jamaica architect

VOL. 2, NO. 1, 1968

A REVIEW OF ARCHITECTURE IN THE TROPICS

ISLAND-WIDE DEVELOPMENT PATTERNS • LAND AND MARINE LIFE CONSERVATION • AIR CONDITIONING • BUILDING COSTS • SCHOOL OF ARCHITECTURE AT U.W.I. ? • REGULAR FEATURES

by:

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T. A. L. Concannon * Alphonso Jacques
Richard Brandon * O. P. Woodham * Errol Spence
Wilf Burton * Lloyd Robinson * Aimee Webster DeLisser
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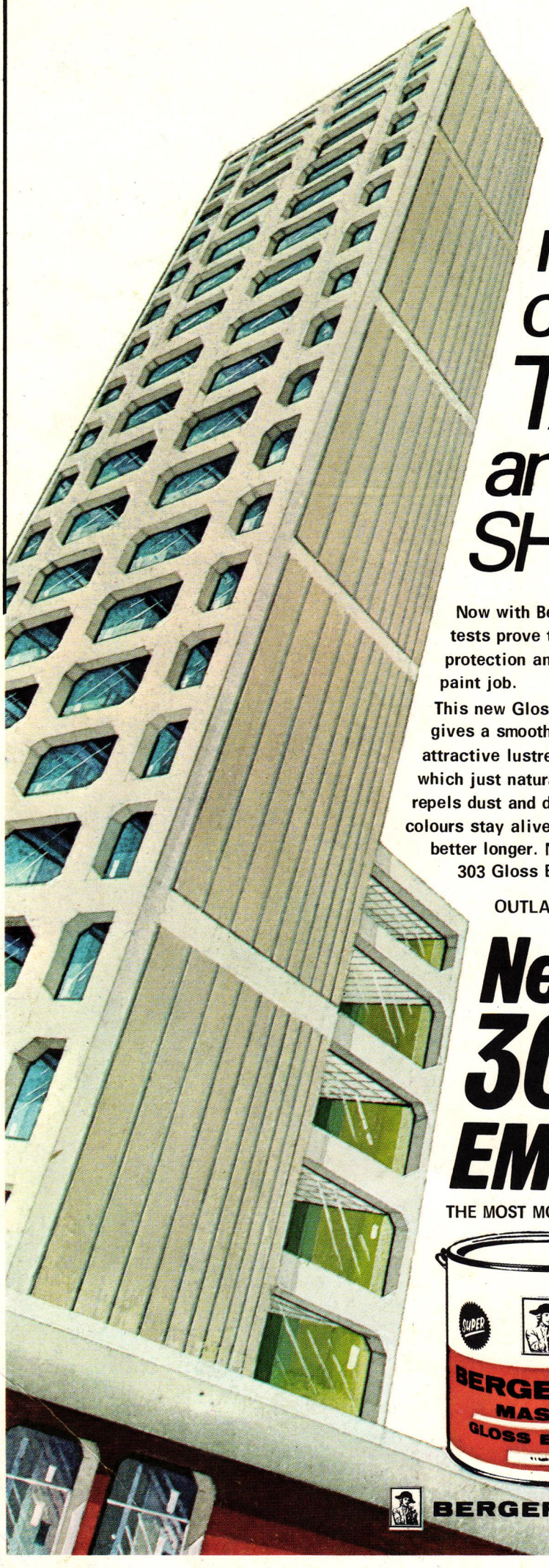

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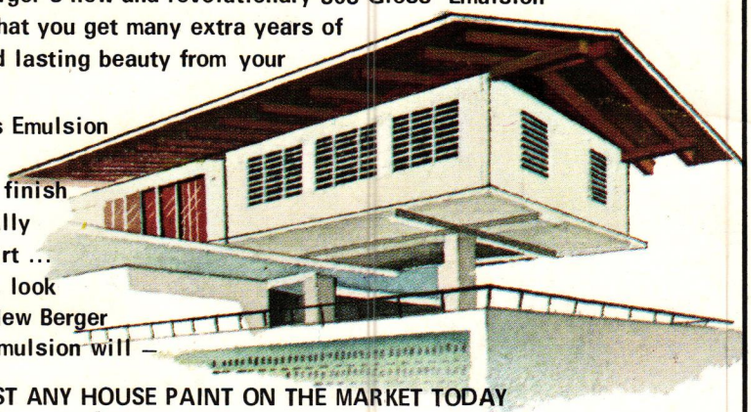

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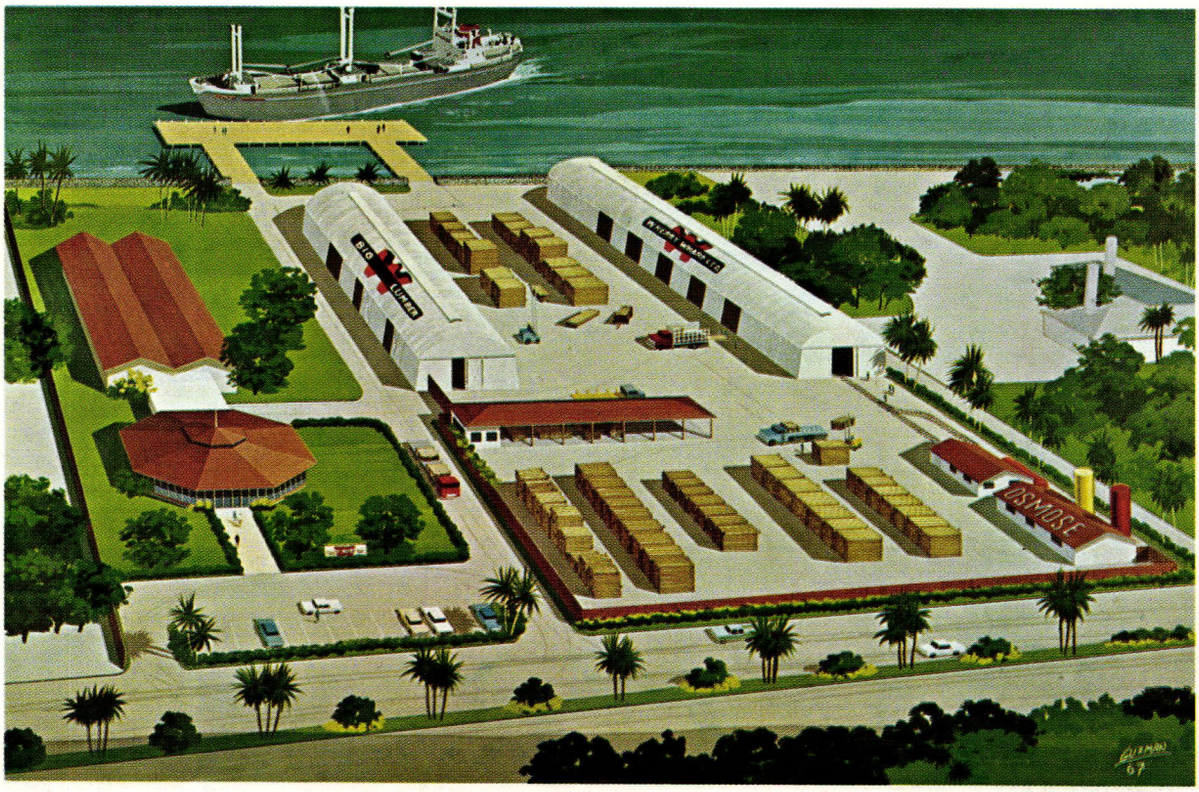

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Monday, February 22, 2010
Burns Auditorium, Kamphoefner Hall
Lecture to commence at 7:00 PM

2009-10 Landscape Architecture Lecture Series: "Landscape Strategies"

Juanita Shearer-Swink, FASLA

Project Manager – Architecture, Triangle Transit

The Design Process: *From Parks & Private Estates to Public Policy & Major Investments*

Juanita Shearer-Swink, FASLA is a Project Manger at Triangle Transit, which she joined in January of 1992. Her areas of responsibility include the planning and implementation of regional and local fixed guideway/rail and transit infrastructure projects; intergovernmental initiatives and public/private land use and transportation projects region-wide.

A graduate of the University of Florida, Juanita is a registered Landscape Architect in Florida and North Carolina. She has practiced in both the private and public sectors, including eleven years with the City of Miami in the Department of Parks and Recreation; the City Manager's Office and the Department of Development. At the City, Juanita was primarily involved in the development and implementation of capital projects and public-private development ventures. In 1989 Juanita moved to Raleigh, NC, and briefly returned to the private sector before joining Triangle Transit.

While in Miami, Juanita taught Residential Landscape Design at Fairchild Tropical Gardens and participated as a visiting professional and lecturer at Miami-Dade Community College, Florida International University and the University of Miami. In North Carolina she has continued her involvement with education through the Summer High School Transportation Institute at NC A&T, the UNC Chapel Hill Department of City and Regional Planning and the NCSU College of Design, Landscape Architecture Department.

In 1983 Juanita received the University of Florida, College of Architecture, Department of Landscape Architecture distinguished Alumni Award. She served on the Raleigh Historic Districts Commission from 1991 to 1993 and the NC Board of Transportation from 1993 to 2001. In 1999 she was selected as one of the ten residents in the Greater Triangle Region of North Carolina "who seemed destined to shape their communities in the coming year" through the News & Observer's annual *Ten to Watch in 1999* program.

Throughout her professional career in Florida and North Carolina Juanita has served on several state and national ASLA committees including the Committee on Practice in the Public Realm; Annual Conference Program Development Committee; Public Relations Committee; Livable Communities Task Force; Public Practice Task Force; Membership Committee; Professional Awards Program; Status of the Profession of Landscape Architecture; Conference on Public Practice; and NC ASLA Professional Awards Program. In 1995 Juanita was elected to the ASLA Council of Fellows and she chaired the 2005 Fellows Jury of which she was a member from 2003 to 2005. In 1987 she was the President of the Florida Chapter of ASLA, after having served in a variety of positions on the Florida Chapter's Executive Committee.

Juanita is married to Rodney Swink, FASLA, with whom she shares her love for cooking and gardening and also their two cats – Oliver and Cleo.

2000 - 10 Landscape Architecture Lecture Series

Lectures are in the Burns Auditorium, Kamphoefner Hall, 7:00PM

"Landscape Strategies"

The lecture series is intended to broaden one's knowledge of strategies of scholarship and practice in landscape architecture as a design profession committed to enhancing the health, safety, welfare, and well being of natural and built environments. Speakers represent numerous areas of landscape architectural practice, research, service, and education. They will describe their work with the goal of inspiring others to increase the knowledge and capability of the profession towards fulfilling this commitment. This year's speakers are asked to reflect upon their work and achievements with the goal of sharing their views about strategic thinking as a means for positive changes in the landscape.

Partial List of Speakers rev. February 1, 2010 *subject to change*

9.28	**Lois Brink**	**Professor of Landscape Architecture and Director of the Colorado Center for Community Development**	**Learning Landscapes: 48 school yards and counting**
10.06	**Ann English**	**Rainscapes Program Planning Specialist, Montgomery County , MD, Department of Environmental Protection**	***The Next Wave*: Sustainable Urban Drainage Systems and Green Infrastructure bring the plants back into landscape architecture as a sustainable form**
10.26	**Mark Johnson**	**Civitas, Inc. Denver**	**How Cities Will become Healthier and more Sustainable in a Global Economy and culture**
11.09	**Chuck Durrett, Katie McCamant**	**The Cohousing Company McCamant & Durrett Architects**	**"Co-Housing: a 'community' approach to Neighborhood Development**
02.01	**Linda Jewell**	**Professor and Head of Landscape Architecture, UC Berkeley**	**Alumni Lecture of the Year: Memorable Landscapes**
02.21	**Juanita Shearer-Swink**	**Triangle transit**	**The Design Process: From Parks and Private Estates to Public Policy and Major Investments**
03.01	**Art Rice**	**NCSU College of Design**	**"Moskouskaya Straight Up"**
04.12	**Richard Hawks**	**Professor and Head of Landscape Architecture, SUNY ESF**	**Third Annual Charles V. Burger Memorial Lecture**

This lecture series is produced by the Department of Landscape Architecture, in partnership with the Student Chapter of the American Society of Landscape Architects and the Landscape Architecture Alumni Advisory Board. Funding to underwrite the costs of the series is provided by donations from people like you and the College of Design. We are sincerely grateful to the following people and organizations who have generously pledged financial support:

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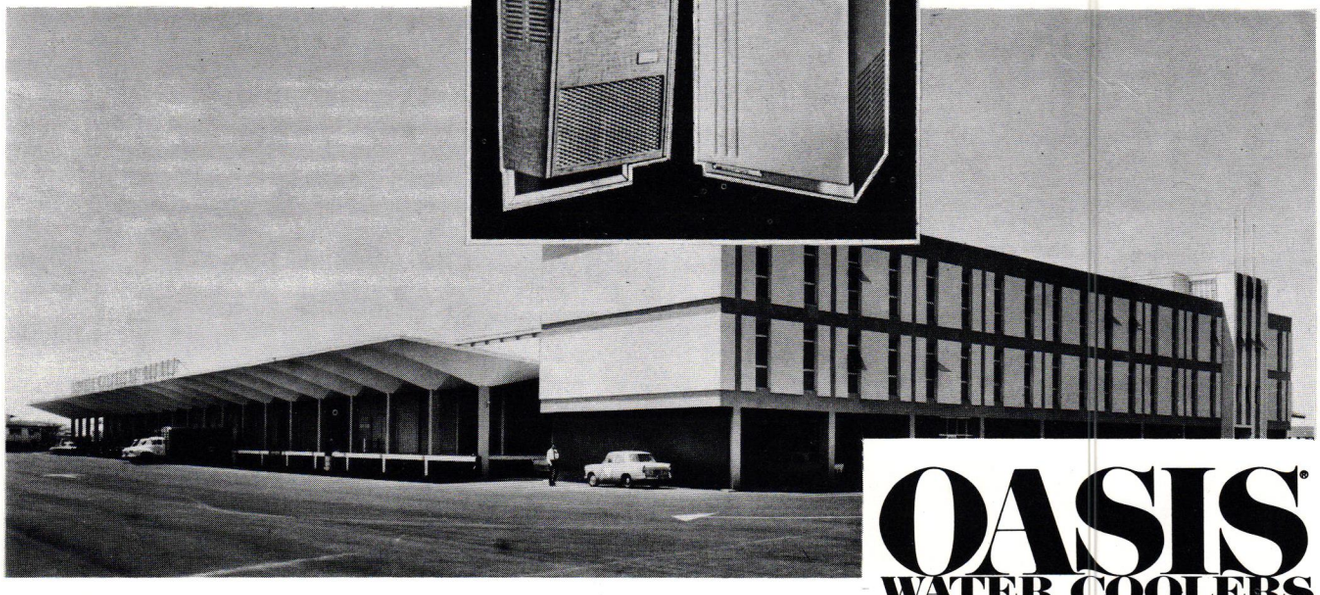

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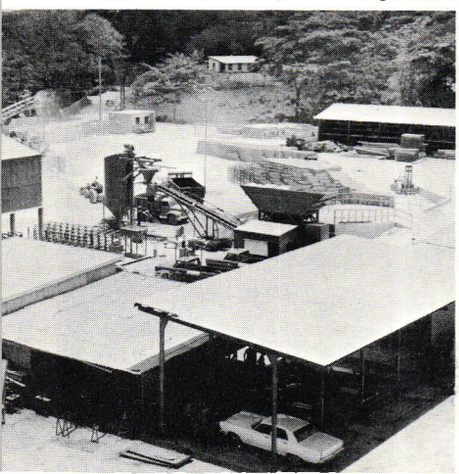

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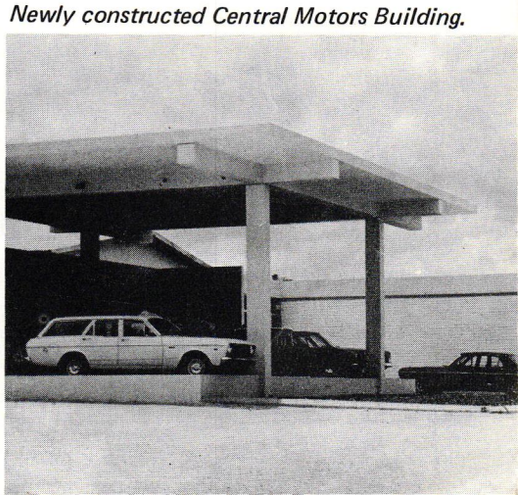

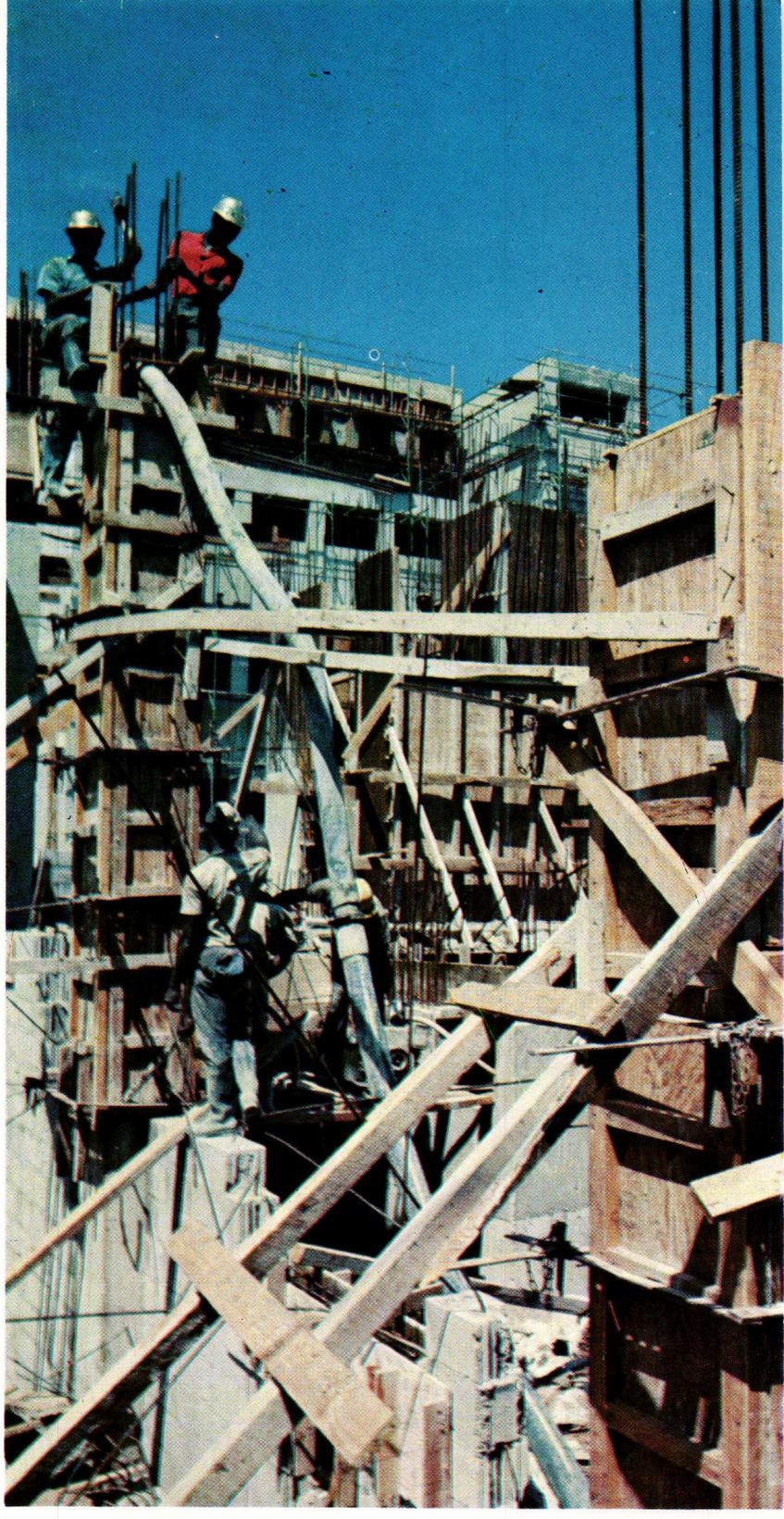

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Buildings Section

Regular Features

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Cover Photo

The model shown demonstrates the preservation and proper usage of natural land contours. The terracing, landscaping and buildings are in harmony with the existing physical and climatic pattern.

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ARCHITECTURE OVERSEAS

by T. A. L. Concannon, F.R.I.B.A., F.S.A., M.T.P.I.

A cliff-side hotel in Malta. (The Architectural Review, London, February, 1968).

A feature of many parts of the terrain in Jamaica is the occurrence of almost vertical rock-faces rising from a comparatively level plain. Although in some areas the rock escarpment is liable to slide, in others there is little or no danger from landslides; in the hills around the Liguanea Plain, St. Andrew, this characteristic has enabled private developers to construct a large, and increasing number of houses.

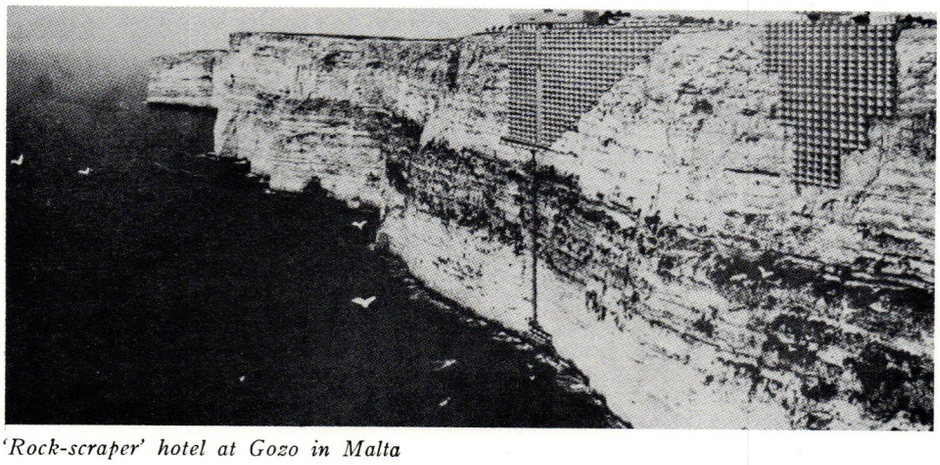
In a technical paper produced in 1965 by the Scientific Research Council, Kingston, titled "Rock-Backed Vertical Housing — a Proposal" the authors R. G. W. Willcocks and J. McL. Wint suggested that "some consideration should be given to the possibility of combining the load bearing properties of the rock formations with the easy access potential of the flat lands . . . at the foot of the escarpment the gravels of the Liguanea Plain, seem to offer a drainable area on which to construct access roads that probably would be sufficiently strong for traffic loads . . . it is therefore possible to envisage vertical structures built against the face of the hillside".

Subsequently, and following a proposal from Mr. Ole Dybbroe, a Danish architect acting as technical adviser under the United Nations development programme in Jamaica (attached to the Scientific Research Council in Kingston), to the School of Architecture, Royal Academy of Fine Arts in Copenhagen, Denmark, the third year 1966 -- 1967 architectural students produced some very exciting suggestions for hillside housing on Long Mountain, north-east of Kingston. These were illustrated in a booklet prepared by the School headed "Sketch proposals for housing projects on Long Mountain, Kingston, Jamaica", prepared in 1967.

A more specific application of this idea is described in the Architectural Review for February, 1968, where a new hotel at Gozo in Malta is captioned "Maltese Rock-scraper". In the words of the Review: "There is no lack of precedence for burrowing into rock, as architectural glories like Abu Simbel, the Ajanta Caves or the rock churches of Cappadocia bear out" and the monumental rock-cut classical facades of Petra, that fantastic creation of Nabataean culture in the desert south of Maan, Jordan, where elevations hewn by hand out of the rock face some 2,000 years ago tower towards the sky in an array of sandstone colours resembling the rainbow . "Le Corbusieur had suggested underground passages and lifts to serve a kind of motel spread over a steep and rocky site at Cap Martin. Now Lafuente, with the engineer Rebecchini, has produced a more radical solution for an hotel at Gozo".

In the Malta 'rock-scraper' the top floors (at ground level) contain the reception rooms and swimming pool, with the bedrooms descending below in reverse of the usual order. The lowest floor, some 200 feet above the sea, contains a bar and night club, connected via a lift in a niche cut out of the cliff face with a landing stage at sea level.

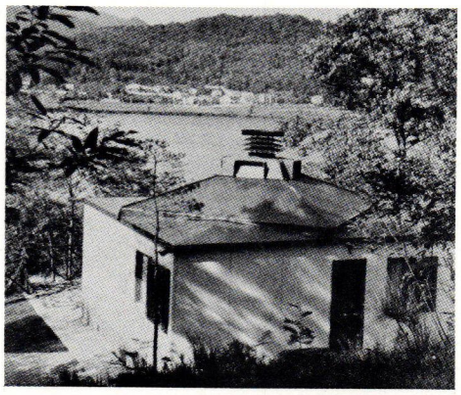
The reviewer concedes that the architect has produced an ingenious solution to an unusual problem, but asks pertinently ". . . the question remains whether one would ever want to spend one's holiday perched on the edge of a cliff, obliged to travel vertically nearly 400 feet to swim at the foot over a towering rock face without any beach". A good question.

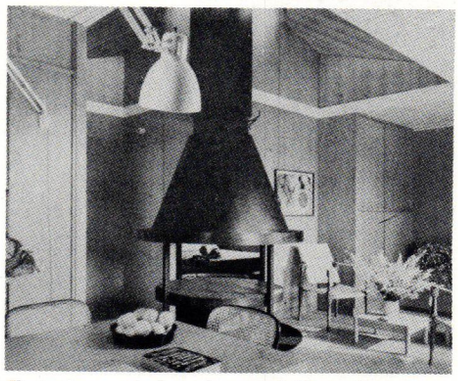


'Rock-scraper' hotel at Gozo in Malta

A prefabricated week-end cottage in Italy (Architectural Review, February, 1968).

The same issue of the Architectural Review describes and illustrates a one-storey cottage, designed by architect Roberto Menghi, of Milan, as a standard prefabricated unit suitable as a permanent dwelling but also for holiday use on lake or mountain side.





Exterior and Interior of Milan Cottage

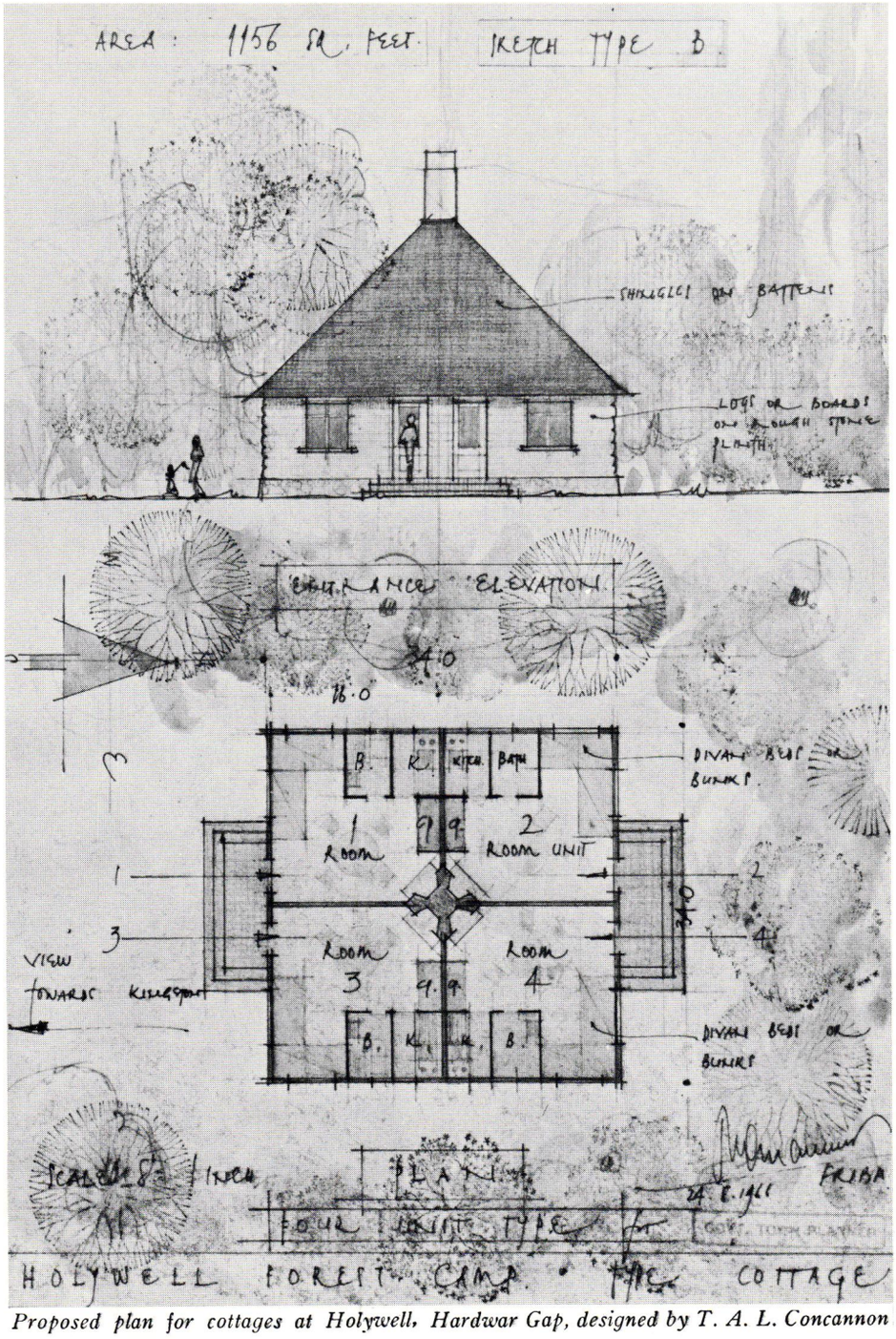
This cottage is square in plan, with a floor area of 560 square feet, or sides of about 23' 6" (dimensions are not given), and with accommodation including an entrance, bedroom, living space, bathroom and kitchen. There is a double-walled steel fireplace in the centre, warming both the living space (dining and sitting areas) and bedroom. Walls are constructed of building-board, in two thicknesses with an air-space in the case of external walls; these are strengthened with vertical galvanized steel tubing, insulated with asbestos. A

galvanized steel fixing set into the concrete foundation slab holds the wall boarding, which is secured to the roof structure by a smaller method.

A reinforced concrete foundation slab, with a damp course of polythene sheeting, is screeded to take timber boards in the living area and bedroom and vinyl-asbestos tiling in the kitchen and bathroom. Internal partitions are veneered in pine facing the living area, and in laminated plastic elsewhere. Windows are wood, with movable louvres. Cupboards with pine veneered doors are set at ceiling level in the living space, and the ceilings are galvanized iron, with an insulation of rockwool above. The cupboards have small ventilators that can be operated from floor level.

Cost is quoted as £2,580 (before devaluation) for the commercially marketed complete unit, excluding packing and transport to site. Price of the basic prefabricated structure, not including foundation slab, cost of erection, central fireplace and some built-in cupboards is about £1,680.

Recently the writer (of this present note) designed a cottage suitable for use in the Blue Mountains, particularly the Forest Camp at Holywell, Hardwar Gap, about 4,000 feet above Kingston, similar in concept to this interesting example from Italy. With the growing interest in Jamaica towards construction of 'cottage colonies' complete with commissary and other facilities, especially in the hills as a variation from the established seaside living, this kind of simple structure has obvious possibilities. Built of prefabricated timber units, with a steel fireplace — or stone if locally available — and shingled roof, cost should not be excessive, if manufacture of sufficient numbers could be justified by demand.



Proposed plan for cottages at Holywell, Hardwar Gap, designed by T. A. L. Concannon

Upper Region Library Building at Bolgatanga, Ghana (The Architectural Forum, New York, March, 1968).

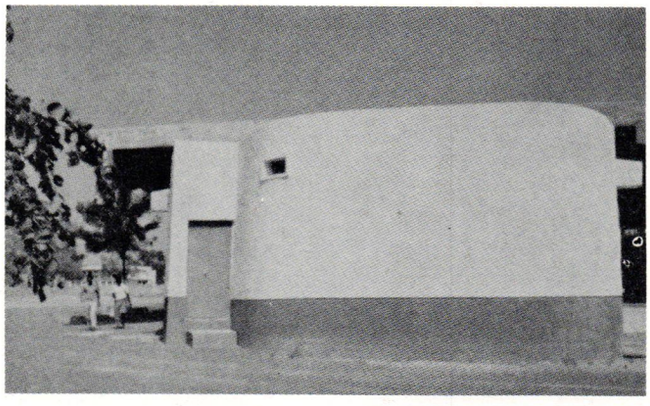
Max Bond, an American architect who worked in Ghana for two years, describes a library he designed for the Upper Region at Bolgatanga, Ghana.

