not permit an axial entrance to the Hall, but the arrangement of the entrance doors and gangways permits perfectly satisfactory circulation to and from the seating. Exits have been arranged to the open air at each end of the opposite wall.

Internal access is provided to Dressing Rooms and Stage without passing through the Hall. Advantage has been taken of the corridor width to provide additional wing space to the Stage. Direct access to the Stage can be obtained from the Service Yard.

Access to the Projector Room is provided from the Entrance Hall and from a chair store opening directly off the Assembly Hall. Projector Room is placed at first floor level.

*BOILER ROOM*

Advantage has been taken of the raised level of the Stage to reduce the excavation required for the Boiler Room. Access to the Boiler and Fuel Room is provided from the Service Yard which can be directly approached from the Service Road.

*SCHEDULE B.*

The accommodation required in Schedule B has been designed to give an exact repetition of the Main Teaching block in Schedule A.

*SCHEDULE C.*

The swimming-bath group has been designed to form an extension of the garden and playground terrace and provides an interesting vista through the existing pine trees, partly screened by the Pergola running between the two changing rooms. Seating has been provided for spectators along one side of the bath on the banking formed by the terracing.

*SPORTS FACILITIES*

The tennis courts are planned on the upper terrace level and have easy access to the changing rooms.

---

**THIRD PREMIATED DESIGN — DESIGN No. 31**

The author of this design conceived a straightforward scheme which functions quite effectively. The suggested treatment of the buildings externally is simple and adequate.

Detailed criticisms concern the parking of cars, the planning and treatment of the main entrance and the congested planning of the administrative wing, location of the Native Quarters and the arrangements for future extensions.

**AUTHOR'S REPORT**

*ORIENTATION:*

The orientation as prescribed in clause 27(b) of the "Conditions of Competition" was strictly adhered to for all the accommodation including the administration and staff room.

The building was planned so that the playgrounds were screened from the prevailing cold winds by the buildings. A courtyard was also provided, so as to form screened open air accommodation for school functions such as bazaars, etc.

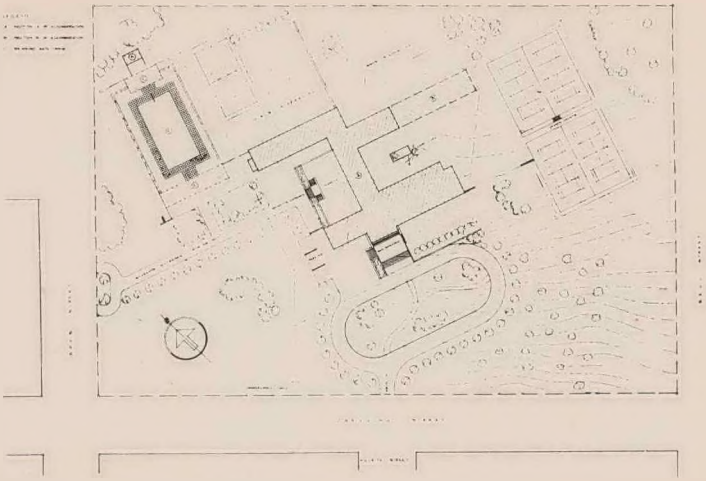
*PLANNING:*

The students entrance has been placed so that access is gained off Boys Street which will probably be a subsidiary road in the future. This will add to the safety of the students when approaching and leaving the school. The main entrance and approach to the school has been arranged off Greyling Street so that is axially placed on Mauritz Street with a winding road to the building. This will avoid traffic from the school entering the streets at speed. It will also add to the impression of dignity and formal approach to the building.

The accommodation to be built first will be as described under Section "A" of the Schedule of Accommodation and will form a complete architectural unit by itself.

In the future when the remaining accommodation as set out in Section "B" of the Schedule of Accommodation is added it will not interfere with the routine of the school.

The classrooms under Section "A" are of an uneven number, viz. 7 classrooms. Section "A" has therefore been planned with 5 classrooms on the first floor and 4 on the ground floor with an open verandah on the ground floor to correspond with the 5th classroom on the first floor. This covered area can in the meantime be put to good use during wet weather or made use of as an open air classroom in fine weather.



DESIGN FOR HIGH SCHOOL HARRISMITH SHEET Nº 7

**Third Premiated Design.** **Messrs. Visser and Friel, Bloemfontein.**

When Section "B" of the accommodation is added in the future this open verandah will be built in and will form one of the 5 future classrooms.

As a result of the required facing for the classrooms the classroom wing had to be built across the natural fall of the ground. Full use of the fall on the site was made to provide for the bicycle shelter and motor car accommodation. It was not considered advisable to have a change of floor levels between classroom wings.

*LAVATORIES AND CLOAK ROOMS:*

In order to prevent unnecessary walking during school hours, two sets of lavatories and cloak rooms have been provided, one on each floor. These have been zoned in close proximity to the main entrances and the bicycle shelter. Classes can be so arranged that a student would be able to attend all his classes say on the first floor where he will also be able to deposit his cloaks, etc. and attend his personal needs with the minimum of walking. This will also facilitate the supervision of the lavatories and cloak rooms.

*COURTYARD:*

The courtyard is screened by the building from the prevailing cold winds and has been situated immediately adjoining the Assembly Hall which will make it invaluable for use in conjunction with any functions to be held in the Assembly Hall.

*DETAILS OF PLANS:*

*Entrances and Exits:*

The main entrance to the school for use by the public and students out of school hours will be from Greyling Street with a convenient car parking area arranged in close proximity to the entrance foyer of the Assembly Hall. This would therefore also form the access by parents and teachers.

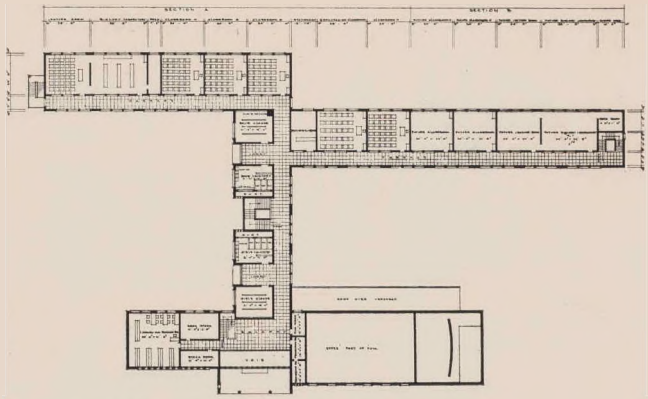
*Lower Ground Floor :*

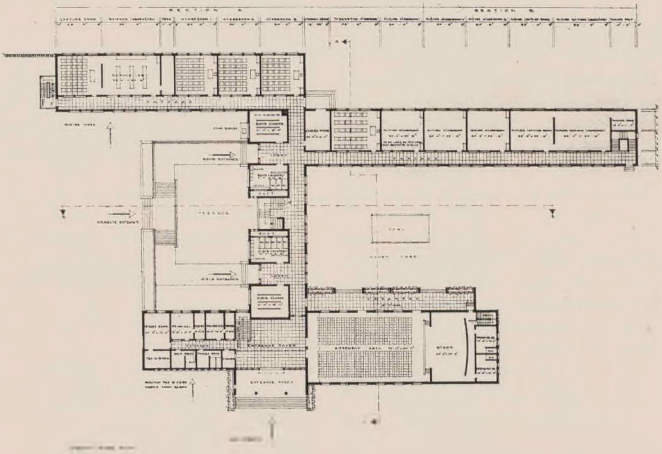
A car parking area for use by Senior Staff has been provided under the Administration Block with a direct stair access from the parking area to the Administration Block and Teachers' Common Room.

