

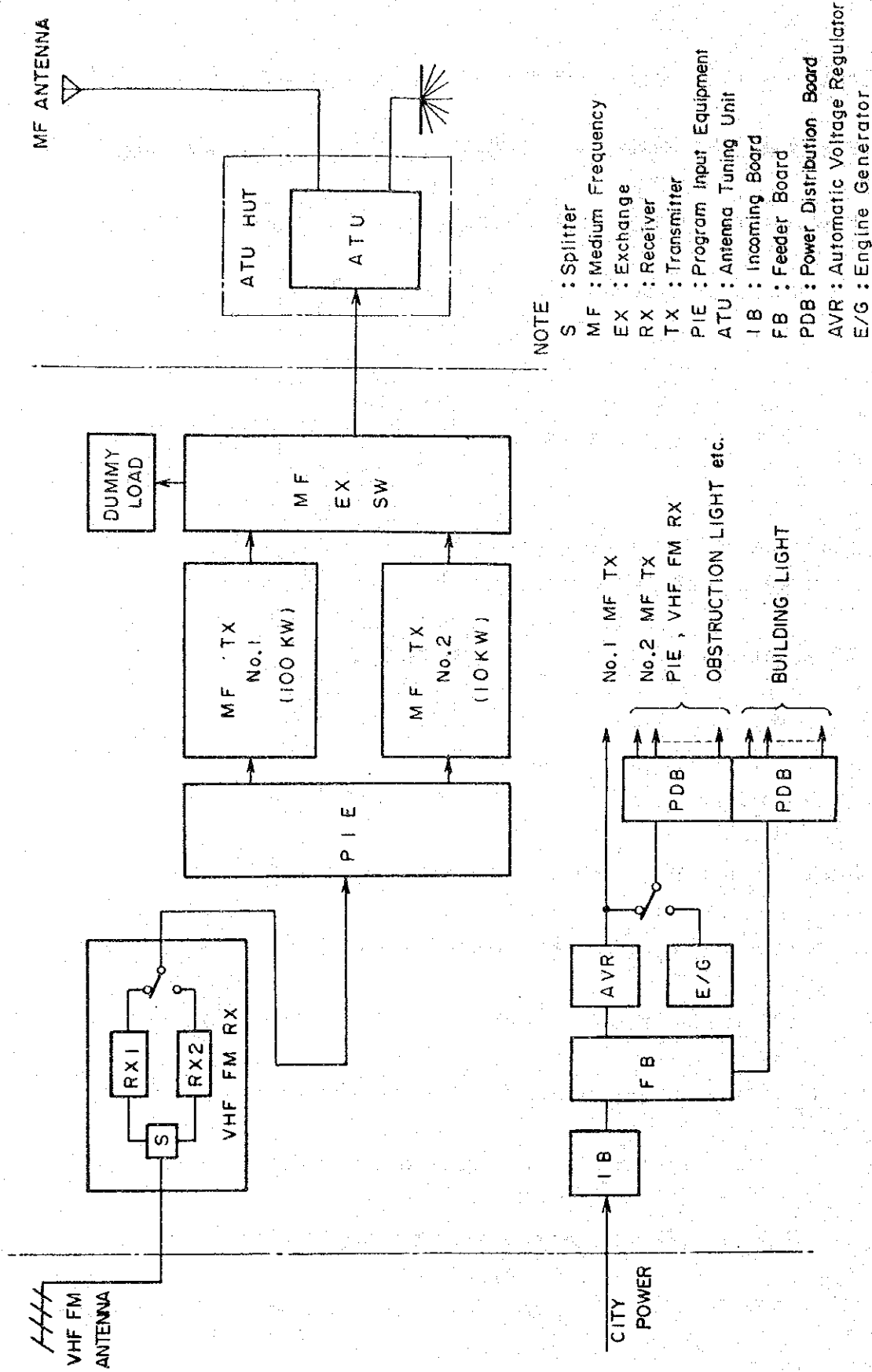
#### 4-4 Basic Design Drawings

- Fig. 4-4-1 System Diagram of Dodoma Transmitting Station
- Fig. 4-4-2 Audio System Diagram of Dodoma Studio
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Fig. 4-4-17 Elevation of Kigoma Transmitting House (1/100)

Fig. 4-4-18 Floor Plan of Kigoma Studio (1/200)



NOTE

- S : Splitter
- MF : Medium Frequency
- EX : Exchange
- RX : Receiver
- TX : Transmitter
- PIE : Program Input Equipment
- ATU : Antenna Tuning Unit
- IB : Incoming Board
- FB : Feeder Board
- PDB : Power Distribution Board
- AVR : Automatic Voltage Regulator
- E/G : Engine Generator

Fig. 4-4-1 SYSTEM DIAGRAM OF DODOMA TRANSMITTING STATION

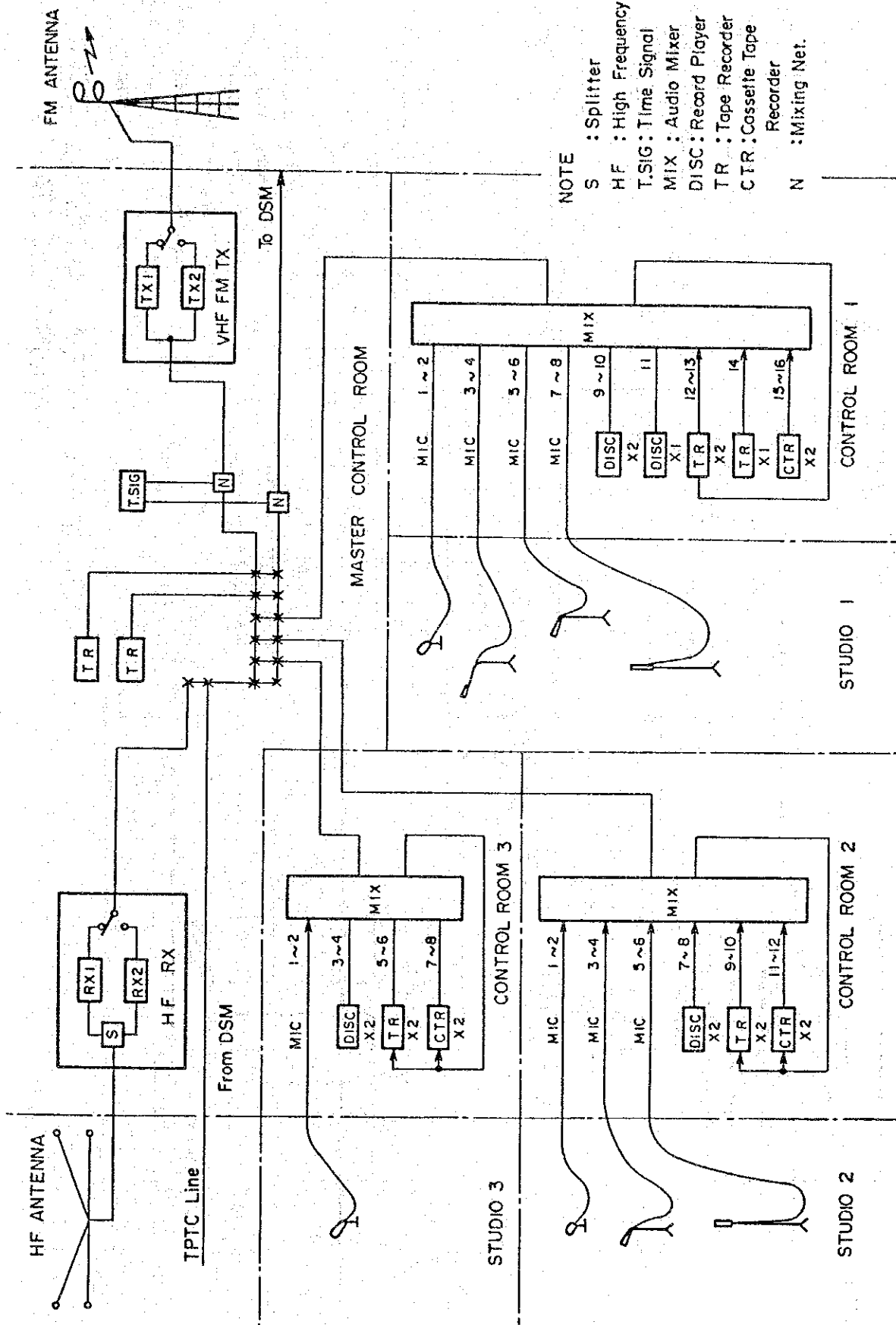
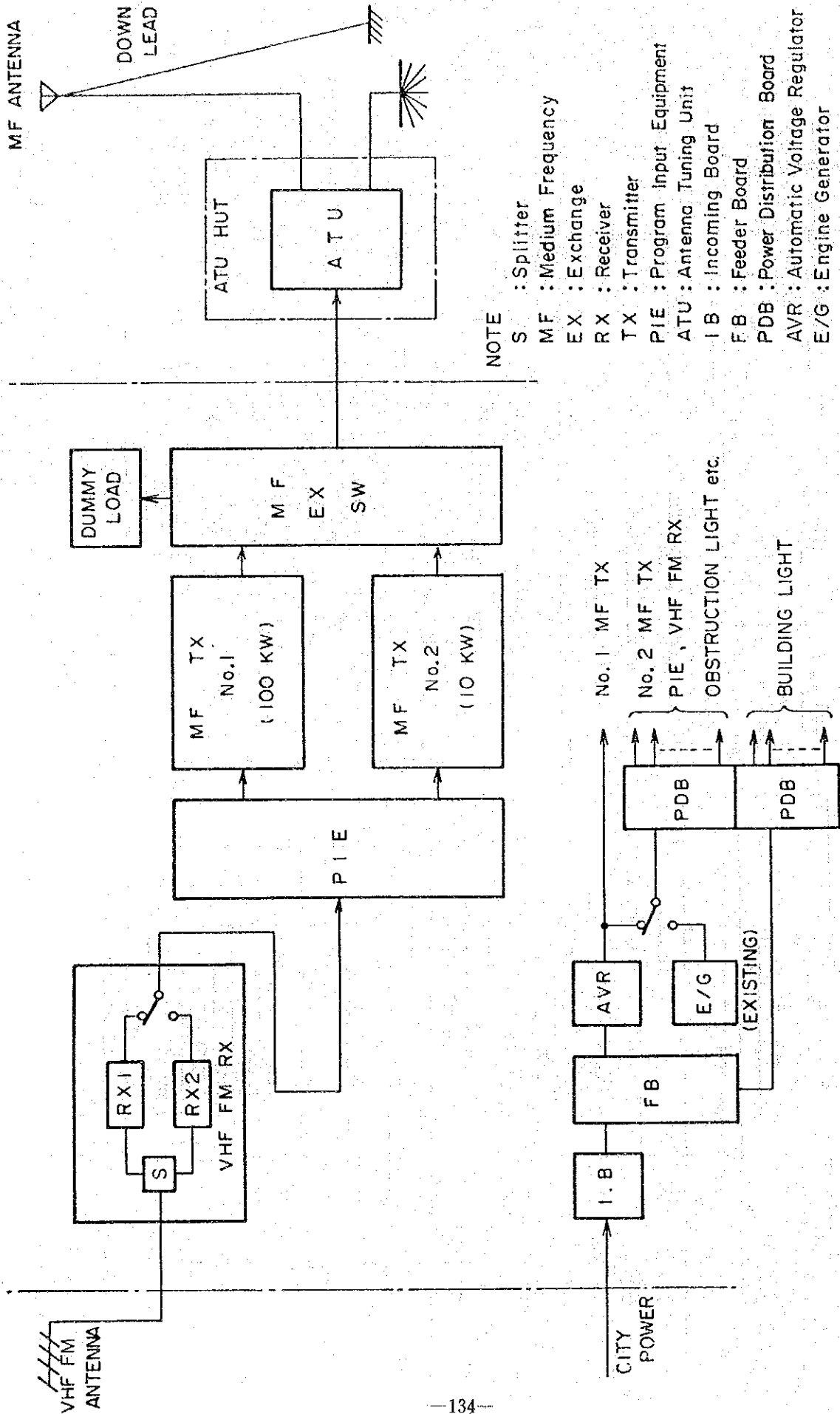


Fig.4-4-2 AUDIO SYSTEM DIAGRAM OF DODOMA STUDIO



NOTE

- S : Splitter
- MF : Medium Frequency
- EX : Exchange
- RX : Receiver
- TX : Transmitter
- PIE : Program Input Equipment
- ATU : Antenna Tuning Unit
- I B : Incoming Board
- F B : Feeder Board
- PDB : Power Distribution Board
- AVR : Automatic Voltage Regulator
- E/G : Engine Generator