All public libraries in Ghana are built and administered by the Ghana Library Board, and a regional library for each of the administrative districts is included in future plans. Mr. Bond writes in his introductory note:-- "Although I am not particularly fond of regionalism in architecture, the design of this library was very much influenced by the traditional domestic architecture of Northern Ghana. While the forms, scale, and materials are not derived from local mud dwellings, the handling of masses (for example the softened corners of each of the four 'buildings' under a single roof), the predominance of solid wall as opposed to glazed areas, and the sequence of multiple use spaces (through which areas of specific activity are reached) — all these are directly related to local practice". A short note follows in which the architect mentions what he calls "the marvellous Fra-Fra houses", native buildings in the region that were a source of inspiration for features of the new library.

The architect's brief for this Upper Region building at Bolgatanga included an adult library, lecture hall, children's library, staff area, and stacks to serve 'bookmobiles' based in the town. Space for parking and loading areas had to be provided, and an area for small exhibits. In his interpretation of this brief the designer attempted to reflect some elements of traditional architecture; he wished, as he puts it "to escape from the sun" and to avoid glare (a difficult problem on Africa's West Coast). For this reason he designed a large roof forming "an artificial groove within which the individually roofed buildings are gathered around two spaces. Very comfortable temperatures resulted from this arrangement and a breeze flows naturally through the court spaces".

Siting was arranged so that the covered courtyard, usually open to the sky

Above: The library consists of four separate buildings under a reinforced concrete 'umbrella'. There is a ventilating space between the underside of this roof and the tops of the buildings.



Right: Lecture Hall has softened corners, reflecting circular pattern of regional design.

Shaded areas show major gully courses in and around Kingston

in traditional buildings, opened on one side towards an existing bao-bab tree (these trees offended the Gods, according to legend, and were removed and replanted upside-down). The open spaces between buildings extend to the main roof (they are 'open' in this sense at the sides) and have functional uses — one is a public space serving the lecture hall, another is a common-room for exhibitions, which are controlled from the main desk.

Mr. Bond comments on the difficulties of construction, one of which was inabliity of many workmen to read drawings (a problem not unknown in Jamaica!), causing an additional amount of explanatory site sketches by the architect, and increased endeavours by the job foreman. Good building timber is scarce in this part of Ghana, and it was decided eventually to construct the library in cast concrete and concrete blockwork, with special blocks for the window frames.

No cost details are given, but the architect states "surprisingly, the building went up quickly", although completion was delayed due to various shortages, and important changes in the country's administration.

(Grateful acknowledgment is made to the sources quoted – T. A. L. C.)

Note: Plans for Port Royal
by T. A. L. Concannon

In my article 'Plans for Port Royal' published in the Jamaica Architect, Vol. 1, No. 3 1967/68 there is an error on page 82, where the date of writing John Taylor's diary should read "1686 -- 88".

John Taylor was born in 1664 at Kervils (or Kyrvils) in the Isle of Wight. From an early age he devoted himself to the study of chemistry and mathematics, and published a book 'Mathematical Treasury', printed by John Hopkinstall.

After taking part in the campaign against the Earl of Argyll's rebellion in 1685, Taylor was encouraged by some merchants to undertake a journey to the West Indies, where he arrived in Jamaica on the 3rd January, 1687. In Jamaica he sold his servants for $145, and stayed some time in the Island before leaving on the 26th May, 1687 aboard the frigate 'Falconer' (Captain Talbot) in the job of captain's clerk. During the ensuing year he cruised in the Caribbean, where the ship was mainly engaged against pirates. He returned to England in June, 1688, and home to the Isle of Wight, where his diary ends on the 31st December, 1688.

Taylor's diary constitutes one of the fullest accounts of the West Indies at that time; in particular he calls attention to the natural history of the islands, describing plants, animals, herbs, fishes, birds, insects, etc. There are many illustrations and maps.

In the section dealing with Port Royal his descriptions are invaluable as a source of reference for the architect in restoration of buildings existing just before the earthquake in 1692, particularly in the area now known as Morgan's Harbour where the King's House and offices stood with other important structures.

The book was apparently intended for publication, with title pages and chapter headings, but it remained unpublished. A micro-film of the entire manuscript is available in the West India Reference Library, Kingston.

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Educating the Architect in the Region

by Lloyd Robinson, A.R.I.B.A.

In dealing with the Education of the Architect it is necessary to estimate the future demand for Architects in Jamaica over the next thirty years. This is a formidable task as it is extremely difficult to apply the experience of one country to determine the needs of another. The simplest approach, which is only a rough rule of thumb, is to use the United Nations Surveys which noted that the number of Architects per 100,000 population varies from 1 to 2 in countries with a per capita income of less than £70. 0. 0 per annum, to between 38-40 per 100,000 in countries with a per capita income of £350. 0. 0 or more. There is another method which was recommended by the Royal Institute of British Architects, which although fairly simple to use, would demand a fair amount of information about the performance and work load of local Architects. As this is not feasible, it is necessary to rely on the method used by the United Nations.

Working on this theory, for planning purposes, we can anticipate that the approximate annual demand for Architects will be as follows:—

15 -- 20 per annum from 1965 to 1975 45 -- 50 per annum from 1975 to 1985
60 per annum from 1985 to 1995

At present, in Jamaica, there are only 60 to 65 qualified Architects, 57 of whom are Members of the Jamaican Society of Architects. There are about 10 known students studying in England, the U.S.A. and Canada, who have been bonded or who will return home because of family ties. From the above figures, taking into account the movement of expatriates, retirement, immigration and other wastage, Jamaica is in fact bankrupt for Architects.

Jamaica is too small a country to start a school in the classic tradition, so from this point of view we are lucky that the classical schools of Architecture are now slowly dying out. (This will be hard to conceive of by my die-hard colleagues who still think of schools in the standard form.) We must accept the fact that we are in the age of the computer. There is now very strong support in the R.I.B.A. and the A.I.A. for the formation of Faculties of Environmental Studies. This will bring together the various disciplines . . . that contribute to the built environment. The permutations and combinations of this policy vary from one institution to another and the new courses which either integrate or inter-relate the training are only just starting.

The Architect can no longer isolate himself to the role of counselor, creator, co-ordinator, controller and arbitrator. He must get completely involved with the training of technologists and learn to cope with changes in the clients board, and the increased size and complexities of buildings to further the role of the Architect in the building industry.

The R.I.B.A. is encouraging students to take part of their practical experience with various sides of the building industry, such as builders, building manufacturers, quantity surveyors, engineers and planners. At the same time there is a trend towards a gradual integration of the various educational courses which lead to careers in the building industry with the possibility of entering a stream of specialisation when the initial course is completed. The Constitution Committee of the R.I.B.A. is looking into the possibility of opening a non-practicing class of affiliated membership. This would be extended to individuals who were in fact not Architects, but who worked closely with Architects in education and practice.

We in the Caribbean have a wonderful opportunity to start an unique school of architecture which is devised to meet the peculiar needs of the Caribbean. It is of prime importance, however, that it be of a standard which, from the start, will be recognised by schools of Architecture in other countries. It is felt that a Caribbean School of Architecture would derive many benefits from establishing an alliance with another University, such as that which exists between Zaria Nigeria) and Bristol; Kumasi (Ghana); the A.A. School, (Nairobi) and Liverpool and Khartoum (Sudan) and Edinburg.

Our geographical location, our English tradition, and the fact that we are torn between loyalties to the U.S.A. because of proximity and our past heritage, indicates that it would be better for the Caribbean to become associated with a Canadian university.

In fact for the past two years, with the support of the Department of External Aid of the Government of Canada and the University of Toronto, Dr. Thomas Howarth, Dean of the Faculty of Architecture, Urban and Regional Planning and Landscape Architecture, has been making a study of the needs of professional education in the West

Indies and has reported to Sir Philip Sherlock, Vice-Chancellor of the University of the West Indies.

As a result of Prof. Thomas Howarth's report on Thursday, March 7th, representatives of the University of the West Indies and members of the Executive of the Commonwealth Association of Architects and the Jamaican Society of Architects met to discuss the possibility of introducing at the University of the West Indies, a course in environmental studies which would lead to a professional degree in Architecture, Planning and Landscape Architecture.

The meeting dealt broadly with a wide range of subjects which would influence the training of the Architect in the Region, the Architect's role in the Society and the need for giving West Indian Student Architects the type of training which would better equip them to study and to understand the peculiar problems of the West Indies. It was generally agreed that in order to gain the maximum advantage of such a course it was necessary for the profession to secure not only statutory recognition but the public should be educated in the essential need for the professional people concerned and with the problems of human environment.

Most of the subjects necessary to start a school are already being taught at Mona — Mathematics, Engineering Science and some of the environmental sciences. If the University of the West Indies did include a Faculty of Architecture a number of the other Lecturers could be provided by our affiliate school in Canada. It may even be possible at the outset, to study to an Internationally recognised intermediate stage at the University of the West Indies, then complete the latter stage of our studies at our associate University in Canada, which could well be Toronto University.

With the foregoing in mind, the Jamaican Society of Architects is now preparing for future changes that will inevitably come to this region. Since this was written an important precedence was set at the Society's General Meeting held on March 25, 1968, a strong Education Committee consisting of 6 members under the Chairmanship of Mr. Wilson Chong was elected. (In the past a Chairman was elected and it was left for him to co-opt his committee). At this meeting the immediate Past-Chairman of the Education Committee recommended in his report that the following points be included in the terms of reference of the incoming committee:--

a) Consideration and study of Dr. Howarth's Report with full power to implement the recommendation wherever possible and without further reference to the Society's Executive.
b) Prepare plans for a campaign to impress on the Government and Public the need for Architectural Education in the West Indies.
c) To try to solicit grants for scholarships in Architecture.

By the foregoing it can be seen that there are new elements to consider in the training of the Architect and the Jamaican Society of Architects is determined, and in fact has started to meet its obligations in the climate of change which is now entering the profession and which is bound to influence this region within the next 10 years.

Grateful acknowledgement is made to Professor Howarth for reading this script and suggesting certain amendments.

CLASSIFIED ADVERTISEMENT:

M. J. Stoppi & Associates (M. J. Stoppi, F.R.I.C.S., F.I. Arb., and C. K. Southwood-Smith), Quantity Surveyors of 92, Hope Road, Kingston 6 and Cairney, Bloomfield and Associates (M. M. Cairney, F.R.I.C.S. and J. Bloomfield, A.I.Q.S.), Quantity Surveyors of 15, Constant Spring Road, Kingston 10, announce that with effect from the 1st of February, 1968 they have formed a new partnership under the style of STOPPI, CAIRNEY, BLOOMFIELD & PARTNERS to practice as Quantity Surveyors from 40, Union Street, P.O. Box 470, Montego Bay, Jamaica, W.I. Resident partner in Montego Bay will be A. R. Hall. M. J. Stoppi & Associates and Cairney, Bloomfield and Associates will continue to practice under their established styles at their Kingston offices.

NEWS AND NOTES

Officers elected at the Annual General meeting **of the Jamaican Society of Architects** held on 26th March, 1968 are as follows:

Executive Committee: President, Mostyn Campbell; Vice-President, T. A. L. Concannon; Secretary, Don Brown; Treasurer, David Kay; Roy Stephenson; Stan Kennedy; Ian Gibbs; Vadin McMorris.

Committee Chairmen: Public Relations Committee, Stan Kennedy; Public Relations Magazine Committee, David Kay; Disciplinary Committee, Bill Hodges; Joint Consultation Committee, Herbert Robinson, Alphonso Jacques, Roy Stephenson; Registration Committee, Vadin McMorris; Professional Practice Committee, Vadin McMorris; Education Committee, Wilson Chong; Constitutional Recasting Committee, Mostyn Campbell.

The Inaugural Conference of the **Association of Commonwealth Societies of Architects in the West Indies** which was to have taken place between August 7 - 9, 1968, had to be postponed. The reason for the delay was that at a meeting with the University of the West Indies Development and Planning Unit, it was indicated that prior to submitting proposals and detailed curricula for a Faculty of Architecture, a submision, in fact, a Rationale of Demand, should be presented, territorially and regionally, which would provide our respective Governments and the University of the West Indies with definite evidence for the

justification of such a Faculty. On the basis of the submissions made, the University of the West Indies Grants Committee would be able to make a decision as to whether Architecture, as a course, is necessary and/or viable.

It is hoped that the Inaugural Conference can be re-scheduled for the first week of October, 1968, however this date has not been officially confirmed.

A special **presentation** of our last issue which featured the Greater Kingston Re-Development Plans was made **to the Hon. Edward Seaga, Minister of Finance and Planning** by the President of the Jamaican Society of Architects, Mr. Mostyn Campbell, and members of the Editorial Board.

JOHN S. LOPEZ PHOTO

Left to right; Mr. M. Campbell; Mr. P. Soares (hidden); Mr. M. Goodman, Chairman of the Editorial Board; Mr. D. Kay, Vice-Chairman, and the Hon. E. Seaga.

The **Governor-General's Award** presentation and related functions have been postponed until March 1969.

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Developmental Decisions And Patterns Of Life

Foreword:

by Alphonso Jacques,
B. Arch., M.Sc. (T.P.)
Member of Editorial Committee

It is generally agreed that Jamaica is enjoying a very rapid development rate compared to other developing countries. This is significant. It is indicative of the awareness of the numerous problems which confront our society.

Development decisions, involving the utilization of human and natural resources as well as the provisions of various social services usually originate from political and commercial sources. They however, often contain significant and long term social, economic and spacial consequences which are not readily recognizable. They also involve irrevocable commitments which could determine a new pattern of life for generations of Jamaicans. A pattern of life that is imposed on a people by virtue of developmental decisions may be desirable or un-desirable dependent on the nature of the decision. A desirable life-style demands developmental decisions that permit smooth transition through a series of adjustments which take place in a relatively orderly and meaningful way. Patterns of life change inevitably, but the decisions that govern or influence these changes should be such that they incorporate stability in these patterns. Thus pre-dislocation and post-dislocation considerations enter the realm of decision making. The environment will be altered and radically different sets of tangible and intangible values may evolve.

Social adjustments and problems of mobility arise for which society must prepare. It is therefore imperative that the altered patterns of life which will be caused by dislocation be considered as a major factor in the decision making process.

Inherent in the democratic system should be the presence of a leadership system capable of expressing the diverse interests and desires of its groups. Purpose is also inherent in the nature of group behaviour and this is expressed through goals which provide a basis for subsequent decision making.

Evaluation of alternative courses of action towards the fulfilment of group goals and the selection of one of these alternatives or the effecting of a compromise constitute the decision-making process. The process is ideally based on abundant information, thorough examination of alternatives and their consequences, and an objective selection of a course of action.

Development decisions represent a major precipitating factor in the urbanization process which is now generating fundamental transformations in the social and spacial character of our society. In fact, urbanization has given rise to an unprecedented amount of new as well as expanded urban complexes throughout the world. Some of these complexes are wholesome environments in which to conduct human activities, others provide an atmosphere which promotes and protects deviant behaviour. Most of these urban centres have become grossly overpopulated. Therefore the deviant pattern usually predominates because the basic weaknesses of city life are aggravated and intensified by population pressure.

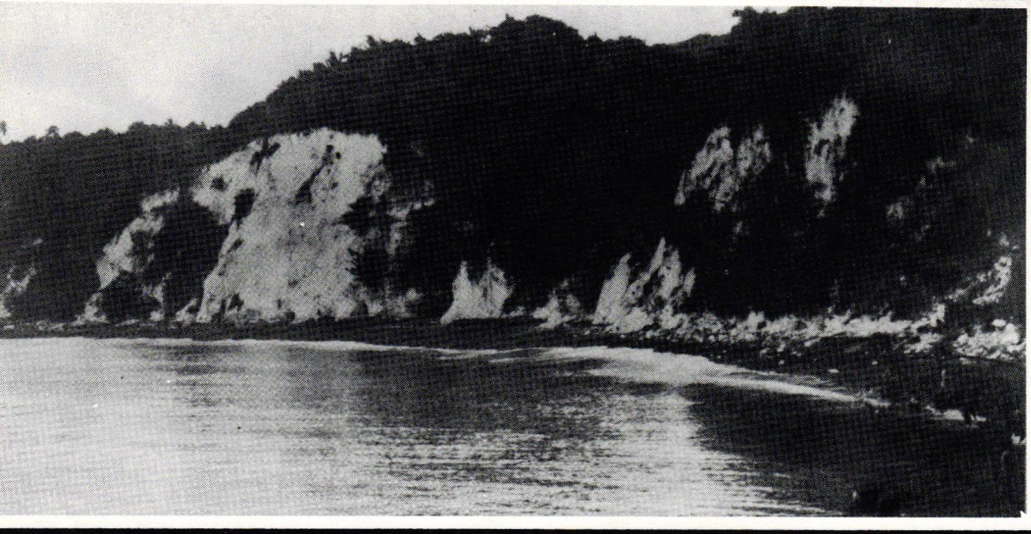
Kingston has been revealing the symptoms of a deficient urban complex for some time. As a major recipient of population through the urbanization process it is now exhibiting social disorganization, personal mal-adjustment and other evidences of social and physical deterioration.

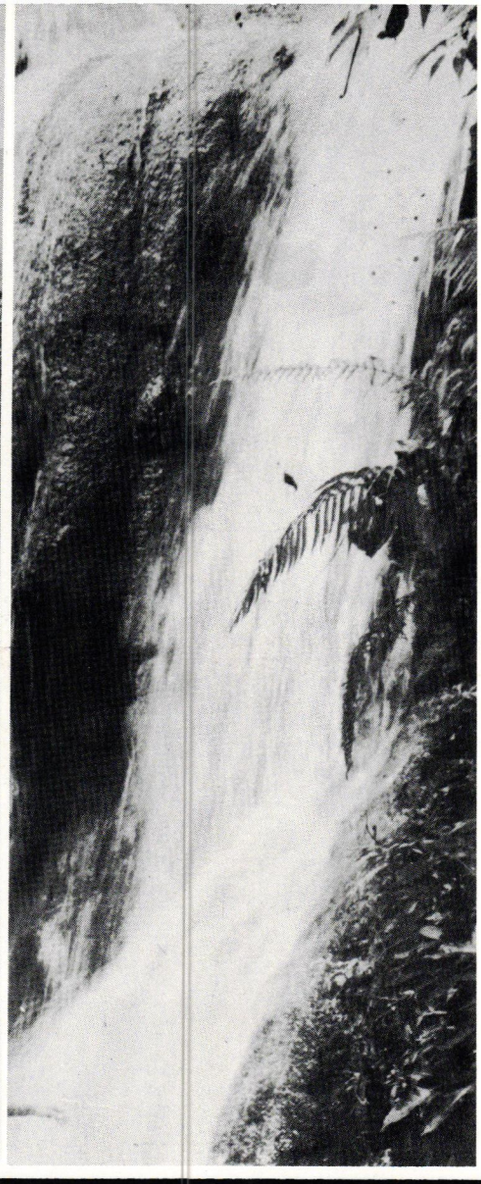
The critical and profound nature of development decisions is evident. A comprehensive approach to any developmental plan, either at a private or public level, is mandatory. It enables co-ordination of the various elements of development and permits a smoother transition toward the achievement of goals. It also affords successful integration of all levels of development, be it local, regional or national.

This highlights the value of skilful planning by a homogeneous team comprised of representatives of diverse disciplines. It is on the basis of recommendations from such a team that a society formulates, selects and pursues its goals by initiating, co-ordinating and ordering, in terms of space, the development of its environment.

Improperly channelled growth, piece-meal planning and indiscriminate schemes can impose undesirable and artificial patterns of life on our own as well as that of future generations. An awareness of the consequences and/or benefits which emanate from developmental decisions and the degree of responsibility exercised in making these decisions, at this particular time of massive expansion, will determine the pattern of living of every individual in this country now and for years to come.

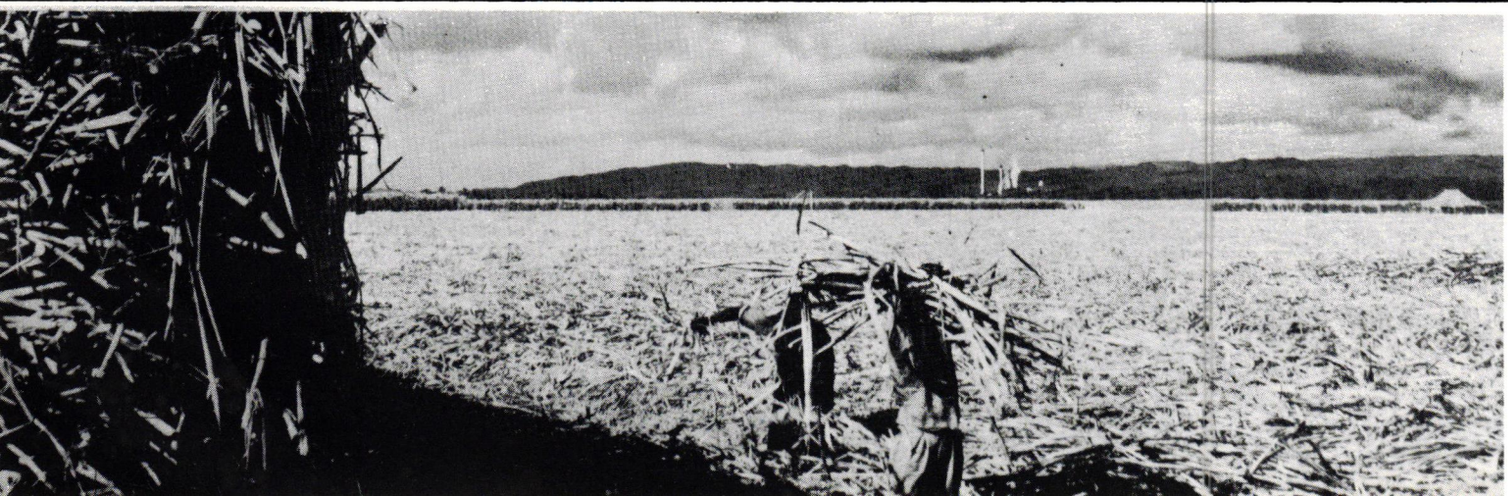
This pattern can be wholesome or detrimental, dependent on the decisions taken now.





natural organic patterns of development

by Peter Soares, Dip. Arch.
Guest Editor for this issue



The physical structure of this country can be described under three main headings; hills, flat land and water (i.e. fresh and salt). There is a central spine of hills down which rain and river water flow to the sea. The flat lands which occur along the coastal areas bear direct correlation to this process. Additional flat land is continually being formed by the washing down of silt onto the plains. Jamaica's rural population is scattered in the hills in countless one roomed cottages built decades ago. The pattern of housing that has been established in these rural areas uses the hillsides for housing, releasing the limited amount of flat land for agricultural, industrial or commercial use. However, no national pattern of land use for our valuable coastal plains has evolved. In fact a great deal of it has been consumed by the coastal cities and towns.

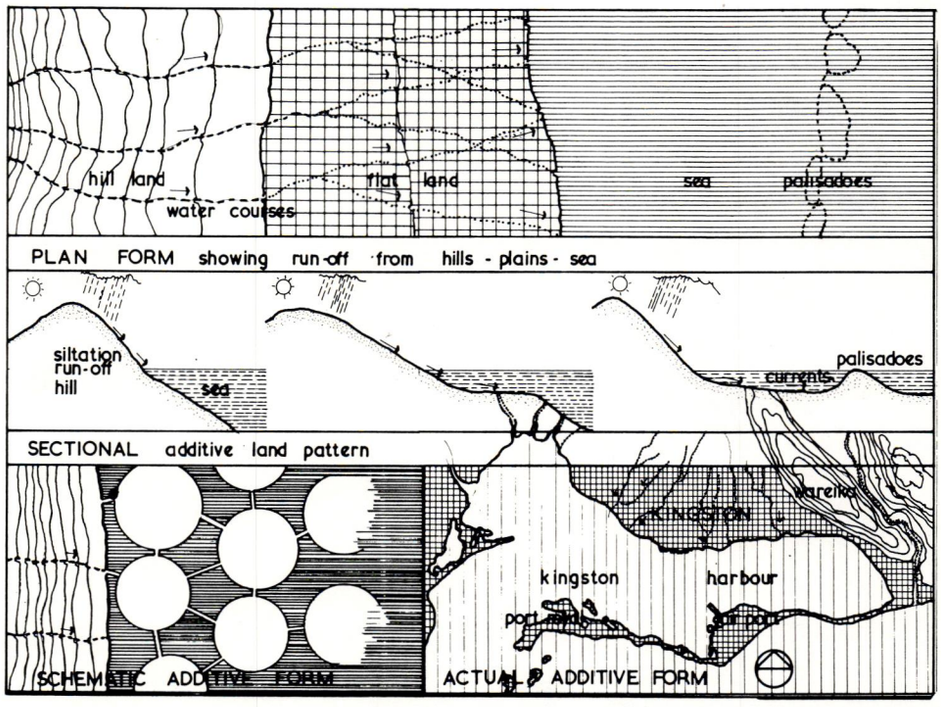
A look around the world reveals the constantly increasing necessity for flat land for agricultural, industrial, commercial and recreational purposes. The urban sprawl of cities should not be allowed to continue to usurp these lands.

We must wake up to the fact that valuable land is being covered with concrete, that harmful polution hazards will be created as these areas grow, and, most important, that our economy will be adversely affected by incorrect consumption of the available flat areas.

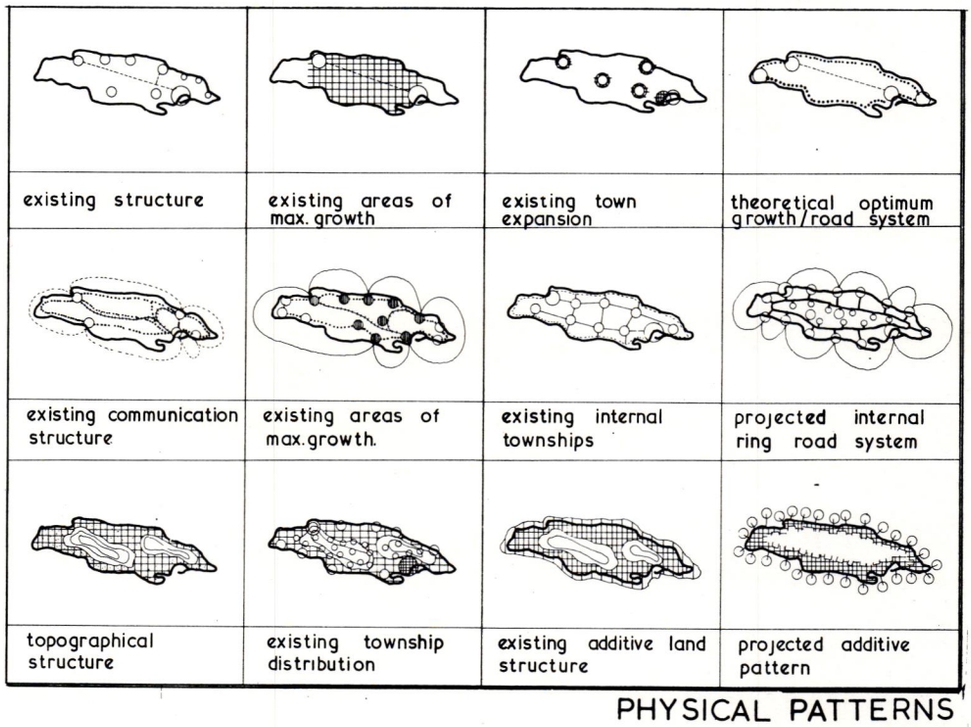
We should begin to reclaim land from our sprawling cities and turn it to more productive purposes.

Nature itself is working for us not only from the hills to the sea, the sea itself with continuous tidal action creates new flat land. The palisadoes as an existing form demonstates a natural pattern of additive land structure which could be emulated by man. By controlling our run-off water and silt deposits we can literally shape new flat land to suit our needs and add new dimensions to our island. This would help to offset improper usage.

Continuing the research into the patterns of development, we must first take cognizance of the communication structure and topographical features of existing communities. Kingston dominates its surrounding areas as do most of the towns which lie on the coastal plains. The adjacent mountainous areas are also influenced by the coastal developments. Communications also tend to follow the line of coastal expansion. Only a few routes which follow the easiest path through the mountains link North to South. Numerous small villages



Physical Structure ADDITIVE LAND PATTERN

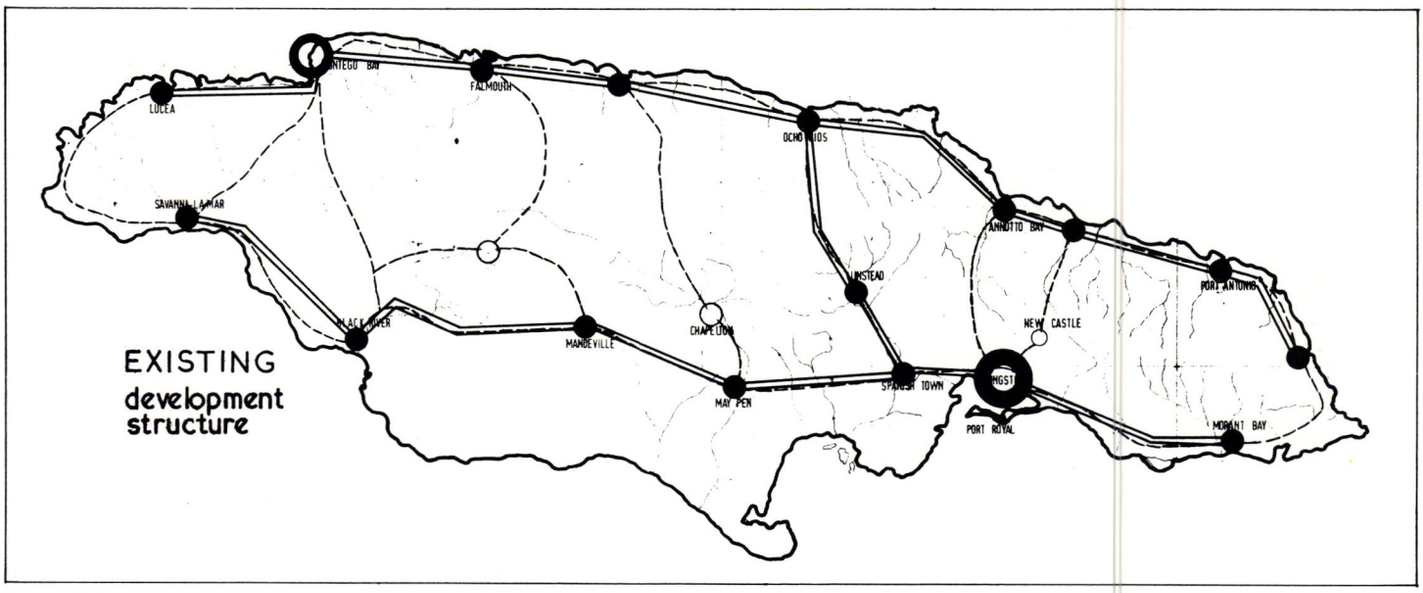


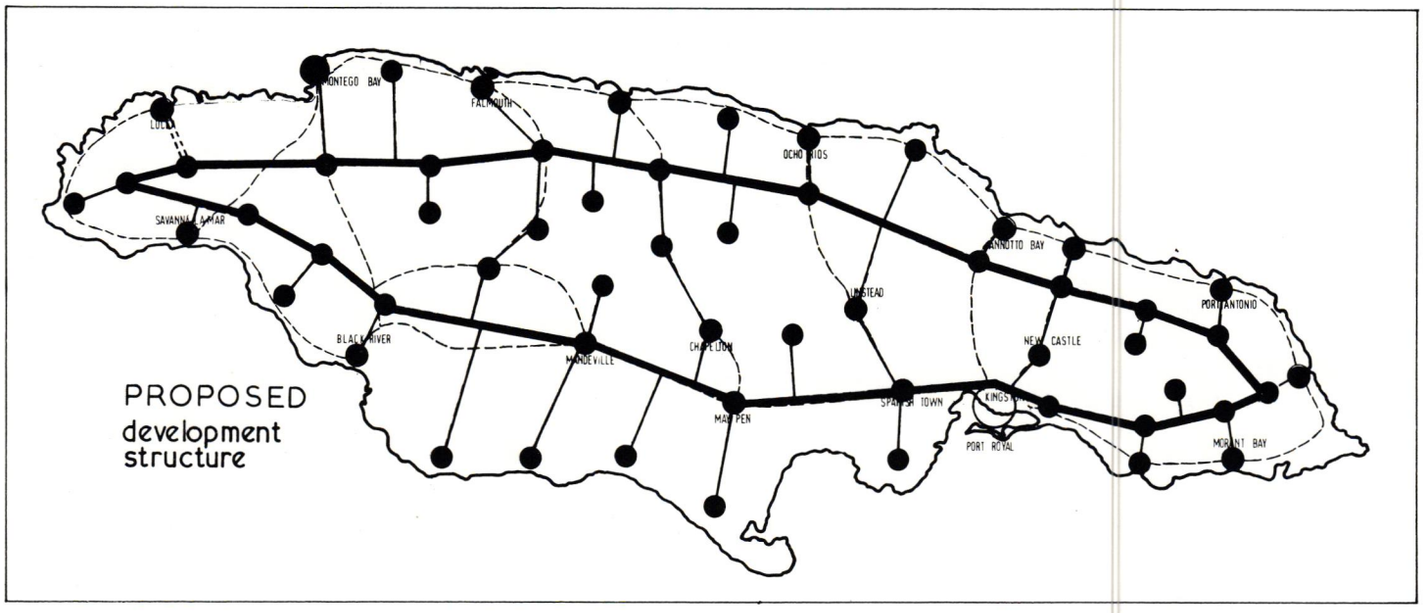
PHYSICAL PATTERNS

have evolved along these internal routes serviced by these main feeder roads.