*Bicycle Shelter :*

This has been arranged under the North-West classroom wing and will allow students to park their cycles in close proximity to their entrances. This is also close to the Swimming Bath so that during after school hours swimming, the students will be able to make full use of the bicycle parking shelter without having to walk too far. Bicycles will be supported by a standard form of wrought iron cycle park.

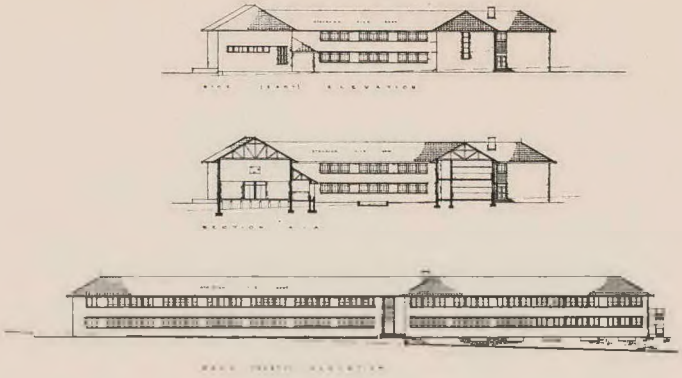
The students' entrance and their bicycle shelter as well as the car parking area will be under constant supervision



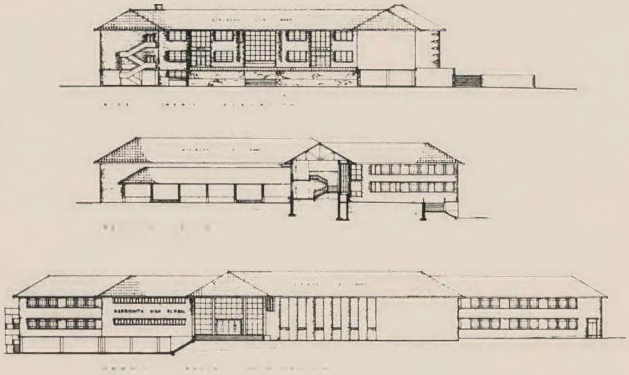


DESIGN FOR HIGH SCHOOL HARRISMITH SHEET Nº 2

**Third Premiated Design.**



DESIGN FOR HIGH SCHOOL HARRISMITH SHEET Nº 5



DESIGN FOR HIGH SCHOOL HARRISMITH SHEET Nº 4

**Messrs. Visser and Friel, Bloemfontein.**

from the Administration wing and the Staff Common Room. This will facilitate the control at this point.

*Boiler Room and Chair Store :*

The Boiler Room and Chair Store are accommodated at this lower level. This will provide maximum efficiency for the central heating system.

The Chair Store has been located so that chairs can easily be deposited in the store through an access door in the front stage wall.

*Fire Escape Stairs :*

The staircase to the West of the classroom wing has been planned purely as an escape stair. The staircase in the future East wing will be used as part of the circulation, but will also be used as a fire escape should the need arise.

*Ground Floor Plan :*

This floor accommodates a classroom wing, cloak rooms and lavatories, the administration wing with its teachers' common room, the entrance foyer to the Assembly Hall and the Assembly Hall itself.

The classrooms have been planned away from the lavatories and cloak rooms, yet in close proximity to them.

*First Floor Plan :*

This floor accommodates classrooms, cloak rooms and lavatories with the library and projection room.

The library has been planned so as to be away from the classrooms and under easy control by the staff. It is easily accessible by the students from both the ground and the first floors.

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**FOURTH PREMIATED DESIGN — DESIGN No. 82**

The placing of the buildings on the site is satisfactory but the layout and approaches exhibit many unsatisfactory features. The main approach is steep, recreation facilities scattered and the bicycle shelters unnecessarily dispersed.

Detailed criticisms relate to the placing of visitors' cloakrooms in a prominent position with lack of adequate screening, which latter criticism applies elsewhere in the scheme; the desirability of a more direct and protected approach to the dressing rooms at the rear of the stage; a better arrangement for the provision of future extensions. Elevational treatment exhibits a satisfactory character generally, but the radical change in the treatment on the two teaching wings is not reconciled.

**AUTHOR'S REPORT**

*GENERAL*

Proposed mixed High School for approximately 350 boys and girls at Harrismith, Orange Free State. Due to the fact that Promotors require the school to be built in two sections i.e. to proceed immediately with the erection of the accommodation set out in Section A and at a later date to add Section B, the main planning problem has resolved itself to finding a design which would make the initial portion of the scheme complete and architecturally effective in itself and so that the future addition (Section B) could be carried out without major structural alterations or serious interference with the routine of the school.

Furthermore, owing to the severity of the winter in Harrismith and the prevailing cold wind from the west, the Promotors require that all classrooms, laboratories and lecture rooms should be orientated slightly east of north; this factor has also influenced the planning to a large extent.

Another consideration has been the provision of separate entrances and playgrounds for boys and girls.

*SITE*

Approximately 10½ acres the site is on a slight eminence and enjoys good views to the east, north and west. Fairly steep slope up to the north east flattening out towards the top.

The school has been placed more or less centrally on the upper portion of the site which is comparatively flatter than the rest. The swimming bath has been placed so that the school buildings shelter it from the prevailing and cold winds. The main approach is from Greyling Street with students' entrances from Boys and Bell Streets. Cycle sheds have been placed appropriately adjacent to the respective playgrounds.

*PLANNING*

The planning has been carried out on two floors. The teaching rooms are disposed in two wings; these wings together with the Staff rooms are orientated slightly east of north. The classroom wing being placed in the most sheltered position. The Assembly Hall and Administrative block have been so planned as to enable them to be used after school hours as a unit which can be separated from the remaining portion of the school. The cloakrooms and lavatories occupy the central wing on both floors adjacent to the main circulation to the classrooms and laboratories.

*CONSTRUCTION*

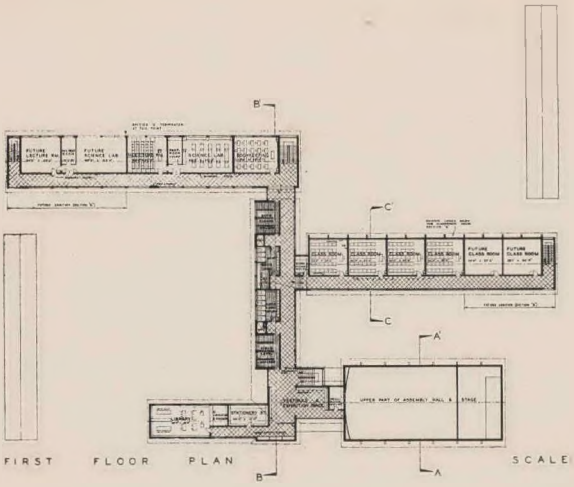
The general structure is a light reinforced concrete framed building. The exterior is mainly of face brick in three different colours. Plinths are in dark blue bricks and the main superstructure generally in a light hued brick with certain portions in dark brown bricks.