Fig. 4-4-3 SYSTEM DIAGRAM OF KIGOMA TRANSMITTING STATION

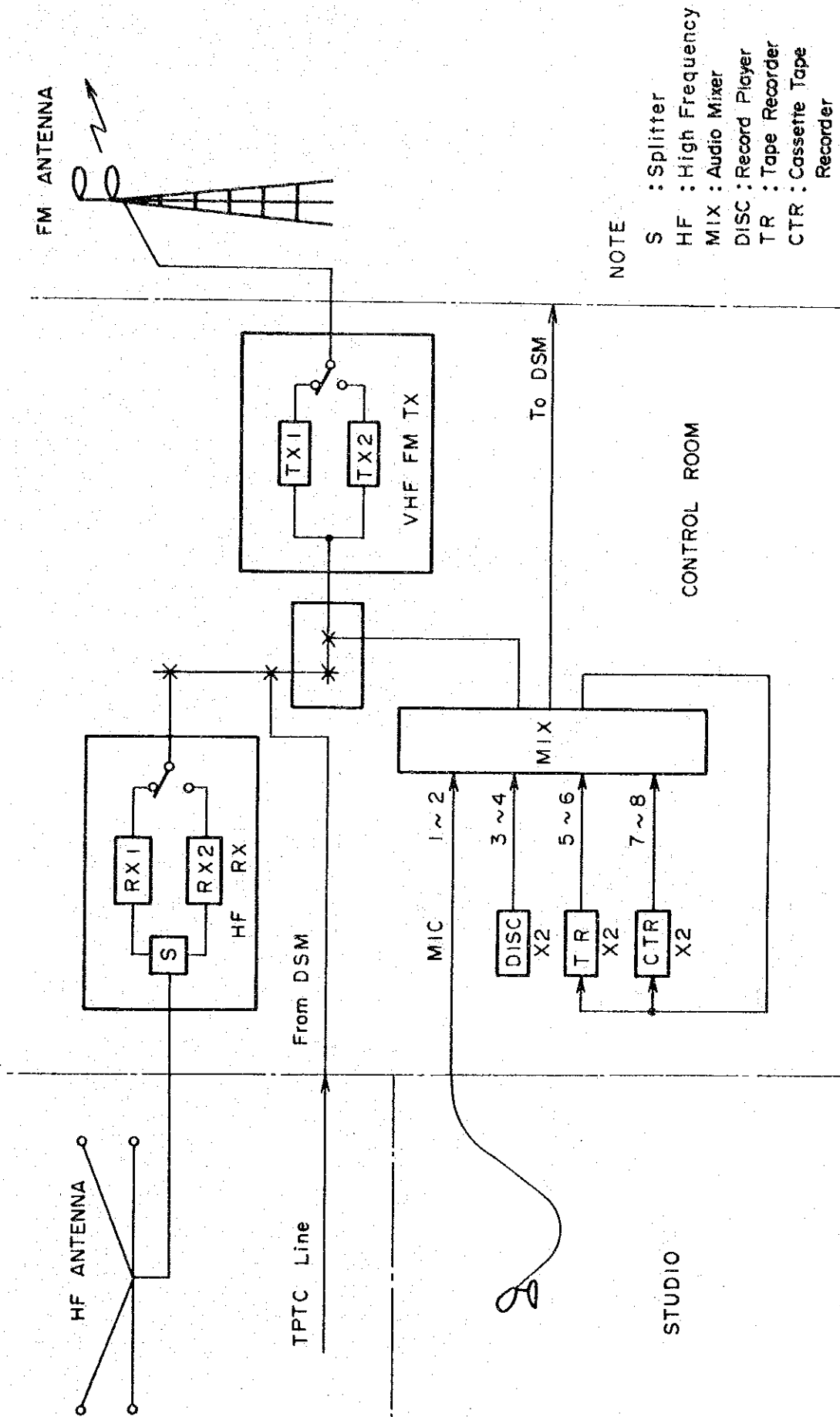
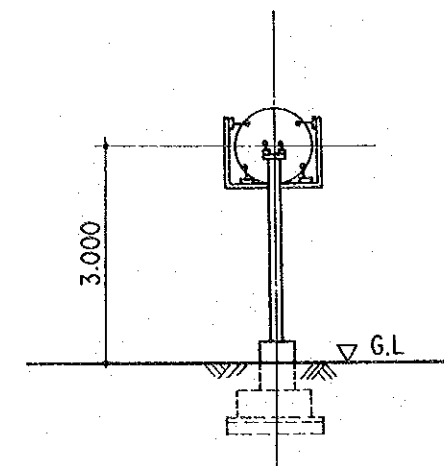
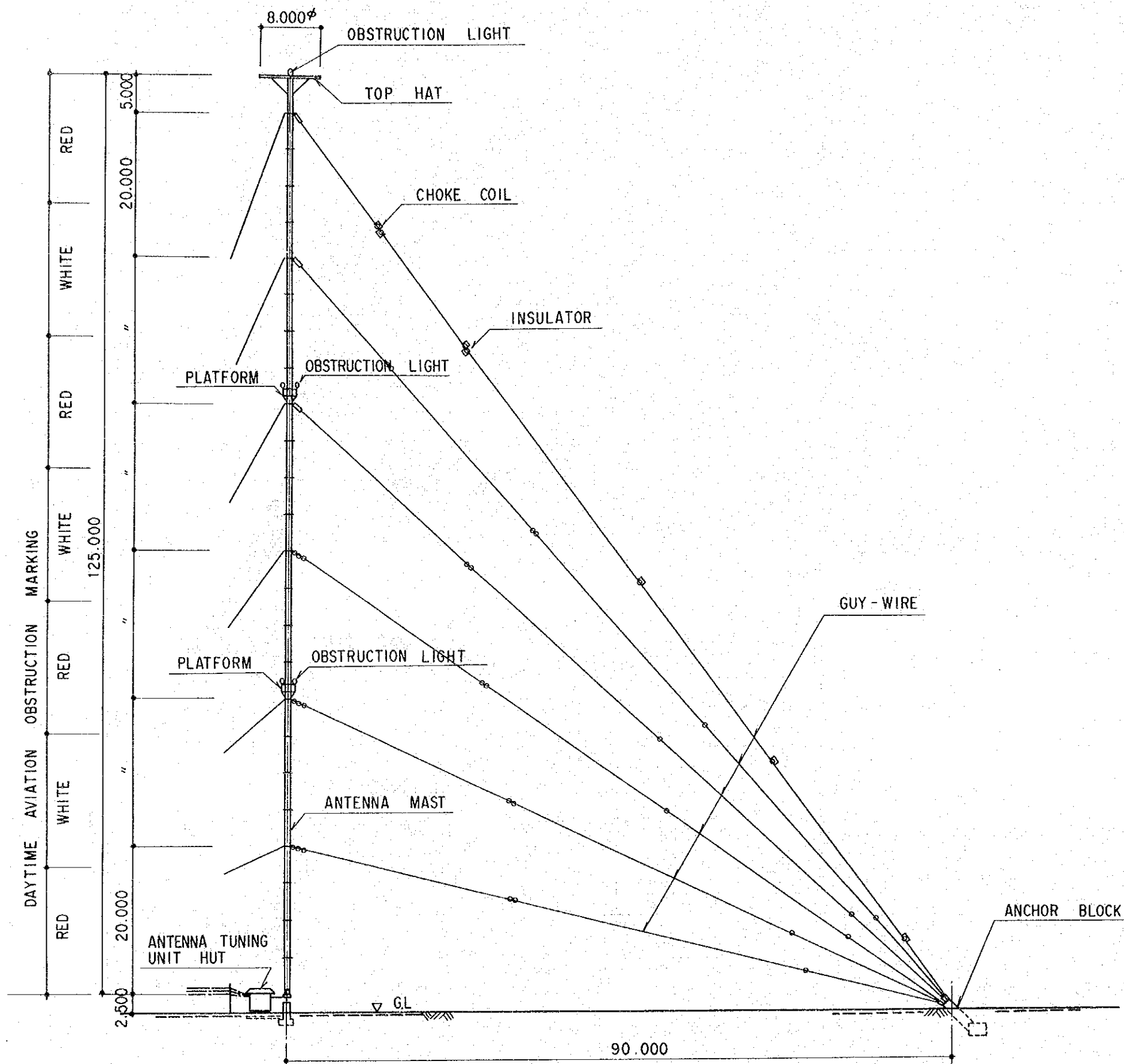


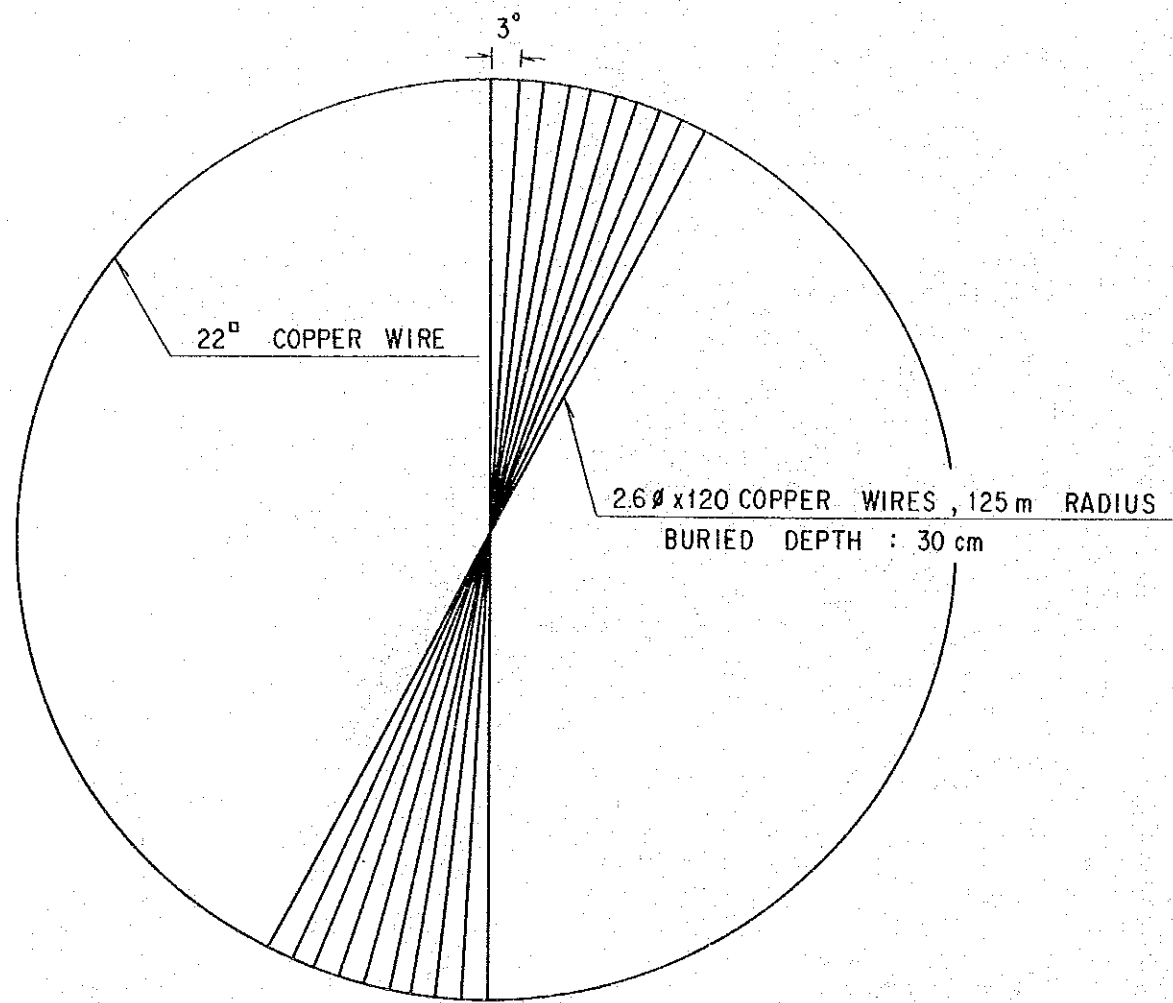
Fig.4-4-4 AUDIO SYSTEM DIAGRAM OF KIGOMA STUDIO



6-WIRE AERIAL FEEDER  
& SUPPORTING MAST (@ 10.000)