Taking into account the existing development pattern, one can surmise that, with improved communication routes, continued expansion will take place in the central areas of Jamaica. It is already evident that the major towns along the present internal roads are expanding. However although there has been intense development in Kingston and Montego Bay, and moderate central development, the Eastern and Western ends of the island have remained underdeveloped. If the premis, that improved communication stimulates development, is correct, our path is clear.

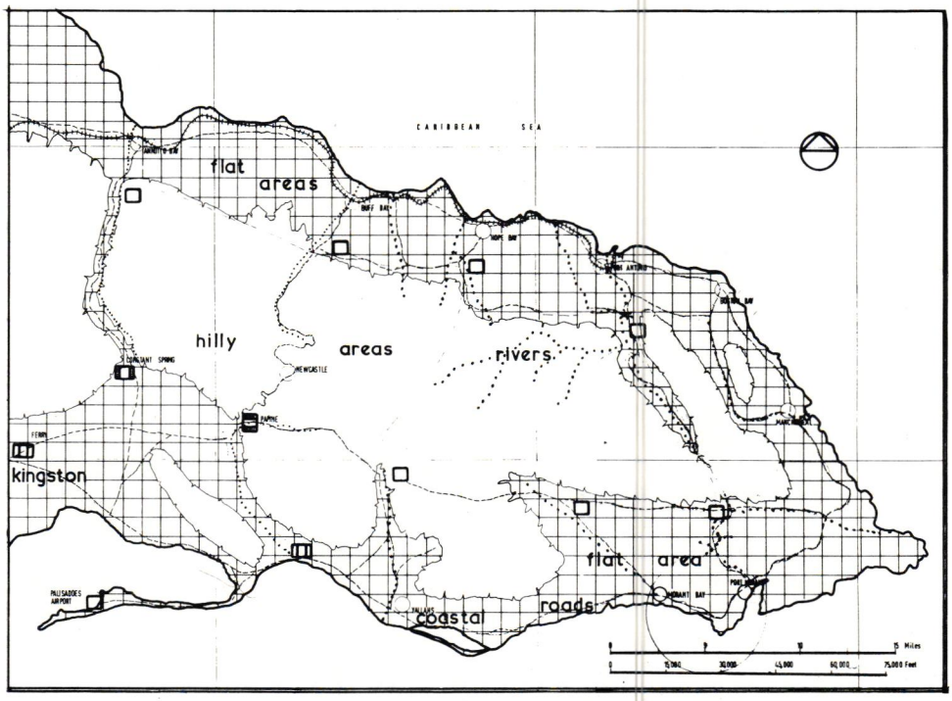
A route which would lie about six to ten miles inland could form a main internal ring road. This encircling road would lie behind the flat coastal areas, leaving them undivided, this route would provide an internal horizontal avenue for the linking up of utilities such as water, electricity and telephones. Easy access would be created between all points of the interior and the coastal areas. Internal industrial development could take place relieving the pressure on the coastal plains. The amenities provided and the improved chance for employment would consolidate the existing rural structure and forestall the exodus from the rural areas



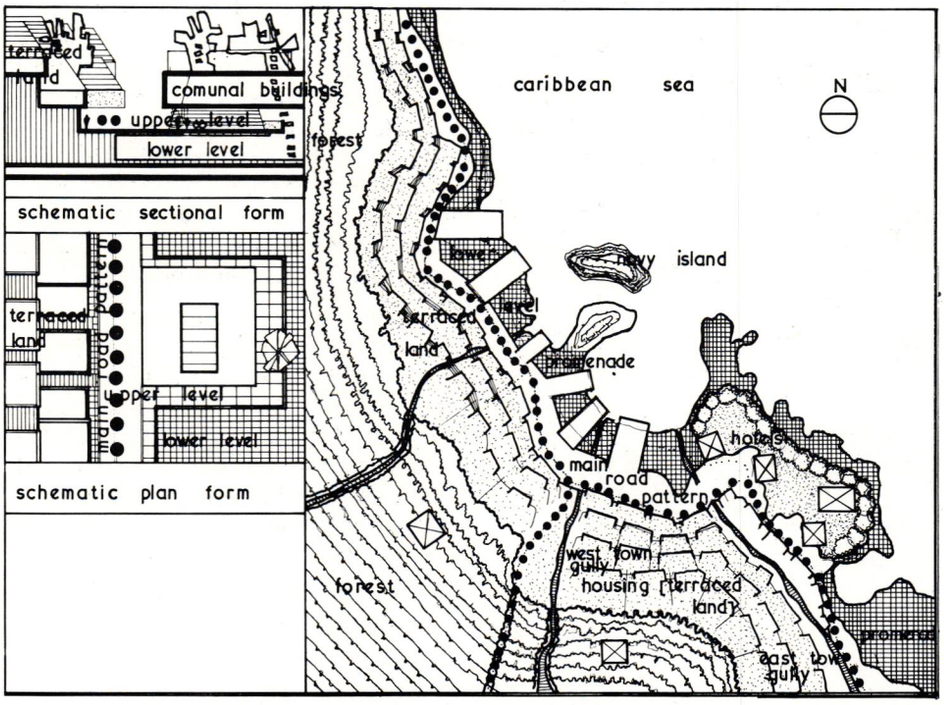


to the coastal towns. The intense development of this route would lead to the releasing of valuable flat land for the right use, delegate hill land to marginal use, and establish once and for all a pattern of land use related to the physical structure of this country.

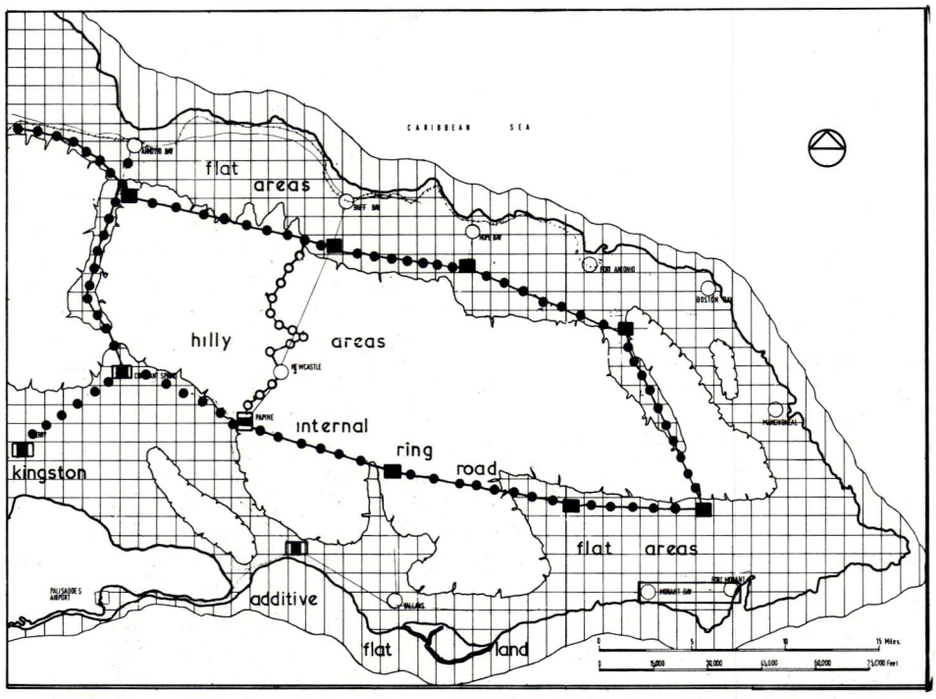
Let us use Portland and St. Thomas as examples for the points raised. Available flat land in these sectors are limited. It could be that the ratio of flat land in an area influences the lack of economic growth. Certainly, the chances for employment are lessened without the development that flat land generates. It is possible that these areas still have to go through the natural process of continuous siltation that will eventually add plains. As has been stated previously, where it is feasible and/or desirable, man may choose to accelerate this process by mechanical means. At present, however, the existing flat land is at a premium and when utilities for development are provided, we must use this flat



PORTLAND physical zoning



Township Study PORT ANTONIO



PORTLAND development structure

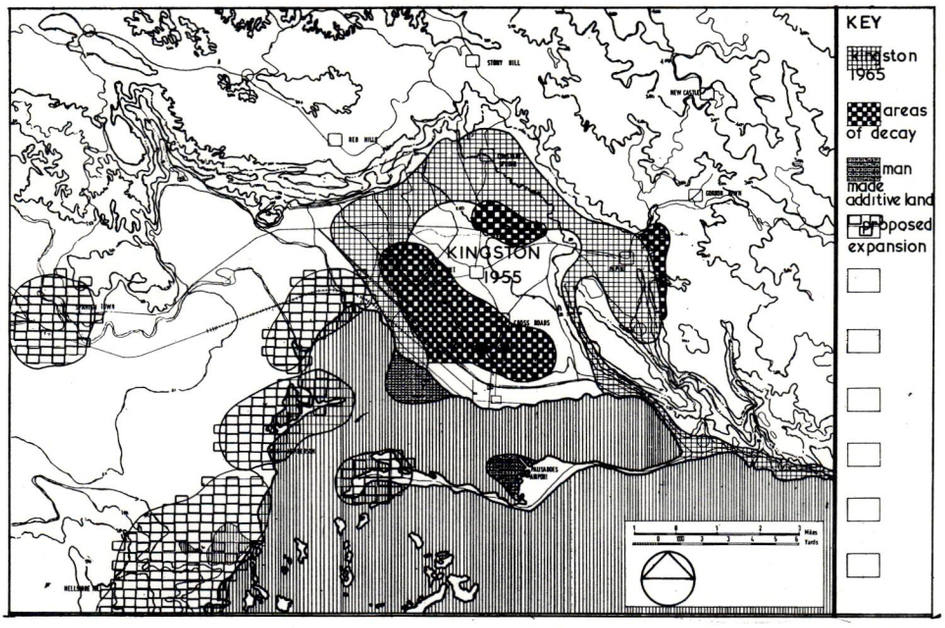
land wisely to balance the economic structure of the area.

The development pattern, as projected, would mean a linking up of internal urban areas such as Bath, St. Thomas and Fellowship, Portland by means of the proposed internal ring road. The Papine road would become a main artery connecting the coast with the ring road six to ten miles inland. The route across the Blue Mountains is diagrammatic, as the exact location would depend on the easiest course, but the projection shows Bath to Fellowship as a feasible road. The ring road would carry the main development load in terms of distribution, commerce, industry and agriculture. Spur roads would project off of the main road towards the centre of the island on one side and towards the sea coast on the other. The existing sea coast roads would then be used primarily as scenic routes and carry secondary traffic. The flat lands could then be zoned for agriculture and other productive usage, for which it is essential, as well as resort facilities. Important townships can be developed along this route and main coastal towns like Port Antonio and Port Morant and Morant Bay (which could be consolidated) would be expanded inland by increased residential development. Even irrigation paths would run horizontally and feed off downwards toward the flat land areas. The zoning, which is purely abstract at the present, would be generated from the physical resources and climatic conditions of the area. Forestry, agriculture, ample rainfall, natural beauty and a cool climate are assets which could foster a new and exciting range of environmental patterns in the Eastern sector of the island. Long term planning for additive flat land development could also be carried through to insure the economic future.

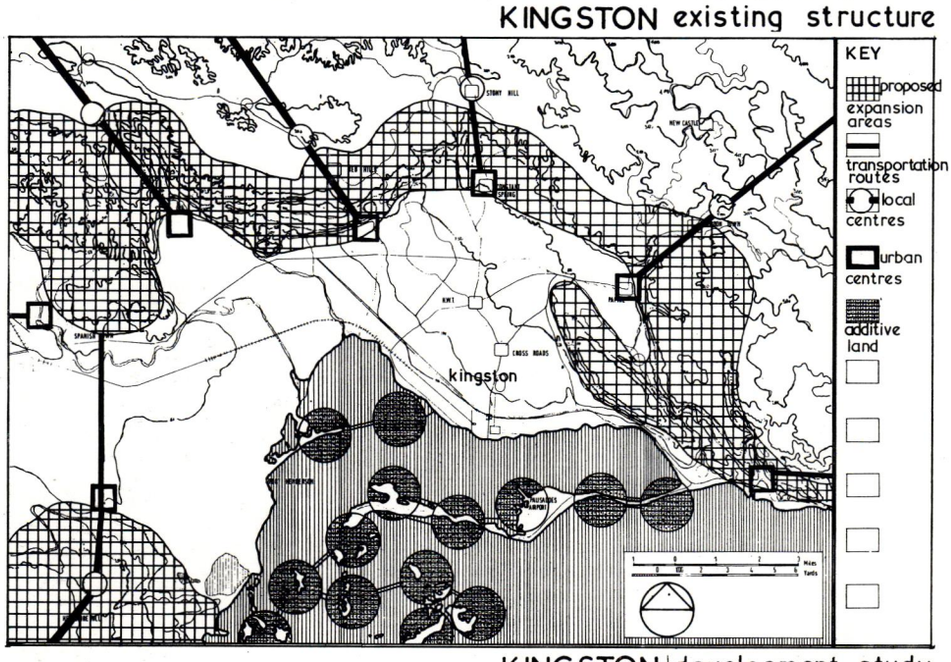
Examination of the coastal town of Port Antonio reveals that it has less flat land than other towns of similar size. Therefore, all existing uses of this flat land which are not compatible with the optimal utilization would have to be relocated. A clear pattern begins to emerge. Housing should not exist on the plains where economic pressure for flat land and the physical shape of the country dictates that other more gainful usage should have priority. It would mean the development of the hills for residential purposes, an ideal arrangement in this tropical climate. These hills would have to be terraced to retard the constant erosion of topsoil. The tops of the mountains should retain their forrestation. We do not want to repeat past mistakes where unchecked erosion has left naked, depleted earth as the legacy for today. Preservation of the natural pattern, and avoidance of artificial zoning which is in conflict with the physical structure and climate, will insure an abundant future.

The purposes for which flat land will be used in Jamaica require far-reaching thought and careful planning as there are conflicting alternatives. If we base our decisions on the background of our existing organic patterns we may evolve a system of land preservation that could set an example for the world.

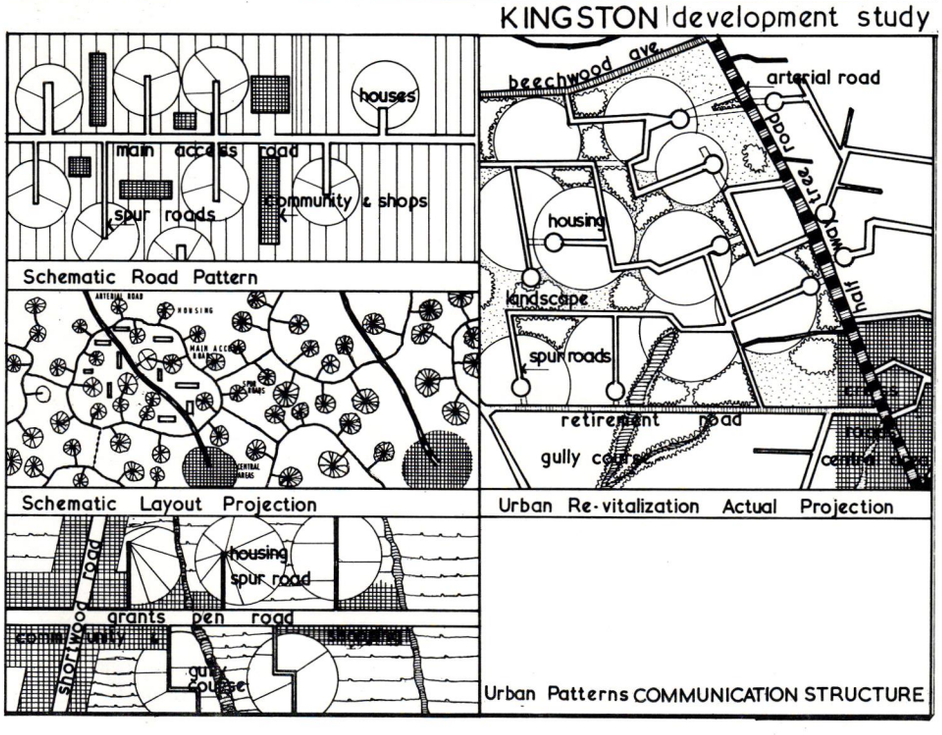
Upon examination of the Kingston and St. Catherine regions one sees that a vast expansion of residential development has taken place over the last decade. Most of it has been located on the plains reaching back to the foothills. Proportional areas of deterioration have accompanied this expansion. Zoning for future development to the West and the East of Kingston, and land reclamation schemes indicate massive transformations. The city of Kingston demonstrates clearly that additive flat land is an organic fact. Superimpose the coast line of ten years ago over its present and projected shape and one begins to



KINGSTON existing structure



KINGSTON development study



realise the magnitude of developmental potential from this system. The lands upon which Kingston and St. Andrew are built are some of the most fertile areas for agricultural development. Yet flat land in this area is still being developed for residential purposes while the delightfully cool hills to the North, the East and the West remain in a state of comparative underdevelopment.

Again if we base our studies on the organic pattern of the land and climatic conditions it would point to the development of hillsides for residential purposes. The main ring road as projected on the national plan would skirt the foot hills of these residential areas. The main roads down to the coast would lead off from the ring road. (i.e.: Papine, Constant Spring, Red Hills and Ferry roads).

Main roads need not contain residential development. Side roads leading off from the main roads in a finger pattern should create residential communities free from massive vehicular traffic. Within this area vehicular and pedestrian traffic could also be separated. Terracing of sloping land would not only prevent erosion, it would relieve the monotony of housing schemes, provide beautiful views and better air circulation. Once more the physical background, including climate, points the way for proper patterns of urban design. When the correct land use pattern has been established, areas may be redeveloped and/or expanded within the same framework as often as is necessary in the future.

Progressing to the sub-structure of areas like Grants Pen Road in St. Andrew, which is representative of many such areas of densely populated communities, one finds an example of naturally evolved proper road planning. There is a main road with community and commercial facilities, a side road for vehicular traffic and leading off from this a series of foot paths along which the dwellings have been built. The additional element of the Gully, an organic pattern of immense significance, is present. There is a separate article on gullies in this issue.

The motor car is beginning to disrupt the Grants Pen area and it is obvious that much more complex solutions are now necessary.

Let us now turn to areas of blighted residential development such as Beechwood Avenue and Collins Green. Where the encroachment of business and industry has not gone too far, these areas can be revitalized by closing off the continued use as through ways by motorists. No residential development

should be entered off Half-Way-Tree Road. Through roads should be cut to the minimum thus discouraging non-residential traffic. The lands should be re-shaped to the natural contour to prevent further erosion, gullies should be landscaped and commercial and industrial businesses will be eased back to the areas zoned for such development. In other words, re-define the communication structure, landscape the organic pattern and restore confidence in these areas for residential purposes.

The area around Mona and Papine has undergone intense man-made development, (i.e., Mona Reservoir, Mona Housing Scheme, Hope Gardens and The University and Hospital.)

Once more the additive concept looms. A series of stepped dams can be built one by one as the need arises. Mona Reservoir was constructed as a complete unit. Had it been placed, as was Hermitage Dam, in a river bed, there would have been the possibility of expanding it to twenty times its present capacity.

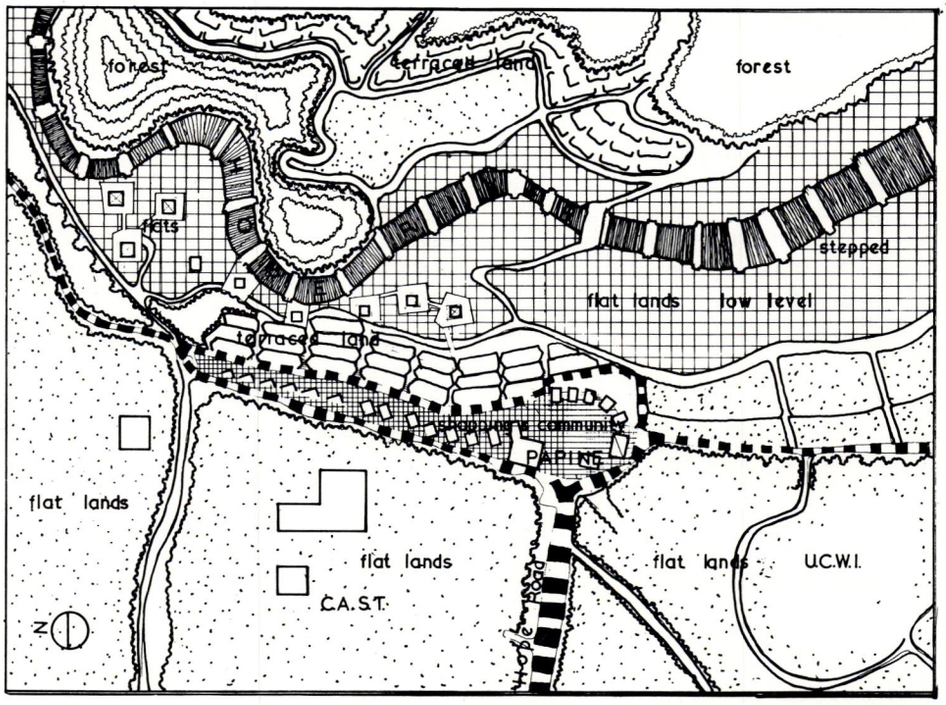
Little by little Jamaica can be conserved and shaped physically into a dynamic, continuously g r o w i n g organism.

The additive principle is not only relevant to land but to housing as well.

The early Jamaican building pattern was uniquely related to the culture of a country with an expanding economy. It was based on a system of additions of rooms or apartments, as needed, to form one organic complex. The original one room dwellings were rectangular. Stone and timber were the building materials. The most significant point as far as Jamaica is concerned is that, as the size of the family increased and/or as the economic and social position advanced, instead of being abandoned, the single cell was added to and often embellished beyond being simply an enlarged dwelling to become a "Great House". In very complex and expensive older buildings one can see the evolvement of this additive pattern. Even now in the tenement areas individual huts are set apart, leaving room for additions.

The homes being built today, however, do not follow this traditional pattern.

These new houses, which cannot be added to conveniently, create one of the most distressing patterns of human existence, the moving family, moving because the house does not allow for change or expansion. The pattern of additive building fostered stability and security because it established a permanent family dwelling.



Township Study PAPINE AREA

Amador Packer photo

A typical Jamaican homestead

On the other hand, some individuals, in an effort to anticipate future needs, start building houses on a grand scale and either fail to complete them, because of lack of funds, or have to turn them into inadequate multi-family dwellings.

Transient occupants do not take care of property and these new houses, large and small, soon deteriorate into slums.

The resources of this country are not sufficient to permit this. The fault lies in trying to impose a pattern of building which is unsuitable for this country.

The additive pattern is fundamentally organic and economic; a growing family, or a growing business, and a growing income naturally leads to expansion. The unit by unit growth of biological cells is only a more dynamic form of the additive pattern. Many natural patterns, if interpreted by architects, could be developed into human forms of settlement.

The additive modular could be a unit of advancement for Jamaica. It could turn the tide in the approach to building in Jamaica. A small dwelling could, for instance, be built for five hundred pounds (£500.) and be expanded as needed to a full size house. From the

initial stage to the final stage proper planning could insure architectural merit, preserving the aesthetic appearance of the countryside.

The additive system would also re-establish the possibility of a permanent family home. It would encourage ownership by ambitious young people with modest incomes and stimulate incentive and pride in the maintenance and improvement of their property over the years.

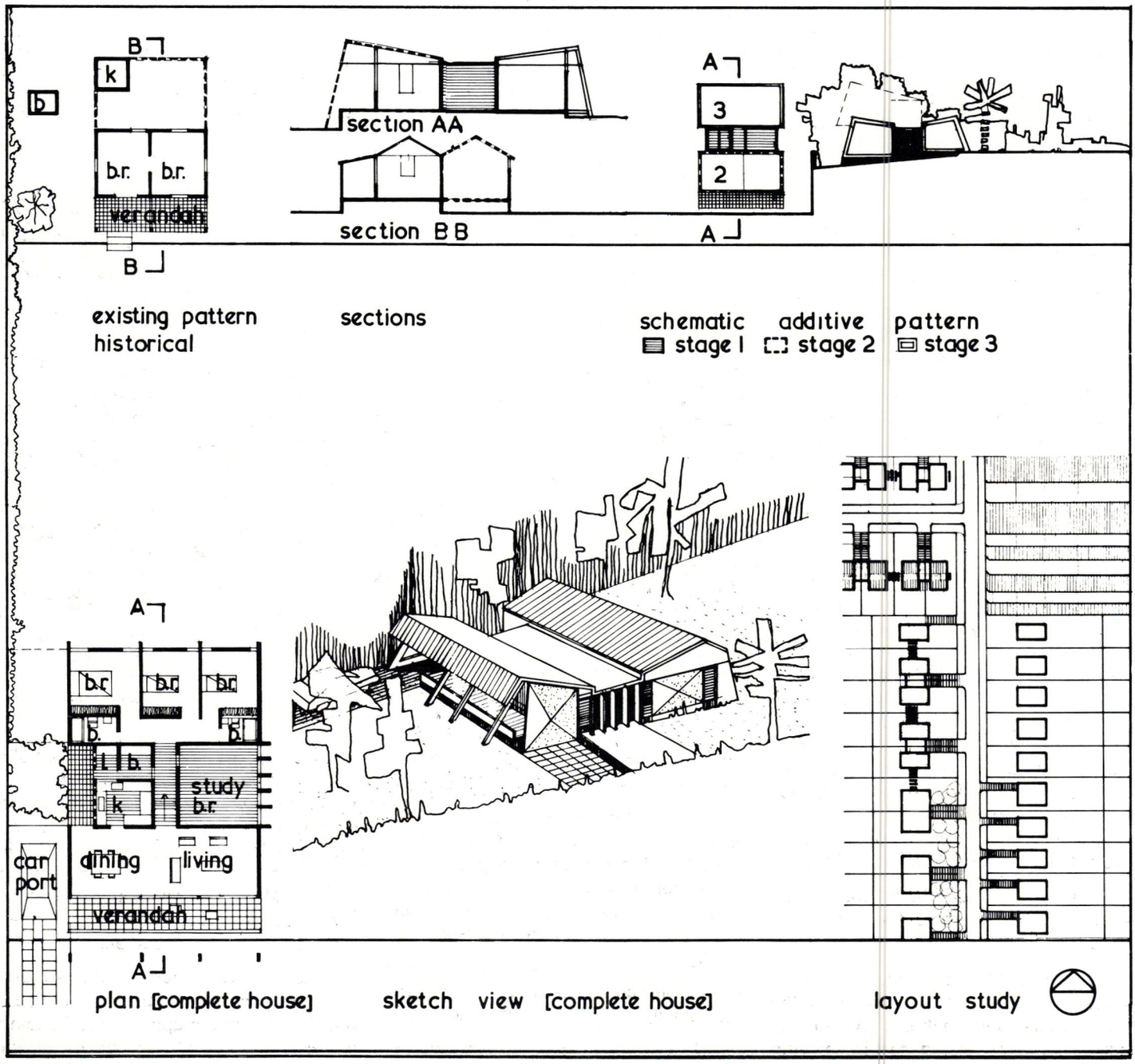
The fabric of a country is born out of the culture of domestic building. If this additive concept of building is renewed and interpreted to adhere closely to our tropical pattern of living, a truly indigenous type of architecture could emerge.

If we place all of these themes against the backdrop of the physical and climatic features the foundation of an architecture truly related to tropical conditions will be laid.

In order to begin, we must explore topographical and climatic components as they exist. We must study the various living patterns that have evolved. We must project our thoughts and envision what the future could be and carefully plan how best to preserve and develop this physical and cultural heritage. The obsolescence of false environments being imposed is now evident.

Environment is a compendium of physical resources, climatic conditions and social patterns. All of these elements are fused together. If any one of these parts is misrepresented the result is spurious. People become the victims of that deception.

Housing Study ADDITIVE HOUSE



For further reference to this house please turn to the "Buildings Section", page **72**

KINGSTON and her GULLIES

by R. A. Brandon,
Dip. Arch.,
A.R.I.B.A., A.I.P.D.

A gully, or dry water course, is an act of nature. In Jamaica the main lines of drainage follow a North/South axis, while our coastal cities and related urban patterns have spread over an East/West axis. Proposals for future development are also on an East/West basis. The result is that natural lines of drainage are cris-crossed by lines of communications, growth patterns, city development, housing, attendant services, road, rail, electricity, water and telephones, forming a checker-board pattern across the landscape. At times of natural phenomena, such as excessive rainfall and hurricanes, this man-made checker-board will always be in conflict, resulting in a pattern of destruction familiar to us all.

In capital cities throughout the world there has always been some topographical concourse or related natural formation of land or water which has formed a nucleus around which the city was born and developed.

Traditional cities and organic growth have some similarities, regardless of the differences in the natural environment. These similarities, however exist only in communications and services essential to city life and the human scale and its functions. The problem of relating all this seems to gain identity when this human scale with its diversity of existence and complex patterns of working, sleeping, eating and playing, is related, by man, to the natural environment. It is inevitably at this point in time, unfortunately, that proper consideration of the relation to the environment is relegated to second place.

London, of all capital cities of our time, has been most fortunate. This can be attributed to (1) the River Thames, in the beginning the primary avenue of communication, transport and (2) as a result of which there developed an inland city secured and protected by natural lines of communications.

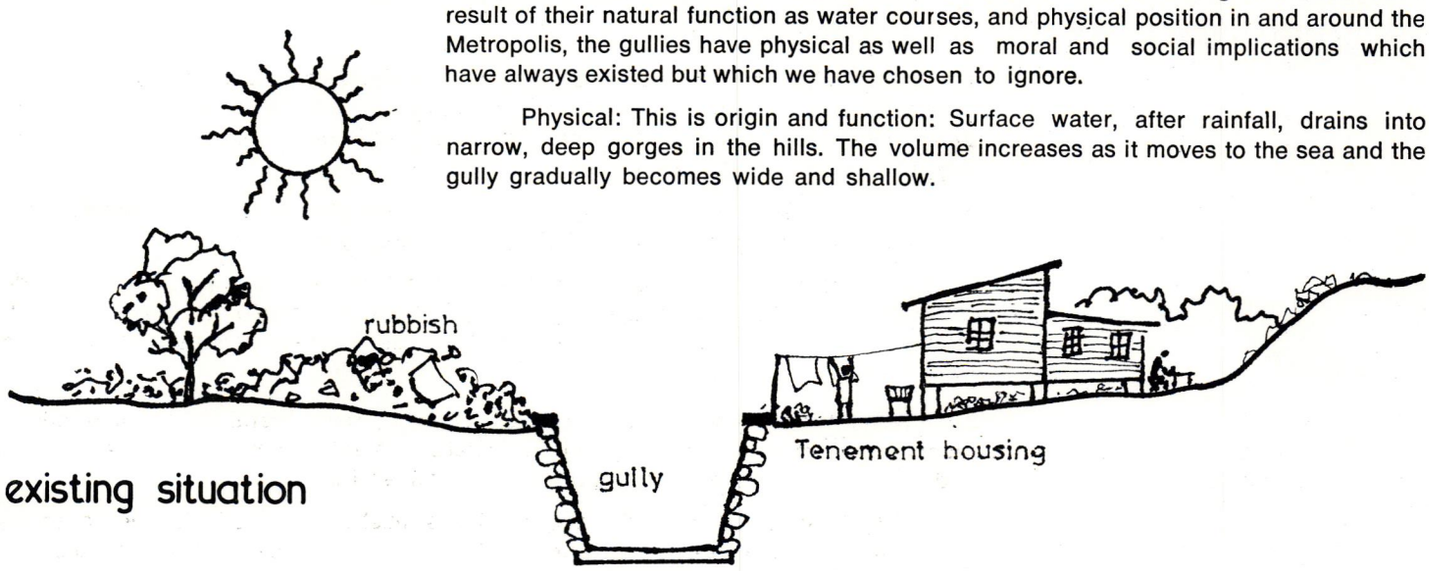
As a city grows, parks and green space following topographical lines are to be cherished and protected as a means of relieving the stark lines of the materialistic concrete jungle.