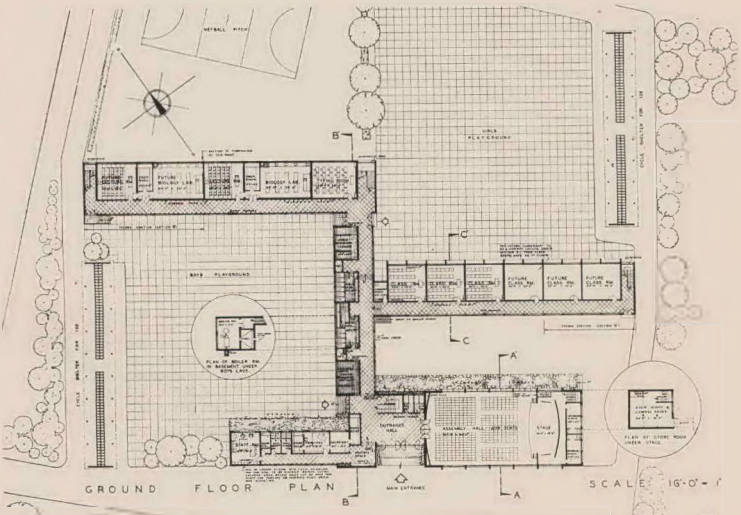
The roofs generally are timber trussed covered with close-jointed boarding and slates (no battens). Boarding to receive coat of waterproofing compound (e.g. Synthaprufe) at joints.

Laboratory and classrooms wings to have hollow tile construction at first floor slab level.

Internal walls of brick.

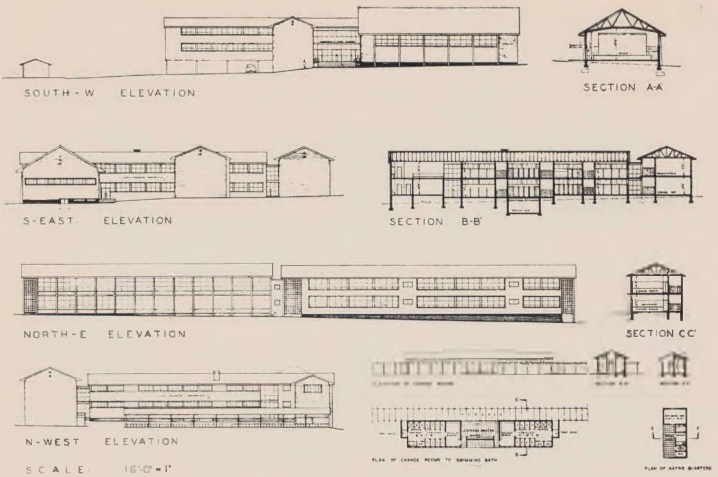
Cycle shed roofs to be slate on battens supported on steel pipe columns. Tubular steel cycle racks of standard design.



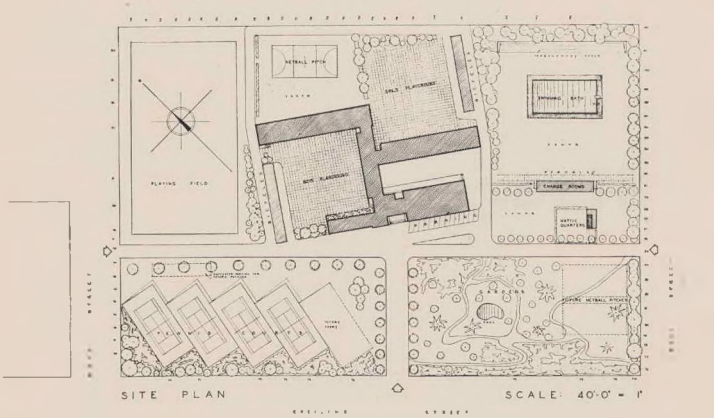




COMPETITION FOR HIGH SCHOOL AT HARRISMITH O.F.S. (1)

**Fourth Premiated Design.** **L. Lasersohn, Johannesburg.**




COMPETITION FOR HIGH SCHOOL AT HARRISMITH O.F.S (3)




COMPETITION FOR HIGH SCHOOL AT HARRISMITH O.F.S (4)

**Fourth Premiated Design.**

# *INCIDENTALLY . . .*

A COLUMN BY GILBERT HERBERT

SHIP-SHAPE

Corbusier, I think it was, drew attention many years ago to the architectural qualities of ocean liners: and what lovely things they are! There is a seemliness and an orderliness in their design which is most fitly described as ship-shape. Here indeed is one of the finest examples of functional design, where each item is formed according to its purpose, where unessentials are eliminated, and where simplicity comes into its own. How fine are the sweeping horizontals, how elegant the beat of thin steel supports! Only the public-rooms, the lounges and dining-rooms, are out of character, attempting to create the hotel atmosphere at sea, with all the shams and camouflages of pseudo-architecture.

I am, at the moment, rather bitter about the subject of ship's lounges, on grounds, admittedly, other than the aesthetic. This column was originally written in the lounge of the motor vessel *Durban Castle*, a hearty enough place at the best of times, with a tinkling piano and a chattering crowd; but at the time of first writing, an inferno of passengers who had tasted prodigiously at the wine-shops of Madeira. The uproar distracted my train of thought to the point of incoherence, and brought about this, the second writing, in the quiet of my rooms at Derby Hall.

MADEIRA

I must confess to being the typical tourist abroad, as eager and as curious as the proverbial rubber-neck. The travel-seasoned stay aboard at Madeira, but I am with the adventurers, stepping from the raking gangway into the tossing launch below, camera slung around my neck, eyes fixed on Madeira. Madeira looks, and probably is, a mountain sticking out of the sea. Its peaks are wreathed in white clouds, and the sun shines through them as it does through the fluffy white hair of an old lady. Its base is fringed with the white lace of swirling breakers, and the tides hiss and clatter over the shingled beach. Buildings cluster heavily at the base, then spread out more thinly over the terraced upper slopes farm-houses that stand guard in the vineyards of Madeira, seemingly inaccessible except by mountain paths. There is even one right on the summit, which must command the most glorious views over both land and sea.

INNOCENTS ABROAD

Differing avenues of exploration present themselves to us, put forward with dogged and slightly unnerving persistence by the agents of the Tourist Excursion Agency. They offer a trip "to Pico dos Barcelos, a splendid drive through San Antonio, returning through Ariero and along the sea front, passing magnificent gardens and hotels," inclusive charge per person, 60 escudos or 18/- your money. Alternatively, we might go to Mount Church, and return by toboggan—"two miles of exhilaration"—or to the Terreiro da Lucta, or perhaps to the Cabo Girão, the second highest sea-cliff in the world, "where nature can be seen in a panorama of majestic grandeur."

These are golden phrases, gentlemen, mighty enticing words: but we must be firm. There is an architect in us which prompts: "Cliffs are all very well, but you should be out there, examining the town." We gently prise the fingers of our tempter from our lapel, and plunge into the streets of Funchal, the town of Madeira, to the harsh strains of "keepa between da white lines" from the police-man on point duty.

FUNCHAL

Funchal's architecture is Mediterranean, with plastered walls, tiled roofs, shuttered windows and wrought iron balconies. Funchal's streets are narrow, and as crooked as Sir Harry Lauder's stick. They twist and spiral up the hills on which Funchal is built, and strong sunlight plays a brilliant counterpoint in light and shade on their walls. It is a dynamic street scene, changing light and milling throngs, a painter's paradise, though conceivably a learner-driver's hell. Sunlight and shadow: black and white—to the above recipe add colour. The stuccoed walls of Funchal are colour-washed cream, blue, and the warmest of salmon pinks; occasionally walls are covered in gaily coloured, brightly patterned glazed tiles; grey granite blushes pink in the sunlight, while sandstone walls look ruddy; tiled roofs reflect a hundred soft mutations of earthy reds. Pavements are cobbled, often with baroque patterns in black and white; and on the cobbles of the roads moss fastens, giving to the streets a glowing patina of green. And above all, the blue of the sky.