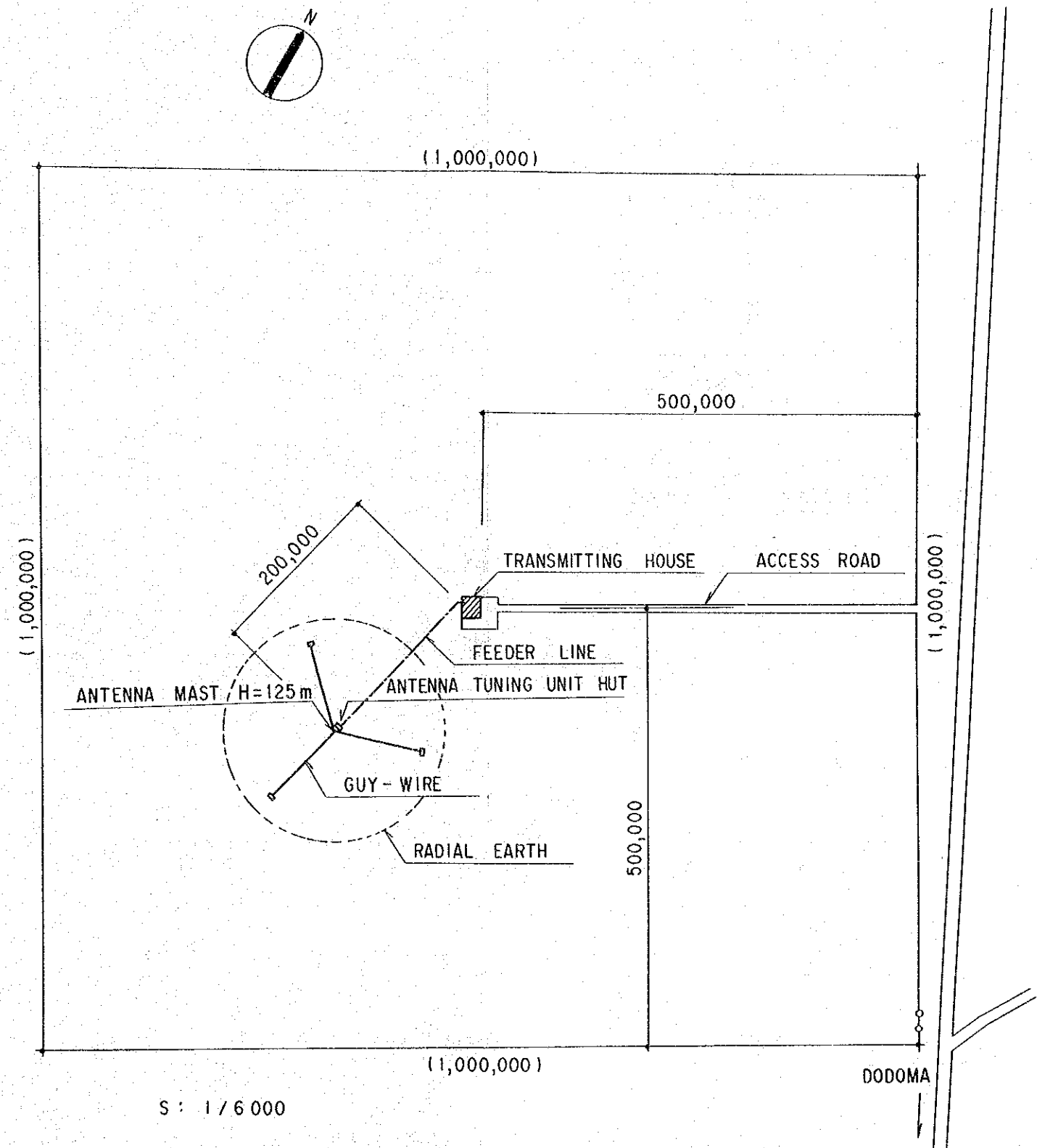
S : 1/100

Fig. 4-4-5  
DODOMA TRANSMITTING STATION:  
OUTLINE OF ANTENNA SYSTEM



S : 1 / 2 000

LAYOUT OF RADIAL EARTH

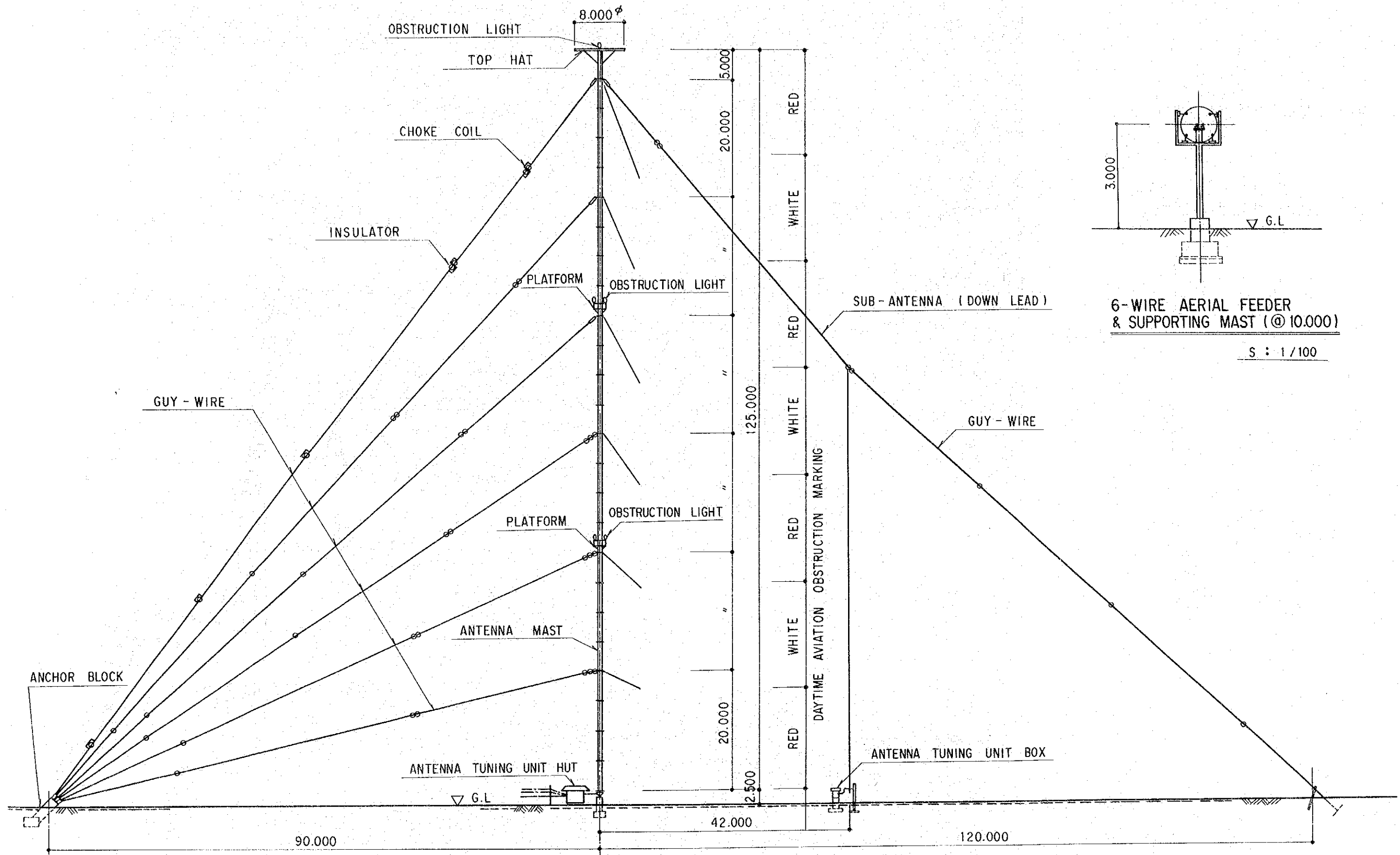


S : 1 / 6 000

LAYOUT OF ANTENNA SYSTEM

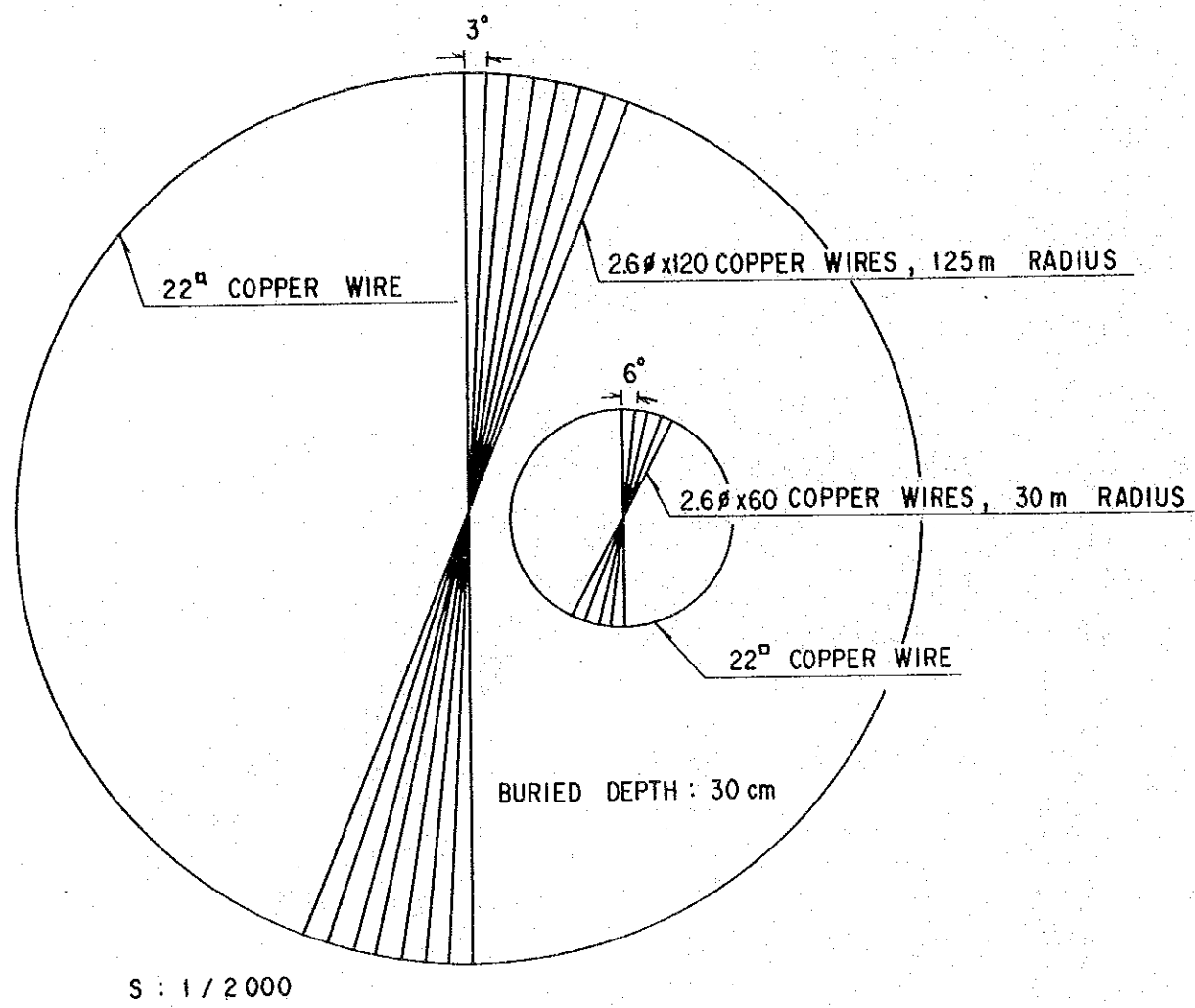
Fig. 4-4-6  
DODOMA TRANSMITTING STATION:  
LAYOUT OF ANTENNA SYSTEM  
AND LAYING OF RADIAL EARTH



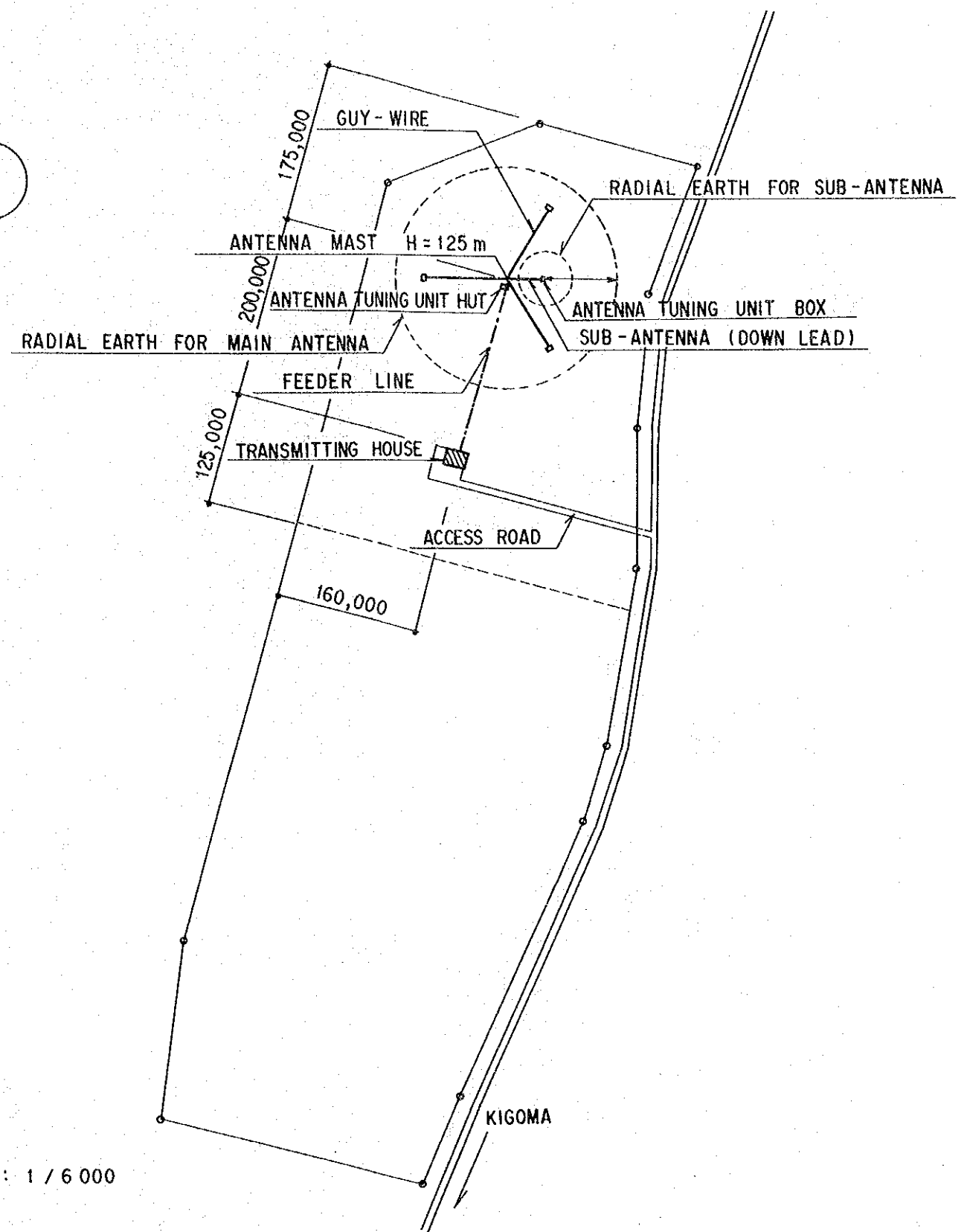
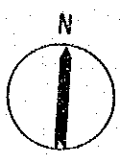