In developing countries today the path of progress and development is sometimes like that of nature, spasmodic, and along the lines of least resistance. Faced with seemingly insoluble problems, we, in Jamaica have habitually imitated other countries. These imposed solutions, are, at best, only compromises which are seldom truly applicable to the situation here.

Kingston, Jamaica, is a city on a plain, sited primarily because of the harbour and the protection offered by the Palisadoes. The greater part of the corporate area is urban St. Andrew, surrounded by steep hills. The waterfront was the nucleus of birth but the subsequent urban expansion ignored the natural landscape and particularly the gullies.

These gullies form a series of snake like surgical scars throughout the city and the urban areas, beginning at the foothills of St. Andrew and ending at the sea. As a result of their natural function as water courses, and physical position in and around the Metropolis, the gullies have physical as well as moral and social implications which have always existed but which we have chosen to ignore.

Physical: This is origin and function: Surface water, after rainfall, drains into narrow, deep gorges in the hills. The volume increases as it moves to the sea and the gully gradually becomes wide and shallow.



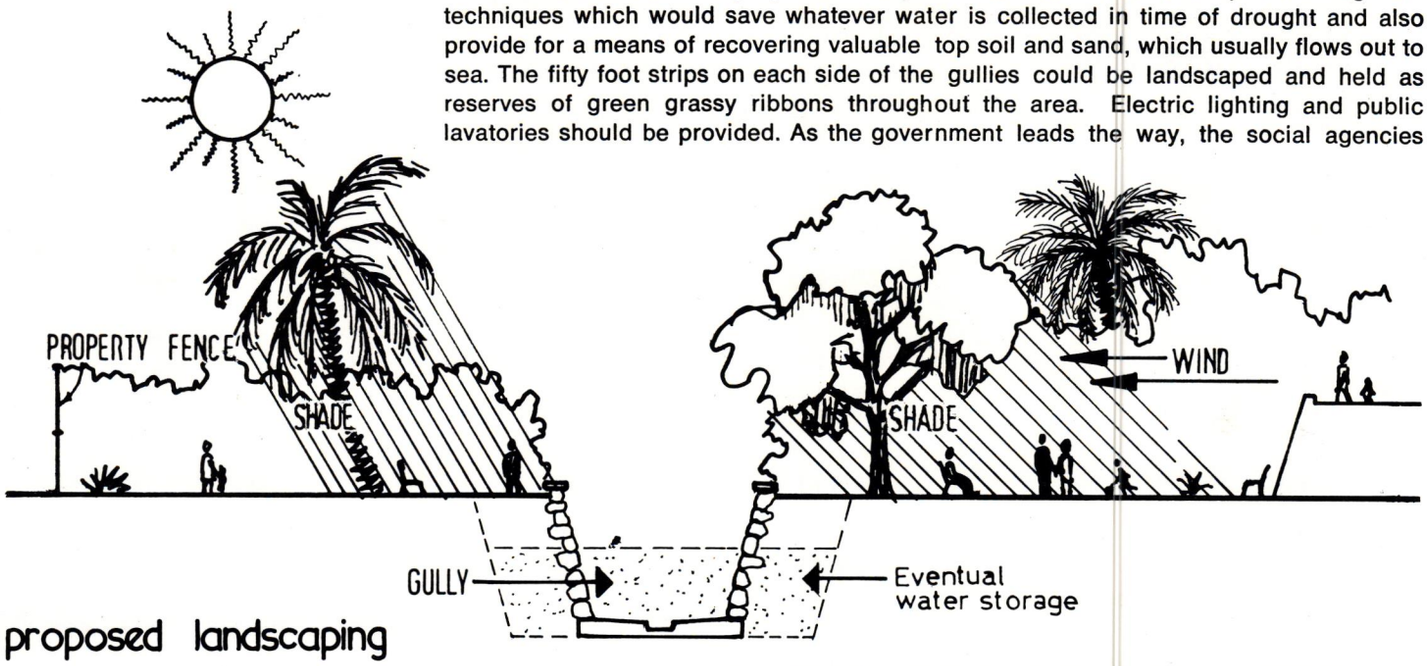
Social: This is responsibility and conscience: Due to neglect and social irresponsibility by the public and government, gullies have become crime breeding avenues of the Metropolis. Tenaments, slums, middle class housing, commerce, industry, education and development are all affected by them. These ready-made highways, some paved and some, earth-bottomed, provide an excellent environment for the law

breaking elements of our society when not functioning naturally. This is seventy-five percent of the time in any twenty-four hours. Gullies have also become garbage dumps for rubbish, dead animals, old cars, and generally anything unwanted. To add to the confusion, attempts over the recent years at improvements, e.g. the paving of gully bottoms, have only resulted in increasing the capacity of the gullies in all aspects of their present use. The gully has become a breeding ground of physical and social decay.

Moral: This is argumentative: It is felt that the physical and social implications together impose a moral obligation upon the society. Gullies in their natural state are eye sores at the best of times but their misuse by other agencies will eventually infect the whole society. Society tacticly accepts their appalling condition and effects to be as inevitable as sun, wind and rain. The existing conditions create multitudinous problems for the police, the health and welfare departments, city administration, urban planning and services and communications of the metropolis.

The most recent improvement to gullies has been the six mile stretch over Sandy Gully. The Scheme consisted of planning and creating a proper channel, the paving of the gully itself, and the creation of a proper land reservation of fifty feet on either side of the water channel. These land reservations just exist at present, representing a single-mindedness of thought which by just existing as is, will attract, collect and breed the same problems.

Solution: This is a proposal: The gullies themselves could be paved using dam techniques which would save whatever water is collected in time of drought and also provide for a means of recovering valuable top soil and sand, which usually flows out to sea. The fifty foot strips on each side of the gullies could be landscaped and held as reserves of green grassy ribbons throughout the area. Electric lighting and public lavatories should be provided. As the government leads the way, the social agencies



proposed landscaping

will surely follow in providing benches, attractive shrubbery and most important, trees, to provide form and shade and reduce evaporation of water from the channels. With proper maintenance, a pedestrian parkland could be created which would serve the city and urban areas in the following manner.

1. They would add tremendously to the aesthetic appearance of the corporate area, providing housing, commerce and industry with nearby parklands.

2. By virtue of their existence in various sections of the metropolis, these parks would serve to relieve pressure in high density areas by serving as havens for safe relaxation by children, factory workers, clerks, businessmen, shoppers and tourists alike.

3. It would foster a joint effort between Government, the general public, and private property owners to accept the physical, social and moral responsibility for the provision and maintenance of these areas and the adjoining environment.

Physical: in the sense that the parklands must be provided with the necessary amenities and receive constant care to maintain the aesthetic appearance.

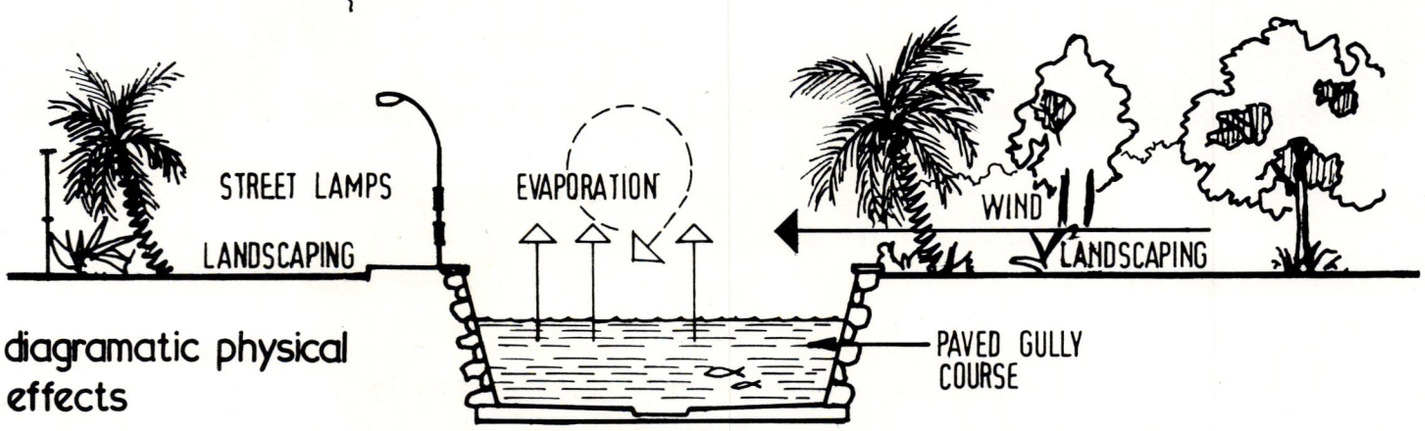
Social: in the sense that the proper agencies must control and maintain vigilance against crime and health hazards throughout the areas.

Moral: in the sense that the government, private property owners and the general public are charged with the ultimate responsibility of planning with good intent, for the nation and the generations to come.

4. Through experimentation with plant structure on a large scale we may return to the area some of the cooling effects and breezes with which the country parts abound. The gully courses would be ideal for this.

5. The environment created along the gully courses, will, because of its universality, give new meaning to experiences of social class and building structure as it relates to the human scale. The use of these areas by children for structured or non-structured play will foster respect and better understanding, and gradually help to eliminate the existing social barrier. This could serve as a model for development throughout Jamaica by working with the jungle and not against it.

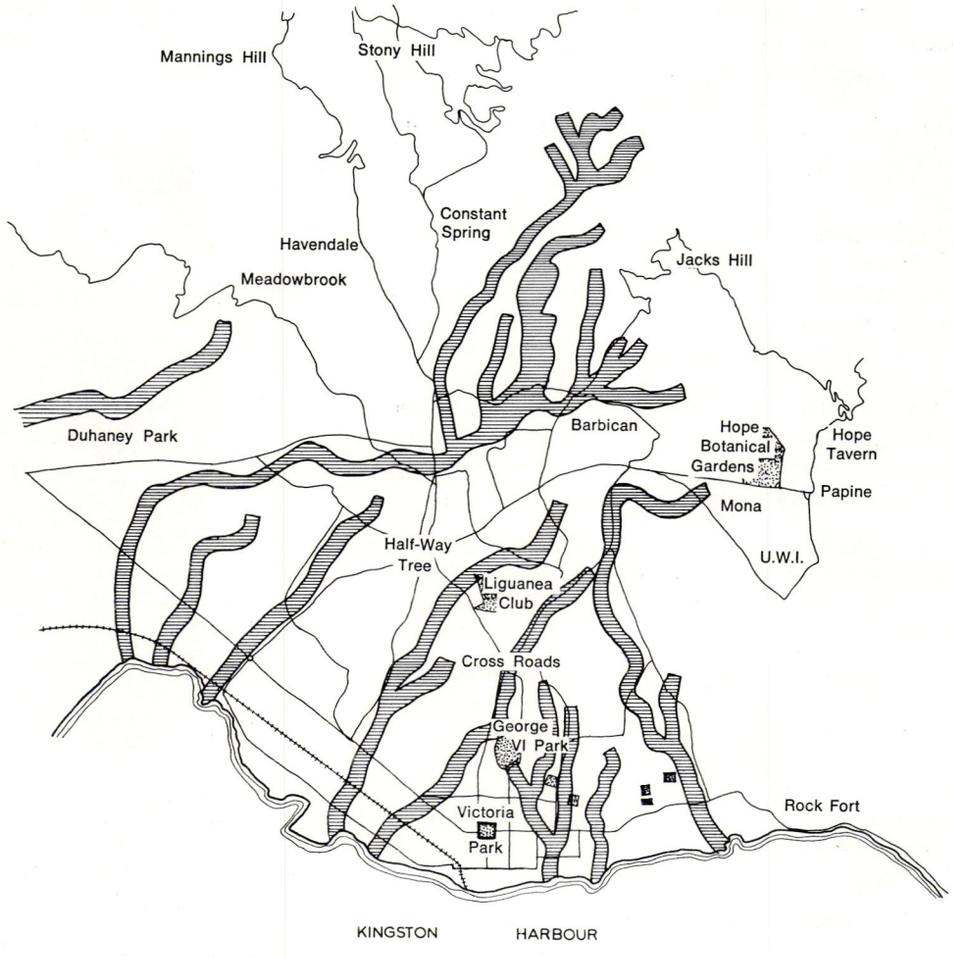
6. The streets and roadways would be cleared of the non-designed uses which at present create traffic hazards.



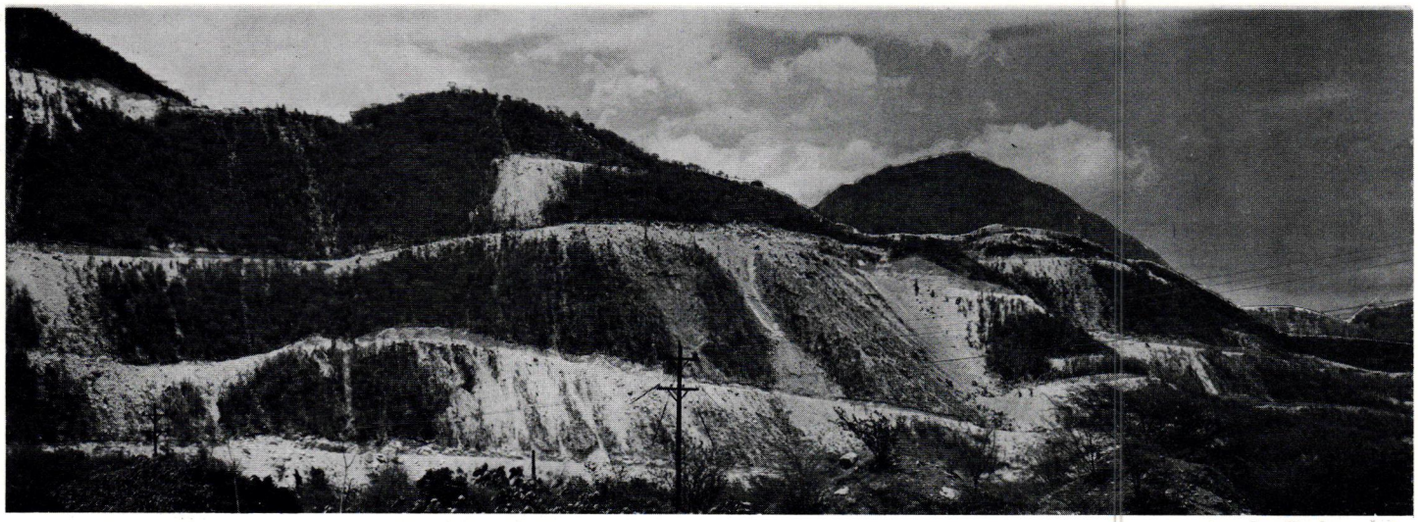
diagramatic physical effects

The reality of space and its uses within the environment means **conscious awareness** of what is space, i.e. enclosure, or both. **Conscious awareness** of anything leads to complete and continuous participation. Participation leads to action and action can bring favourable results.

We must recognise the gully as an act of nature and be true to the nature of its creation.



Shaded areas show extent of Gully Courses throughout the Corporate Area. These could become reservoirs and parklands.



Amador Packer photos

Landscaping or Landscraping

by Aimee Webster DeLisser

The danger in Jamaica now is not recurrent problems from trades union rivalry, nor even that jealousy towards foreigners which in succient phrase, the former Director of Tourism, John Pringle, described as nervous nationalism.

Jamaica's danger is in the Jamaican people's active hatred of their land. This is a violent hatred, making Jamaicans gleeful as bulldozers tear into limestone, ripping open and baring the very vitals of Jamaica. Soil, created during countless eons of accumulated leaf fall along with hidden waters and secret risings of streams, are torn away. Many Jamaicans hail such destruction as 'Progress'.

From my window, I see domed triple concrete roofs splayed on prefabricated walls of a residence costing some £20,000. Soon, I daresay, a pretty hibiscus hedge and beds of alien rosebushes will embellish this success token. From a once green vista, stripped now of its covering trees, the scoured land falls away in tumbled boulders and raw gulches. Birdsong is forever silenced since there no longer is leafy shade in which insects had lived and chewed diligently to make fertile topsoil. The precipitation of moisture is replaced by tangible heat from new concrete.

A charnel is the word that springs to mind. Restoration would be at vast expense. That lost view is of infinite sadness. This symbol of modern prosperity is repeated all over Jamaica.

Cumpulsive ravaging of the land of Jamaica is due to ignorance. It has long been abetted by Jamaica's concept of educational advancement as through purely academic scholarship. Significantly, in the University of the West Indies' first 21 years, among 3,147 graduates, there only were 70 in Agriculture and 91 in Engineering. The majority, nearly one-third, chose The Arts. No muddy hands nor weary backs for these citizens.

For a century-and-a-quarter defiance of the land of Jamaica has been fostered by agitators who have associated it with servitude and with hatred.

Land hatred was born when the first European set foot on this island and brought the slave. The white man hated it because he had been lured here by the Protector's false promises of "mines of tinne, of pearles and precious metals:" and the black man hated it because he was a chattel on the land.

All over Jamaica land is being laid bare and being left to the mighty forces of erosion

Free and bonded, both were chained on the land, toiling in the sun's blinding glare, cowering before the whimsicalities of hurricane, earthquake, flood. There was no escape since neither white nor black had what the wider world wanted — certainly not knowledge of the planting time of cane, the grinding of sugar or the seasonal fullness of banana, coconut or citrus.

I think, for I have heard them wonder, that the investors who are constantly being courted to come to modern Jamaica, laugh at Jamaicans' land folly. Elsewhere, people are protective of their land, permitting no one, least of all the stranger, to tear out plants, fell trees or alter contours without strict surveillance.

Much of the land vandalism in present day Jamaica is contrary to law; for another island people, the English who earlier possessed Jamaica, had recognised that it is an island of limited size and erodable formation. So they enacted protective legislation, and instituted the Town Planning Office, Department of Forestry and National Water Authority. Prohibitions against unrestricted burning of vegetation, were introduced during Jamaica's colonial years. Also, the English inserted clauses in mining licenses to ensure restoration of plantlife to mined land.

What was unforseen, therefore not provided against, were the indiscriminate ravages of the bulldozer across the hills which are Jamaica's beauty and peril.

In their little capitals, principally Kingston, the English laid their roads very low, the buildings standing as much as 20 feet above the curb. It is an interesting speculation that upper Church Street, Duke Street, King Street might have been formerly gullies, their sides straightened and retained by brick to contain and channel to the sea, run-off from background mountains.

As Kingston pushed upward to St. Andrew, pastureland became residential. A paternal Department of Plantations and Gardens set example in its own plantings by clothing naked land with fruit trees such as mangoes and ackee. Breadfruit seedlings were sold to householders at 3d each, against today's 5/--. A fervour for cultivation spread through then fashionable districts of Beechwood, Collins Green, Hope and Constant Spring.

Not so today. Witness Mona, Harbour View, Duhaney Park. I know these lots are too small to accommodate conventional tropical trees, however, nothing is done to encourage the many dwarf species which have been developed.

What the English failed to communicate to Jamaicans is that the purpose of a plant is not alone for its fruit, or to pleasure the eye, but to protect the soil!

This year of drought which rivets the eye of even the most uncaring on the train of disasters to vegetation including crop shortages and electric power diminuation which affects industry, is the year to re-direct Jamaicans attention to land abuse.

No new, specialised agency is needed.

I believe and I urge that horticultural organisations such as the Agricultural Society, the flower-growing groups, the Island Beautification Committees whose memberships are widespread, numerous and vocal, get themselves in missionary gear to teach and preach for the preservation of Jamaica's land. Some highly trained soil and plant scientists are here. Cannot their knowledge and experience be harnessed to the heart and hand of the practising growers and land-developers.

The academic and the practical is that powerful combination which could carry the real meaning of land conservation to reality. In such a corps is power, more effective than any legislation, to make vigilantes for the protection of Jamaica's abused land. Converts, rather than more land legislation, are needed.

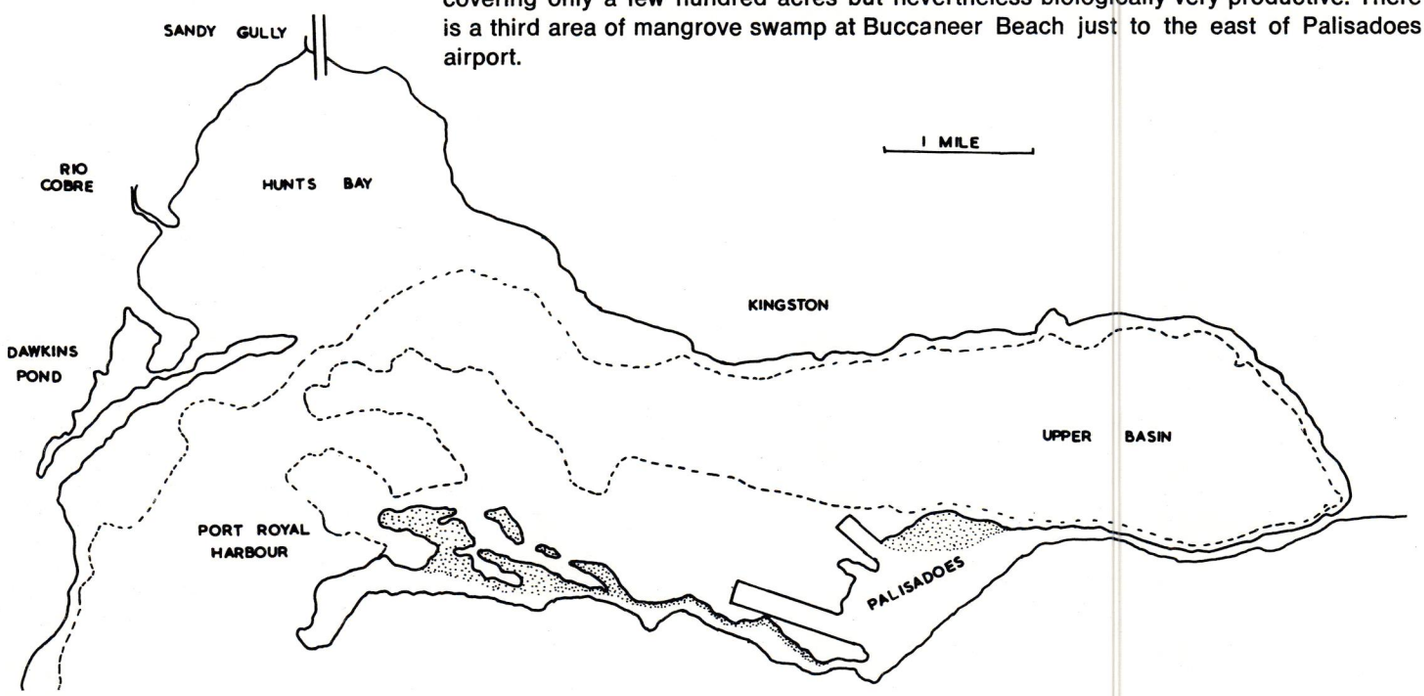
The Impact of Development on Kingston Harbour

by Dr. Ivan Goodbody, Professor of Zoology, University of the West Indies

Kingston Harbour is one of the largest natural harbours in the world and is an area of considerable natural beauty — you have only to drive from Port Henderson to Green Bay to discover one of the finest views in the island. But besides its beauty and its value as a recreation ground and breathing space for overcrowded Kingston, and besides its value as a shelter for ships, it is an area of exceedingly high organic productivity which might be harnessed for human use. For all of these reasons the harbour can be considered as a national asset which must be looked after and preserved for future generations of Jamaicans. At present the pressures of development are impinging seriously upon the harbour and its surrounds and it is time for a very careful analysis of how these developments may affect the future status of the harbour.

The map (Fig. 1) shows the major features of the harbour. At the eastern end there is a deep basin (The Upper Basin) of about 5.75 sq. miles in extent and of a uniform depth of about 60 feet. In the 18th century there was a channel leading into this basin from the east and through the Palisadoes spit, but this is now entirely closed. In contrast to this basin Hunts Bay in the north-western corner is only half its size and is very shallow averaging only about 10 feet in depth. It has a soft oozy bottom and is subject to considerable variations in salinity due to the influx of the Rio Cobre, Duhaney River and Sandy Gully. In the south-west corner of Hunts Bay there is a shallow pond, Dawkins Pond, now becoming part of a major development programme. Dawkins Pond was one of the most productive parts of the harbour and a major spawning ground for fish, and until recently was surrounded by thick mangrove swamp. Across the harbour at Port Royal there is another area of thick mangrove swamp covering only a few hundred acres but nevertheless biologically very productive. There is a third area of mangrove swamp at Buccaneer Beach just to the east of Palisadoes airport.

Fig. 1.
A map of Kingston Harbour before any development had taken place. The stippling indicates areas of mangrove swamp. The broken line indicates the approximate limits of the 3 fathom depth contour.



Connecting the outer harbour at Port Royal with the Upper Basin there is an area of very shallow water through which runs a deep channel, the ship channel, averaging about 35 feet in depth. One of the intriguing questions about Kingston Har-

bour is to know why this channel has remained clear and unsilted over hundreds, and possibly thousands of years, without it ever being necessary to dredge it. Dredging operations were actually carried out recently, but only to widen and deepen the channel. There must be some self clearing mechanism which maintains the channel open and there are two views on how this may be achieved. On the one hand it is suggested that tidal oscillations flush water in and out through the channel and prevent deposition of silt. An alternative view is that there is a wind driven circulation of water in the harbour which varies according to season. When the sea breezes blow hard they drive water from the eastern end of the harbour towards the west and into Hunts Bay, but since the eastern end of the harbour is closed the water driven to the west can only be replaced by an upwelling of water at Harbour Head and this in turn would create a bottom current running from west to east which would draw water in along the bottom of the ship channel and so help to keep it clear. (Fig. 2). Possibly both mechanisms are at work but at all events there must be a balanced set of water movements in the harbour which maintain this channel open and any interference with these currents may ultimately cause major changes in the ship channel.

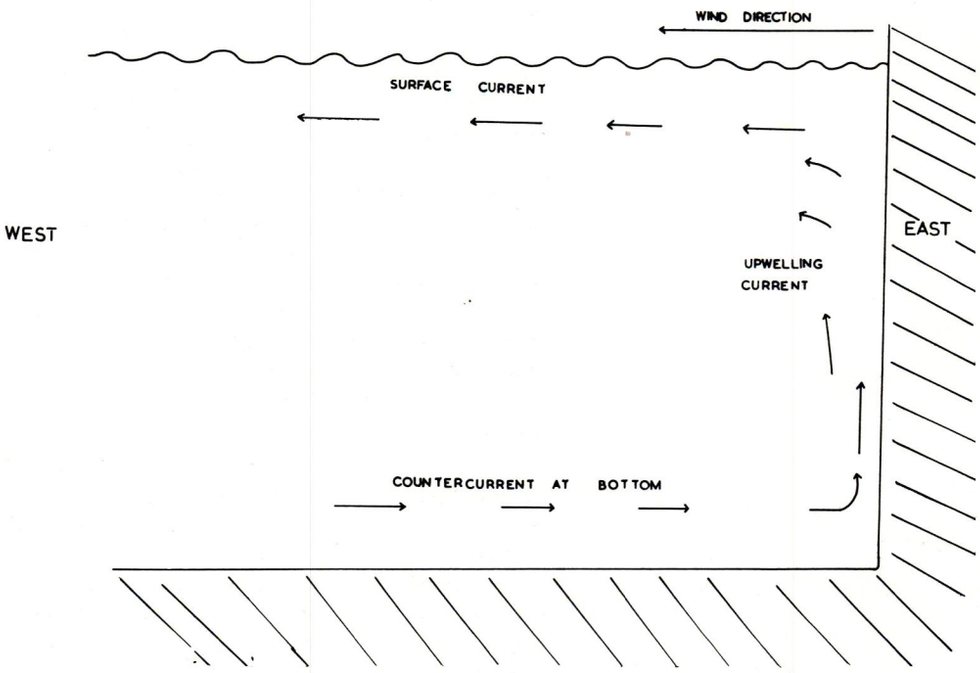


Fig. 2.

A diagram to show how the prevailing wind may create a vertical water circulation in the harbour..

I have said earlier that Kingston Harbour is an area of exceedingly high organic productivity — but what does this mean? We are referring here to primary production or the creation of new living material in the form of plants. There are three types of plant contributing to production in the harbour area — mangrove trees, turtle grass on the floor of the sea and small single celled plants which drift in the surface waters and are collectively known as phytoplankton. This phytoplankton is a major contributor to productivity in the harbour and by measuring the rate at which radio-active carbon dioxide is taken up by harbour waters it can be shown that this phytoplankton is growing and reproducing forty times faster in the harbour than in the open ocean beyond the Port Royal Cays. To sustain this level of growth there must be enormous quantities of nutrient material such as nitrates and phosphates available. These nutrients come originally from land drainage and enter through rivers and storm gullies discharging into the harbour. However the quantities coming in, in this way, are insufficient to sustain the observed levels of growth in the harbour and therefore there must be a reservoir of nutrients locked up in the harbour and accumulated there over thousands of years. This reservoir is partly held in the sediments on the harbour bottom but a great deal of it is in circulation through the biological food chains and as fast as nutrients are being used up in the growth of new plants other nutrients are being released again by the death and decay of plants and animals. Thus the phytoplankton is eaten by animal plankton (zooplankton) which in turn is eaten by fish and all of these are constantly dying and decaying so that there is a continuous re-cycling of nutrients through the biological system. This is a very delicately balanced biological system which can easily be upset by changes in the environment and we shall have occasion to refer to it again.

The turtle grass beds and mangrove swamps also contribute materially to the

overall productivity of the harbour. At present we know very little about the biology of the turtle grass beds which cover almost 2,000 acres of harbour bottom and provide a source of food for many animals including fish. The contribution of mangrove swamp is more complex and requires further comment. Mangrove is a general term for various trees which can live in brackish water conditions and normally have their root systems in the water. Around the base of the trees there develops a rich humus derived from the leaves and fruits of the trees which decay under microbial action. With every rise and fall of the tide, water flows in over this swamp floor and flushes back and forth carrying away some of the rich organic material and nutrients released by the microbial action. All of this provides further food for animals and fish in the harbour or new nutrients for plant plankton. The mangrove swamps are important for two other reasons. Around the bases of the trees some of the roots hang down into the water and provide a holdfast onto which large populations of sedentary animals may attach themselves; amongst these animals are oysters of which large populations exist in Kingston Harbour and especially in the Dawkins Pond area. In addition the shallow lagoons which develop in the mangrove swamp are major breeding grounds for fish and shrimp of commercial importance. Recent work in Dawkins Pond has confirmed that that area was exceedingly important in this respect and the new developments there may alter it so radically that fish will no longer breed there.

This then gives us a very simplified picture of how new organic material is being produced in the harbour in three different ways, all ultimately contributing to the development of fish populations. All of these systems interact with one another and with every other feature of the biology of the harbour. There is, in fact, a rather delicately balanced biological system which has developed over thousands of years and has come into equilibrium with the physical features of the environment. All natural biological systems achieve a balance of this sort whether they be forest, grassland or ocean. All of them are subject to change when there is a change in the physical or biological environment and then a new balance has to be achieved. Changes in the physical environment do not mean that the biological system will be destroyed, instead a new balance or a new point of equilibrium will be achieved. Now in a closed system like Kingston Harbour such changes might be disastrous or they might be highly beneficial, and if we knew enough about the system we might in fact be able to forecast the effects and plan accordingly.