REID'S AND CHURCHILL

We took a taxi to Reid's hotel, "passing magnificent gardens," where Winston Churchill had recently stayed. Everybody was very Churchill-conscious. Nobody ever actually said anything, or pointed out his favourite spot, but there was something in their attitude (or was it their prices?) which seemed to indicate that they were far from unconscious of the honour his visit had bestowed on them.

Reid's is a palatial hotel, and its lounges in baby blue and pink open on to a terrace with a view of the anchorage below that is Olympian.

SWEET AND LOWDOWN

There is a sunken garden running island-fashion down the length of street in Funchal whose name I don't recall; and it strikes a fresh and novel note in civic design. I don't know the name of the street, because my attention was constantly distracted by our (most unwanted) guide. I am afraid he had fixed ideas on what constituted a pleasurable morning at Madeira.

Anyway, despite him, we saw the sunken garden, and liked what we saw. Some twenty feet below the road surface a stream meanders, and from its sloping banks rise exotic flowers and tropical plants. In places wire netting is stretched over, and the stream is decked in a glory of creeping flowers. In places it deteriorates; and vegetables in terraces replace the gardens; and often it is ill-kempt—but is a wonderfully exciting conception.

TAILPIECE

Our taxi in Funchal was one of an extraordinary fleet of large open touring cars, usually of 1925 vintage or earlier, all with shining coachwork and spotless seat covers. Some names were familiar, such as Dodges and Buicks and Graham Paiges. Ours was a Chandler, which is a new one to me. It had a large horn with a bulb on the side, and according to the pressure with which it was squeezed, it gave forth an eerie succession of different sounds.

# NOTES AND NEWS

## CHAPTER OF S.A. QUANTITY SURVEYORS

ENROLMENTS

The following new members have been enrolled during 1949 in the Salaried Class: Messrs. N. L. Clarke, R. H. G. Dunlop, C. M. Gamley, N. C. Jacobson, I. N. Leshnick, N. W. Lund, O. McQueen, D. O. Norman, D. R. Page, H. R. Rorvik, B. J. P. van der Bergh, G. A. Webster.

TRANSFERS

The following members have transferred from Salaried to Practising Class and have entered into partnership: Mr. A. T. Lennant, in partnership with Mr. L. J. Millard, practising under the style of Messrs. Lionel J. Millard and A. T. Lennant at 501-3, Jubilee House, Simmonds Street, Johannesburg.

Mr. D. O. Norman and Mr. S. F. J. Casser, in partnership with Messrs. Austin, Stewart and Ellis, 13-16 Prudential House, Pretorius Street, Pretoria. The name of the firm remains unaltered.

Mr. P. J. Muller, with Messrs. C. L. F. Borckenhagen and Louw, 50-55 Velra House, Bureau Lane, Pretoria. The name of the firm remains unaltered.

## TRANSVAAL PROVINCIAL INSTITUTE

ENROLMENTS

The following members have been enrolled in the Salaried Class: Miss M. B. Roux, Messrs. G. B. Bruton, D. E. Connell, and E. Graff, and in the Practising Class: Mr. I. Benjamin.

TRANSFERS

The following have transferred from the Salaried to Practising Class: Mr. K. Knutzen and Mr. D. A. F. Smuts; from the Practising to Salaried Class: Mr. A. F. Lawrie and Mr. B. W. Watson; from the Practising to Absentee Practising Class: Miss C. Klempman, Miss R. Levinsohn and Mr. Seiler; from the Salaried to Retired Class: Mr. G. S. H. Bradford, Mr. J. G. H. Holdgate and Mr. J. C. Tribelhorn; from the Practising to Retired Class: Miss D. Z. Curwen.

Professor P. H. Connell and Mr. A. E. Lawrie have transferred to the Natal Provincial Institute.

PARTNERSHIPS

Mr. D. M. Cowin has dissolved partnership with Messrs. Cowin and Ellis and is now practising on his own account at New Nala Industrial Farm (Private Bag), White River. The name of the firm remains unchanged.

Messrs. I. Dorner and F. O. Muller have dissolved partnership as from 1st February, 1950, and are practising undependantly; Mr. I. Dorner at 509 Alris Buildings and Mr. F. O. Muller at 508, Alris Buildings, Rissik Street, Johannesburg.

## JOHANNESBURG PUBLIC LIBRARY

LIST OF PERIODICALS WANTED.—Anyone who has spare copies of any of these is asked to telephone or write to the City Librarian, Johannesburg Public Library:

*African Architect.*—Vol. 1, no. 2 (July, 1911); Vol. 2, nos. 1, 7 (June, Dec., 1912); Vol. 3, nos. 2, 5 (July, Oct., 1913); Vol. 4, nos. 7-12 (Jan.-May, 1914).

*Architectural Forum.*—Vol. 31 (Index); Vol. 32, nos. 1, 4 (Jan., April, 1920) and Index; Vol. 33 (Index) 1920; Vol. 41 (1924).

*Architects Journal.*—Vol. 93, no. 2406 (March 6th, 1941); Indexes to Vols. 32, 34, 35, 37-50, 61-63 (1910-1919, 1925-26).

*Architecture d'Aujourd'hui.*—Vol. 16, no. 3 (Oct., 1945); no. 5 (Jan., 1946).

*Prefabricated Homes* (New York).—Vol. 4, nos. 2, 3 (Dec., 1944, Jan., 1945); Vol. 5, no. 1 (May, 1945).

*Royal Institute of British Architects. Journal.*—Vol. 2, no. 6 (1881); New series, Vol. 2, no. 13 (1887); Vol. 5, no. 12 (1888); 3rd series, Vol. 27, no. 10 and Index (1919-1920); Vol. 45, Index (1937-1938); Vol. 46, Index (1938-1939).

*Society of Architects. Journal.*—Vol. 9, no. 105 (July, 1916).

*South African Architectural Record.*—Vol. 1 (1917); Vol. 3, no. 12 (Dec., 1918); Vol. 4, no. 16 (Dec., 1919); Vol. 5, no. 17 (March, 1920); Vol. 26, nos. 1, 3 (Jan., March, 1941); Vol. 28, no. 6 (June, 1943).

## SITUATION VACANT

Deans and Inglis, Architects, of 4 Channel St., Kampala, Uganda, offer a position for one or possibly two assistants in their office. Applicants must be qualified architects with at least one year's practical office experience; bachelors preferably owing to housing difficulties; should possess a driver's licence; must not be adverse to dealing with Indians and must be prepared to treat African draughtsman in the office amicably. Indian clients are in the majority and the territory is a Protectorate.

Salary depending on qualifications and experience £600—£700 p.a. with bonus percentage on profits. Salary open to revision after one year.

Passage to Uganda will be paid by the firm, with the proviso that the successful applicant will work for a minimum period of three years or the passage money is to be refunded. Two weeks paid local holiday per year with six months home holiday with air passage paid after three years. At end of three year period if both parties are satisfied, terms for a junior partnership will be offered. Replies direct to Architects.

# CONTEMPORARY JOURNALS

## APARTMENTS

*Architectural Review*—August, 1949, pp. 80—85.

Flats in St. Pancras. Norman and Dawbarn: Architects.

*Architectural Review*—September, 1949, pp. 144—152.

Housing at Hackney. Architect: Frederick Gibberd. Based on the precinctual principle, this scheme exploits the thorough mixing of different types of dwelling, producing an environment which combines an urban scale and a wide range of visual effects.

## ARCHITECTURE

*Architectural Review*—August, 1949, pp. 105—110, 119—124.