S : 1/600

Fig. 4-4-7  
KIGOMA TRANSMITTING STATION:  
OUTLINE OF ANTENNA SYSTEM



LAYOUT OF RADIAL EARTH



LAYOUT OF ANTENNA SYSTEM

Fig. 4-4-8  
KIGOMA TRANSMITTING STATION:  
LAYOUT OF ANTENNA SYSTEM  
AND LAYING OF RADIAL EARTH



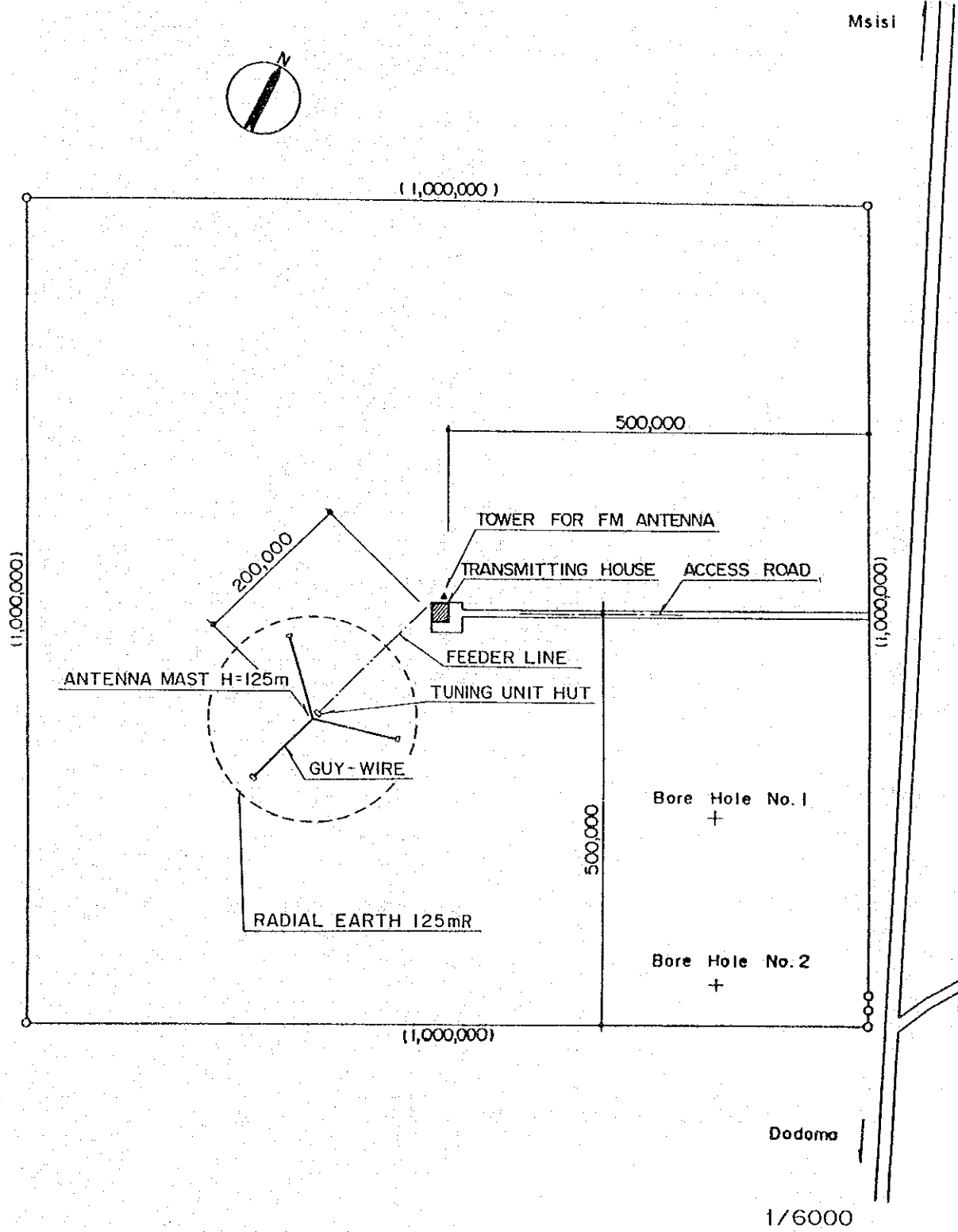


Fig. 4-4-9 SITE PLAN OF DODOMA TRANSMITTING STATION

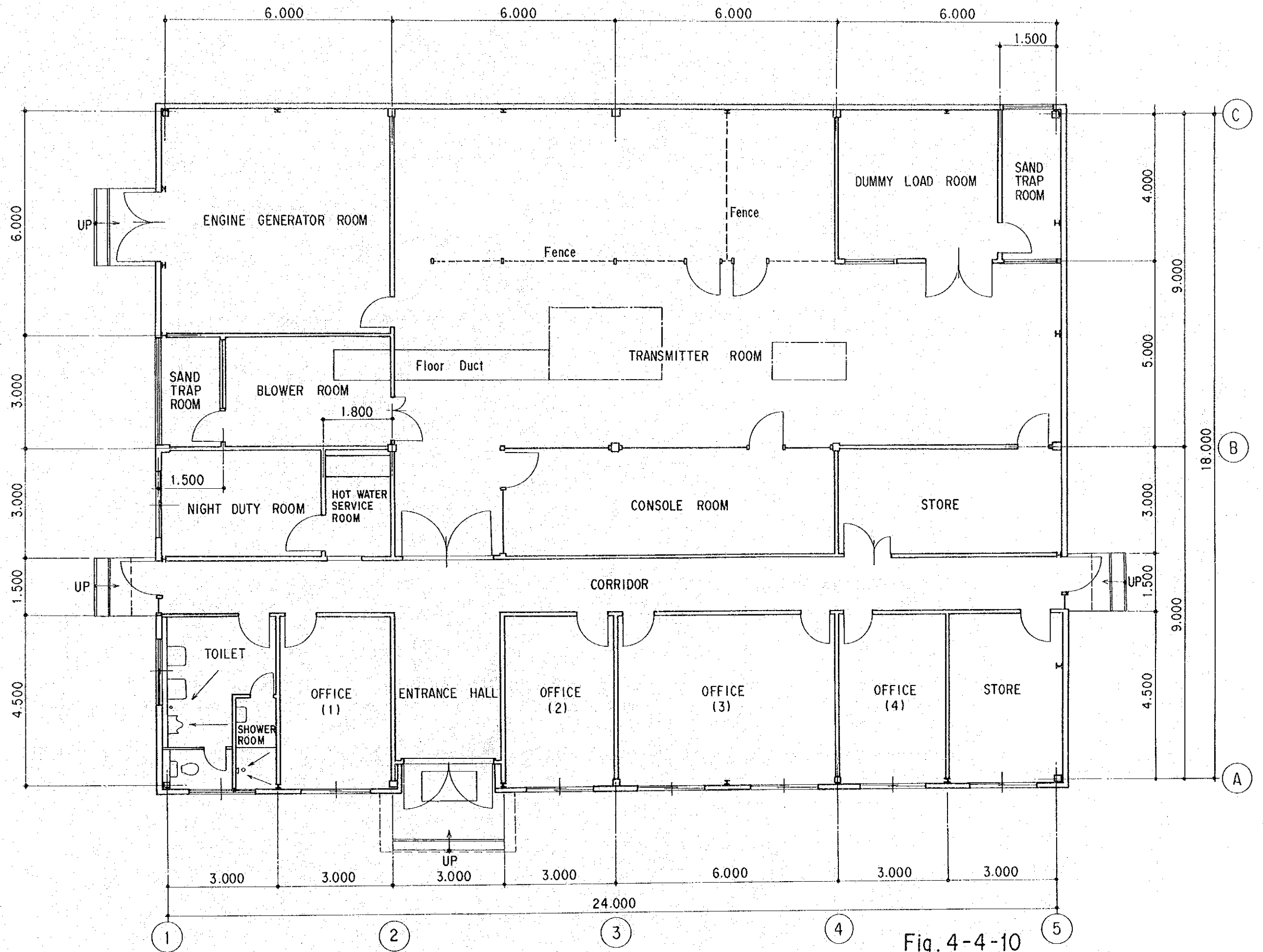
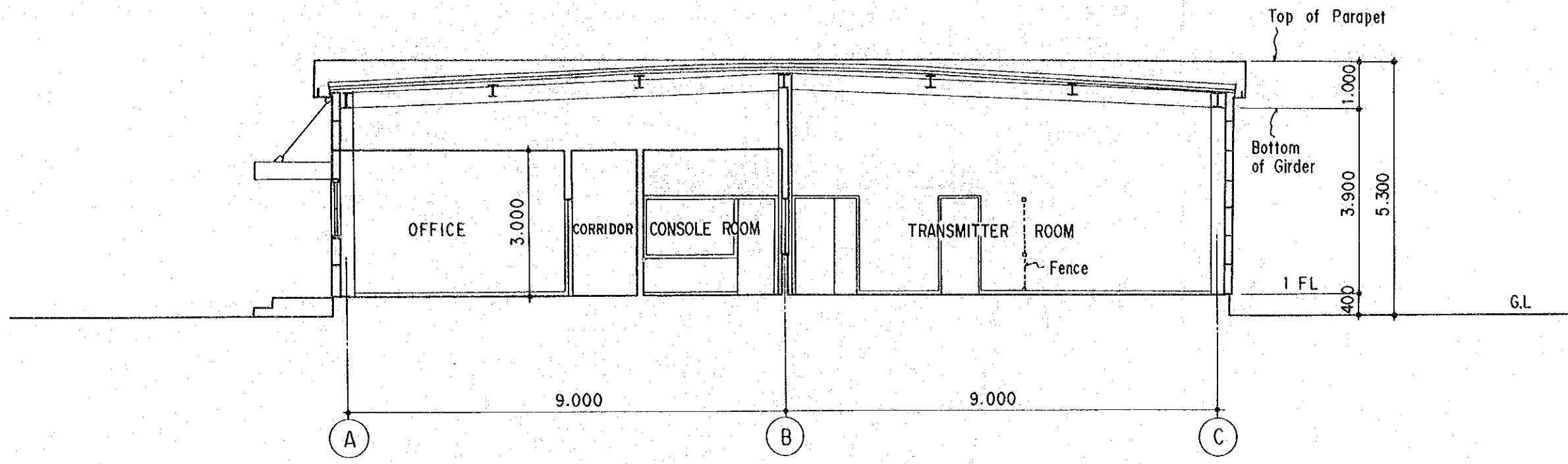
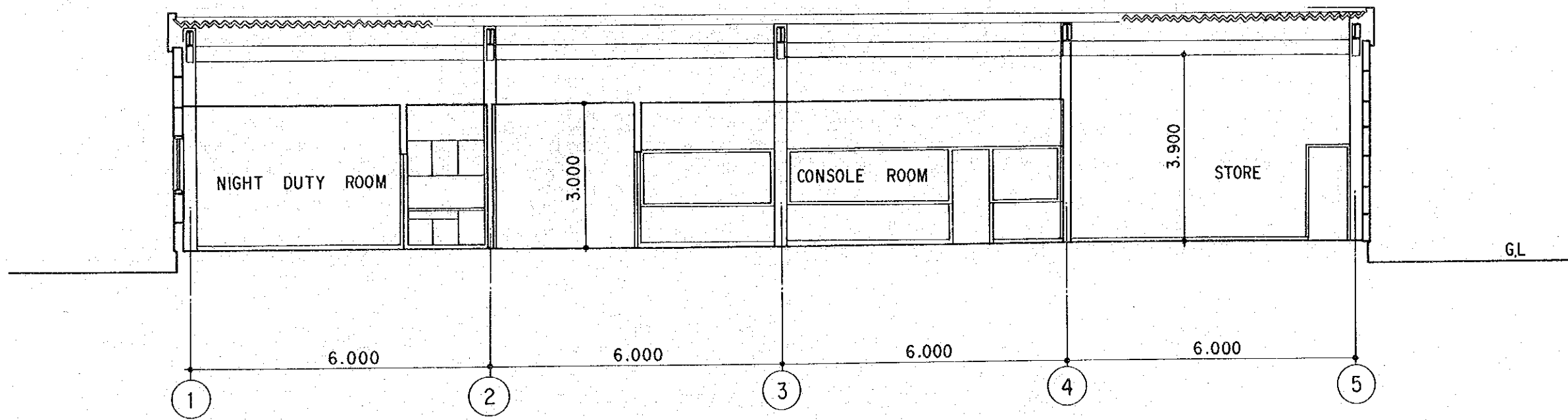