Probably the most serious danger to Kingston Harbour at present is the danger of pollution either by sewage or by industrial waste. We have seen earlier that the plant plankton requires nutrients such as phosphates or nitrates for its growth. No matter how well treated, a sewage effluent will always discharge considerable quantities of these and other chemical compounds into the water, and any discharge of sewage into the harbour will thus act to fertilise the water and increase the growth of plants. But is this necessarily good? To illustrate what can happen we may consider the case of red tides which have been occurring more and more frequently in the harbour in recent years. Every now and again the water in certain parts of the harbour goes a brick red and this is due to the development of enormous populations of a minute plant organism. Red tides of this sort are well known in certain parts of the world and are frequently responsible for the death of large numbers of fish as a result of toxins released by the plants. Such a fish kill occurred as recently as November 1966 in Kingston Harbour. It has been demonstrated for one of these red tides in the harbour that the development of the organisms coincided with a sudden rise in the amount of nitrate and phosphate in the water coupled with a dilution of the water. As this occurred in the eastern part of the upper basin it may not be too far fetched to suggest that these nutrients had accumulated in the soil from cesspits in the Harbour View Housing Estate and had been flushed through underground channels after a heavy fall of rain. Wherever they came from they point to the great dangers of allowing sewage to enter the harbour. If and when Kingston develops a master sewage system, very careful consideration will have to be given to the siting of the outfall. It cannot be released into the harbour, it cannot be released in the vicinity of the Port Royal Cays which are now a major recreational area. The only possible outlet is to the east of Harbour View where the prevailing ocean currents will carry it away to the south west and out of harms ways. But there is another major potential source of nutrient pollution developing in the upper basin of the harbour, at Rockfort. It appears that a fertiliser packing plant is to be built adjacent to the new flour mill and that the conveyor belt currently being constructed will carry not only wheat to the flour mill but also fertiliser pellets to the packing plant. Now as most of these chemicals are likely to be phosphates and nitrates there is a potential danger that spillage from the conveyor belt or on the decks of ships may be washed into the harbour. Since a pound of sodium nitrate is sufficient to fertilise 2 million gallons of water it is easy to see how carefully this operation will have to be supervised. The real truth is that planning permission should not have been given

to site a fertiliser plant so close to an enclosed body of water and it underlines the need for very careful planning of all future development around the shores of the harbour.

The problem of physical development around the harbour is far more difficult to analyse than the problem of pollution but let us take the simplest problem first. It has been suggested that it might help to 'clean up' the harbour if the Palisadoes were to be breached at the eastern end. There was a channel through here in the 18th century and we would in effect only be restoring an old system. It is envisaged that the prevailing wind would drive a current of clean ocean water through the beach and into the upper basin and slowly clean it. Purely on grounds of resort development and recreation this might prove a desirable development but it may be open to criticism on other grounds. Old maps suggest that the Upper Basin was much shallower than it is today and that the deepening occurred after the breach was closed. This could have been effected by the vertical circulation I mentioned earlier and upwelling of water at the eastern end may have carried up fine sediments and deposited them further westwards. If the breach were to be opened again, the effect of the sea breezes would no longer be to create an upwelling at the eastern end, keep the upper basin deep and create a bottom current along the ship channel. Instead any water blown westward from Harbour Head would be replaced by an influx of clean ocean water coming through the breach. Does this mean that the ship channel would then start to silt up and we would need to spend thousands of pounds per annum on keeping it dredged? This sort of problem can only be solved by building a model of Kingston Harbour and testing out on the model what would happen to the current systems if the breach were re-opened.

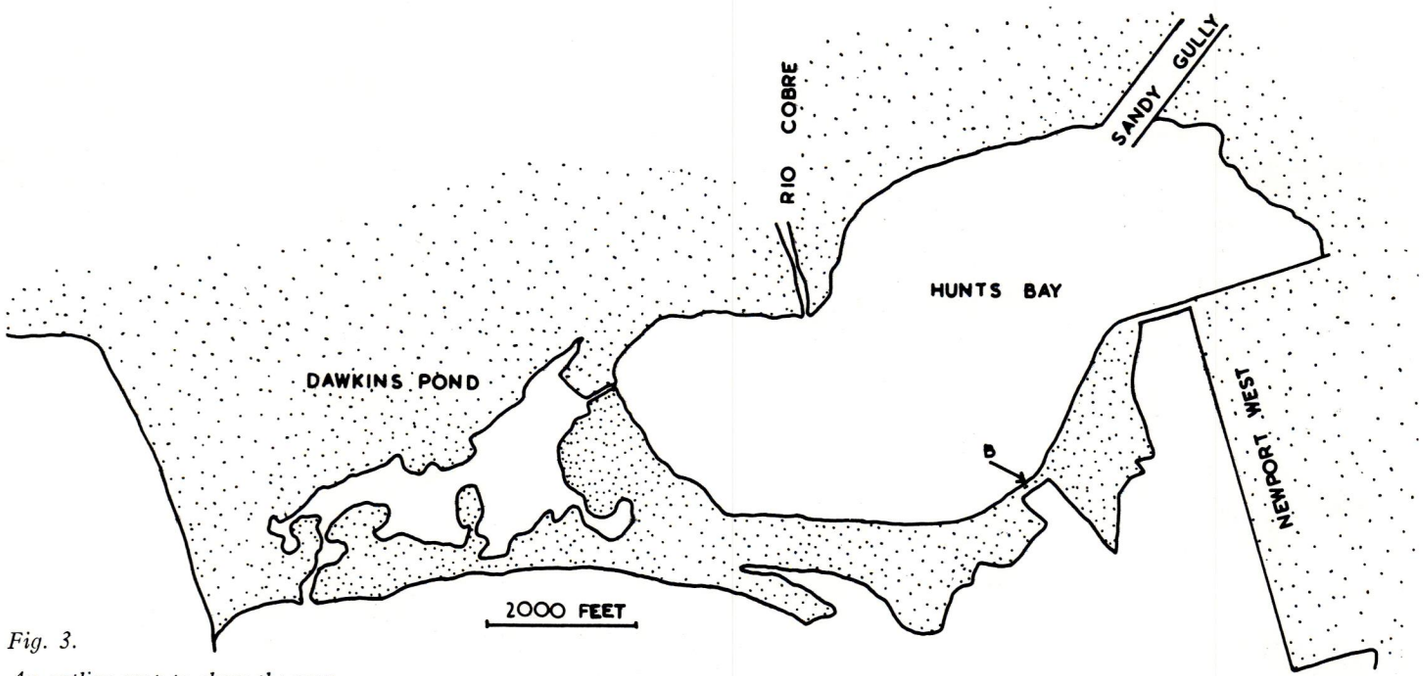


Fig. 3.

An outline map to show the way in which Hunts Bay will be closed off from the main harbour by the new causeway. The arrow 'B' indicates the position of the bridge through which water can flow between bay and harbour. (See also Jamaica Architect, Vol. 1. No. 3. p. 32)

At the other end of the harbour a major development scheme is already underway (See Jamaica Architect, Vol. 1, No. 3. pp. 31 -- 33) at Dawkins Pond and Hunts Bay. This is perhaps the largest single development we are likely to see in the area and it is also economically and socially extremely desirable. Fig. 3 shows how the scheme will look when it is complete with a causeway running from Newport West across to Fort Augusta with only a single small bridge in between. The swamps around Dawkins Pond are to be entirely destroyed and a part of the pond filled for land development. A new channel is to be cut from Dawkins Pond to the Harbour near Port Henderson. We cannot say how all of this may affect the biology or hydrology of the harbour but there are certain comments we may make.

Dawkins Pond was a major spawning ground for a number of species of fish and shrimp and was a major ground where oysters were collected for the market. It is unlikely that it will remain a spawning ground for fish as much of the pond is being dredged to deepen it and the flow of water to the sea will change its characteristics completely. However to compensate for this it is likely that the shallow water of Hunts Bay behind the causeway, which will now be free from the turbulence associated with the open harbour, may become an alternative breeding ground for many species of fish and shrimp.

It is unfortunate that in the execution of this development, 100 acres of interesting mangrove swamp at the entrance to Dawkinks Pond was not totally conserved. Here was the feeding ground for many hundreds of wading birds which nest in the Port Royal swamps and here also was the centre of the oyster industry. It seems that these 100 acres may not have been essential to the development and possibly if more thought had been given to the problem of conservation and if more public discussion had taken place we might have saved for posterity a rich natural area. I believe that this underlines a major problem in the planning of development in this country, that there is not enough opportunity for open discussion before plans are executed and there is not enough opportunity for public discussion. This helps effective planning and speed of development but hinders proper conservation. However, we are planning and developing now, not just for ourselves, but for generations to come and we have a duty to ensure that while creating new amenities we also conserve as much as possible of the natural environment. We need not only enlightened public opinion on the problem of conservation but also some national body such as a Nature Conservancy which can plan and advise Government on the subject.

There is one other concern about the Portmore development — and that is the causeway itself. There is only a very narrow channel left in the causeway and leading from the main harbour to Hunts Bay. Will this upset the pattern of circulation in the harbour and if so how? Undoubtedly the developers have given serious thought to this but one wonders whether this is not another case in which a model should have been made of the harbour and the patterns of circulation tried out on the model without and with a causeway. At present the sea breezes blow water from the east end of the harbour into Hunts Bay without restriction and this water seems to be met by another wind-driven flow of water coming in through the mouth of the harbour. While the wind is blowing at the entrance to Hunts Bay this creates an area of very disturbed water, but this disturbance is cushioned and buffered by the expanse of Hunts Bay where it can dissipate its energy. Can the small channel through the causeway absorb this energy and if not what will happen to the whole system both physical and biological?

The development of Portmore, Independence City and the Hellshire Hills is going to raise one other major problem for conservation in the harbour area. Hundreds of thousands of people will eventually live in this area and will require access to the International Airport, to the 'playgrounds' of Port Royal and to the beaches of St. Thomas. As things are at present they will have to drive nearly thirty miles to get from Portmore to Port Royal and unless major changes are made in the pattern of roads through downtown Kingston they will create a new traffic problem in that area. Would

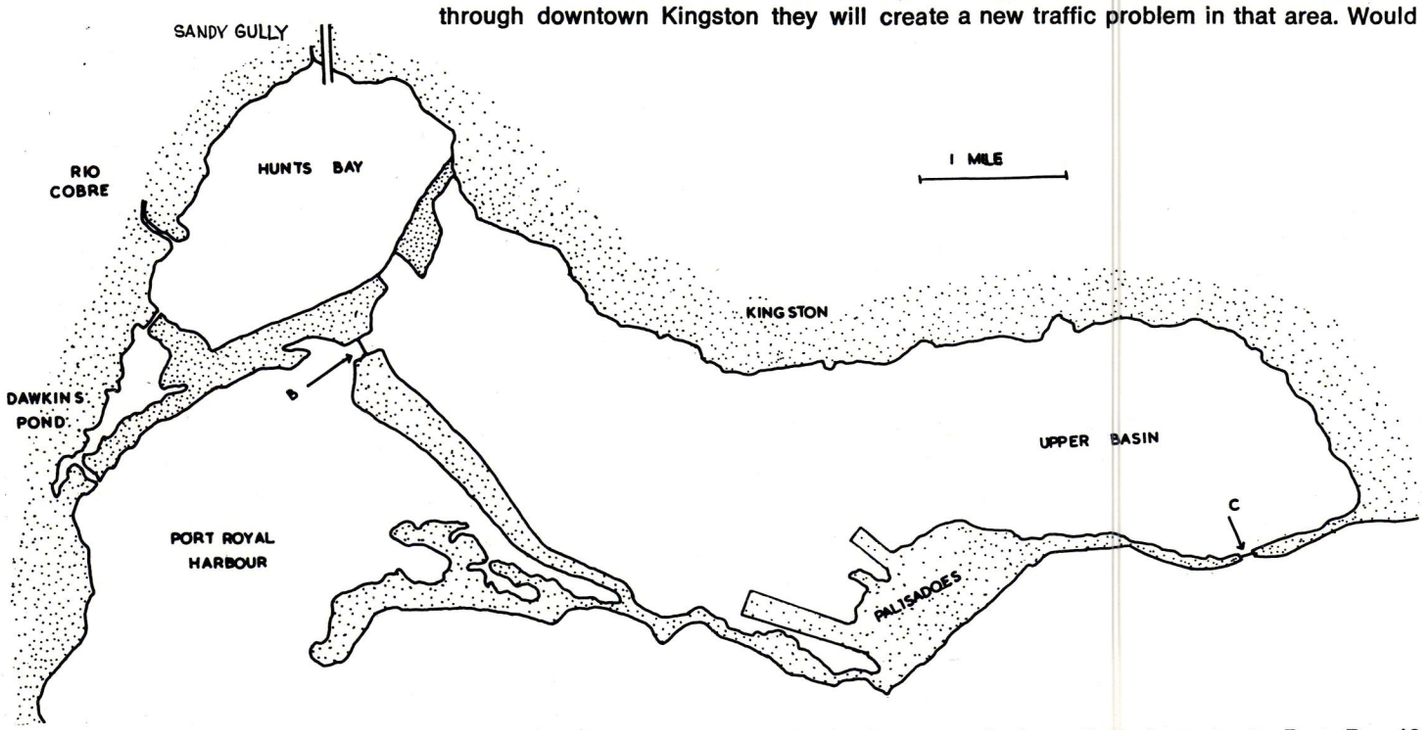


Fig. 4.

A map of Kingston Harbour to show a possible scheme for spanning the entrance to the harbour by a causeway from St. Albans to Port Royal. The arrow 'B' indicates the position of a swing bridge. To maintain circulation of water in the harbour it might be necessary to cut a channel through Palisadoes at 'C'.

it be logical therefore to span the harbour mouth from Fort Augusta to Port Royal? This in fact would be a supremely easy thing to do but would create new and difficult problems. Apart from the ship channel all the ground between Portmore and Port Royal is shallow water and could be filled to create another causeway with only a swing bridge across the ship channel. I have shown in Fig. 4 an imaginary development of this sort in which land fill has been created over much of the area. It does not require much imagination to see what sort of effect this may have on the harbour as

it will almost close the whole area and completely upset the natural flow of water. But could this be done in conjunction with a channel breached through the Palisadoes at the eastern end? Then water might flow continuously from east to west. Once again we need a model of the harbour and its circulation on which we can test such an idea. Almost certainly the model would tell us that this was a most undesirable development and that the only way to cross the harbour entrance is by a bridge on piles so that the water can flow freely underneath the bridge and maintain the natural circulation. But do we really need a bridge? If a major highway is developed along the north shore of the harbour in conjunction with the development of downtown Kingston then the Portmore development only needs access to the airport and Port Royal and this would surely be more effectively achieved by fast Hovercraft services than by an expensive bridge.

What is of great concern to biologists is the danger in any such development to the Port Royal mangrove swamp. This is the richest of all the mangrove areas left in Jamaica and has attracted much attention from scientists both in Jamaica and from overseas. We have also seen that like all the mangrove in the harbour, it contributes a great deal to the productivity for fish and the only oyster collecting ground. Can we afford to destroy it? Whether we can afford to destroy it is a matter of opinion but should also be a matter of concern and public discussion. What is the future of the whole strip, will it become an urban sprawl of roads, motels, hot-dog stands and other amenities of modern life, and if so is that what people want and what future generations of Jamaicans will want? Alternatively will it be saved as a national park in conjunction with the Port Royal Cays? It could be developed as a magnificent national recreation park, but not if a major arterial road is to cut right through the whole area.

In this brief discussion we have seen what some of the problems may be in relation to Kingston Harbour without solving any of them. The future of the area must be a matter of concern to all Jamaicans and should be a matter for open discussion. But this does not apply only to Kingston Harbour, it applies to all aspects of development in the island. The natural beauties and natural amenities of the island must be conserved for future generations of Jamaicans. The present period in the island's history is a period of physical development which may never again be equalled and therefore it is the duty of the present generation to plan wisely for the benefit of later generations. Development and conservation are not incompatible, they can go hand in hand if the opportunity is provided.

Since this article was written the following news item has appeared in the NEW SCIENTIST, 11th April, 1968.

"Model of 'Frisco Bay To Aid City Planners

In order to find out how San Francisco Bay should be developed, to meet the future needs of the city, a 1 in 1000 scale model of the area has been built in a warehouse, at San Francisco. Tidal flow, currents, salt water distribution and shoaling of the bed have all been accurately reproduced. Information necessary for the successful operation of the model was obtained by sending an armada of small boats out into San Francisco Bay to measure, during one complete tidal cycle, the speed of the currents and the salinity of the water, both at several intervals of depth. Echo-sounding was used to determine bed profiles, and tide gauges recorded fluctuating water-levels. The latter have their counterparts in the model.

The tests have already shown that if all the component bays of the inlet were reclaimed to a six feet-depth contour, the more sluggish areas would become stagnant. A less ambitious reclamation programme will therefore have to be accepted by the City Fathers — however pressing the demand for land. Where sewage outfalls present a problem, because local circulation is weak, new sites are being sought. Similarly, where tidal barriers are proposed (to keep sea-surges out and provide a base for highways), adequate flushing will have to be ensured without inducing excessive velocities in the tidal gap.

Probably the most ambitious problem being tackled with the aid of the model is that of limiting shoaling at the entrance to the Bay and along the various shipping lanes. Results so far seem encouraging, for they show that in at least a few instances dredging costs can be reduced simply by relocating the dumping sites; from the new sites the spoil will be washed out to sea rather than be redeposited in the predredging channels. Realignment of other channels is also being considered. Altogether a great deal of information is being gleaned from this model, and the city's planners will henceforth have no excuse for hydraulic mismanagements."

It is the construction of a model of this sort that seems so necessary for Kingston Harbour and this News Item illustrates the sort of information that can be obtained from it.

PHOTO BY NATHAN TAYLOR

art

by Wilf Burton, Dip. Arch., Dip. T.P.

Above: **JORDAN ALMOND SERIES NO. 1**
cast aluminium. 15 in. high

SCULPTOR: RUBIN PEACOCK

The major lines of sculpture can be traced this century: Figurative and Constructivist.

Sculptors Rodin, Epstein and Moore redefined classical forms, essentially figurative, gradually to the abstract. A development continued by Giocometti, Marini and was almost exhausted by the English figurative sculptors of the fifties. This movement essentially involves the modelling of material, romantic, literal and anti-machine.

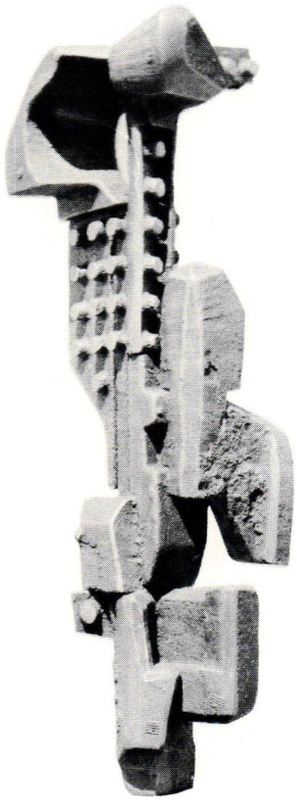
The other source of development was based on an enthusiasm for technology, having its roots in the Constructivist Movement around 1910, and being developed along with the Modern Movement in Architecture, by sculptors Malevich, Gabo, Pevsner and Max Bill. Originating in Russia, it continued in the Bauhaus, and owes its revival in the fifties to American sculptors.

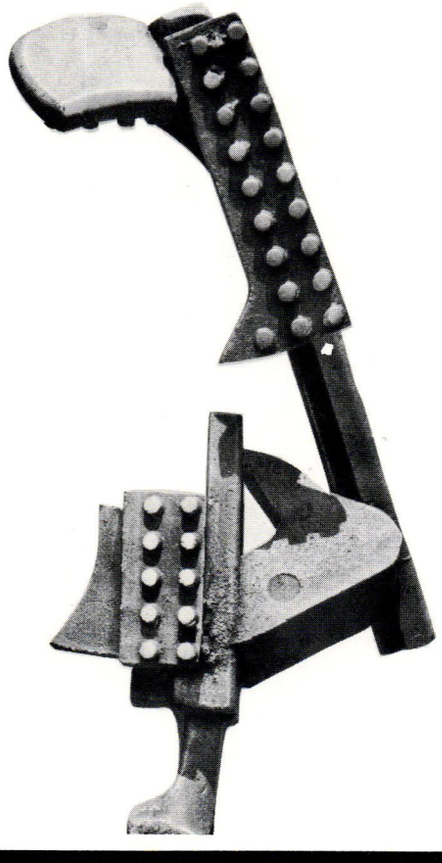
Rubin Peacock is an American sculptor developing an arts programme at the Cobbla Youth Camp, as a Peace Corps Volunteer. It is interesting to see the new direction in his work. Oddly, after leaving a technologically-based society for the isolation of rural Jamaica, his work has changed from the romantic-figurative to a constructivist nature.

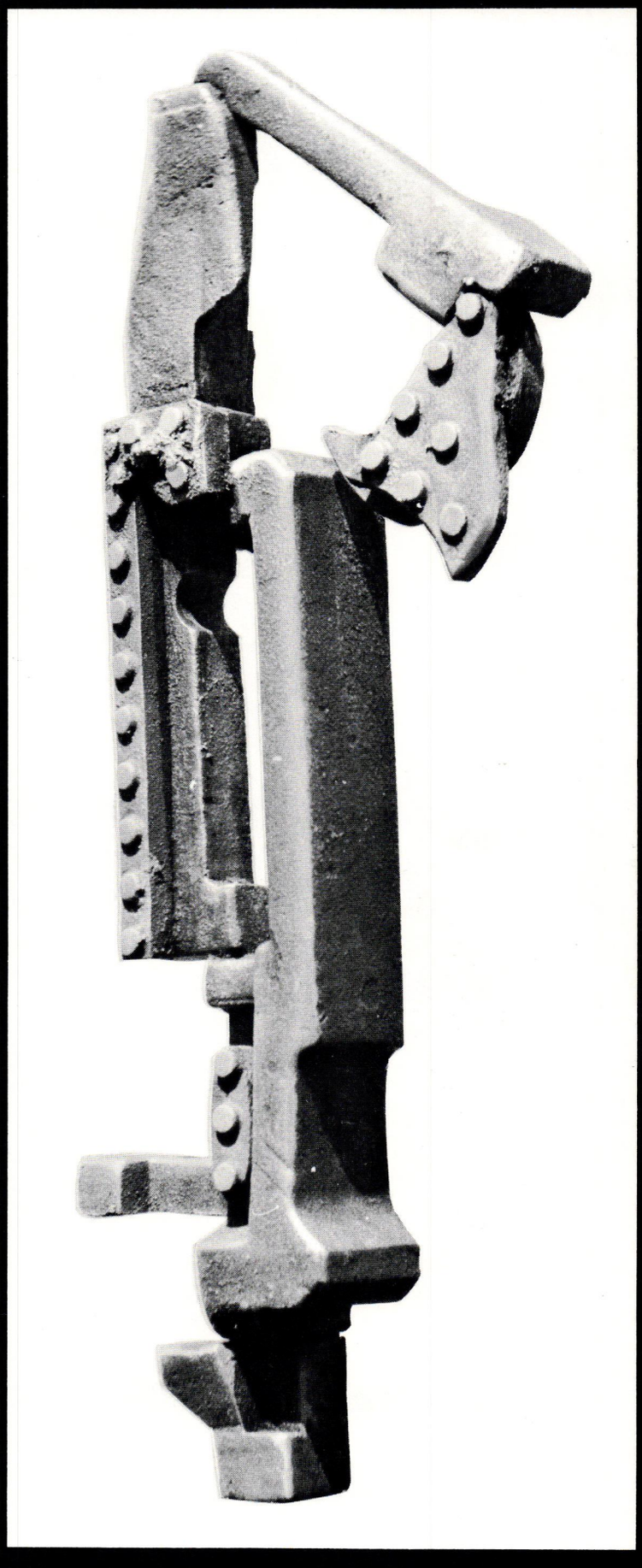
All the work shown is cast in aluminium from an expanded polystyrene original. Three series are illustrated, clearly showing changes from one to the other. The Jordan Almond series is the earliest, figurative man/bird creatures. Next, the wing series, slightly less figurative, and finally the very different constructivist-type Crane series. We see the end of one stage of development and the beginning of a new one.

1	2
3	4

1 — JORDAN ALMOND SERIES NO. 2 15 in. high
2 — JORDAN ALMOND SERIES NO. 3 18 in. high
3 — WING SERIES NO. 3 15 in. high
4 — WING SERIES NO. 4 12 in. high





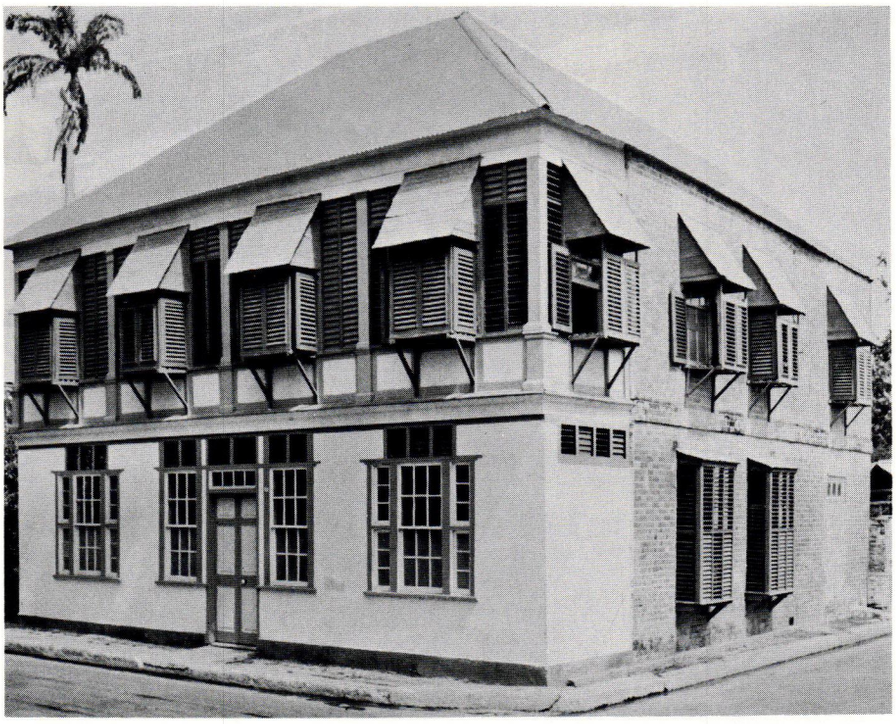


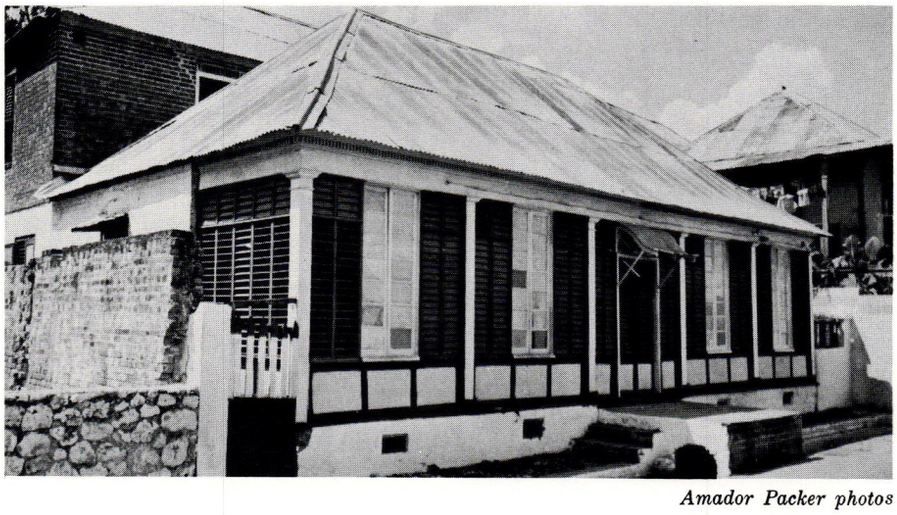
5	7
6	

5 — CRANE SERIES NO. 1 20 in. high
6 — CRANE SERIES NO. 2 24 in. high
7 — CRANE SERIES NO. 3 30 in. high

THE JAMAICAN HERITAGE

by T. A. L. Concannon,
F.R.I.B.A., F.S.A., M.T.P.I.





Amador Packer photos

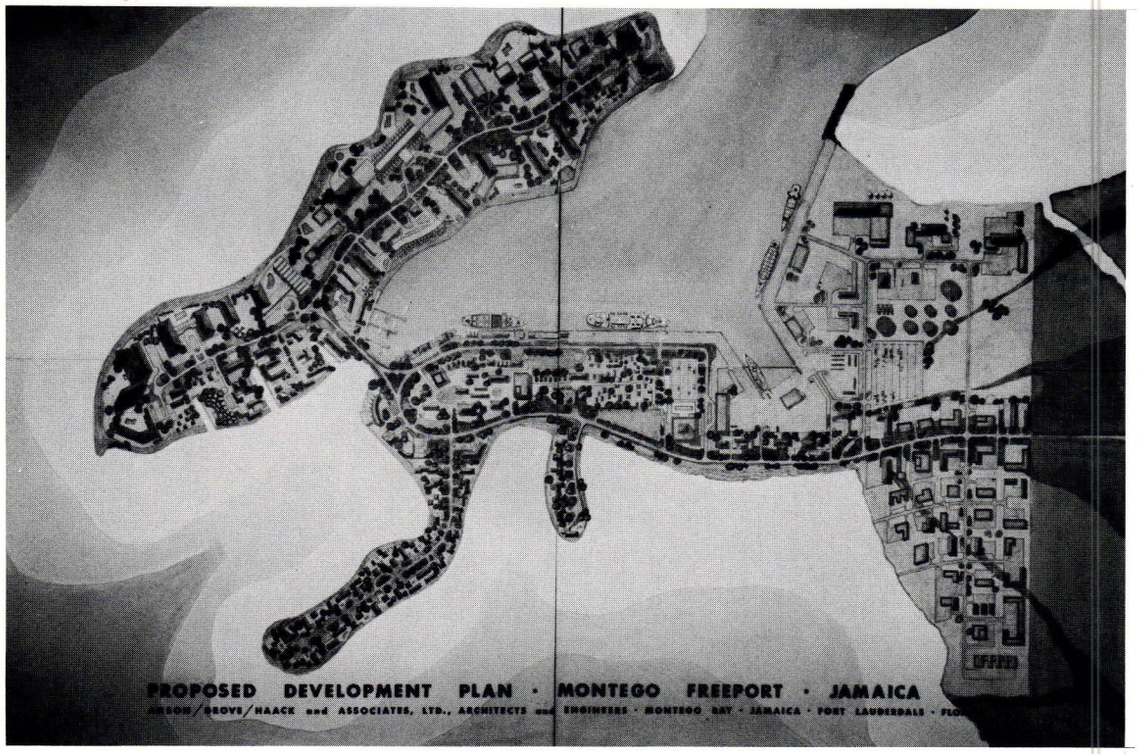
TRADITIONAL "WINDOW COOLERS"

Top The distinctive Jamaican 'window cooler', to ensure privacy whilst permitting light and free flow of air when the window is open, is well illustrated in this Spanish Town residence. The metal covers are evidently an addition, or have been changed, and the ground floor appears to have had originally an open verandah on one side, now filled-in.

Centre Facade of a small house in Spanish Town, a charming specimen of Jamaican 'vernacular' from the first quarter of the 19th century. The casements were probably sashes in the original, with a smaller scale pane. This delightful little house has now vanished, recent alterations having destroyed its special character and appearance.

Bottom An elegant example illustrating the classical foundations of Jamaican architecture adapted from Georgian forms. This early 19th century house in Spanish Town was originally roofed in shingles now, alas, replaced by the ubiquitous corrugated iron.