(1) The Frontiersman, by Philip Johnson. Frank Lloyd Wright recently attacked the Museum of Modern Art, N.Y., for favouring architects whom he described as "stencillists" and "fascists." Here the Director of the Department of Architecture and Design at the Museum replies to him, and suggests that there may be room in the world for both Wright's Luxuriant Forms and Le Corbusier's *Prisme Pur*.
(2) Re-assessment. Three Oxford Colleges by N. Pevsner.
(3) Canon, by Eric de Mare. Towards a consistent theory of modern Architecture.

*Architectural Forum*—August, 1949, pp. 94—97.

"Genius and the Mobocracy." A review of Frank Lloyd Wright's new book which tells how Usonian Architecture grew from the principle of Louis Sullivan's matchless ornament.

*Architectural Review*—September, 1949, pp. 177—182.

Reassessment. Stonehenge, by John Piper.

*Progressive Architecture*—October, 1949, pp. 53—64.

The Architect and his Community. A Case Study of the firm Freeman, French & Freeman, illustrating various works designed by the firm.

## CONSTRUCTION

*Progressive Architecture*—August, 1949, pp. 89, 91, 93.

Selected details :—

(1) Entrance Canopy to Antioch College, Yellow Springs, Ohio. Saarinen, Saarinen & Associates, Architects.
(2) Display Case for Baker Shoe Store, Oaklands, Calif., Gruen & Krummeck, Architects.
(3) Stairway to Entrance Hall of Warehouse. Carroll, Grisdale & Van Allen, Architects.

*Progressive Architecture*—September, 1949, pp. 95, 97, 99.

Selected details :—

(1) Canopy for a Research Laboratory. Bolton, Martin & White, Consulting Architects.
(2) Sloping window for "L" Motors Automobile Showroom, New York. M. Lapidus, Architect.
(3) Kitchen Cabinet Partition. Mitchell & Ritchey, Architects

*Progressive Architecture*—October, 1949, pp. 93, 95, 97.

Selected details :—

(1) Show window for Kutlers Men's Shop. Gruen & Krummeck, Architects.
(2) School window wall. Wurster, Bernardi & Emmons, Architects.
(3) Window wall for Skry Restaurant. Skidmore, Owings & Merrill, Architects.

## COMMERCIAL

*Architectural Review*—August, 1949, pp. 101—104.

Newspaper building in London. The building was designed so that the printing works occupy the sub-basement, basement, ground and first floors, and the offices on the second, third, fourth and fifth floors. Architect: Erno Goldfinger.

*Architectural Forum*—August, 1949, pp. 98—103.

A Tourist Centre. John Yeon designs a simple, classic building group to help the Chamber of Commerce boost the City of Portland, Oregon.

*Architectural Record*—August, 1949, pp. 110—135.

Shopping centres. Building types study No. 152, by Bruno Funaro & G. Baker.

Projects illustrated :—

(1) Broadway-Crenshaw, Los Angeles. A. Gardner, Architect.
(2) Northgate Shopping Centre, Seattle. J. Graham & Co., Architects.
(3) Cross Country Shopping Centre, Yonkers, N.Y. Harris & Brown, Architects.
(4) Maybrook Shopping Centre. Kelly & Gruzen, Architects.
(5) Milliron's Departmental Store, Los Angeles. Gruen & Krummeck, Architects.
(6) Store and Offices, Springwells Park, Mich. H. Colwell, Designer.
(7) Store Group, Evanston. Maher & McGrew, Architects.
(8) Lido Stores, Newport Beach, Calif. D. Gibbs, Architect.

*Architectural Forum*—September, 1949, pp. 81—88, 92—93.

(1) A new Store for Davison-Paxon Co., designed with single-bay framing with cantilevered floors to produce an ideal sales space at minimum cost. H. Heatly & Ketchum, Gina & Sharp, Architects.
(2) Columbus store by the same architects, designed on conventional reinforced concrete frame.
(3) Reception Lobby. Impressive reception room for a laboratory-factory. Friedman, Alschuler & Sincere, Architects.

*Progressive Architecture*—September, 1949, pp. 51—63.

Junior Chamber of Commerce Competition Results :—
(1) Project by J. Luders, H. Sasaki & J. Edsall with H. Morris.
(2) Project by Wendell Lovett.
(3) Project by J. Black.
(4) Project by C. Wiley with Skidmore, Owings & Merrill.
(5) Honourable mentions and special prizes.

*Progressive Architecture*—October, 1949, pp. 65—68.

Men's Wear Shop, Long Beach, California. Gruen & Krummeck, Architects.

## DOMESTIC

*Architectural Forum*—August, 1949, pp. 74—82.

The following Houses are illustrated :—
(1) A week-end retreat in the St. Louis woods of rough-hewn construction by H. Armstrong.
(2) A small house with ample living space in suburban Seattle by Architects Chiarelli & Kirk.
(3) A prize-winning house with internal living space designed in close relation to outdoor living terrace in Carmel, Calif., by Wurster, Bernardi & Emmons.

*Architectural Record*—August, 1949, pp. 98—103.

A Ranch House in Kentucky. J. K. Smith, Architect.

*Architectural Forum*—September, 1949, pp. 51—67, 70—81.

A. (1) Richard Neutra carefully integrates a concrete country house with the rugged landscape to provide luxury living in Montecito, California.
(2) Architect Mario Corbett designs a hill-top house for himself.
(3) Hillmer & Callister create a hillside house of inspired design for a wooded site.
(4) A small house spatially designed to make the most of a small seashore site. Carl Koch, Architect.
(5) Chiarelli & Kirk design a hillside house with the living area above the sleeping quarters to capture the view.
B. William Wurster discusses the importance of integrating indoor and outdoor living.
C. A new method of merchant building is demonstrated by a builder, F. Sharp, who combines the benefits of large and small scale operations.

*Progressive Architecture*—August, 1949, pp. 72—74.

A minimum house on a slightly sloping site, Menlo Park, California. J. Campbell, Designer and W. K. Wong, Architect.

*Progressive Architecture*—September, 1949, pp. 74—81.

Three Houses are illustrated :—
(1) House in Pittsburg, Pennsylvania on a narrow city plot. Mitchell & Ritchey, Architects.

(2) Ranch house in Menlo Park, California. W. Hempel, Architect.
(3) Small house in Pittsburg, Pennsylvania. R. Hall, Architect.

*Progressive Architecture*—October, 1949, pp. 76—79.
House, Bigg Hill, Kentucky. W. Compton, Designer.

## GARAGES

*Architectural Forum*—September, 1949, pp. 90—91.
Parking garage, using staggered levels and short ramps to gain space. R. Law, Weed & Associates, Architects.

## HOSPITALS

*Architectural Forum*—September, 1949, pp. 94—99.
400-Bed General Hospital in St. La, France. Paul Nelson, Architect; R. Gilbert, M. Mersier, C. Sebillotte, Associate Architects.

## INDUSTRIAL

*Architectural Forum*—August, 1949, pp. 89—91, 92—93.
(1) Research Laboratories, Office and Shop project by Wigton-Abbott Corp., illustrates an example of simple functionalism. G. Smith, Consulting Architect.
(2) Industrial Plant designed with an integrated administrative wing for Dallas. Architects: Smith & Mills.

*Progressive Architecture*—August, 1949, pp. 65—72.
(1) A workshop employing physically handicapped persons who salvage and recondition old articles and maintain shops for display and sale of fabricated and remade items in Seattle, Washington. J. Lister Holmes, Architect.
(2) Rippon Factory, Wisconsin, for the manufacture of plain and sandwich type cookies, located on a long, narrow site. Auler, Irion & Wertsch Inc., Architects.