Fig. 4-4-10  
 FLOOR PLAN OF DODOMA  
 TRANSMITTING HOUSE 1/100

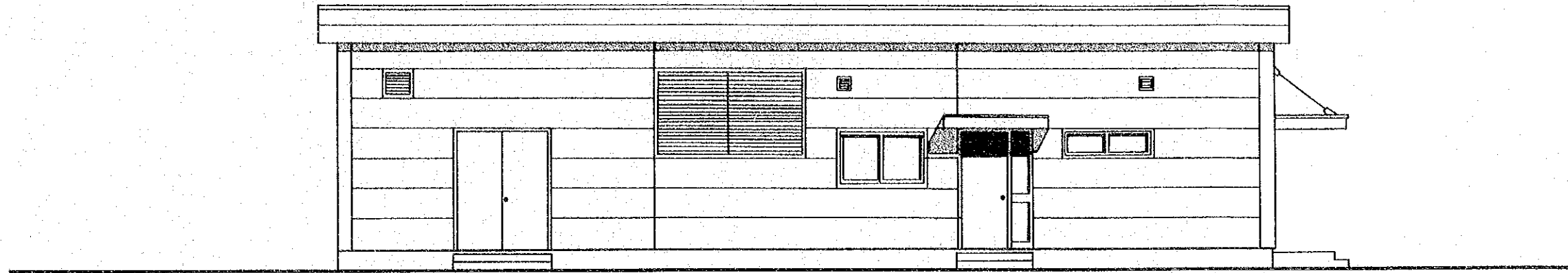


X - X SECTION 1/100

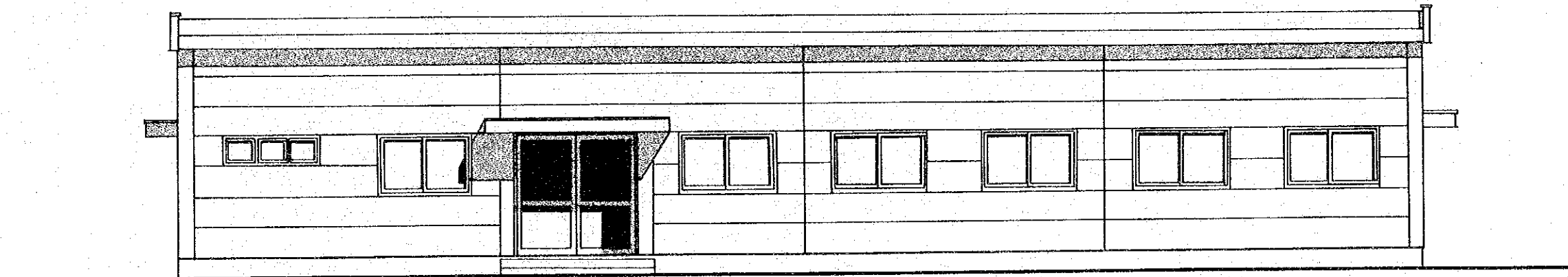


Y - Y SECTION 1/100

Fig. 4-4-11  
SECTION OF DODOMA  
TRANSMITTING HOUSE 1/100



SIDE ELEVATION 1/100



FRONT ELEVATION 1/100

Fig. 4-4-12  
ELEVATION OF DODOMA  
TRANSMITTING HOUSE 1/100





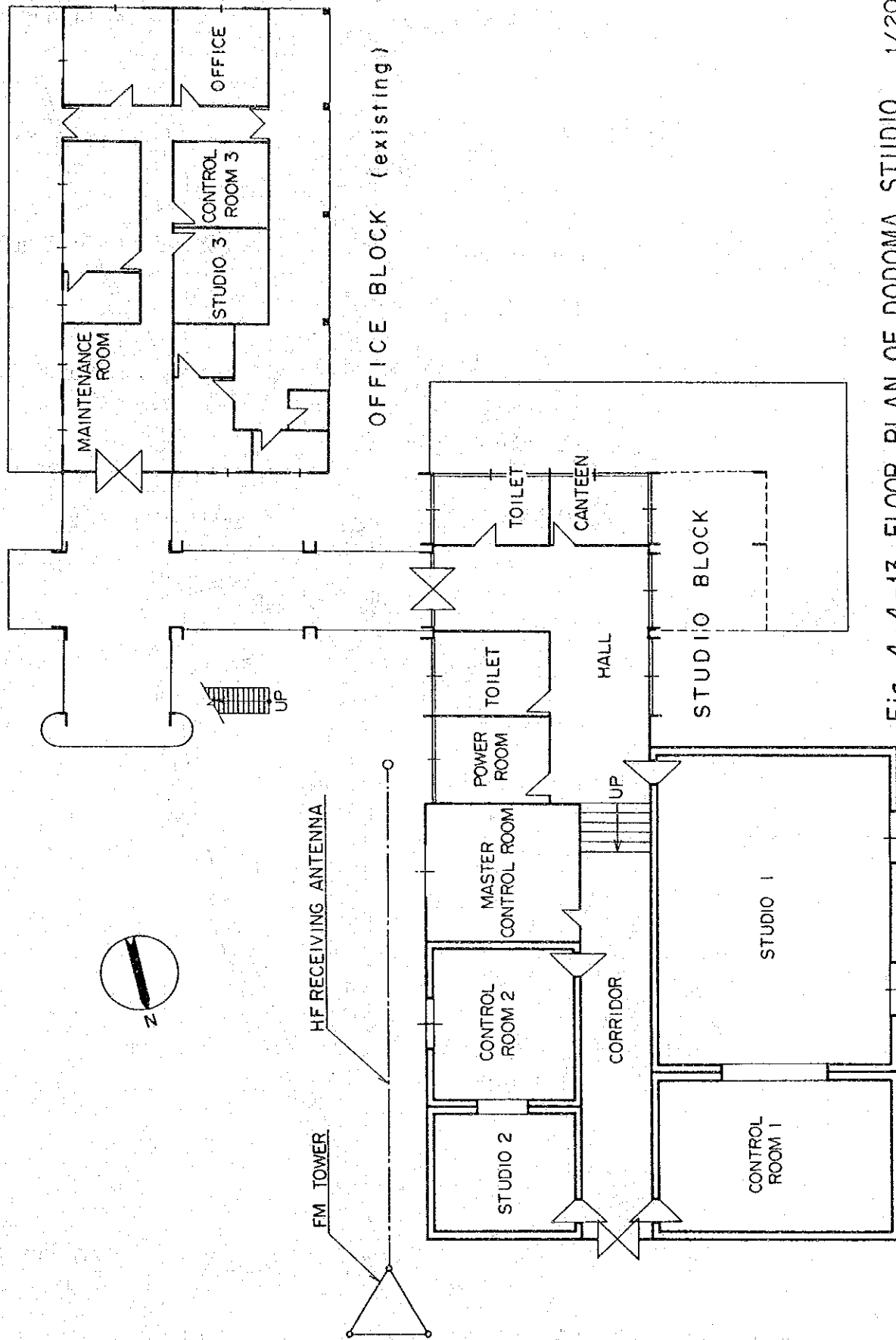


Fig. 4-4-13 FLOOR PLAN OF DODOMA STUDIO 1/200

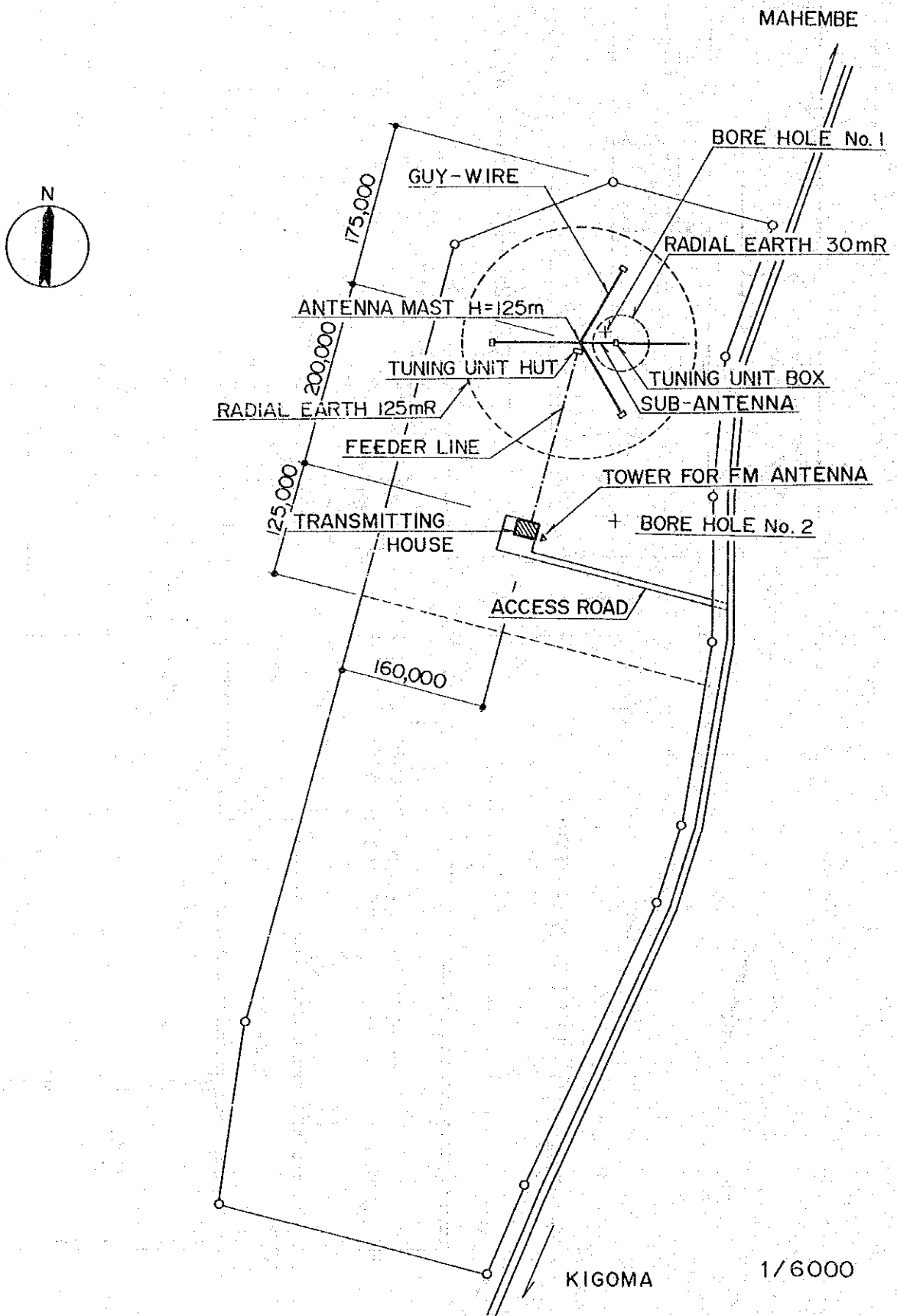


Fig. 4-4-14 SITE PLAN OF KIGOMA TRANSMITTING STATION

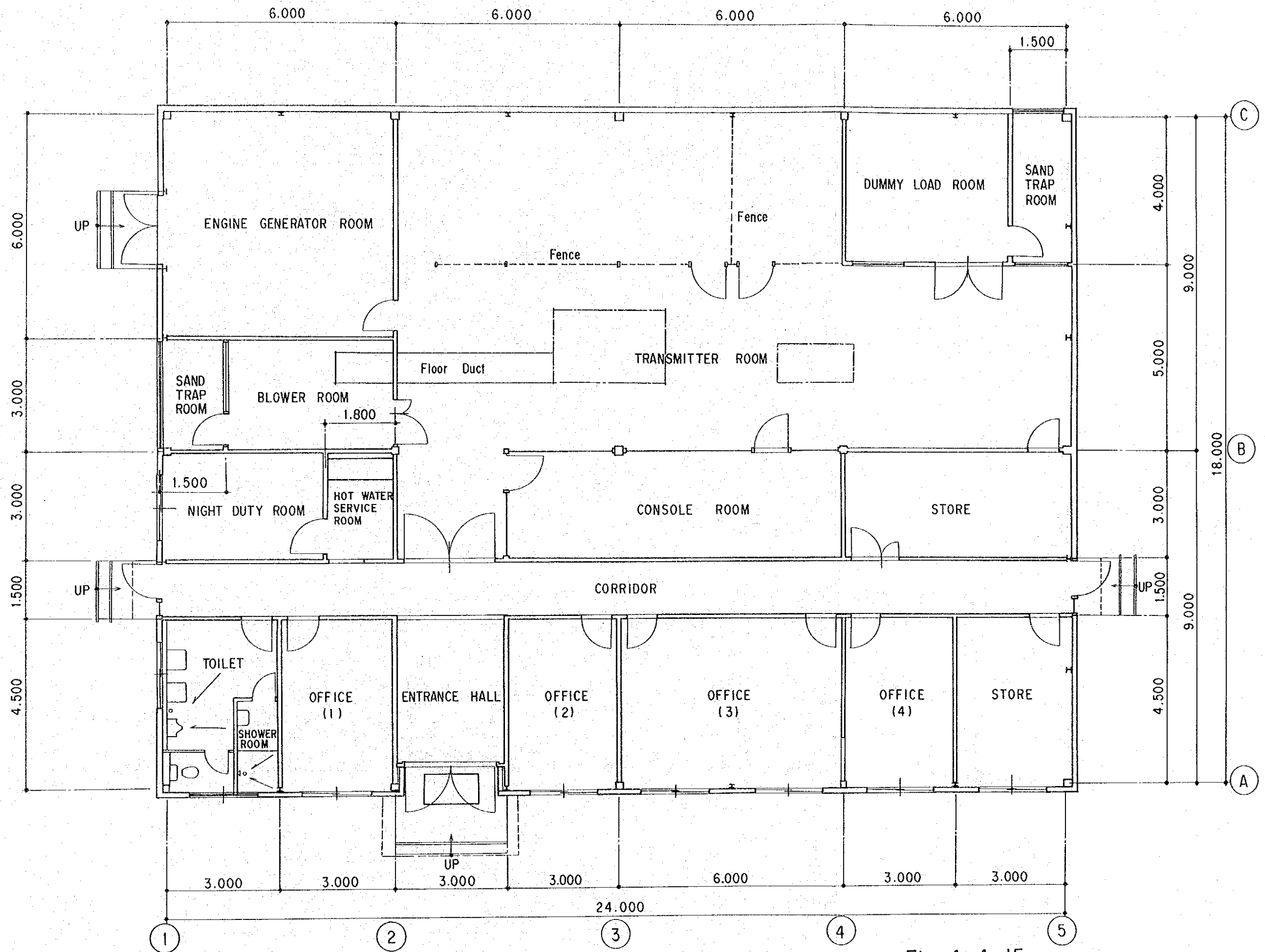
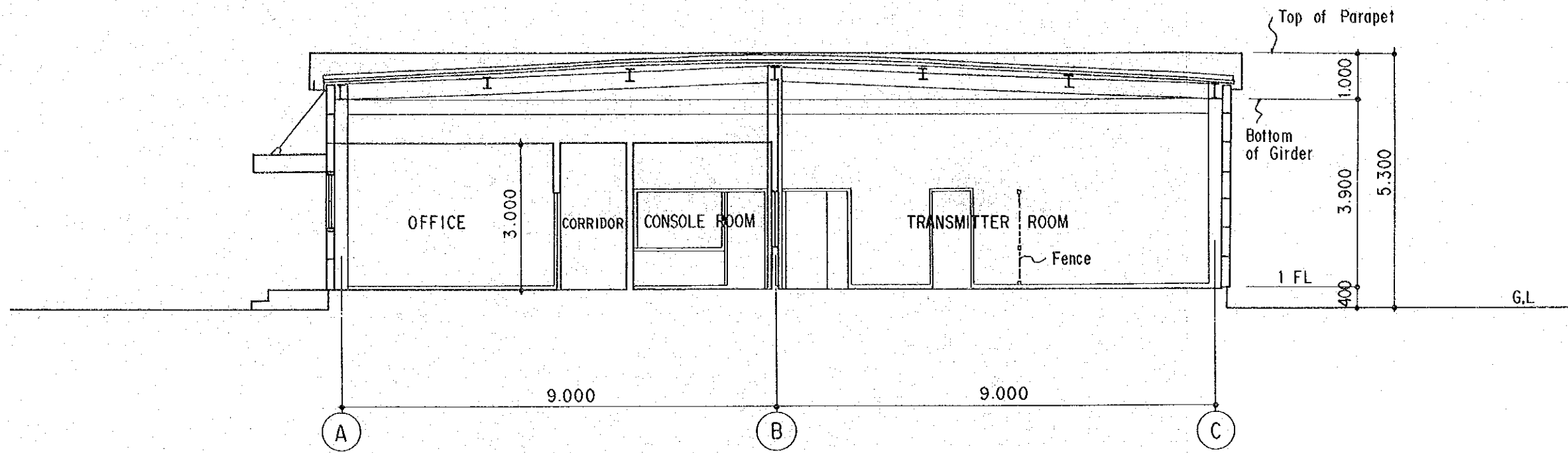
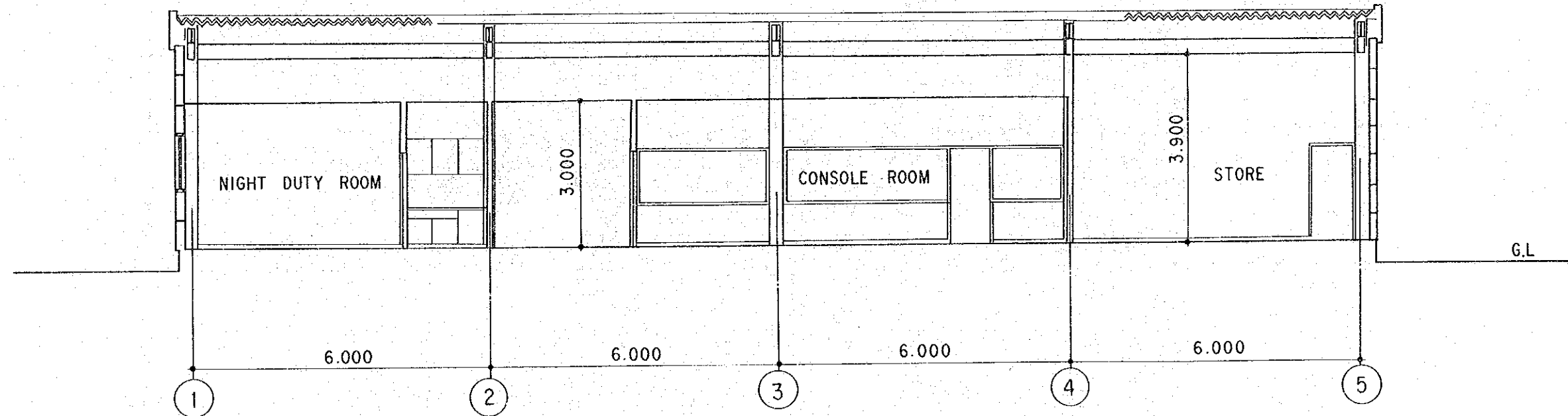