ON THE BOARDS



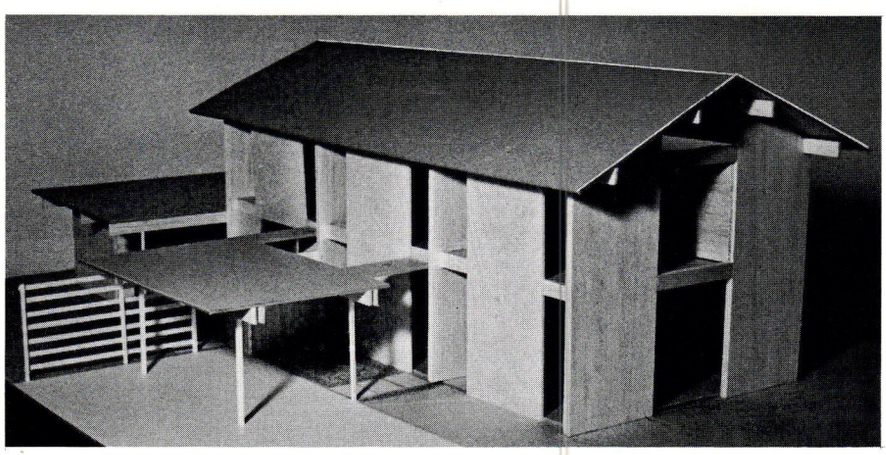
Photograph of Model of proposed Development Plan for Montego Freeport

Anson/Grove/Haack & Associates Ltd., Architects & Engineers

Frank Mair photo

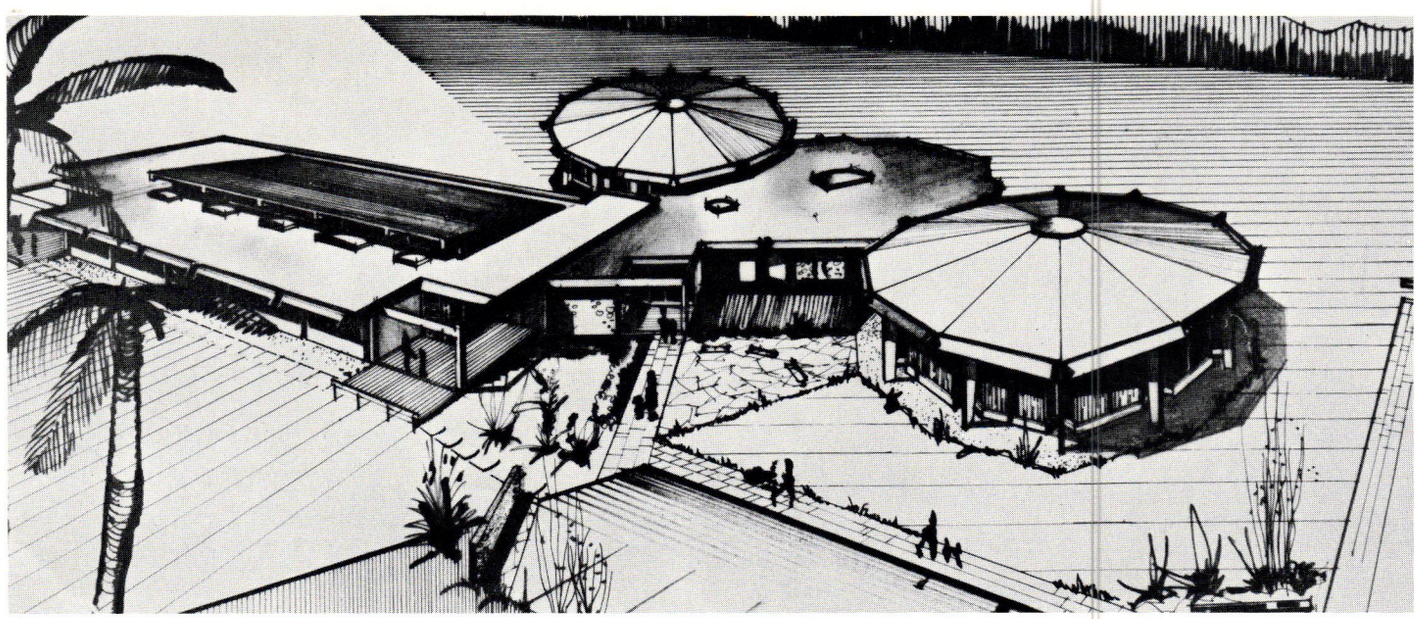
Model of design for Braemar Housing Scheme

Architect: David G. Kay

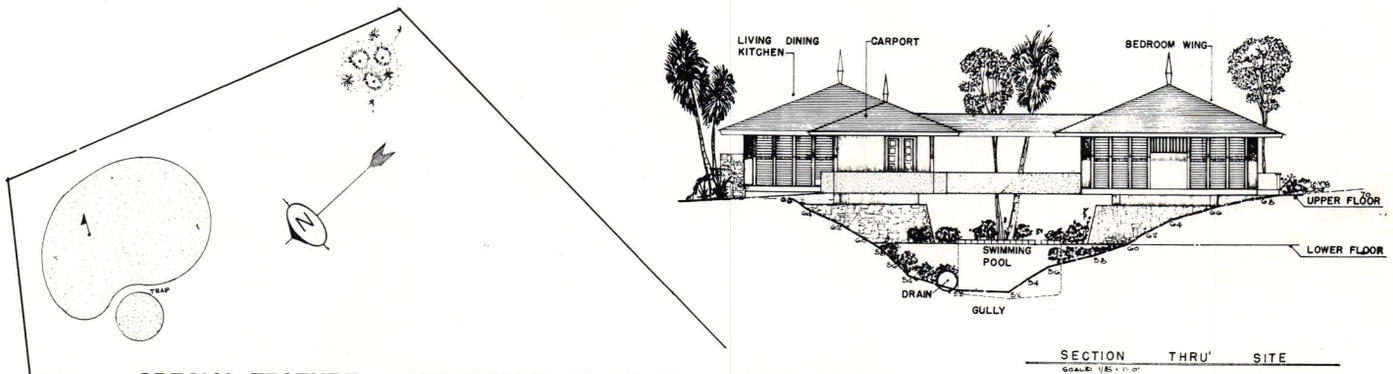


Drawing of Dental Auxiliary School Arthur Wint Drive

Designed by Chief Architects Branch, Ministry of Communications and Works

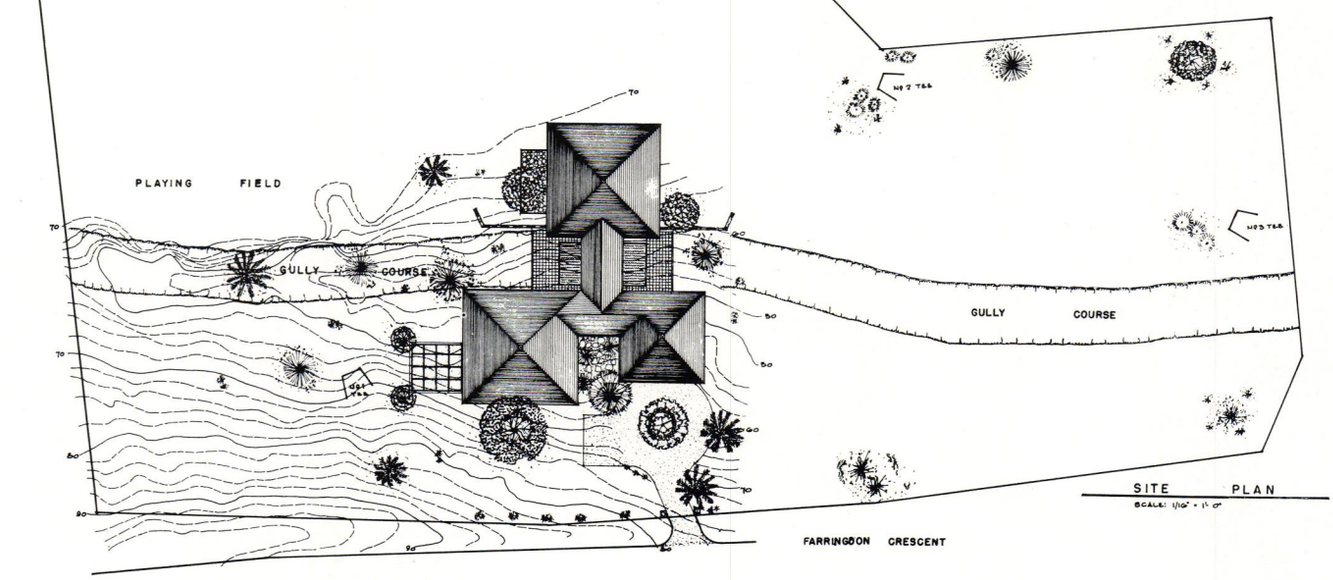


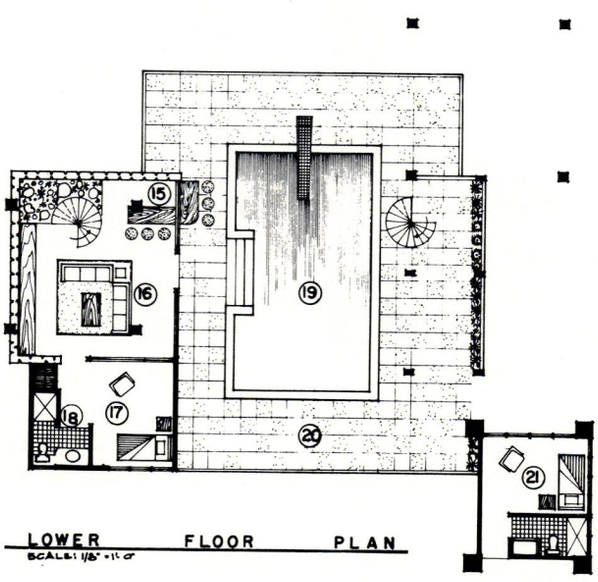
Proposed Residence of Mr. & Mrs. Arthur G. Lowe

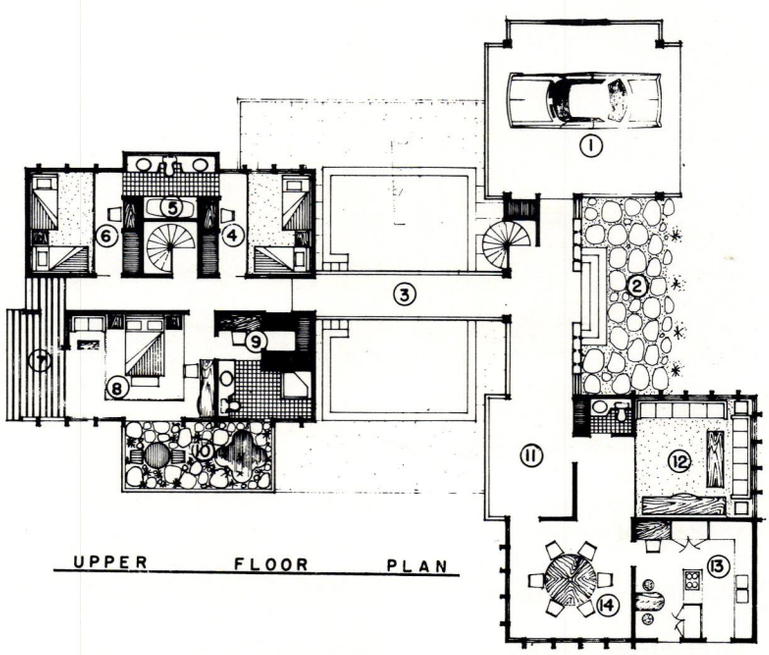


SPECIAL FEATURE — TREATMENT OF GULLY COURSE LAND.

Architect — A. G. Lowe of Goodman, Lowe & Associates.



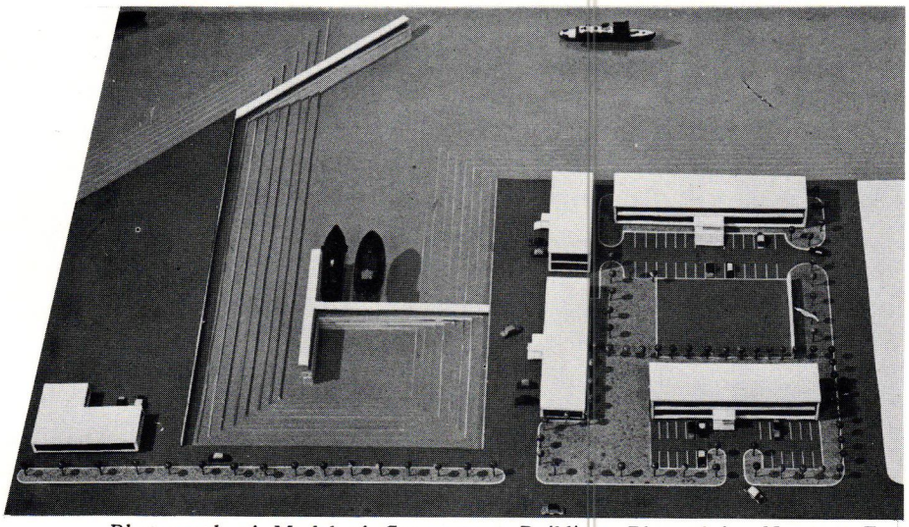




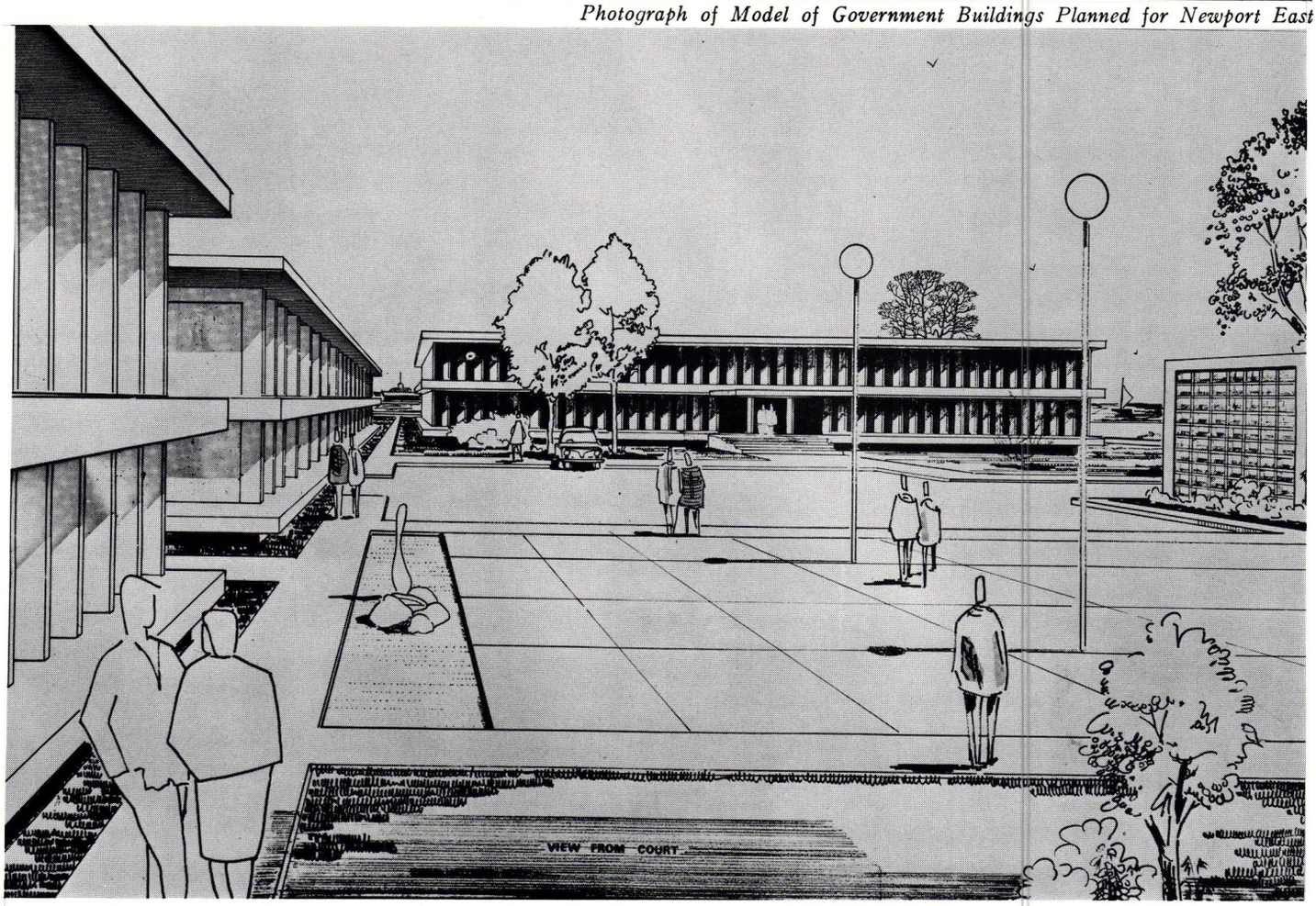
1. *Carport*
2. *Courtyard*
3. *Bridge*
4. *Bedroom 3*
5. *Bathroom*
6. *Bedroom 2*
7. *Balcony*
8. *Master Bedroom*
9. *Master Dressing & Bath*
10. *Rock Garden & Fish Pond*
11. *Verandah*
12. *Living Area*
13. *Kitchen*
14. *Dining Area*
15. *Bar*
16. *Family Room*
17. *Guest Room*
18. *Guest Bath*
19. *Swimming Pool*
20. *Pool Terrace*
21. *Maids Room*

Proposed Government Buildings

Newport East



Photograph of Model of Government Buildings Planned for Newport East



View From Court — perspective drawing of Government Buildings as planned

Location — Newport East, Kingston.

Owners — Kingston Waterfront Re-Development Co., Ltd., Myrtle Bank Hotel, Harbour Street, Kingston.

Architects — Shearer & Morrison — Chartered Architects.

Floor Areas — Quarantine & Harbour Master's — 7,320 square feet; Harbour Master Workshop & Stores — 6,400 square feet; Water Police Block — 10,450 square feet; Customs Block — 14,540 square feet; Jamaica Defence Force — 18,200 square feet.

Structural System — Reinforced concrete columns and beams with concrete slabs.

Special Features.

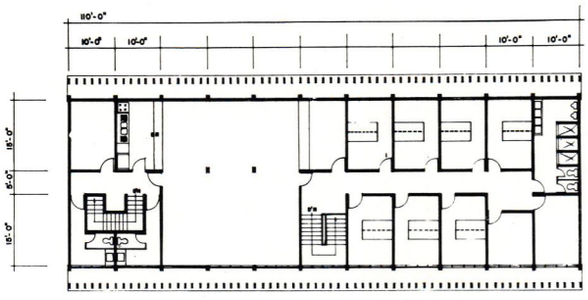
(a) The buildings have been sited in such a way as to create an enclosed courtyard which will be appropriately landscaped.

(b) The fenestration of all buildings is such that each building relates architecturally to its neighbour.

Consulting Engineers —

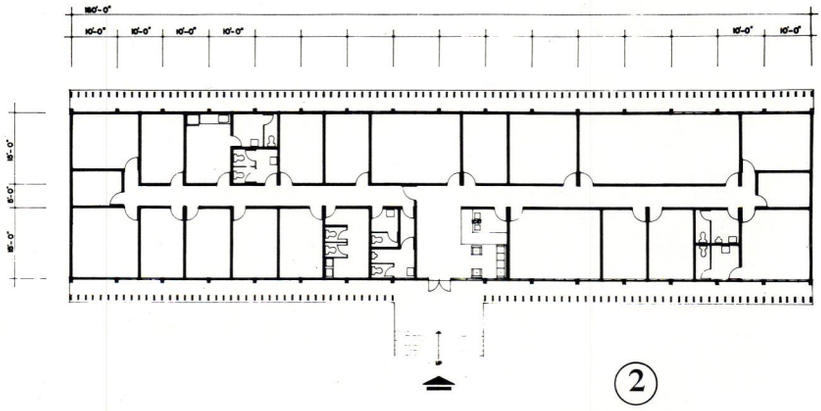
A. J. Benghiat & Associates — REINFORCED CONCRETE
Wallace Evans & Partners — — — — MARINE WORKS
O. P. Woodham Associates — — — — — ELECTRICAL
B. G. W. Cawston & Partners — — — **Quantity Surveyors.**

Main Contractor — To be appointed.



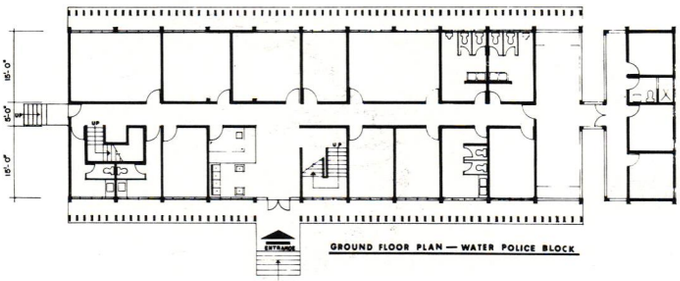
FIRST FLOOR PLAN

1

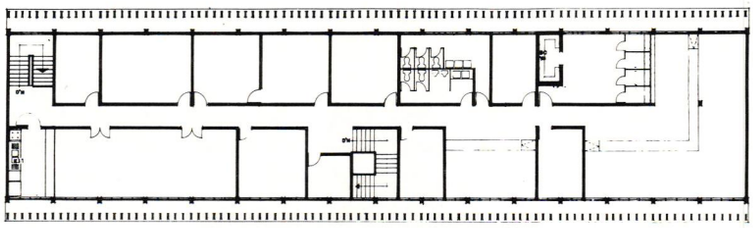


2

GROUND FLOOR PLAN — QUARANTINE & HARBOUR MASTER BLOCK

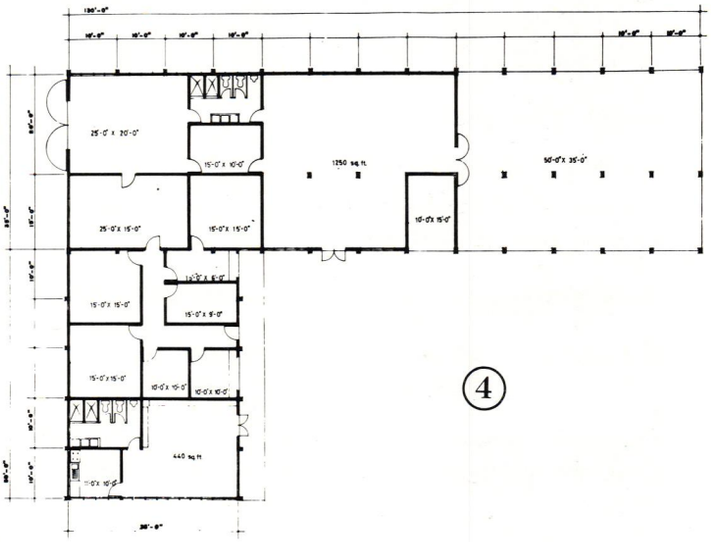


GROUND FLOOR PLAN — WATER POLICE BLOCK



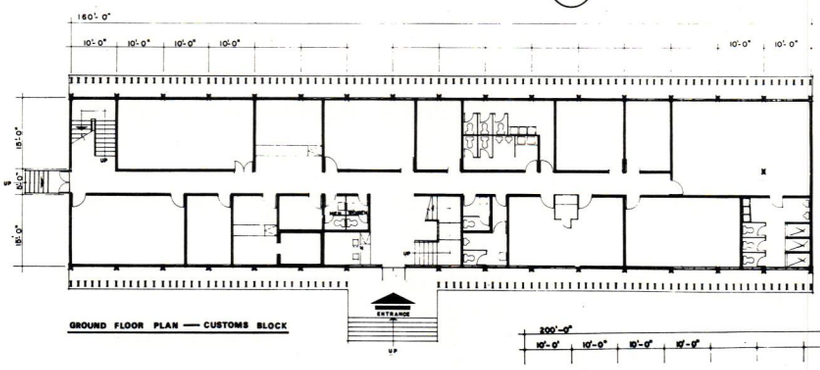
FIRST FLOOR PLAN

3

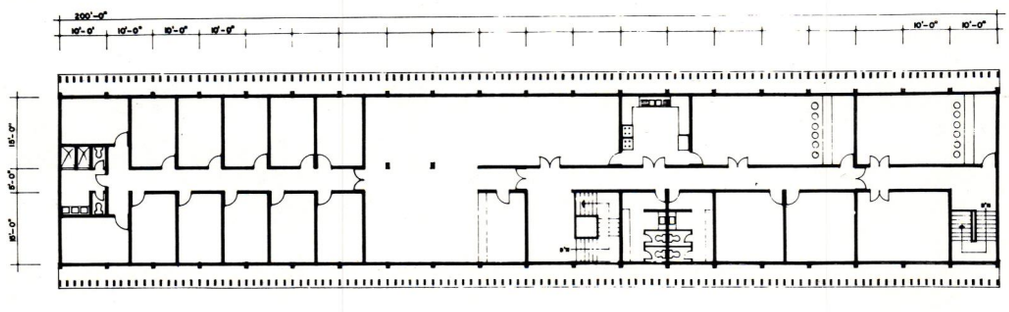


4

FLOOR PLAN — HARBOUR MASTER WORKSHOP & STORES

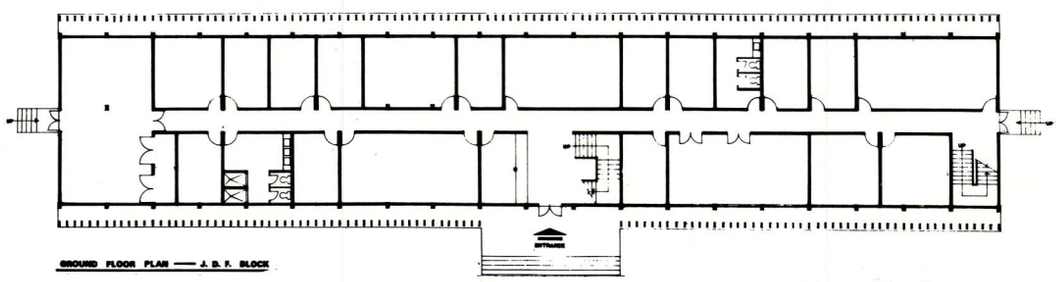


GROUND FLOOR PLAN — CUSTOMS BLOCK



FIRST FLOOR PLAN

5



GROUND FLOOR PLAN — J. D. F. BLOCK

1 *Water Police Block*

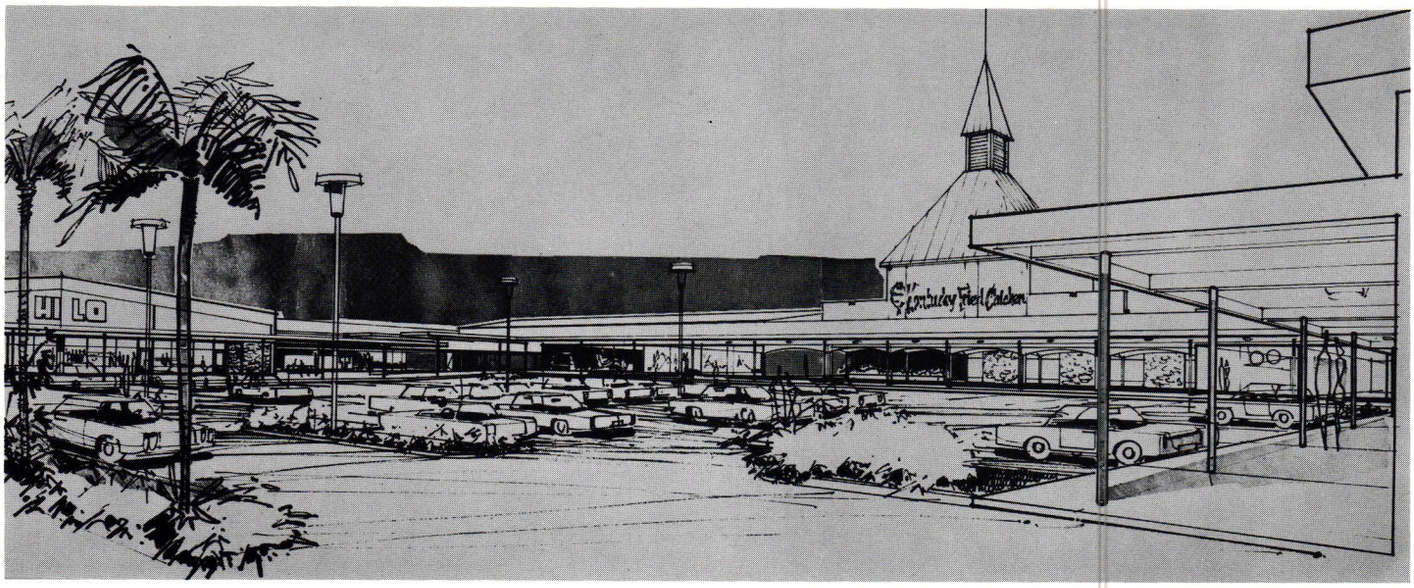
2 *Quarentine & Harbour Master Block*

3 *Customs Block*

4 *Harbour Master Workshop & Stores*

5 *Jamaica Defence Force Block*

Manchester Shopping Centre



UNDER CONSTRUCTION:

Location — Caledonia Road, Mandeville.

Owners — Manchester Shopping Centre Limited, Hargreaves Avenue, Mandeville.

Architects — Shearer & Morrison — Chartered Architects.

Floor Areas — Enclosed areas — 44,000 square feet.
Covered Walkways — 15,000 square feet.

Structural System — Supermarket & Shops — Structural steel frames with steel purlins and coloured aluminium roof sheeting.

Bank, Offices and Restaurant — Reinforced concrete.

Covered walkways — Structural steel frames with timber joists and timber sarking.

Special Features.

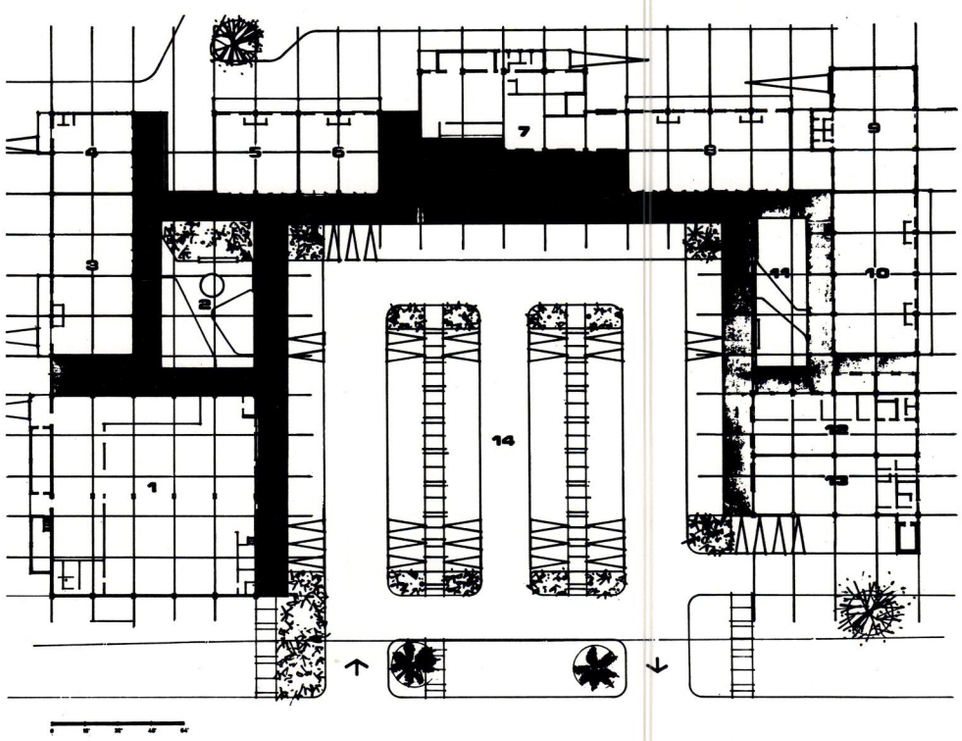
(a) Two garden courts, one on each side of the parking areas. Each court will be landscaped and illuminated for the enjoyment of shoppers and their children.

(b) A covered dining patio in front of the Restaurant which will function like a sidewalk cafe.

Consulting Engineers — Hue, Lyew & Associates — REINFORCED CONCRETE.

O. P. Woodham Associates — ELECTRICAL & AIRCONDITIONING.

Main Contractor — Townend & Godfrey Brothers Limited, Mandeville.



Legend:—

1. *Supermarket*
2. *Garden Court*
3. *Hardware Store*
4. *Shops*
5. *Shops*
6. *Appliance Store*
7. *Restaurant*
8. *Shops*
9. *Pastry Shop*
10. *Shops*
11. *Garden Court*
12. *Solicitors Office*
13. *Bank*
14. *Parking*

Amador Packer photo

Central Motors, Mandeville

AN AUTOMOBILE SHOWROOM AND REPAIR FACILITY

Architects — Goodman, Lowe and Associates.

Structural Engineer — Goodman, Lowe and Associates.

Contractor — Townend and Godfrey Bros.

Location — Ward Ave., Mandeville.

Floor Area — 12,348 Sq. Ft.