*Progressive Architecture*—September, 1949, pp. 67—72.
Research Laboratory, New Providend, N.J. Belton, Martin & White, Consulting Architects.

## MATERIALS AND METHODS

*Architectural Forum*—August, 1949, pp. 104—108.
To-marrow's Structural Theory, by Paul Weidlinger.

*Architectural Record*—August, 1949, pp. 136—142.
Prestressed Concrete, by H. Walsh and A. Cefola.

*Architectural Forum*—September, 1949, pp. 102—104.
Cracking in Concrete Block Walls. Excerpts from a report by Skelye, Stevensan & Value, on how to avoid common errors.

*Progressive Architecture*—August, 1949, pp. 77—88.
(1) Reinforced concrete haunched girders reduce waste cubage.
(2) Design for sight saving, by Lessing W. Williams.
(3) Two Roof construction methods :
(a) Aluminium Roof construction.
(b) Laminated wood girders held together by glue.

*Progressive Architecture*—September, 1949, pp. 82—94.
(1) Choosing the right heating system, by R. Emerick.
(2) Arc-welded Beam and Column Framing, by Ned Ashton.

## PUBLIC HOUSES

*Architectural Review*—October, 1949, pp. 207—267.
Inside the Pub, by M. Gorham and H. Dunnett. A special number devoted to pubs, covering the following :—
(1) The Pub and the people, by M. Gorham.
(2) The Tradition, by H. Dunnett.
(3) The Functional Tradition.
(4) The Gin Palace.
(5) The Tradition Broken.
(6) The Tradition Reborn.

## RECREATION

*Architectural Record*—August, 1949, pp. 86—93.
Reinforced Concrete Stadium. First Unit of Rio de Janeiro's new Sports Centre. The stadium will seat 150,000 people in eight grandstands, and a gymnasium to take 80,000 people. R. Galvao, P. Bastos, A. Carneiro and O. Azevedo, Architects.

## SCHOOLS

*Architectural Forum*—August, 1949, pp. 61—67.
College Dormitory. Alvar Alto's unusual new building for the M.I.T. Campus in Cambridge, Mass., breaks all the rules to suit a river view and a new concept of dormitory life.

*Architectural Review*—September, 1949, pp. 153—176.
Post-war Schools in Britain, by Robert Townsend. Among the categories of buildings which were exempted from the building ban were schools, which, in view of the recent Educational Act, are of special importance to-day. They are therefore made the subject of the Review's studies of post-war building achievements.
Four Schools in Hertfordshire are illustrated :—
(1) School at Essendon.
(2) School at Hitchin.
(3) School at Cheshunt. Architects: Hertfordshire County Council Architects' Department.
(4) School at Stevenage. Architects: F. R. S. Yorke, Rosenberg and Mardall.

*Architectural Forum*—October, 1949, pp. 81—277.
Schools. A special issue devoted entirely to schools, discussing the need for schools, schools of to-day, and the road to future and better schools.
*Case Studies* :—
(1) Pioneer School, Lafayette, Calif. Kump & Falk, Architects.
(2) Top-lighted school in Carmel, Calif. Kump & Falk, Architects.
(3) Low-Cost School, Martinez, Calif. Bamberger & Reid, Architects.
(4) Rural School with scientific lighting scheme, Clarksville, N.Y. H. Blatner, Architect.
(5) Suburban School, Glenview, Ill. Perkins & Will, Architects.
(6) Park-side School, Riverside, Ill. Perkins & Will, Architects.
(7) Zig-Zag School, Findley, Ohio. Outcalt & Guenther & Associates, Architects.
(8) County School, Tillsonburg, Ont. J. Perkins, Associates, Architects.
(9) City High School, Wayne County, Mich. E. Smith, Associates Inc., Architects.
(10) L-Shape School, Allen Park, Mich. E. Smith, Associates Inc., Architects.
(11) Forum School for 1950. A Project. M. Nowicki, Architect.
(12) Transportable School, Seattle, Wash. G. W. Stoddard & Associates, Architects.
(13) Prefabricated Schools. Daniel, Mann & Johnson, Architects.
*Techniques* :
(1) *Structure*, speed, simplicity, economy, by J. Reid.
(2) *Heating and Ventilation*, by Henry Wright.
(3) *Lighting* and Its Fundamentals and a new reporting method, by Howard Sharp.
(4) *Acoustics* : Sound Control and Noise Isolation, by R. Newman.
(5) *Special Areas* : The Gym, Cafeteria and Auditorium.
(6) *Sound and Audio* : Design for Sound and Motion Picture Teaching.

*Progressive Architecture*—August, 1949, pp. 45—64.
Critique : Campus Design. Planning a New College Campus. A Report by Arthur McVoy.
Projects Illustrated :
(1) Jacksonville Junior College. A. McVoy and Kemp, Bunch & Jackson, Architects.
(2) Antioch College, Yellow Springs, Ohio. Saarinen, Saarinen & Associates & M. Mercer, Architects.
(3) Long Island Agricultural and Technical Institute. Reisner & Urbahn, Architects.
(4) Mills College, Oakland, Calif. C. Mayhew, Architect.

*Progressive Architecture*—September, 1949, pp. 49—52, 72—75.
(1) Student Union College, Stockton, California. Wurster, Bernadi & Emmins, Architects.
(2) Elementary School, Barrington, Ill. Perkins & Will, Architects.

## THEATRES

*Architectural Forum*—September, 1949, pp. 88—89.
Music Tent. Experts design a workable and inexpansive temporary canvas building for classical music orchestras.

## TRANSPORT BUILDINGS

*Architectural Forum*—August, 1949, pp. 68—73.
Bus Terminal and Office Building. A subterranean station in mid-town, Chicago, with a 20-storey office tower above.

*Architectural Record*—August, 1949, pp. 104—109.
New York's New Bus Terminal. This terminal, near Times Square, will provide 60,000 daily passengers with direct access to the city's vast underground communication system and to surface transportation, and will handle 750 bus arrivals and equal number of departures per hour.

# SOUTH AFRICAN BUREAU OF STANDARDS

## Conclusions from Building Regulations Investigations

The study of the replies received to the questionnaire on building regulations, recently circulated by the South African Bureau of Standards to municipalities and various local authorities, has revealed much valuable and enlightening information.

Briefly, the aim of the questionnaire was to obtain a clear perspective of the problems at present being encountered by local authorities in regard to their existing by-laws, and to sound their reaction to the proposed set of model building regulations now being formulated by the numerous committees of the Standards Council. It was explained in the questionnaire that the model regulations envisaged were being framed purely for the assistance of local authorities and were intended for voluntary adoption at their own discretion, in order to give a guide towards modernization and uniformity.

The questionnaire was circulated to 233 local authorities, and interested organizations, and replies were forthcoming from 81, which total, however, includes most of the larger municipalities, but does not include replies from organizations other than municipalities. There were undoubtedly a very great number of local authorities circulated of the very small village type, from whom no replies could reasonably be expected, but who were approached in order to get a precise statistical picture.