Fig. 4-4-15  
 FLOOR PLAN OF KIGOMA  
 TRANSMITTING HOUSE 1/100

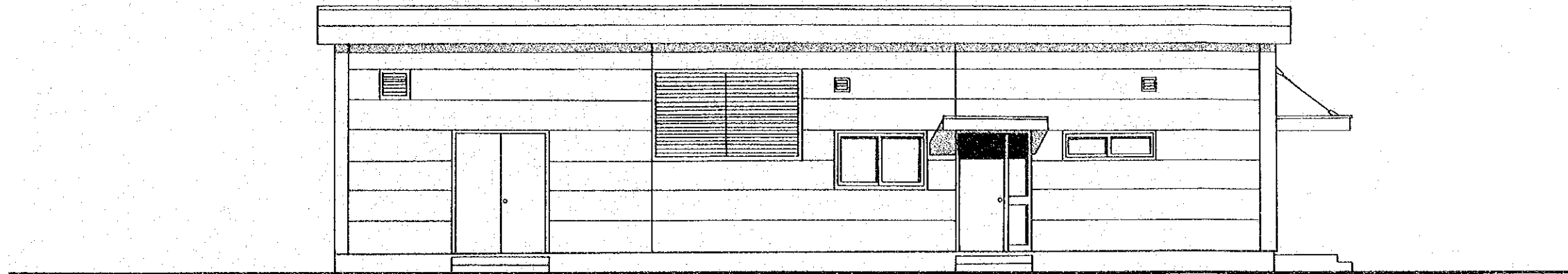


X-X SECTION 1/100

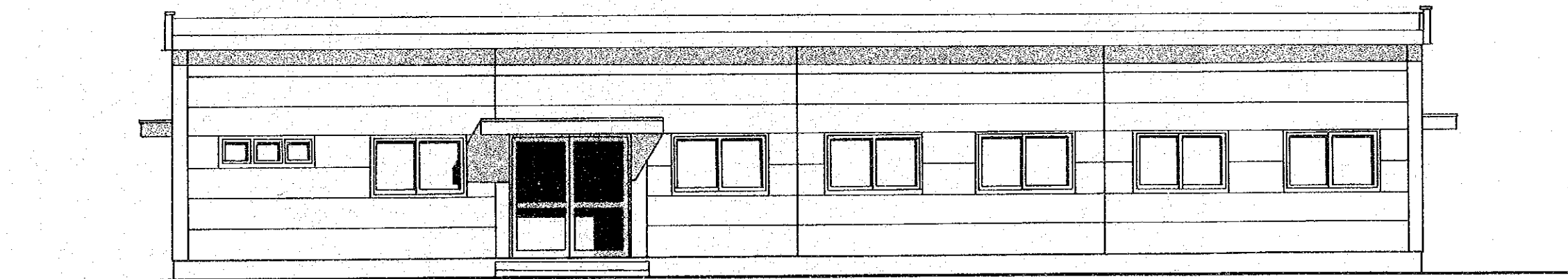


Y-Y SECTION 1/100

Fig. 4-4-16  
SECTION OF KIGOMA  
TRANSMITTING HOUSE 1/100



SIDE ELEVATION 1/100



FRONT ELEVATION 1/100

Fig. 4-4-17  
ELEVATION OF KIGOMA  
TRANSMITTING HOUSE 1/100



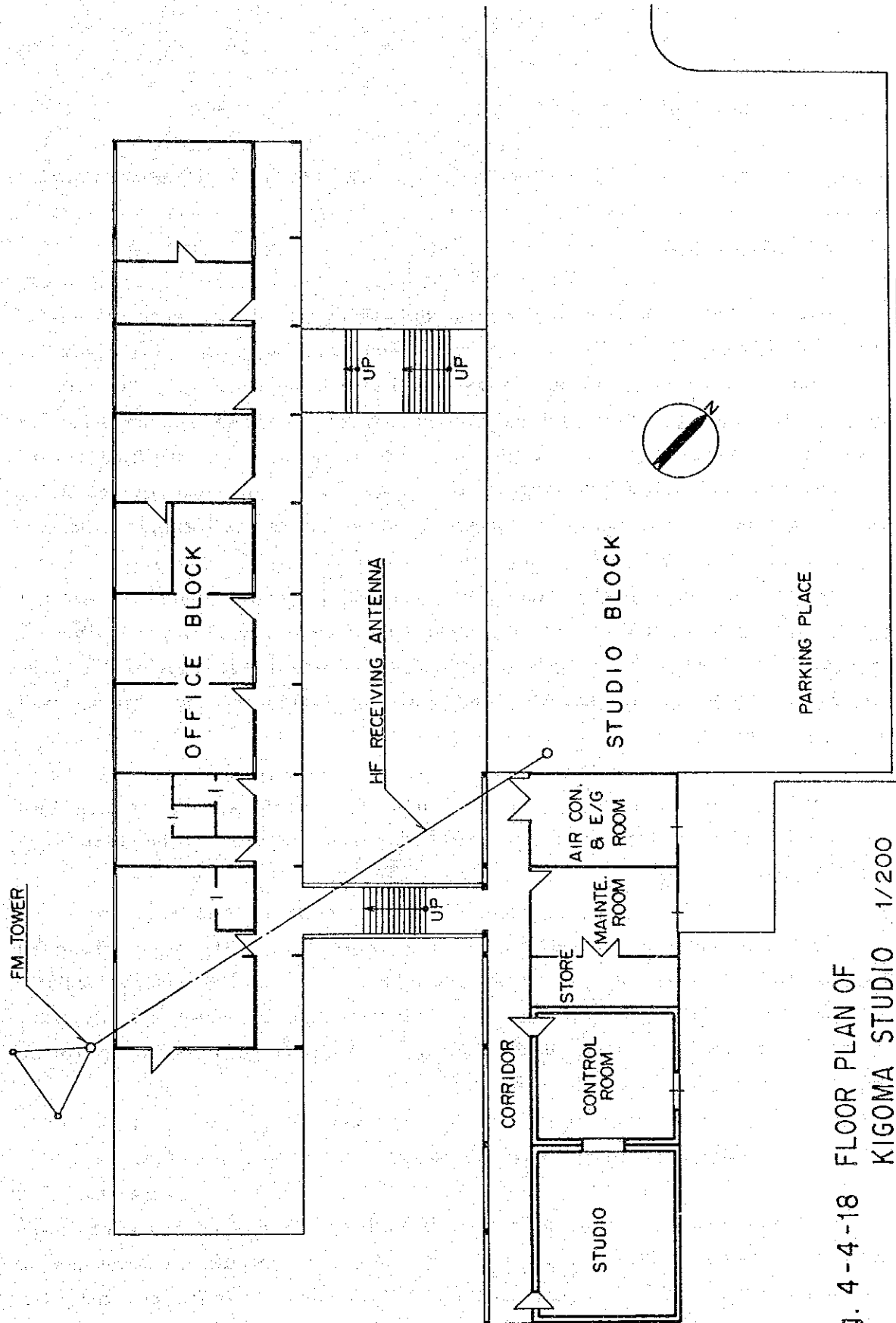


Fig. 4-4-18 FLOOR PLAN OF  
KIGOMA STUDIO 1/200

#### 4-5 Execution Plan

##### 4-5-1 Current State of Building Industry and Construction Guidelines

###### (1) Building Firms and Labour Situation

Due to the economic recession, building activities seem stagnant. Only a few large size buildings are under construction in Dar es Salaam and construction work on some buildings has been suspended. In the city of Dodoma, the capital transfer project is under way and construction of apartment housing and access roads can be seen. Full scale construction of the new city has not started yet. The population of Kigoma remains relatively unchanged, thus only small houses are now under construction there.

Generally, the construction industry seems stagnant, and there exists a shortage of construction workers, particularly skilled workers. Since it is uncertain whether it will be possible to secure these skilled persons, the design policy to minimize work requiring skills on the site becomes more important.

Working time is from 8 a.m. to 2 p.m. for governmental organizations and public offices but it is possible for construction workers to work until 4 p.m.

Both stations are far away from the cities, hence it is necessary to set the working time taking into account the commuting hours of the workers both in the morning and evening. As for simple work such as earthwork, external work and radial earth burying work, the labour force living around the transmitting sites can be expected.

###### (2) Building Materials and Building Methods

General houses in local cities such as Dodoma and Kigoma are of bearing wall structure with either bricks or soil using trunks and branches of shrubs as core lath. The roof supported by wooden truss is covered with galvanized sheet iron. Buildings a little larger than the houses are of



bearing wall structure in which the spaces between the corner posts and between the beams are filled with bricks. Roofing material is normally galvanized sheet iron. Multistoried buildings are few, and are mostly governmental buildings if any. Iron fence for crime prevention and insect screens are only used at openings, and fittings are seldom used. As a window fitting, plate glass louvered canopes can be seen.

### (3) Material Procurement Plan

As can be guessed from the above mentioned state of the building trade, construction materials obtainable in the local market are limited, and acquisition of basic materials such as structural steel and reinforcing bars is very difficult (round bars are produced in this country). These materials are very expensive and in short supply. Cement is being produced at 3 plants in Kunduchi, Mbeya and Tanga by technical introduction from West Germany, and it has been confirmed that this cement is sufficient to use on this project in terms of its quality and quantity. Aggregates can be procured for both stations. Interior and exterior materials are mostly imported thus very expensive and supply is uncertain, thus it is preferred to procure them in Japan.

### (4) Codes and Standards

The Department of Constr. & Maint. of the Ministry of Communications and Works controls the construction administration, and the Tanzania Bureau of Standards administers technical matters regarding buildings. Also the National Construction Council checks each construction plan. BS is employed as the technical standard for buildings.

Confirmation of a building application is not required but there exists a system to inform the construction committee in each region of the plan and register it.

#### 4-5-2 Demarcation of Scope of Work

The scope conducted by the grant aid from Japan and the scope con-

ducted by the Government of Tanzania at its own expense are shown below.

(1) Sites

Lands for each site had been procured by the Tanzanian side.

Leveling of the ground and removal of obstacles shall be conducted by the Tanzanian side.

(2) Fences

Fences shall be built by the Tanzanian side.

(3) Parking area and in-site road

The minimum required parking area and in-site road shall be within the scope of the grant aid.

(4) Broadcasting Equipment

Everything including installation and wiring shall be completed through the grant aid.

(5) Antenna

Everything including foundation work and erection shall be completed through the grant aid.

(6) Station Building

Transmitting house including foundation work shall be completed through the grant aid. The Tanzanian side is responsible for the studio building.