Structural System:

FOUNDATION — Reinforced Concrete

WALLS — R. C. Block — Split Block

PARTITIONS — R. C. Block

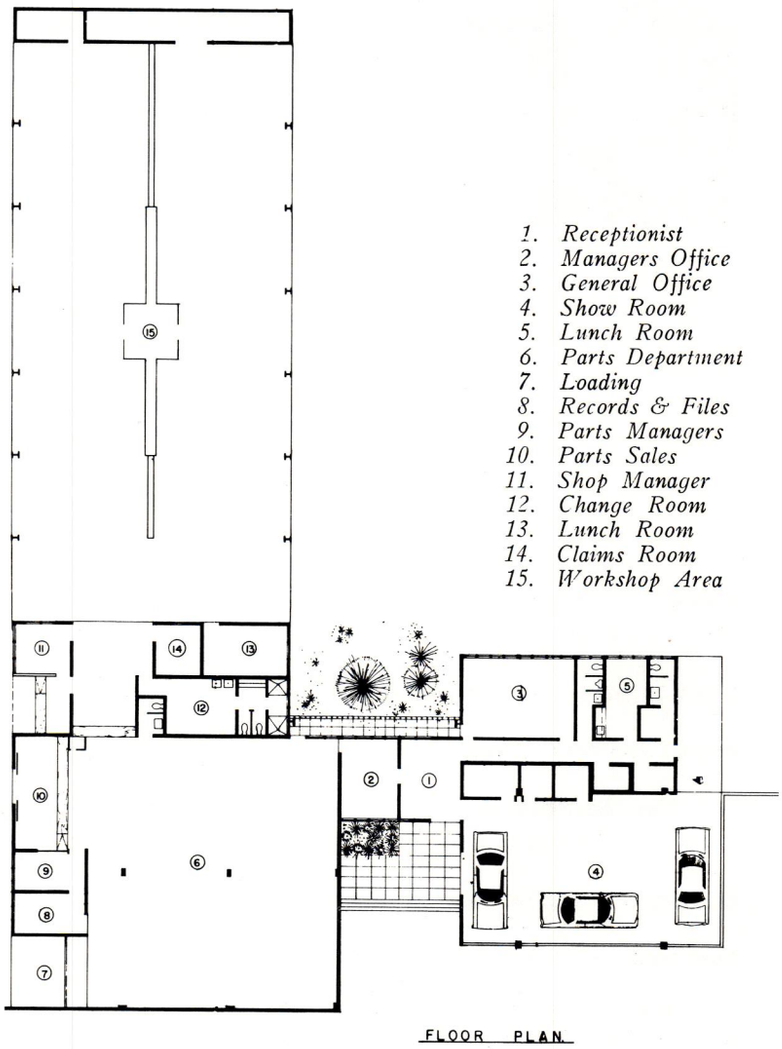
CEILING — Plastered Concrete or Exposed Aluminium Sheeting.

ROOF — Reinforced Concrete over Showroom and Parts Storage Steel Frame and Aluminium Sheeting over Shop Area.

WINDOWS — Tropicair Full Frame Redwood Louvres.

Special Features -- Design Criteria

An integrated facility for an automobile dealer featuring: an open air showroom; sales offices; general administration offices; parts department and repair service facilities; leaving allowance for future expansion. A main feature is the layout which permits the general manager to control all facets of the operation.



1. *Receptionist*
2. *Managers Office*
3. *General Office*
4. *Show Room*
5. *Lunch Room*
6. *Parts Department*
7. *Loading*
8. *Records & Files*
9. *Parts Managers*
10. *Parts Sales*
11. *Shop Manager*
12. *Change Room*
13. *Lunch Room*
14. *Claims Room*
15. *Workshop Area*

FLOOR PLAN.

Office Building for Mr.Colin Melhado

Neville Hylton Photos

Location — Constant Spring Road (Opposite Tropical Plaza Shopping Centre) Kingston.

Owners — Colin Melhado, 19 Constant Spring Road, Kingston.

Architects — Shearer & Morrison — Chartered Architects.

Floor Areas — Ground Floor — 5,412 square feet;
First Floor — 8,304 square feet

Structural System — Reinforced concrete columns and beams with reinforced concrete slabs.

Special Features.

(a) Twenty-foot cantilever on the southern side to accommodate a covered drive-way for the drive-in teller window.

(b) Sloping concrete block fins on three facades of First Floor to reduce the effect of the sun's rays as the building faces east.

Consulting Engineers — Hue, Lyew & Associates — REINFORCED CONCRETE.

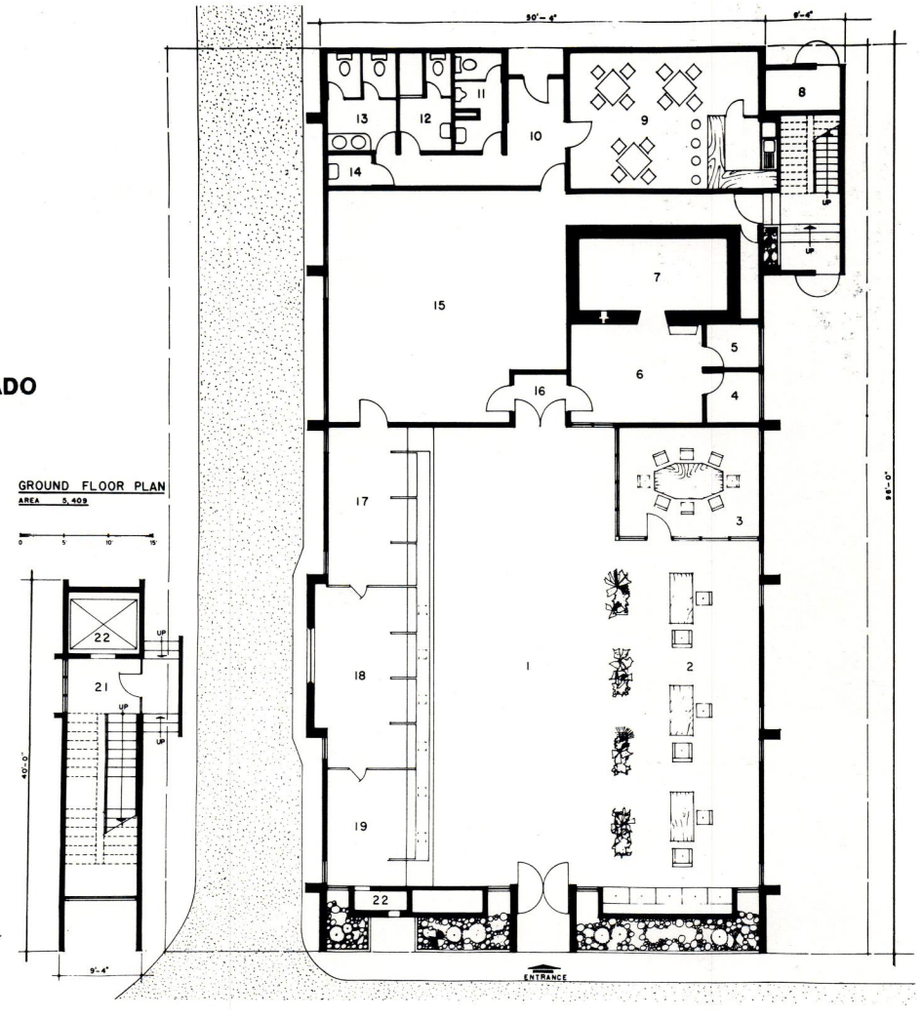
Robert C. Lyon-Hall & Associates — AIRCONDITIONING.

Main Contractor — Abraham, Henriques & Joy Limited,

OFFICE BUILDING FOR MR. COLIN MELHADO

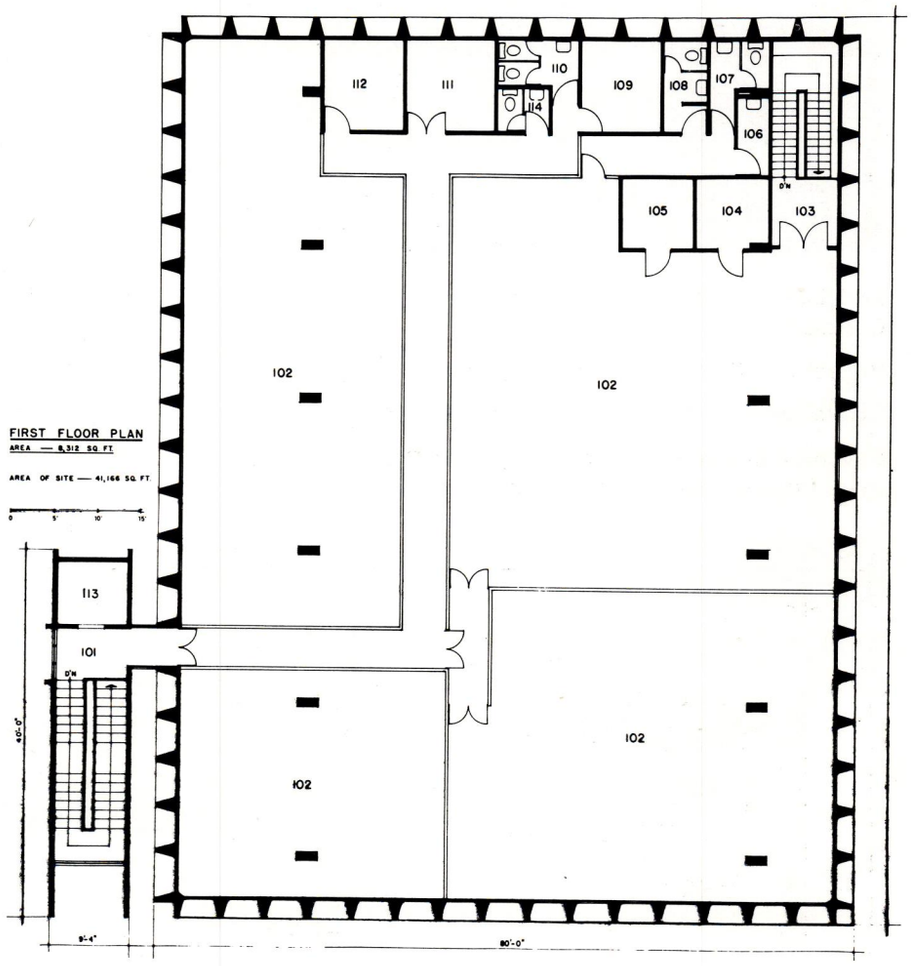
Ground Floor Plan

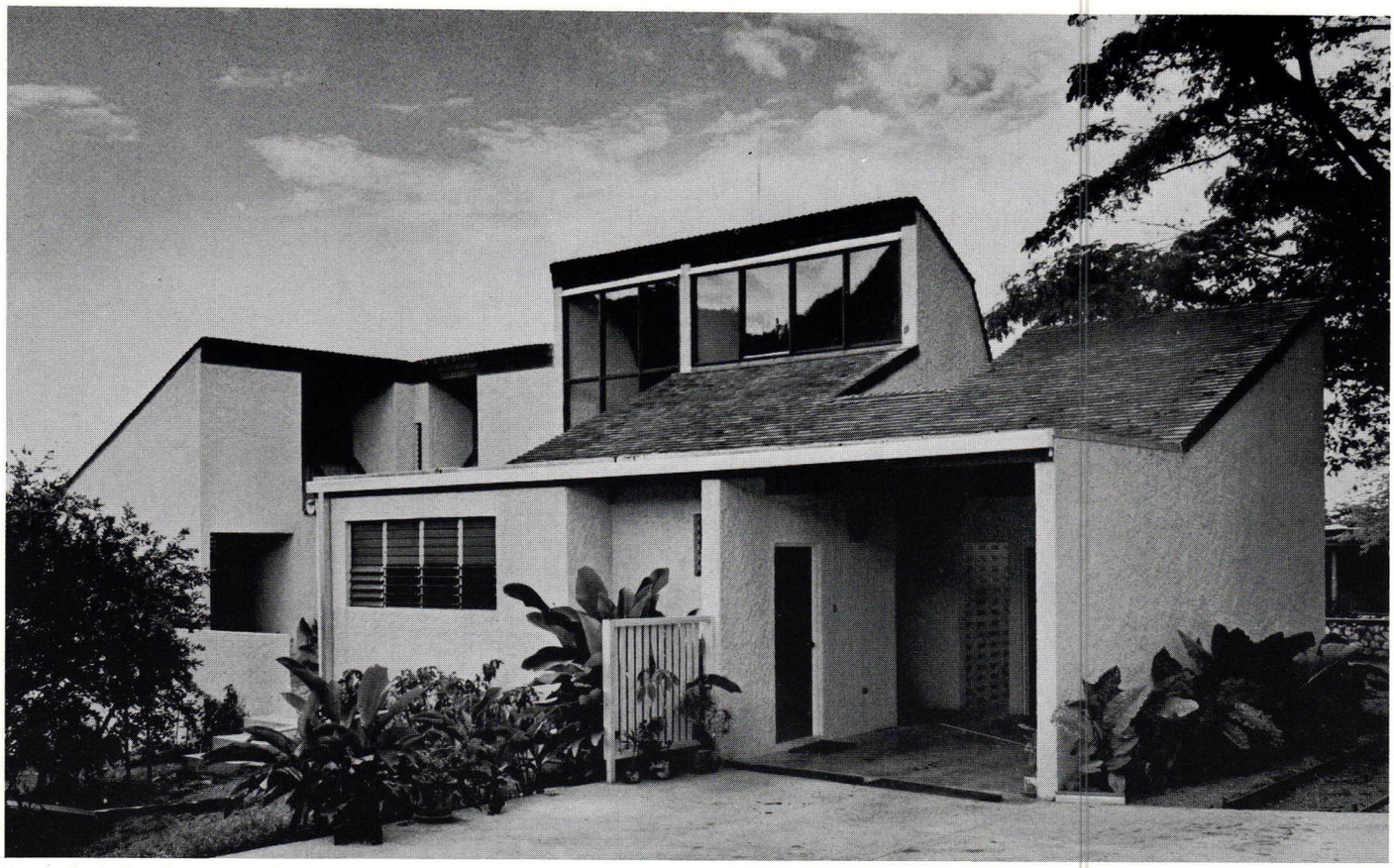
1. *Banking Hall*
2. *Officers Platform*
3. *Conference Room*
4. *Coupon Booth*
5. *Coupon Booth*
6. *Safety Deposit Room*
7. *Vault*
8. *Switch Gear*
9. *City Bank Club*
10. *Hall*
11. *Male Toilet*
12. *Executives Toilet*
13. *Female Toilet*
14. *Janitor*
15. *Work Space*
16. *Hall*
17. *Notes & Loans Station*
18. *Unit Teller*
19. *Saving Station*
20. *Night Depository*
21. *Lobby*
22. *Lift Shaft*



First Floor Plan

101. *Landing*
102. *Rentable Area*
103. *Landing*
104. *Stationery*
105. *Book Vault*
106. *Janitor*
107. *Male Toilet*
108. *Female Toilet*
109. *Lunch Room*
110. *Female Toilet*
111. *Air Conditioning Room*
112. *Telephone Equipment Room*
113. *Lift Shaft*
114. *Male Toilet*





Rear view showing unusual window treatment and unique roofline.

Amador Packer photos

Residence for Mr. & Mrs. Alan Kirkpatrick

View from dining room, split level roofline and wood panelling of living room are shown

Architect — Goodman, Lowe and Associates.
B. Brolin; Designer.

Contractor — Ray Michaels

Location — Norbrook

Lot size — ½ Acre.

Floor Area — 2,300 sq. ft.

Structural System — Reinforced Block.

Materials

FOUNDATIONS — Concrete

WALLS — Block

PARTITIONS — Block

FLOOR — Terrazzo tile

CEILING — Exposed Beams

ROOF — Shingle

Construction Period — 10 Months

Special Features — High Vaulted Ceiling & Patios

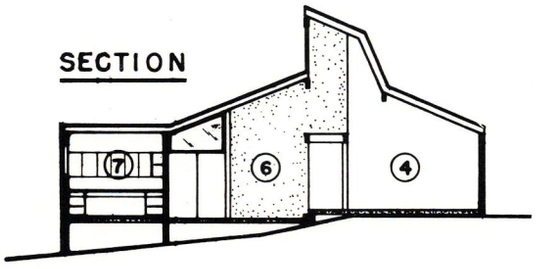
Design Criteria & General Information:

Site had many trees and plants, house was designed and sited to maintain all trees. A private enclosed patio to the north is accessible to the Dining, Living and Master bed rooms. There are large glass panels to bring in North light.

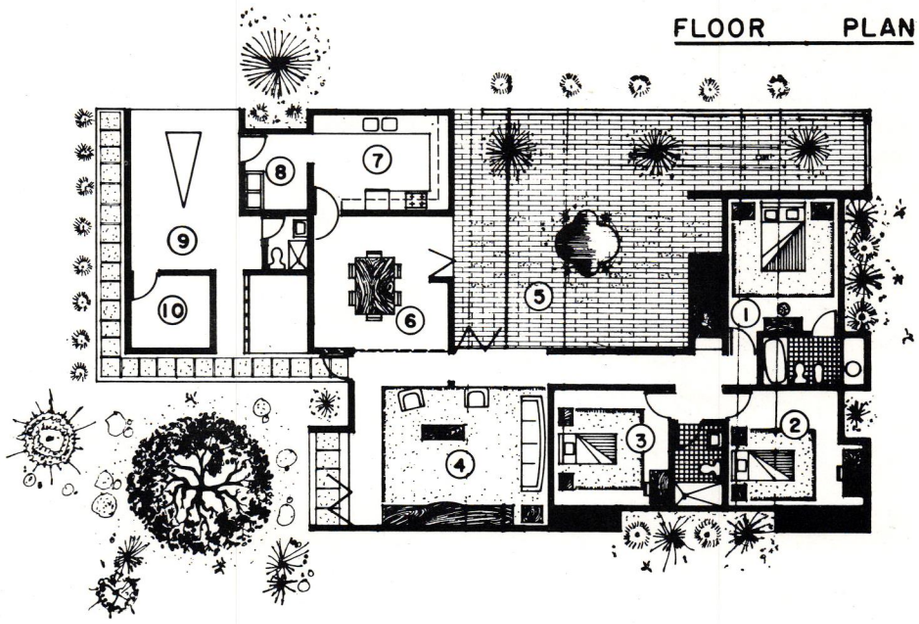
Living room has an enormous north window, textured and panelled walls and a beamed ceiling at two levels.

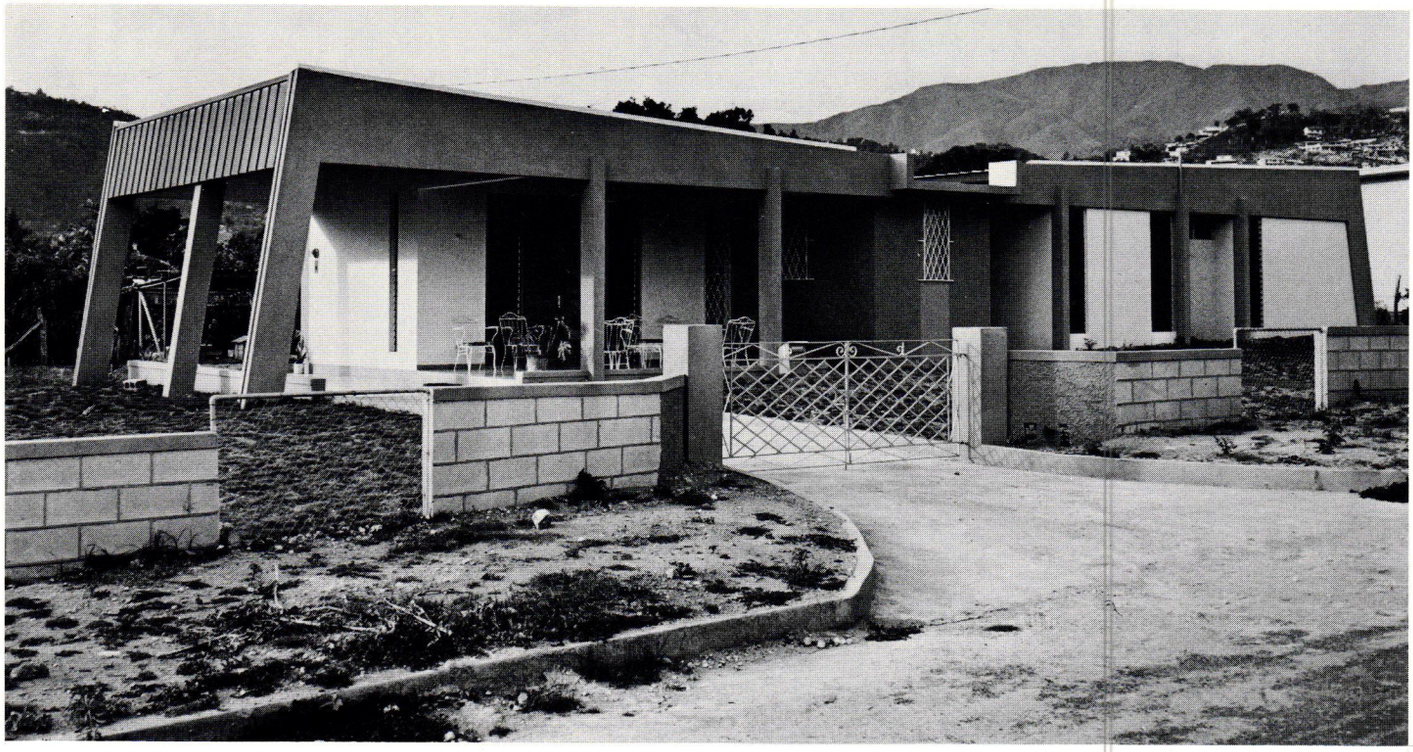
1. *Master Bedroom*
2. *Bedroom*
3. *Bedroom*
4. *Living Area*
5. *Patio*
6. *Dining Area*
7. *Kitchen*
8. *Laundry*
9. *Garage*
10. *Maids Room*

SECTION



FLOOR PLAN





Amador Packer photo

Residence for Mr. & Mrs. Vivian Rochester Havendale

Architect — Peter C. Soares

Materials — FLOORS — Terrazzo.

WALLS — Internal: Cement rendering — External: Pebble Dash and plaster finish.

CEILINGS — Sand Dash R. C. Slab to Central Core Rafter beams and sarking to living areas flat smooth gypsum plaster to bedroom areas.

ROOF — White aluminium continuous roofing on felt to two wings R. C. Slab to Central Roof.

Structural System — R. C. Block & R. C. belt construction.

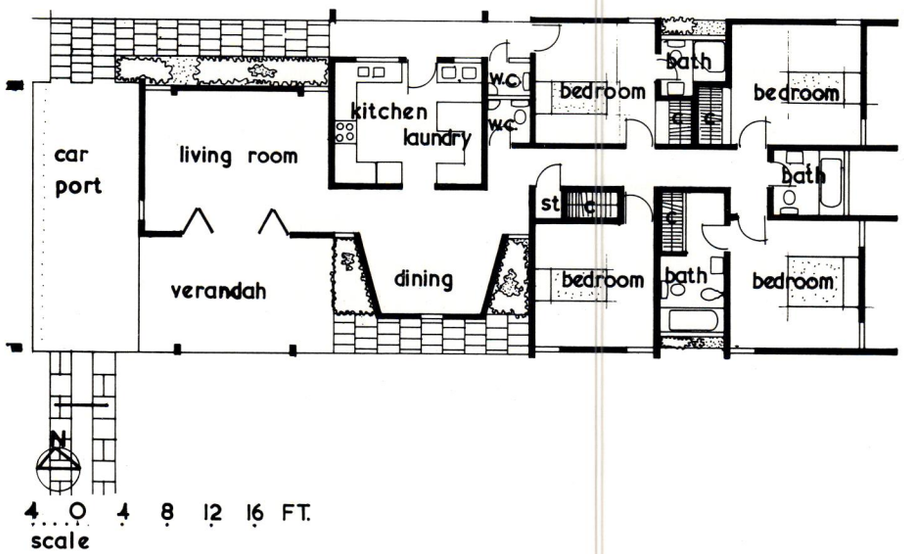
Special Features.

(1) House has been planned on the additive principle Central Core contains kitchen and dining area covered by a R.C. gutter slab; extensions on two sides of this core provide living and sleeping areas.

(2) Finishes are self clean in most areas.

(3) Basically, house represents the final stage of additive principle.

Additional drawings of this house appear at the end of the article on "Natural Organic Patterns of Development:" see page **36**



DEVALUATION AND THE BUILDING INDUSTRY

By Errol L. Spence, A.R.I.C.S.

Devaluation of the Pound Sterling occurred on 18th November 1967 and was followed shortly by an equal devaluation of the Jamaican Pound. The Building Industry, in common with the rest of the Jamaican Economy has since had to face the realities of a situation set off by factors outside of Jamaica's control and even now, some months after devaluation, the full effect might not yet have been felt. The Building Industry does not appear to show any signs of slowing down and so far seems to have taken devaluation almost in its stride. It is vital, however, to the country as a whole and certainly to those whose livelihood depends on an active building industry, that this industry should be kept on the move. Any witness to the slump which followed the Allen Award will readily agree.

Various forecasts of the probable increases due to devaluation were made late last year. Now that some months have passed since devaluation, this article attempts a brief and very general analysis of the effects and amounts of increases showing where there have been increases and possibly how and why any increases have been absorbed.

It is extremely difficult and almost impossible to give a definite overall percentage increase on buildings in general. This is obviously so since buildings vary so much in type, style and specifications of materials used. It is intended therefore to look briefly at the major elements of a building and for this purpose a subdivision into three sections has been made, e.g., Structure, Finishes and Fittings and Services.

Structure: The basic structure of the great majority of buildings in Jamaica consists of a reinforced concrete frame, floors and roofs and reinforced concrete blockwalls. These sections amount to anywhere between 25 to 40 per cent of the total cost of the building, depending on type. Of the materials which go into this section, steel and timber have increased in price since devaluation. Steel, however, is under strict control from the Government but nevertheless there have been increases in rates for reinforcing steel. The increases in timber and plywood on the other hand have not shown any marked increase in the rates for formwork. The reasons here seem to be that the cost of timber for formwork is usually spread over a number of uses or possibly a number of jobs and also, formwork prices depend to a large extent on Contractor's own efficiency and planning and therefore any increases in materials may be taken up by Contractors. Taking this section as a whole, the overall increase has not been great — probably in the order of two or three percent.

Finishes and Fittings: Included in this section are finishes to floors, walls and ceilings together with doors and windows and built-in fittings.

The traditional finishes consist mainly of cement and sand rendering and locally manufactured tiles. These materials have little or no imported content and, therefore, the finishes of buildings using these materials would show very little increase. Any increase shown will probably be due to increases of approximately twelve percent in the cost of paint. However, where more elaborate and expensive finishes have been used, e.g., accoustic suspended ceilings, timber lined walls and ceilings and aluminium framed partitions, a definite increase will be shown. Most of the materials used here have shown increases in prices ranging from five to ten percent.

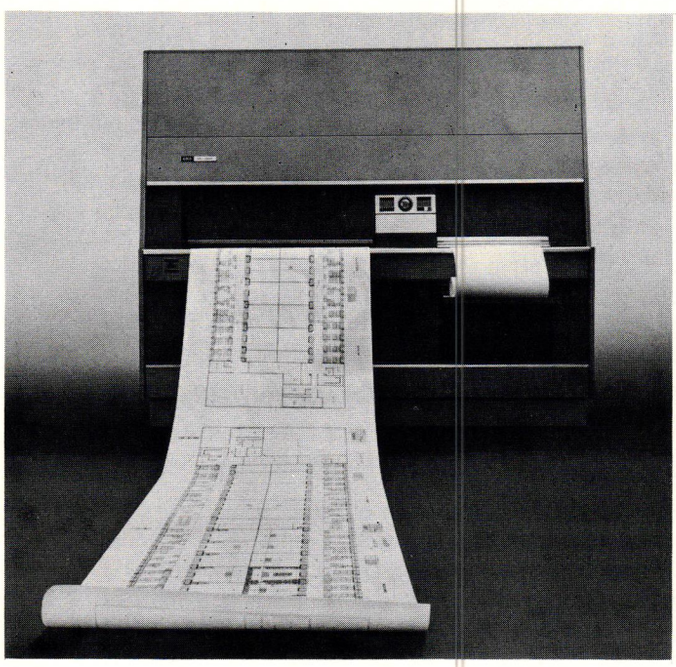
Doors, because of the increases in timber, have also shown increases of about ten percent. Some window manufacturers have not increased prices while others have done so, increases here settle largely on the question of whose windows are specified. Items of hardware and door furniture also depend on manufacturer and, of course, on country of origin. The average increase here is therefore very difficult to obtain.

The effect of the foregoing is that in a building of modest finishes and fittings the overall increase will be no more than one or two percent, whereas in more elaborately finished buildings the increase should range between two and three percent.

Services: The Services element, which covers plumbing, electrical and mechanical installations, has shown the greatest increase since devaluation for obvious reasons in that a very large proportion of the materials and fittings used are imported from countries which have not devalued. Even in cases where items are imported from U.K., prices have increased. A great deal of equipment and fittings used are imported from the U.S.A., mainly because of proximity and early delivery dates and this means that there was an immediate increase of approximately sixteen percent taking into consideration increased duty, etc. In fact, prices for some electrical and mechanical and plumbing fittings are still not yet firm.

It is very difficult to state a general average percentage increase. In simple construction with only a small proportion of services, the overall percentage should be no more than three or four percent, while in more complicated construction the overall increase could be as much as eight to nine percent. It is also fair to say that Government's price controls have played a strong part in holding down the increases, since suppliers and merchants cannot pass on more than the net amount of the increases due to devaluation and are usually not permitted to include any mark up on the amount of the increase. This of course is causing some problems for the merchants and it is likely that shortages of some materials may occur if they feel that it is not worthwhile to handle a particular line of building materials. The industry has also been fortunate in that devaluation occurred during a period of heavy demand for new construction and also that a new labour wage award is not due until next year. Had this not been so, the industry might have been in a different state this year. It has however managed to continue to expand.

This used to be the most efficient method of copying and duplicating plans and drawings.



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XEROX

TECHNICAL SECTION

Techniques and Systems

REPRO-DRAFTING TRENDS
by F. Walter Greiner

HALF-SIZE DRAWINGS

The use of half-size reductions from drawings is not new; many companies use it extensively; and have for many years. However, the method warrants increased emphasis as there are other companies that could save money through its use. Cost savings plus increased production capability are the primary objectives of half-sizing drawings, although other benefits are also delivered. The term half-size applied here denotes an engineering drawing (particularly roll size 36 inches by run) which has been reduced 50 percent onto a film or vellum reproducible. This half-size reduction provides a major cost savings in the Reproductions organization, particularly if a number of prints is required. It reduces the amount of paper used by three fourths, and halves the machine time required to run a drawing, with a subsequent reduction of folding time. The main benefit to the engineer and draftsman is that his drawing is only run once, and the half-size intermediate takes the b e a t i n g for making multiple prints.

There are several methods of producing a half-size reproducible. The oldest method uses a camera and film or paper-base photographic material run through a special unit that automatically reduces the image 50 percent. This negative image is run on a blueprinter to produce a blueline on a white background; or when used on a diazo (blueline) machine, it produces a white line on a blue background. Direct positive film can also be used; however, it is more difficult to maintain consistency in the intermediate. On the diazo equipment, direct positive film produces a blueline on a white background, which is generally more acceptable.

The newest method of producing a half-size intermediate is through the use of electrostatic equipment, which will provide either a vellum, bond, or offset master.

The breakeven point for cost, of course, is the crux of the determination as to the value of making half-size intermediates. Breakeven with the photo method is approximately 25 blueline prints, and with the electrostatic method it is approximately three. Other methods used to make prints and intermediates include microfilm of all sizes (35 mm, 70 mm, 105 mm) blown back up through any number of processes onto vellum, offset master, stock, or just plain copies. The problem here is the delay in obtaining the microfilm, the sectionalization of a drawing (breaking it up into 44-inch sections), and other aspects as discussed in one of my previous articles.

At this point, many people familiar with the field and with microfilm programmes are saying, "There's nothing new offered here." However, in my defense, most of the organizations who have gone into microfilm still need and make hard copies, and in most cases have a percentage of roll-size drawings that must be reproduced either full-size or half-size because they cannot be sectionalized. If this need is sufficient, half-size through photographic or electrostatic equipment, cannot be equalled with any microfilm system (unless the drawing has already been microfilmed). To the engineer this turnabout time is vital — the shorter the better.