For collation purposes, the replies were grouped according to European population thus :—

| Group No. | Replies Received | European Population |
|---|---|---|
| 1 | 5 | In excess of 60,000 |
| 2 | 5 | In excess of 20,000 |
| 3 | 10 | In excess of 7,000 |
| 4 | 61 | Less than 7,000 |

Based on the replies received the following conclusions were arrived at :

1. With the exception of 4 local authorities in Group 4, the replying local authorities do at present possess building by-laws.
2. Copies of the by-laws are available, except in the case of one member of Group 1, one of Group 2, five of Group 3 and 19 of Group 4, due either to their by-laws being out of print or in course of revision.
3. The administration of building by-laws is, in the case of the twenty authorities represented in Groups 1, 2 and 3, handled by thirteen professionally qualified officials and seven without professional qualifications, but with a varying length of experience. In Group 4, where this control is not directly in the hands of the town engineer, possessing qualifications, the by-laws are in the great majority of cases administered by technically non-qualified personnel.
4. Most of the replies—83%—recognized the necessity for revision and modernization of their present by-laws.
5. In referring to provisions in present by-laws, which result in uneconomic building and stultified planning, excessive wall heights and thicknesses, without regard to the nature of the material, were most frequently mentioned.
6. Omission and deficiency in present by-laws is marked. In particular, those aspects alluded to in this connection included reinforced concrete, structural steelwork, drainage, lighting, advertising and excavations, fire protection, safety, health, aesthetics, timber, chimneys and administration.
7. There appears to be nothing in present by-laws of a character calculated to retard building development, other than those connected with administration.
8. The incorporation of a waiver clause in building regulations, viz., a clause designed to permit the use of new materials and methods not specifically allowed, is not favoured by the greater number of the municipalities, of whom 50% do not desire it, 29% are undecided and 21% favour it.

   In the case of organizations other than municipalities, the contrast in attitude with regard to this subject is noteworthy. Practically without exception these organizations definitely favour the principle of the waiver clause.

   It was clear from the replies, however, that most municipalities, actuated no doubt by past unhappy experience, had not realized that the waiver clause, as envisaged in the model building regulations, would be adequately safeguarded, as its execution would be at the discretion of the local authority, acting only on the technical report of a joint report compiled by the National Building Research Institute and the South African Bureau of Standards.

9. Of the replies submitted 96% indicate general approval for the preparation of a set of model building regulations.

As a result of this investigation and of a report in this connection by the Executive of the Institution of Municipal Engineers, the policy of the Co-ordinating Committee controlling this project has been reviewed and has now been defined as a three-fold task to be carried out concurrently as facilities permit, thus :—

1. The solution of any immediate and urgent problems as they arise.
2. The preparation of a set of model building regulations governing the construction of dwellings and appurtenant structures.
3. The preparation of a comprehensive set of model building regulations, governing the design and construction of all buildings.

In regard to the main task, i.e., item 3, the work is being considerably speeded up. In order that the results may be of use as soon as possible, it has been decided that as each chapter of the regulations is completed, it will be made available as a publication in both languages at a small nominal charge. At a later stage, the regulations will, when finally completed, be published in volume form divided into three parts:—

Part 1: Preamble and Administration.

Part 2: Structural Requirements for Design, Construction and Materials.

Part 3: Public Health, Accommodation and Amenities.

The chapters of Part 2 are already far advanced and their publication should not be long delayed.

The questionnaire replies have shown that the undertaking is a necessary and vital one. Its successful execution is, however, in the last instance, dependent upon full co-operation by the local authorities, for whom the task is being done, and the furtherance of this co-operation will be the guiding motive of the South African Bureau of Standards in this difficult project.

# BOOK REVIEWS

## SOUTH AFRICAN BUREAU OF STANDARDS. SPECIFICATION FOR GYPSUM BLOCKS.

In order to keep abreast of developments in the building industry and to meet certain requirements of the MODEL BUILDING REGULATIONS now being prepared under the aegis of the Standards Council, the Council has recently published a specification for gypsum blocks.

Although there are vast deposits of gypsum in South Africa, gypsum blocks are not at present being manufactured to any large extent. It is expected, however, that they will be in the near future, as the use of these building units in the construction of non-loadbearing walls and partitions in the interior of buildings and as fire-resistant linings for building columns, lift-shafts, etc., is steadily increasing.

Gypsum blocks are light in weight and have an excellent heat insulating value and a high fire-resistance rating.

It is essentially the non-combustible quality which makes the gypsum block an important building unit. Thus, the fire resistance rating of non-loadbearing partitions is *one hour* if clay tiles are used and *four hours* if built of gypsum blocks of the same pattern and thickness as the clay tiles.

In the specification particular attention is therefore paid to a simple standard non-combustibility test. Furthermore, by laying down standards of quality and dimensions, the specification will assist in eliminating waste of time and materials and in simplifying the production of this important light-weight building unit.

Manufacturers making gypsum blocks to this specification may, by arrangement with the Standards Council, apply the standardization mark to their product.

Copies of this specification (S.A.B.S. 52-1949) are obtainable at a cost of 5/- per copy, post free, from the South African Bureau of Standards, Private Bag 191, Pretoria.

## AN INTRODUCTION TO THE DESIGN OF TIMBER STRUCTURES, by P. O. Reece, A.M.I.C.E., M.I.Struct.E., A.M.I.Mun.E. 1949, Spon, London. — Published price 16/-. 218 pages, 36 Figures.

The subject matter of this book may be classified under three headings : (1) the essential properties of wood and plywood as structural materials; (2) the elements of structural theory; (3) the applications of this theory to the design of beams, columns and joints, with special reference to the difficulties arising from the use of a natural material with variable properties.

The author has thus provided a self-contained text which forms an excellent introduction to the subject. Information has been collected up to 1948 and a bibliography is provided at the end of most chapters as a suggestion for extended reading.

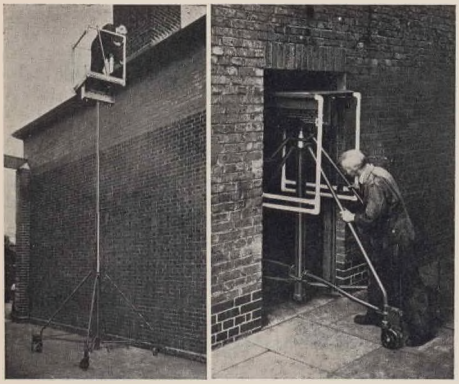
The book has one feature which will not trouble experienced engineers, but which may be a pitfall for students—

a very large proportion of the symbols in equations are defined without stating the units in which the quantities are to be measured. With the exception of the values for external loads and wind loads on buildings, the author tends to work in pound units and inch units, but he has not specifically directed the reader's attention to this and considerable error may arise from careless interpretation of certain formulae.—W.H.K.

DECORATIVE ART, THE STUDIO YEAR BOOK, 1949. Publishers : The Studio Ltd., London. 25/-.

It is interesting to note that the first issue of the Studio Year Book of Decorative Art made its debut forty-four years ago. While, since 1906 shapes, materials and processes used in the manufacture of furniture and equipment have changed, this now familiar publication well maintains its standard of presentation. I think it is fair to say that there is a freshness and quality about the present issue which is a distinct improvement on past numbers, and the use of colour illustrations has an obvious appeal. In this issue R. W. Symonds views the past years in retrospect and calls to mind the architects and craftsmen whose achievements influenced the course of domestic design. "Decorative Art" is not directed at one particular section of the reading public, it is directed at all—the home lover as well as the specialist, and for this reason covers a wide field. A criticism in the past has related to what appeared to be a rather arbitrary selection of examples of architecture. One was often at a loss to know why some houses had been featured, but in the present instance it would seem that a more critical selection has been made in the architectural subjects, while the wealth of variety of furniture, pottery, textiles, table ware, etc., are again to be seen, in some instances in charming coloured reproductions.—W.D.H.