(7) Building Equipment

1) Electricity

The Tanzanian side is responsible for providing the equipment to receive high-tension voltage electricity having an appropriate capacity, making the use of electricity possible by connecting the distributing line coming from outside of the site with the above device, and taking the necessary steps for this connection including coordination with TANESCO. And as for the Kigoma Transmitting Station, the Tanzanian side is responsible for preparation for installation of the 400 kVA standby generator at the specified spot on the site. And the Tanzanian side is responsible for the electric equipment (lamps, outlets, air conditioning etc.) inside the building of Kigoma and Dodoma Studio. The equipment to receive low voltage electricity at each site other than that mentioned above, and electrical equipment work in each transmitting house shall be covered by the grant aid.

2) Water Supply

The Tanzanian side is responsible for laying of the water supply main up to the site of the transmitting station, and the work including equipment inside the house shall be covered by the grant aid.

The Tanzanian side is completely responsible for the studio.

3) Drainage

A drainage facility up to the filter cofferdam on the site of the transmitting station shall be covered by the grant aid. Drainage for the studio shall be conducted by the Tanzanian side.

4) Telephones

Installation of ducts, terminal boxes and outlet boxes inside the building of the transmitting house shall be covered by the grant aid.

The Tanzanian side shall install telephone lines and telephone sets and connect wiring. All of the work for the studio shall be done by the Tanzanian side.

(8) Furniture and Utensils

Furniture and utensils other than fixtures (carpets, desks, chairs etc.) shall be procured by the Tanzanian side if necessary.

(9) Bank Commissions

Commissions on the notices for the (documents of) authority to pay and commissions on payment for the authorized Japanese exchange bank based on the bank agreement are to be borne by the Tanzanian side.

(10) Importation of Materials and Equipment

Import freightage of materials and equipment conducted under the grant aid cooperation, including the internal transportation charge to the project sites, shall all be covered by the grant aid. Tax exemption and customs clearance at ports of disembarkation shall be provided by the Tanzanian side.

(11) Permission of Entry and Stay

Tanzania shall accord Japanese nationals such facilities as may be necessary for their entry into Tanzania and stay therein for the performance of their work on this project.

(12) Maintenance and Operation

Tanzania shall efficiently and appropriately maintain and operate the equipment and facilities purchased and installed under the grant aid.

(13) Other matters outside the scope of the grant aid shall all be the responsibility of Tanzania.

4-5-3 Execution Supervision Plan

In this project, various works are conducted such as the fabrication and execution of radio broadcasting stations in which medium wave transmitters, studio equipment, and the related power equipment are installed, erection of a 125 m high transmitting antenna mast and a prefabricated house.

In order to carry out the above various works smoothly and efficiently within the specified time frame of the works, it is necessary to send in appropriate specialists timely. Also it is common to all projects that transportation influences the time period of the work. Much sophisticated equipment is to be transported in this project, thus requiring much attention.

From these points, it is necessary to select well-experienced contractors and examine and set the stages of execution of the work very carefully. It is also necessary to exchange information sufficiently with the Tanzanian side so that this project can be executed smoothly as a joint undertaking.

From the same viewpoint, supervision by well-experienced broadcasting consultants is also essential. Consultants make the detailed design, assigning of appropriate staff for supervision of the work, close coordination with not only related organizations of the Japanese side but also those of the Tanzanian side to make the execution of the work go smoothly. Also they give appropriate and timely advice and guidance concerning the various problems that may occur or matters concerning safety.

#### 4-5-4 Materials and Equipment Procurement Plan

All of the broadcasting equipment, their related equipment and construction materials shall be procured in Japan.

The broadcasting equipment and their related equipment shall be inspected after assembly (factory inspection) in Japan as units or a system, and transported after being disassembled again as appropriate. After arrival at the site, equipment installation work shall be done and then the equipment shall be reassembled.

The transmitting house shall be of pure steel frame construction, and of prefabricated design using autoclaved light-weight concrete panels for the external walls and a folded structure of galvanized sheet iron for the roof.

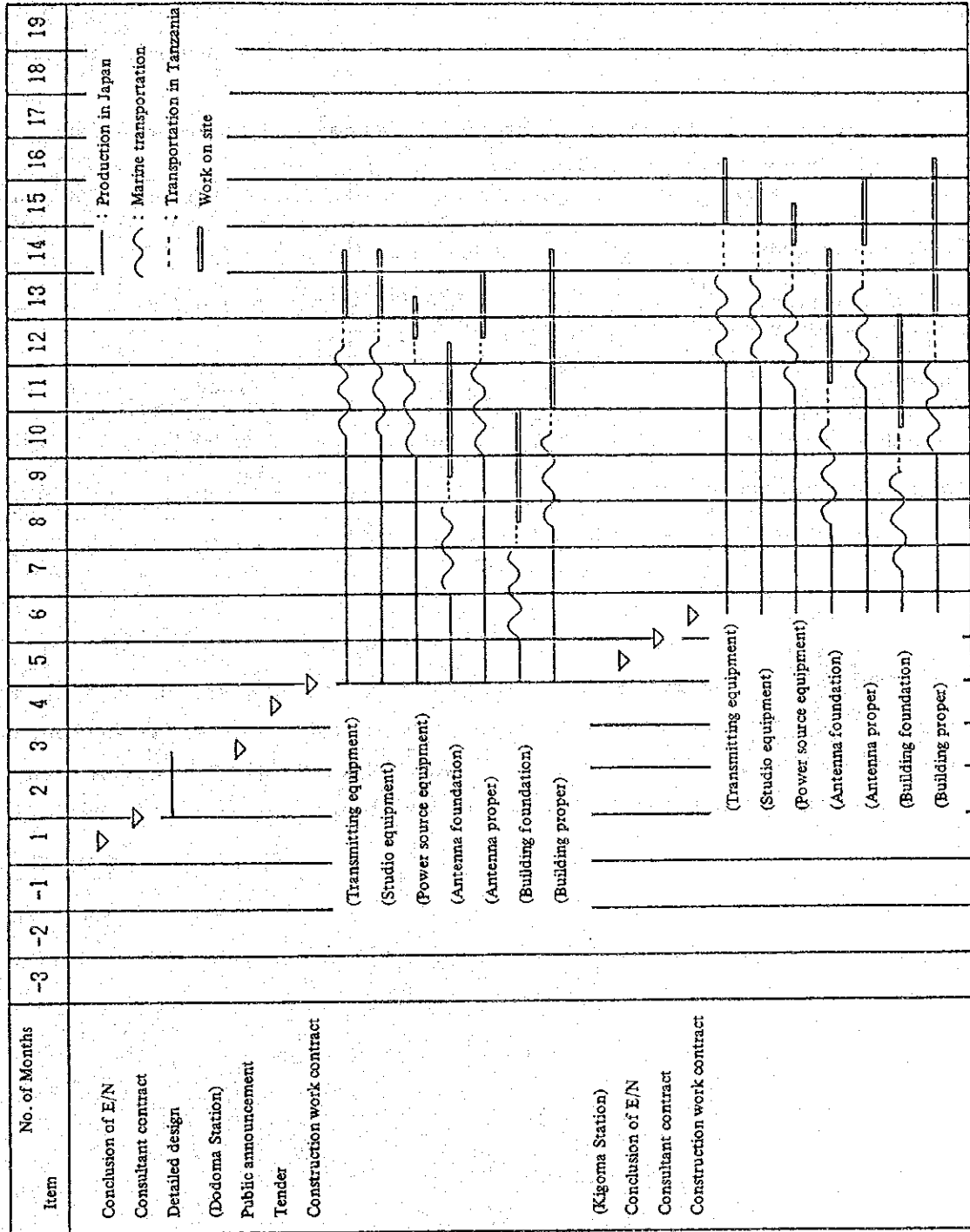
Shelter shall be used for the tuning unit hut, of which the inside shall be shielded with aluminum plates. All of the above shall be procured in Japan.

Foundations for the transmitting house and antenna mast shall be made on site. Cement and aggregate shall be procured on site but reinforcing bars shall be procured in Japan.

4-6 Execution Schedule

Refer to table 4-6-1.

Table 4-6-1 Execution Schedule



#### 4-7 Management and Maintenance Plan

Expenses for maintenance, management and operation in this project will be appropriated from the RTD budget.

Annual maintenance and operation expenses for both Dodoma Station and Kigoma Station as calculated from the site survey and data obtained will be 9.3 million TSh as listed in Table 4-7-1.

Table 4-7-1 Operating Expenses for Dodoma and Kigoma Stations

Item	Dodoma Station	Kigoma Station	Sub-total
Personnel expenses	870	780	1,650
Office & utility expenses (except power rates)	350	350	700
Power rates	2,480	2,280	4,760
Maintenance expenses	940	850	1,790
Program production expenses	300	100	400
Total	4,940	4,360	9,300

The above operating expenses are calculated based on actual annual expenses of RTD and Arusha Station (almost the same scale as Dodoma and Kigoma Stations) with the scale of each station, the number of staff and program production expenses taken into consideration. (See Appendix VII-4-1)



#### 4-8 Approximate Estimate of the Project Costs

Approximate estimate of the project cost to be covered by the Tanzanian side is 24.79 million TSh.

The breakdown is as follows:

Dodoma Station:	Interior finishing work of studio building	3,070,000 TSh
	Leading-in of power cable	5,300,000 TSh
	Water service, telephone, ground leveling, etc.	2,000,000 TSh
Kigoma Station:	Interior finishing work of studio building	890,000 TSh
	Leading-in of power cable	7,430,000 TSh
	Water service, telephone, ground leveling, fence, etc.	6,100,000 TSh
<hr/>		
Total		24,790,000 TSh



## **CHAPTER 5. EVALUATION**



## CHAPTER 5 EVALUATION

Medium-wave radio broadcasting is an excellent medium in that it can spread stable audio information over a wide area simultaneously and directly, and that it can be received by simple and inexpensive battery-powered receiving sets.

Having an extensive territory two and a half times the area of Japan, Tanzania does not yet have a well-developed infrastructure of communications and transportation which constitute a country's arteries, thus making it difficult to transmit news and information to provinces by means of newspapers, periodicals or other publications.

Such being the case, medium-wave radio broadcasting has been drawing attention as the most stable and certain means of spreading information. The population within the present medium-wave radio broadcasting service areas, however, is now only about 7.76 million (37 percent of the total population). Accordingly, a great many people cannot yet enjoy such broadcasting service.

This project aims to widen the medium-wave radio broadcasting coverage through the establishment of stations in two cities of relatively high importance -- Dodoma to where the capital is to be transferred, and Kigoma, the farthest state capital from Dar es Salaam -- as well as to contribute to the improvement of the local residents' living standard and to community development by establishing complete program production centers in the two cities to facilitate the gathering of information that is closely connected with the communities.

The realization of this project will enable an additional 3.12 million people to listen to the medium wave radio broadcasting. This will bring common topics to more people and facilitate sending information on education, agriculture and health and hygiene from the central government. Moreover, programs produced by the zonal production centers will give information full of local color and thoughtful services to the people of

the community and accelerate the reduction of regional gaps.

For RTD, which is to manage the new facilities after the completion of this project, the Government of Tanzania not only has been allocating increased operation expenses for the three radio stations established during the years 1973 to 1974 but also has been meeting the yearly increase in necessary RTD expenditures by appropriating them duly in the budget. The government also considers, as mentioned in 2-2-1, that the expansion of the medium wave radio broadcasting network is of vital importance for the socio-economic development, and that the expenditures for it are a reasonable government defrayment which corresponds to an acceleration of the socio-economic development. As to the securing of technical and program personnel, RTD has long term technical trainees, who are being trained under the manpower development plan by the Ministry of Labor and Manpower Development, in addition to the personnel who are now operating RTD. Also, RTD has its own training system for newly employed personnel. It has been concluded, therefore, that the Government of Tanzania will be able to secure the necessary personnel systematically by the time of the completion of this project.

In the meantime, the diffusion number of radio sets has reached 2.5 million which represents 70 percent of the total households of the country, despite the fact that the medium-wave radio broadcasting service areas now cover only 37 percent of the population. This means a 100 percent occurrence of radio sets within the service areas as well as a 60 percent occurrence even outside the areas. It indicates that a great many people live in areas where they can listen to medium wave radio only with difficulty or where they cannot but listen to the radio on unstable short wave broadcasts. It also indicates that people have a great interest in listening to the radio. As some 3.12 million people living within the newly expanded service areas of Dodoma and Kigoma are considered to be able to immediately utilize medium wave radio broadcasting upon completion of this project, per capita construction expenses amount to only about 140 TSh.

As shown above, the development project of a medium wave radio broad-

casting network in Tanzania is suitable for Japan's cooperation through grant aid in every respect.





## **CHAPTER 6. CONCLUSION AND RECOMMENDATIONS**



## CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

### 6-1 Conclusion

Medium wave radio broadcasting in the United Republic of Tanzania is the only means to efficiently transmit information over the extensive land space of the country.

The stations to be established in Dodoma and Kigoma under this project provide important bases for the building up of future medium wave radio broadcasting network and have important functions as program production centers of their respective regions.

Programs broadcasted by the two stations after the completion of this project will enable the dissemination of timely and appropriate information to the people in these regions who have up to now relied upon unstable short wave broadcasting alone. This will help promote agriculture as well as build up human resources in Tanzania, which is expected to contribute to the development of the country to a great extent.

RTD, the operation agency in Tanzania, will be able to sufficiently meet the broadcasting network expansion under this project in the drawing up of programs, operational systems, staffing and so on. There will be no problems either in the maintenance or operation of the completed facilities.

### 6-2 Recommendations

#### (1) Unification of Program Production

RTD is now broadcasting public relations and educational programs, part of which are produced by the ministries in charge (i.e. the Ministries of Agriculture and Livestock, Health and Social Welfare, Education and so on), in addition to programs of its own producing.

In order to effectively utilize radio broadcasting after the completion of this project, it is desirable to improve the quality of radio programs so that many people will be willing to listen to the radio.