The problems encountered in half-sizing drawings relate back to the draftsman (as in microfilming) and his line and lettering techniques. His lettering may appear completely distinct, legible, and neat on the original, but again certain things take place in the reduction and copying process. For example, a draftsman dimensioned a drawing +00.33. When it was reproduced half-size a piece of lint on the equipment obliterated the top of the first three, causing the machinist to read +0.353; the part was scrapped. Three areas of carelessness are involved here: (1) Reproductions' quality control, (2) the draftsman's lettering, and (3) the machinist for not checking the drawing closer. I can excuse the machinist, but not the other two. This subject has been covered before, but it is one to consider if you are contemplating the use of half-size reduction. Other benefits received through the use of half-size prints, besides reducing your material costs by 75 percent, are the handling aspects for the engineer, draftsman, and machinist. A 12-foot drawing is now only 6 feet long, and may easily be laid out on a drafting table. It is easier for the machinist or assembler to handle because of its reduced size. It requires a quarter of the file space previously used, and it is easier and lighter to transport.

If you are still running your prints full size, and you have a volume of roll-size drawings, do not overlook the possible use of half-sizing, even if you are contemplating a microfilm programme.

Grateful acknowledgement is made to St. Regis Publications Incorporated, New York, U.S.A., for granting us permission to reprint this article which appeared in Volume seven, Number ten of the October 18, 1967 issue of Engineering Graphics. This system of reproducing drawings will soon be available in Jamaica.

EMULSION PAINTS
by Pat Rogers

Thirty years ago consumers tended to pass up products made from Synthetic materials. These earlier products did not always stand up to the job they were supposed to do.

Today's research chemist has developed products that frequently outperform their natural counterparts.

Monsanto's Astro Turf, for instance, won its spurs as a grass substitute for Houston's astrodome, a plastic enclosed sports Stadium where it had proven difficult to grow grass. The material is made of "blades" of nylon filament woven into a primary backing of Polyester with a secondary backing of elastomeric. It has proved so successful that it has moved outdoors to provide an economical covering for football fields and putting greens. Many other synthetic materials have gained acceptance, particularly paint.

Paint Chemistry and Technology have advanced a great deal over the past fifty years. Today's ready mixed emulsion paints are a vast improvement over the old Lead and Zinc based mixtures.

The two major developments which contributed to this technological advancement are: the manufacture of oil-type synthetic resins, and the introduction of emulsion type resins. Desirable and specific properties could be, as it were, built into the new resins to vary the types of paint. There is almost no limit to the modification of paint properties which this has made possible. Considerable research on synthetic resins is still being carried on throughout the world. The revolution that emulsion and alkyd type paints have brought about speaks for itself; the ease and speed with which painting can be done is still a marvel to old timers. In Jamaica the quality of paints is on par with that of any country in the world. It is one of the locally manufactured products which has been readily accepted.

Here are some suggestions on how and where an emulsion paint should be used.

A emulsion paint is plastic in nature and hence is extremely flexible. It is relatively washable. Its ease of application, its quick drying properties with its flat finish makes it a very versatile product. It will stand up to severe tropical conditions of heat, sun and rain.

An emulsion paint breathes, hence damp surfaces should not affect its film When painting in hot sun, walls should be hosed and then painted. This will improve brushing, stop porosity and increase paint coverage. Emulsion paints have been proven to make excellent undercoat on wood for oil/alkyd, house paints or enamels. It is particularly useful where work must be completed in the shortest possible time because it can be overcoated within one to two hours. It can also be used as a primer for soft fibre insulation board and hardboard. It is recommended for decoration and protection of exterior and interior building surfaces, including brickwork, plaster, cement rendered surfaces, all types of wallboard, distempered and cement painted surfaces.

It has been found that emulsion paints do a good job in a swimming pool, providing the pool remains empty for about five days afterwards. Although an alkacid or epoxy type paint is better for this purpose, there is the problem of surface preparation before painting. An epoxy paint requires sand blasting when repainting becomes necessary. Although an emulsion will not last as long, the surface preparation is not nearly as important.

It is always wise to use a first quality emulsion as labour cost is sometimes four times the cost of material. A first quality product has substantially more resin and will outlast a second or third grade product. These will have substantially more pigment and will tend to flake after a while. In the case of hotel painting, however, where repainting is done much more frequently and a resident painter is employed, then it would be more economical to use a second grade emulsion. In areas like bathrooms, kitchens, outdoor washrooms and store rooms, where a lot of soiling is anticipated, a gloss house paint or an enamel is preferable and will withstand substantially more wiping than an emulsion paint.

New surfaces must be clean and free from grease, wax, all loose flaking materials and the use of primers is recommended.

For new plaster, concrete, brick work, asbestos, where alkalinity is expected to be fairly high use an Alkali Resistant Primer or two or three coats of emulsion paint.

A Primer Sealer should be used for previously distempered lime washed or water painted surfaces which are powdering and require sealing before repainting. For metal other than new galvanised iron where metal forms part of a wall or ceiling surface a Zinc Chromate Metal Primer is advised, but new galvanised iron requires etching with an acid primer.

An Antiseptic Washing Compound is used for treating fungus and mildew infested surfaces.

Paint is filled at the correct viscosity for use as is, but because of tropical temperature the body will thicken somewhat. Very little thinning is necessary.

THE VERSATILE POLE HOUSE

by David S. T. Henderson

Jamaica has an abundance of hillside land which relative to the cost of flat land is inexpensive. Conventional construction techniques for hillside housing are expensive and, as a result hillside homes have not been in demand. However, with the advent of pole type construction, an attractive hillside house can now be built for a cost within the means of the moderate income family.

Pole type homes can be adapted to hillside lots for markedly lower building costs than conventional construction designs for several reasons; the primary one being the elimination of expensive concrete foundations, since poles carry structural loads directly to the ground. Expensive grading is eliminated and this often means that majestic trees and thrifty shrubs (important in Jamaica for soil conservation) may be left undisturbed on the construction site, thus retaining many of the natural and original rustic features, without the need for expensive landscaping.

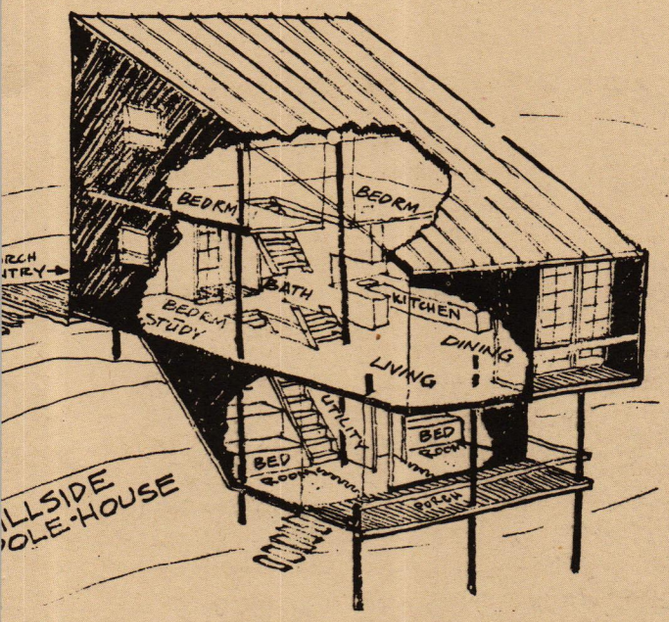
Well designed and built pole type homes are safe, because a round wood pole provides a strong structural unit which needs nothing but trimming, peeling, seasoning and pressure preservative treatment to prepare it for long and useful service. Poles are ideal for cantilever support because there, they serve the same purpose as trees in the forest, where they carry wood branches and resist winds.

The problem of lower cost housing has recently arisen in Kentucky, U.S.A. where over 400 families have had to be re-housed to make way for a new flood control dam and reservoir. The cheapest available land was hillside land and, as a part of his work as a student in the Department of Architecture, Yale University School of Art and Architecture, Mr. Bill Richardson along with three other Yale students, set out to design an inexpensive house for a hillside location, thus eliminating the heavy initial expense of flat land.

The pole type design which emerged, notable for its size relative to its low cost, is suspended from nine timber poles with seven rooms stair-stacked up and down the poles. Since none of the internal walls are loadbearing, the home owners can arrange the floor plan to suit themselves, partitioning off small rooms or creating large ones.

The sketch shows Mr. Richardson's design. The nine poles are 30 ft. long, 7" top diameter, spaced 10 ft. apart and pressure treated with Wolman preservatives. They are imbedded 8 ft. in the ground to provide a basic vertical framing; crosspieces are bolted to the poles for horizontal framing of floors and roof. This provides a framing of enormous strength. Since all the weight is borne by the poles, internal walls are non-supporting and partitions, doors and windows can be arranged to suit individual tastes.

Mr. Richardson estimates that his design can be constructed for £1,500 including the cost of bathroom and kitchen plumbing; septic tank installation would be in addition to this cost. Smaller houses using six poles instead of nine can be easily constructed using the same techniques for lower cost.



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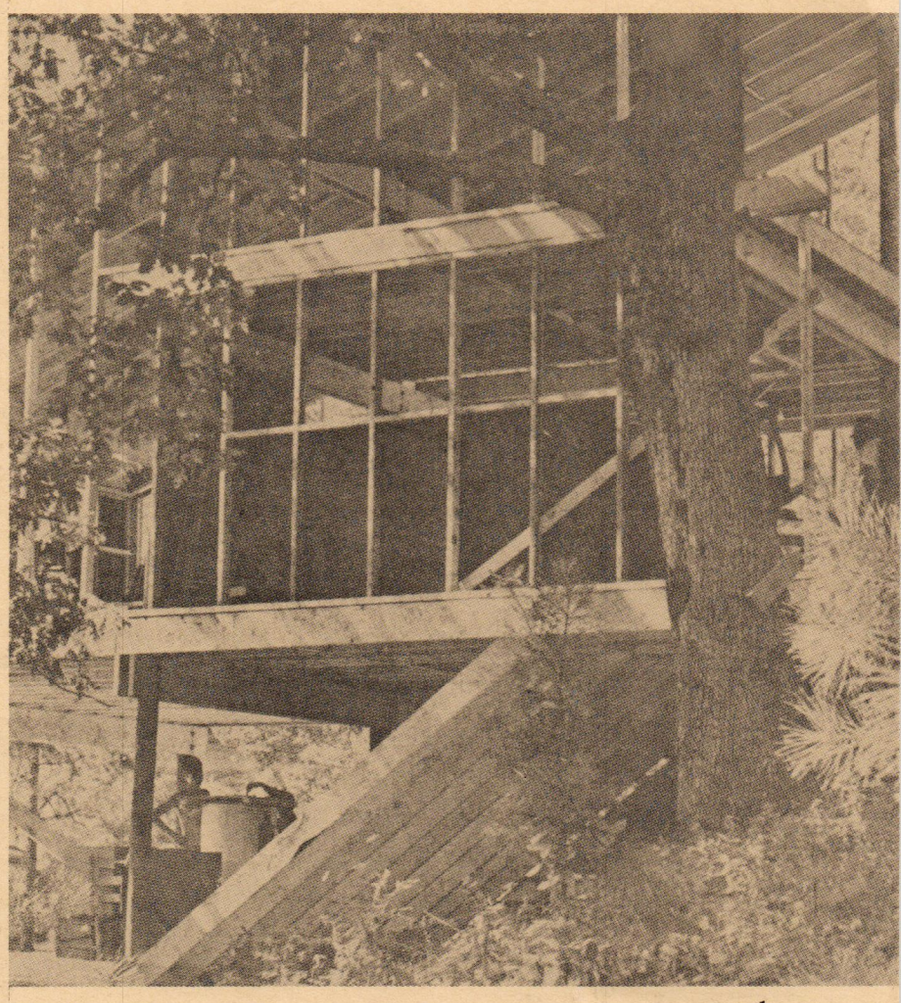

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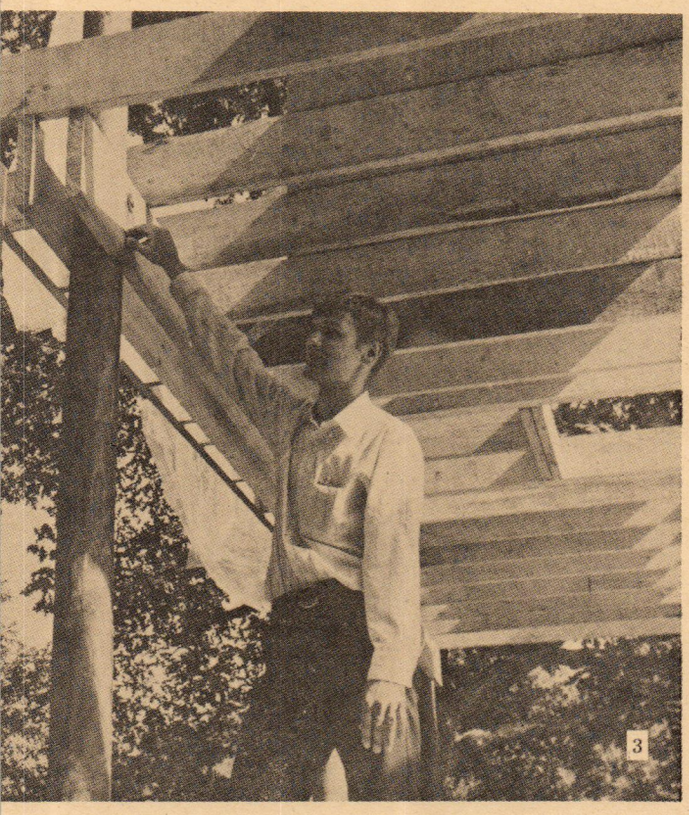

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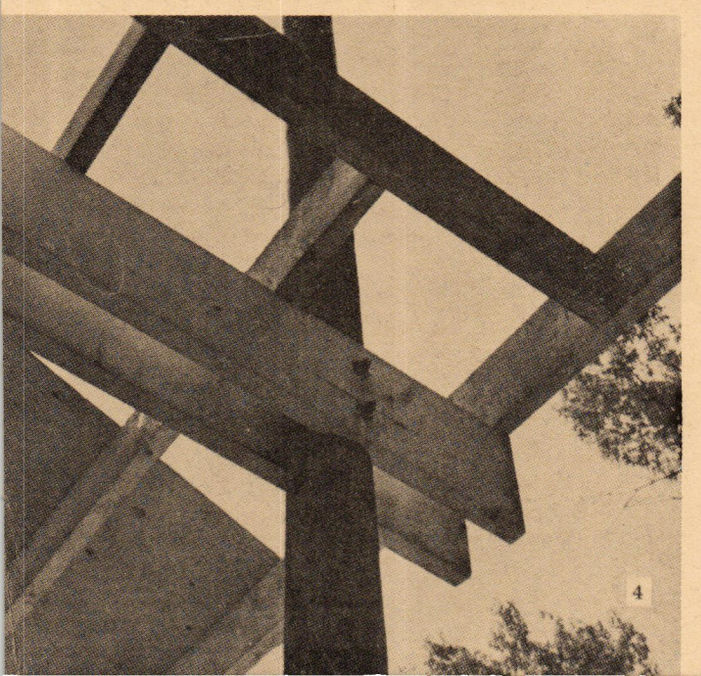


4

1.
Wooden Framework of Pole House nestled against hillside

2.
Sketch showing three levels with main entry at the middle one.

3.
Student Architect Bill Richardson designed the Pole House.

4.
Detail of construction around timber pole.

The idea of pole housing — the kind of house built on poles is popular as vacation homes in Canada and the United States. They are not only economical on hillside lots but also on beach lots where normal foundations are not available and where the house may be encroached by the sea during abnormal high tides. Time has proven that this type of construction will withstand hurricanes and due to this major feature it is popular around the Florida beach resorts. Pole type construction has also for many years been popular for farm buildings due to the simplicity of construction and the low cost.

As regards labour costs, these can be kept to a minimum since the house is extremely simple to construct and can be done by two or three men reasonably skilled with the use of a hammer and saw. The only expert help needed would be for electrical and plumbing installations. The house which Mr. Richardson designed is being built by students belonging to the Youth Corp. Programme entirely with hand tools — even the setting of the poles.

For the exterior sidings any number of different finishes can be obtained by

the use of different woods and these, like the poles themselves, can be treated with Wolman preservative, stained or painted to a colour pleasing to the owner. It is practically maintenance free after that. On the inside, more-or-less conventional construction ensures economy.

Due to the extremely simple method of construction, the pole type house could, in the writer's opinion, prove to be the answer to the problem of providing inexpensive housing in mountainous slopes here in Jamaica. With poles of relevant sizes now reaching maturity in our forests and pressure treating facilities in Jamaica, this economical method of construction should be given consideration by Architects and Builders.

INTRODUCTION

The technical section of the J. A has been expanded to include the additional element of articles on office management. The first article is on the classification of information.

coordinated by Maurice Chin, Dip. Arch.

A CLASSIFICATION SYSTEM FOR BUILDING LITERATURE

NEED FOR CLASSIFICATION

The building industry is concerned with the organisation of the assembly of hundreds of single manufactured articles into a final product — the finished building. In order to efficiently communicate the variety of articles, methods of organisation and assembly throughout the entire industry, these units and systems must be suitably identified.

Over the years, certain loose methods of identification have become accepted, but with the growth of specialisation in the industry, these imprecise descriptions often lead to confusion and misrepresentation.

The building industry is not peculiar in its requirement for identification, direct parallels can be found in other industries. A notable example is the motor industry. The assembly of a motor vehicle is also a complex building operation which involves thousands of different parts or units which have to be specifically identified and located in position. This can only be done economically through work organisation. It involves clear identification of every unit on the drawing, in the specification, in the catalogue and on the production line. In assembly drawings, every unit is identified by a code and these codes are used to identify the same items in the catalogue.

We shall need something of this kind if we are to achieve a like standard in the building industry.

To achieve anything approaching efficient communication in the building industry, a systematic coding of all available information is a necessity. If this could be achieved, not only would there be better co-ordination, but the possibility of conducting comprehensive research on building and planned environments would be greatly enhanced.

One of the overriding problems in a developing society such as Jamaica is the lack of statistics in a digestible form. The local building industry, and more so, the architectural profession, suffers from a lack of coded information. This situation is aggravated by the rate of development of our society. Jamaica is experiencing a wave of general concern for the standards and calibre of its architecture. This awareness includes the functional detailing of elements, and choice of materials and techniques sympathetic to the climatic and social environment of the country. Coupled with this awareness, are the rapid strides being made by the manufacturing section of the building industry. There have been dramatic increases in the availability of locally produced building materials, and encouraging developments in the techniques of construction. The arrival of industrialization has brought in its wake restrictions on the importations of several materials and elements commonly used in building. The situation is now reaching a stage where it is increasingly difficult for an individual architect to keep track of the materials and techniques produced locally, and at the same time keep abreast with the freezing and thawing of import restrictions. The publication of a local compendium of available techniques and material would greatly improve the situation. Such a compendium however, must take the form of a regularly revised piece of literature and as such would best be associated with a periodical publication which is sympathetic to the building industry. Before this compendium can be published however, the method of classification of information must be rationalized.

EXISTING SYSTEM OF CLASSIFICATION

There is in existence, an international system of classification designed specifically for communication within the building industry. This system is known popularly as SfB. It was originally developed by L. M. Giertz in Sweden. It is currently being used mainly as a classification and filing system, but used to its full capacity, it can be a tool for building management. SfB is a logical system that is even capable of further refinement for manipulation by electronic computers. It has the additional advantage of being an alpha-numerical system, which permits a greater number of items to be coded from a given number of characters than would be possible in a purely numerical coding system.

A classification system with the potential of SfB however, can be a very complex and sophisticated form of coding of information. Such a system when employed fully in individual offices, needs the services of a qualified librarian with specialist knowledge in the fields of architecture and construction. This is at present outside the scope of most, if not all, individual architectural practices in this country. A solution therefore is to simplify as much as possible an established system such as SfB for immediate use locally. This simplification should however, leave room for expansion within the original system to make full use of the SfB system when the development of local building industry and architectural practice demands its expansion.

PRINCIPLE OF SfB CLASSIFICATION

For information and filing the SfB system is divided broadly into:-
Principle Divisions
which have single-digit references, e.g.:

A	Theory
B	Practice
C	Earthwork
D	Materials
E -- X	Construction
(1) -- (8)	Functional Elements
(9)	Buildings

Each Principal Division is divided into:
Main Groups
which have two-digit references, e.g.:

(9)	Buildings
(91)	Engineering Works and Agricultural Buildings
(92)	Civic, Administrative, Public, Commercial and Office Buildings
(93)	Transport and Industrial Buildings
(94)	Health and Welfare Buildings
(95)	Refreshment, Entertainment and Recreation Buildings
(96)	Ecclesiastical Buildings
(97)	Educational, Scientific and Cultural Buildings
(98)	Residential Buildings, Houses and Housing

or:

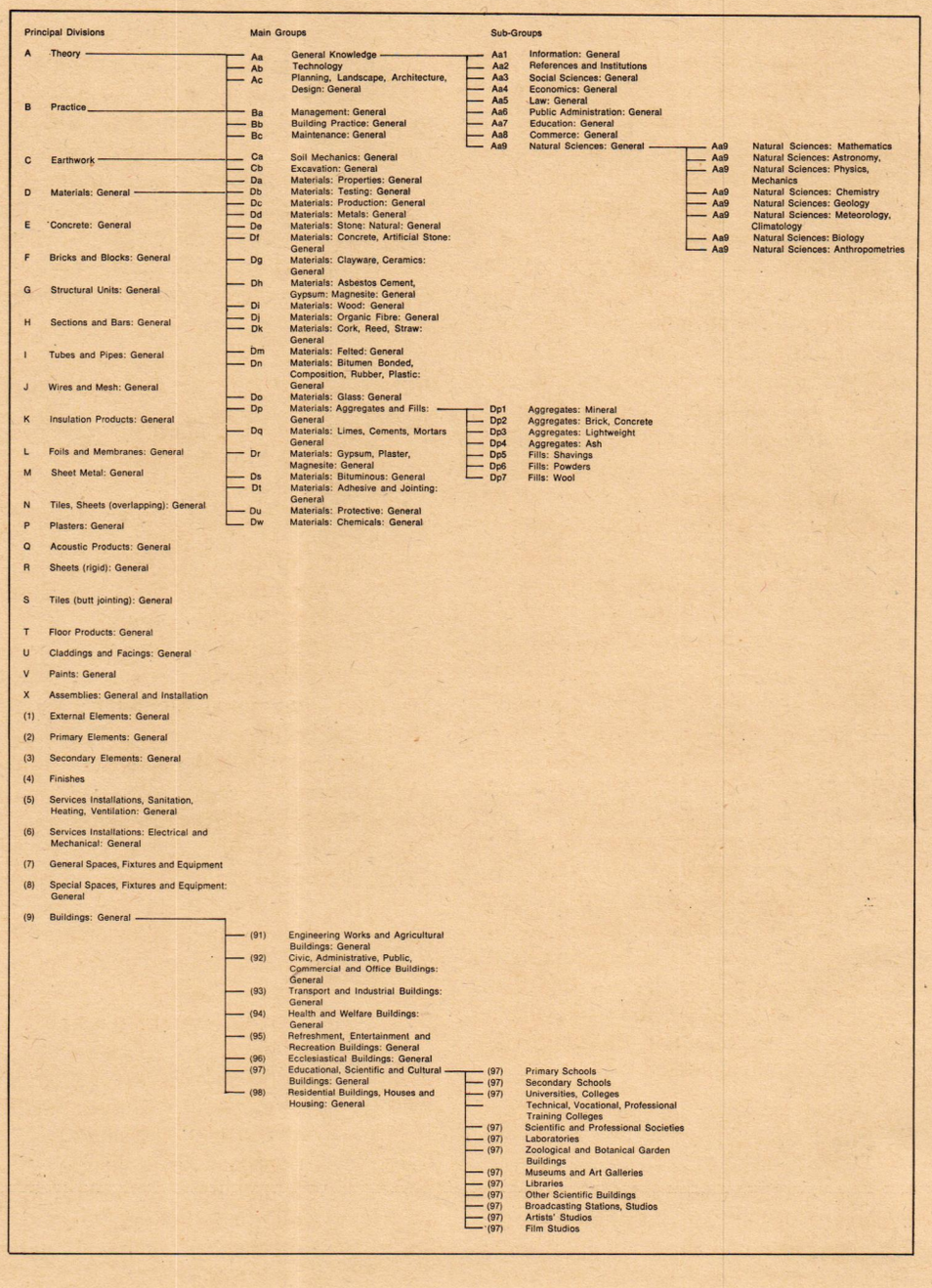
D	Materials: General
Da	Materials: Properties
Db	Materials: Testing
Dc	Materials: Production
Dd	Materials: Metals
De	Materials: Stone, Natural
Df	Materials: Concrete, Artificial Stone
Dg	Materials: Clayware, Ceramics
Dh	Materials: Asbestos Cement, Gypsum, Magnesite
Di	Materials: Wppd
Dj	Materials: Organic Fibre
Dk	Materials: Cork, Reed, Straw
Dm	Materials: Felted
Dn	Materials: Bitumen Bonded, Composition, Rubber, Plastic
Do	Materials: Glass

Some main Groups are divided into:

Sub-Groups
which have three-digit references, e.g.:

Dp	Materials, Aggregates and Fills: General
Dp1	Aggregates: Mineral
Dp2	Aggregates: Bricks, concrete
Dp3	Aggregates: Lightweight
Dp4	Aggregates: Ash
Dp5	Fills: Shavings
Dp6	Fills: Powders
Dp7	Fills: Wool

The following is an example of the SfB Main tables Sub-division:



This alpha-numerical system of SfB clasification denotes conceptual groups covered by three main tables which form the basis of all permutations of the SfB system. viz;

FUNCTIONAL ELEMENTS
(bracketed numbers)
CONSTRUCTION
(capital letters)
MATERIALS
(lower case letters and numbers)

SIMPLIFICATION FOR LOCAL USE

It is proposed therefore, that in the initial stages, no sub-divisions be made to any but the above three basic tables viz:-- Functional Elements, Construction and Materials.
This would result in the following basic filing classification:

A THEORY
The background to the investigation, planning and design of buildings.
Sources of Information, Social Sciences, Law and Natural Sciences, etc.
Technology, Hygiene, Engineering, Insulation, etc.
Planning, Landscape, Architecture, Design, etc.

B PRACTICE
The background to the effective and economic use of resources.
Management, Organization, Investigation, Regulation, Communication, etc.
Building Practice, Site Administration, Tools and Machines, etc.
Maintenance, Cleaning, Restoration, Demolition, etc.

C EARTHWORK
The investigation and preparation of the site for building.
Site Investigation, Soil Mechanics, etc.
Excavation, Cutting and Levelling, etc.

D MATERIALS: GENERAL

Dd	Metal
De	Stone
Df	Concrete
Dg	Clayware, ceramics
Dh	Other Mineral Materials
Di	Wood
Dj	Organic fibres (in boards)
Dk	Cork and other organic material (in slabs and sheets)
Dn	Plastic, composition, linoleum, rubber
Do	Glass
Dp	Loose fill, Aggregate
Dq	Mortar and mass concrete
Dr	Gypsum plasters
Ds	Bitumenous material, tar,
Dt	asphalt
Du	Fixing Materials, Adhesives, mastics protective materials
Dv	Oils, paints, varnishes
Dw	Chemicals (solvents, etc)

E CONCRETE
F BLOCKS, BRICKS, STONEWORK
G STRUCTURAL UNITS (PREFABRICATED FRAMES, BEAMS, SLABS, ETC.)
H SECTIONS AND BARS
I TUBES AND PIPES
J WIRES AND MESH
K INSULATION PRODUCTS
L FOILS AND MEMBRANES
M SHEET METAL
N ROOFING AND SIDING
O PRODUCTS
P PLASTERS
Q ACOUSTIC PRODUCTS
R SHEETS (PLASTER BOARDS, PLYWOODS, GLASS, PLASTICS)
S TILES (BUTT JOINTING)
T FLOOR PRODUCTS
U CLADDINGS AND FACINGS
V PAINTS

(1) EXTERNAL ELEMENTS GENERAL
(11) Ground: Mounds, hollows, tunnels, ducts
(12) Drainage: Below ground installations
(13) Retaining structures
(14) Roads and pavings
(15) Gardens: soils, planting, ponds, pools, fences, gates, walls

This section should only be used for information about the substances from which formed products are made.

This section should only be used for information about constructional techniques, modular properties, & performance specification, distinct and apart from when the product is used in the functional element of a building.

(16) Foundations
(2) PRIMARY ELEMENTS GENERAL
(20) Accessories: structural fixings-nails, screws, bolts, timber connectors, etc.
(21) Walls
(22) Partitions
(23) Floors, Structural
(24) Stairs and ramps (structural)
(25) Ceilings
(26) Roofs, structural, flat
(27) Roofs, structural, pitched
(28) Elements above roofs — tanks, lift houses, cupolas, etc.
(3) SECONDARY ELEMENTS
(30) Accessories: ironmongery
(31) Windows
(32) Doors
(34) Handrails and Balustrades
(35) Screens, louvres
(36) Pavement lights
(37) Roof lights and traps
(38) Roof Eaves, verges, gutters, rails
(4) FINISHES
(41) Finishes, External: general
(42) Finishes, internal: general
(43) Finishes: Floor
(44) Finishes: Stairs
(45) Finishes Cills, skirtings, cover strips
(46) Finishes: Flat roofs
(47) Finishes: Pitched roofs
(48) Finishes: Flashings
(5) SERVICES INSTALLATION, SANITATION, HEATING, VENTILATION (GENERAL)
(51) Installations: Refuse Disposal
(52) Installations: Drainage and sanitation
(54) Installations: Hot water
(55) Installations: Gas, compressed air steam, refrigeration
(56) Installations: Heating
(57) Installations: Ventilation, Air Conditioning
(6) SERVICES INSTALLATIONS: ELECTRICAL AND MECHANICAL GENERAL
(60) Electrical accessories
(63) Installations: Electrical, Lighting and power
(64) Installations: Communications
(66) Installations: Mechanical
(68) Installations: Special security
(7) GENERAL SPACES FIXTURES AND EQUIPMENT
(70 Accessories
(71) Entrances fixtures and equipment — (Mats, floor scrapers, signs)
(72) Rooms Fixtures and Equipment — (shelves, cupboards, blinds)
(73) Kitchens, Fixtures and Equipment
(74) Cloakrooms, Bathrooms and Lavatories, fixtures and equipment
(75) Laundries, Fixtures and Equipment
(76) Stores, cupboards Fixtures and Equipment
(77) Plant: Fixtures and Equipment (garages, cycle parks, boiler rooms)
(78) External, Fixtures and Equipment (seats, screens, sandpits)
(8) SPECIAL FIXTURES AND EQUIPMENTS
(81) Special fixtures: Enginering works, agricultural buildings
(82) Special fixtures: Civic, administrative, commercial and office buildings
(83) Special fixtures: Transport and Industrial buildings
(84) Special fixtures: Health and welfare buildings
(85) Special fixtures: Refreshment, Entertainment and recreational buildings
(86) Special fixtures: Ecclesiastical buildings
(87) Special fixtures: Educational, scientific and cultural buildings
(88) Special fixtures: Residential buildings
(9) BUILDING TYPES (GENERAL)
(91) Engineering works and Agricultural buildings
(92) Civic, administrative, public, commercial and office buildings
(93) Transport and Industrial buildings
(94) Health and welfare buildings
(95) Refreshment, Entertainment and Recreational buildings
(96) Ecclesiastical buildings
(97) Educational, scientific and cultural buildings
(9) Residential buildings

This classification system is intended for the local users and producers of information in the building industry, and may be used in the following ways:

Uses for architects, builders and quantity surveyors:

(a) To help organize an office reference filing system for technical information publications, which is supplied to offices from four principal external producers, i.e. research and development organizations, publishers, the technical and trade press, and manufacturers and suppliers of products. Information arising out of experience of jobs, which is produced internally within offices, may also be filed under the same system.

Uses for producers of technical information

(b) To help in the organization and presentation of technical information into clearly defined subjects, which are related to the use made of this information by architects, builders and quantity surveyors.

(c) To give guidance on printing a filing reference on their publications, so that they may be kept in a proper filing system in offices and be found when required. All publications intended to be kept for use in offices should have a filing reference printed in a box in the top right-hand corner of the front page or cover and on each page of a loose leaf publication.

ACKNOWLEDGEMENTS

This article was based largely on the SfB/UDC filing manual published by the R.I.B.A. Technical Information Service, and various articles on SfB classification which appeared in the Architects Journal, published by the Architectural Press Ltd.

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