# TRADE AND TECHNICAL REPORTS



The "Beanstalk" mobile working platform in use.

## NEW HYDRAULIC MOBILE WORKING PLATFORM

With the very apt name of the "Beanstalk," a new and handy tool is announced by the Mechanical Developments Division of William Moss & Sons, Ltd., of London, England. It is a one man operated working platform with a maximum height of 17' 0". This height allows the operator to work at positions of 23' 0" from the ground. Extremely mobile, it can even be pushed through an ordinary door and easily manoeuvred in confined passages and gangways. Recessed windows 9" back from the face of a wall can be reached comfortably while its base still provides ample stability. The secret of this tool's performance lies in the novel use of a triple hydraulic ram and a tubular framework of sturdy construction which 'scissors' to permit manoeuvring through confined spaces. The platform is 2' 3" square and is provided with toe boards and handrails which fold down for transit and movement under arches 6' 6" high. A manual hydraulic pump actuated by the operator whilst standing on the platform gives full elevation in two minutes; descent is effected in 45 seconds. Rubber tyred castors provide mobility from point to point and when in operation four screw jacks give a firm foundation even on a sloping floor. It is claimed that its mobility and ease of use in difficult places make the "Beanstalk" a useful tool for many industries. Expensive scaffolding is obviated with this equipment and when ladders just won't do and a cradle is unsuitable the "Beanstalk" fits into the gap.

Full particulars from William Moss & Sons, Ltd., Mechanical Developments Division, North Circular Road, Cricklewood, London, N.W.2, England.

## "EVERITE" AS A BUILDING MATERIAL

There is a prevailing fashion in Architecture as in everything else, and a call for building materials that answer the requirements of the moment. Here in South Africa the speedy erection of buildings and factories has been helped considerably by the appropriate manner in which the Architects and builders have adapted Everite to their purpose.

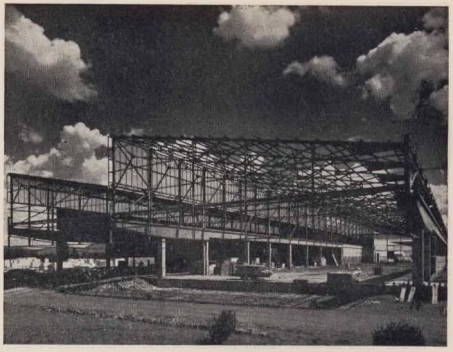
During the last war and the immediate years following, the progress and development of industry in South Africa have been extremely rapid. Older industries have extended their scope, and new ones have come into being. Among the comparatively new industries is Everite (Pty.) Ltd., an industry suited to the requirements of the moment, manufacturing a new material which answers to the precise needs of the times—a material which is adaptable in application and one which will give long service. Revolutionary as Asbestos cement seemed upon it's introduction in Europe, and crude as were some of the earlier varieties compared with the vastly improved products of today, the most cursory glance at any of the wide range of Everite products in use will disclose its present versatility and adaptability.

Architects and builders have been quick to grasp the immense possibilities of this material, with the result that new products are continually being evolved. As pioneers in the asbestos cement industry in South Africa, it is the aim of Everite to promote scientific research with the two-fold object of improving existing products and adopting fresh applications for this unique material, the user of which is assured of consistent quality by the existence of South African and British Standard Specifications.

Everite products are now manufactured at factories located at Kliprivier, Transvaal, eighteen miles from Johannesburg, and at Brackenfel, Cape Province, fourteen miles from Cape Town, whilst a further factory has been planned for East London. The objective of Everite (Pty.) Ltd. is to have it's factories localised within easy reach of the customers it serves. Until 1946 the Everite demands of the coastal regions were supplied from the factory at Kliprivier, but now at the Brackenfel factory, with the installation of some of the latest machinery, full production supplies the Cape's industrial and domestic needs.

Everite has helped to solve problems that have beset many industrial organisations. Although familiar to most people only as a roofing material, it has numerous other uses. It is for example, an ideal material for ducting being increasingly used in the construction of non-corrodible ducts, fume cupboards, ventilators and similar fittings. Flue goods too, of every description, are made of Everite and this development has, without doubt, solved many problems in the disposal of the waste products of combustion. Electrical undertakings adopt Everite in the form of cable conduits, whilst it is extensively employed in the manufacture of electrical insulating materials. Pipelines of Everite Pressure Pipes cover the country.

To mention only a few of the Everite products which are increasingly in demand in other spheres, are: Roofing Slates that will harmonise



Second storage and dispatch bay at Kliprivier nearing completion.

with rural surroundings; Rainwater Gutters and Pipes which require no preservative treatment; hygienic draining boards which are immune from rust and do not warp; Sanitary Ware which, on account of their bright, light reflecting glazed surfaces, are particularly suitable for bathrooms and lavatories. Even the agriculturist and dairy farmer are provided with a range of hygienic building materials and agricultural products specially suited to their particular needs. It will thus be seen that in many diverse ways, Everite plays a useful and important part in the economic growth of South Africa.

ARNO-CORD

Arno-Cord is a new, improved crack-sealer for factory, home and farm use in sealing windows, transoms, baseboards and holes against cold and to stop drafts, heat losses, dust, dirt, bugs and rattles. Self-sealing, it sticks and stays on almost any surface and is easy to apply by simply cutting off the length needed and pressing into place by hand. It is non-drying and permanently pliable and will not break or pull apart in application or removal. It can be applied, removed for window cleaning or ventilation, and re-applied again and again.

It is in the form of a tough 3-ply ¼" cord saturated with a moisture-proof wax compound containing inhibitors against rot, mildew and insects. Comes in practical 500 ft. lengths on convenient 7 lb. spools which permits cutting to exact requirements without waste. — Arnaud Corporation, 17 John St., New York 7, N.Y.

SANBRA (SOUTH AFRICA) (PTY.) LTD.

This company was originally registered in South Africa in 1938, but it has only just gone ahead with its South African plan owing to the preoccupation of the English factories on war work and their subsequent reorganisation. The new factory is a subsidiary to Sanbra Ltd. of Birmingham, the second largest manufacturers of Plumbers and Heating Engineers Brass Foundry in Great Britain, and which incorporates five companies.

The new factory situated at New Era, Springs, is to put into effect as rapidly as possible the manufacture of Copper Couplings "Conexcel" for domestic and engineering proposes, gate, wheel and radiator valves and all forms of plumbers taps and fittings. There is also to be the production of Hot Brass Stampings available to other manufacturers. No sand casting methods are to be used as all articles will be manufactured by methods of hot pressing, die casting and fabrication.

The company has a full South African Board of Directors and has its headquarters in Jubilee House, Johannesburg.

"AMSTER" TESTING MACHINES

Messrs. Alfred J. Amster & Company of Switzerland produce a complete range of testing machines designed in a full range to test materials used in building. The range includes tension, compression, bending, and abrasion testing equipment as well as other smaller laboratory units. — Information: Rice & Diethelm, Ltd., Box 930, Johannesburg.



RUBBER EXHIBITS FOR ARCHITECTURAL SCHOOLS

The accompanying illustrations show two sections of a new travelling exhibit designed and prepared by the British Rubber Development Board for circulation among architectural and building schools. The exhibit has been prepared to fit into a self-contained case, all components being fixed securely during transit.

The exhibit is in four sections dealing with the production and manufacture of rubber, its uses in building construction, decoration and furniture, special emphasis being laid on latex foam and rubberized hair for upholstery and various types of floor and stair coverings. Further exhibits are being prepared and negotiations are in train to obtain such exhibits for this country.



# Architectural Metalwork







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