To that end it would be best to produce programs at RTD where experts can make free use of advanced production techniques, even in cases where the concerned ministries take charge of the planning of programs.

It would be desirable that RTD itself directly catch listener's opinions and proposals related to radio programs from the result of the monitoring surveys, which have hitherto been conducted by the ministries concerned, and reflect them on the content of programs and programming. It will lead to the improvement of radiobroadcasting programs..

## (2) Regional Broadcasting

In RTD, all the programs are sent from the RTD Headquarters located in Dar es Salaam, the capital of the country, to regional stations which only repeat the programs. But Tanzania has an extensive land space and embraces great variety both in climate and in the resulting different manners and customs according to regions.

People's feeling of familiarity will be increased by programs which comprise familiar topics such as local news and information for daily life, agricultural instructions in conformity with the regional weather and information on health and hygiene related to the climate.

In addition, the completion of this project will provide the respective stations in Dodoma and Kigoma with facilities that can broadcast programs of their own producing. It would be desired that, taking this opportunity, local broadcasting be commenced through regional stations with programs carefully selected for regions and that the expansion of the radio broadcasting network bear full fruit.

### (3) Diffusion of Receiving Sets

To be effective, it is necessary to make efforts toward the spread of receiving sets along with innovations in program contents so that more people can listen to the radio.

It is recommended to that end that domestic production of low-price receiving apparatuses such as one medium-wave band radio sets be increased so as to easily spread among more people through improvement in distribution channels and so on.

Another recommendation is that maintenance expenses be reduced through the use of solar batteries in place of dry batteries which are now generally used as a power source.

### (4) Construction Work by the Tanzanian Side

Construction work implemented by the Tanzanian side is shown in 4-5-2. Leveling of the ground for the transmitting stations, preparation of service lines of a commercial power source, preparation of electric wiring for the installation of broadcasting equipment in production rooms and preparation of TPTC lines, among others, are indispensable for the smooth promotion of this project. It is desired therefore that the Government of Tanzania will take such budgetary measures as necessary.



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I Minutes of Discussions

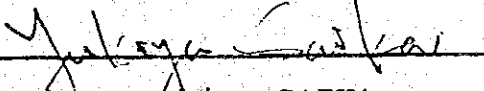
MINUTES OF DISCUSSIONS  
ON  
THE DEVELOPMENT PROJECT  
FOR  
MEDIUM WAVE RADIO BROADCASTING NETWORK  
IN  
THE UNITED REPUBLIC OF TANZANIA


In response to the request of the Government of the United Republic of Tanzania for grant aid for the Development Project of Medium Wave Radio Broadcasting Network (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a Basic Design Study on the Project and entrusted the study to the Japan International Co-operation Agency (hereinafter referred to as "JICA"). JICA sent the Basic Design Study Team headed by Mr. Yukiya SAIKA, Grant Aid Division, Economic Co-operation Bureau, Ministry of Foreign Affairs from October 5th to October 28th, 1986.

The team carried out field survey, had a series of discussions and exchanged views with authorities concerned of the Government of the United Republic of Tanzania.

As the result of the study and discussions, both parties have agreed to recommend to their respective Governments to examine the results of the survey attached herewith towards the realization of the Project.

Dar es Salaam, October 17th, 1986

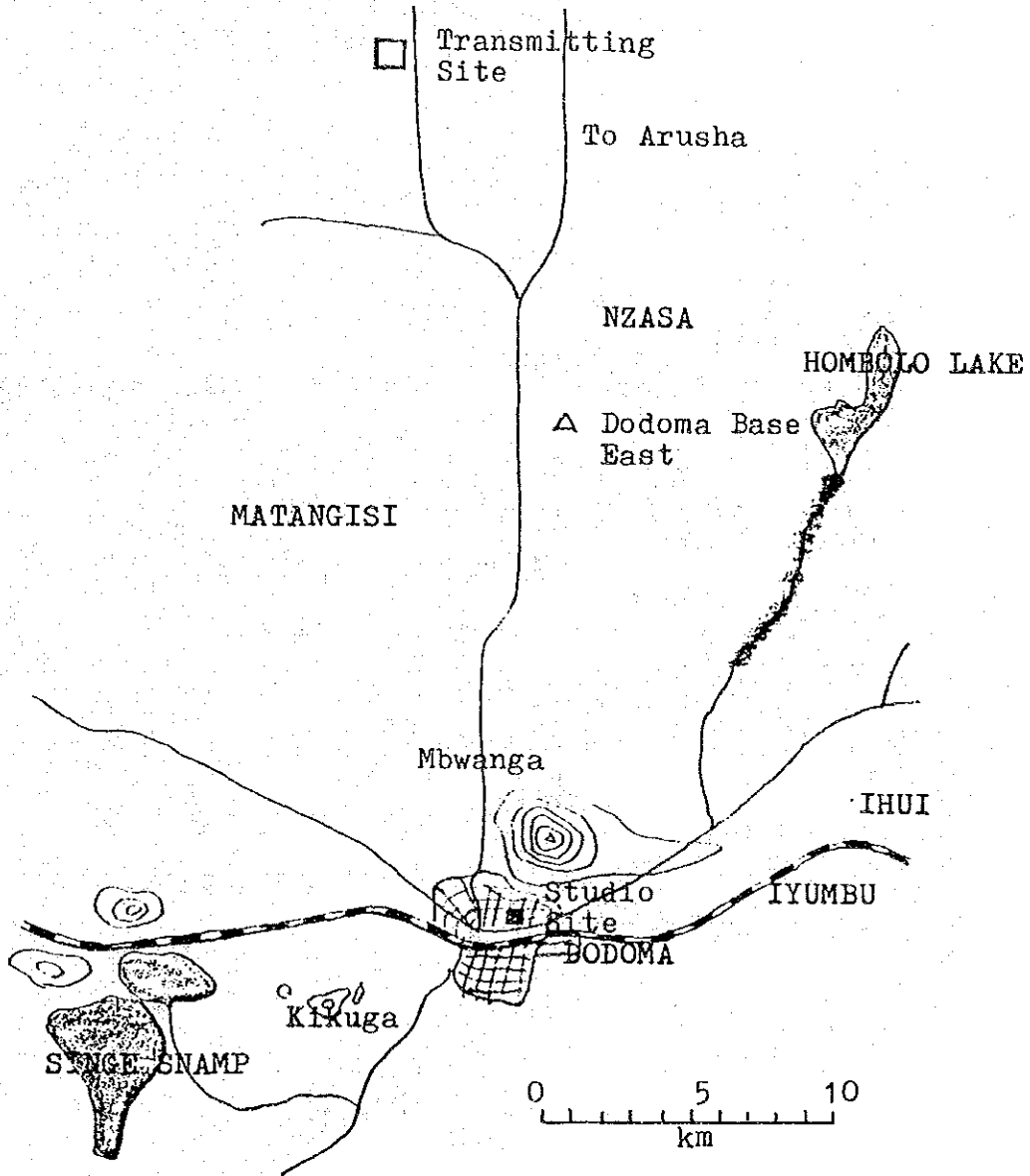
  
Mr. Yukiya SAIKA,  
Team Leader,  
Japanese Study Team,  
JICA.

  
Mr. F. D. Mbaga,  
Deputy Principal Secretary,  
Office of the Prime Minister  
and First Vice President.

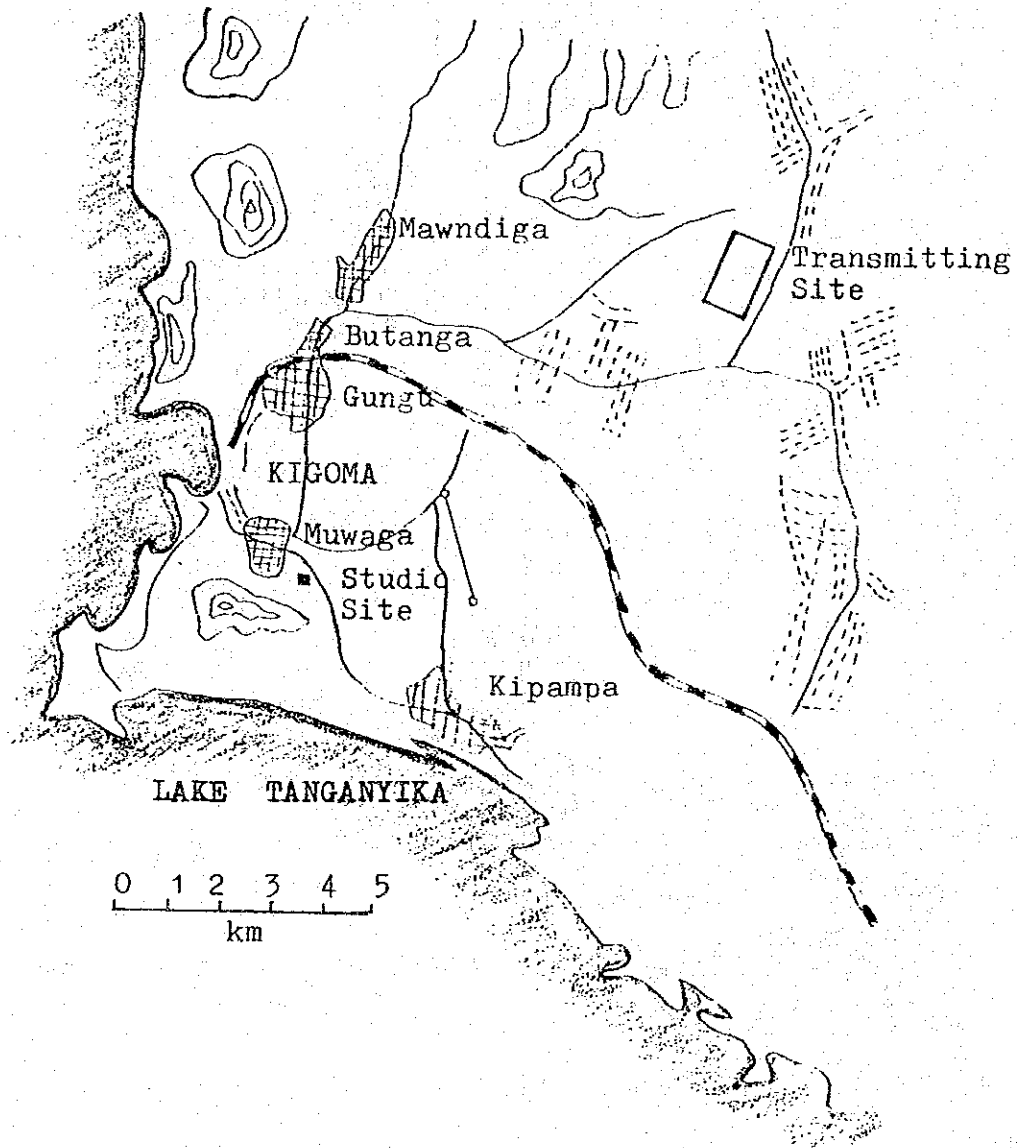
ATTACHMENT

1. The objective of the Project is to develop medium wave radio broadcasting network in the United Republic of Tanzania.
2. The proposed sites of the project are prepared by the Government of Tanzania as attached in Annex - 1.
3. Radio Tanzania Dar es Salaam is responsible for the implementation of the Project.
4. The Basic Design Study Team will convey to the Government of Japan the desire of the Government of Tanzania that the former takes necessary measures to cooperate in implementing the Project and provides necessary facilities and equipment as listed in Annex - 2 within the scope of Japanese economic cooperation in grant form.
5. The Government of Tanzania understood Japan's Grant Aid system explained by the Team which includes a principle of use of a Japanese consultant firm and a Japanese Company for implementation of the Project.
6. The Government of Tanzania will take necessary measures as listed in Annex - 3 on condition that the grant assistance by the Government of Japan is extended to the Project.

Annex 1-1 Proposed sites for Dodoma



Annex 1-2 Proposed sites for Kigoma



Annex - 2

Facilities for each proposed site

1. 100 kw/10kw Transmitter
2. Antenna and Feeder
3. Studio to Transmitter Link with Towers
4. Receiving Equipment
5. Power Supply Equipment
6. Studio Equipment
7. Measuring Equipment
8. Tools and Vehicles for Maintenance
9. Spare Parts
10. Transmitting House
11. Antenna Tuning Unit Hut.

Annex - 3

Following arrangements will be required to be taken by the Government of Tanzania.

1. To carry out site preparation such as clearing, filling, leveling and demolishing the existing facilities, if necessary, before commencement of constructions works.
2. To provide facilities for distribution of electricity, water supply, drainage, telephone lines and other incidental facilities to the proposed sites.
3. To ensure prompt unloading, tax exemption, customs clearance at ports of disembarkation in Tanzania and prompt internal transportation therein of the products purchased under the grant.
4. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Tanzania with respect to the supply of the products and services under the verified contracts.
5. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into Tanzania and stay therein for the performance of their work.

6. To maintain and use properly and effectively the facilities constructed and equipment purchased under the grant.
7. To undertake incidental civil works such as gardening, fencing, constructing gates, guard house and parking lot and exterior lighting, if needed.
8. To complete all necessary civil and electrical works on the existing studios at Dodoma and Kigoma prior to the commencement of installation of studio equipment.
9. To provide 400 KVA Engine Generator at Kigoma Transmitting site prior to the commencement of the installation of transmitting equipment.

## II Member List of the Basic Design Study Team

<u>Name</u>	<u>Assignment</u>	<u>Present Post</u>
Mr. Yukiya Saika	Team Leader	Grant Aid Division Economic Cooperation Bureau Ministry of Foreign Affairs
Mr. Yoshinori Sato	Administration planning	Engineering Division Broadcast Administration Bureau Ministry of Posts & Telecommunications
Mr. Yoshiyuki Matsuda	Network planning	International Division All Japan Radio & Television Engineering Services Co., Ltd. (AJTS)
Mr. Susumu Toyoda	Transmitting Facilities	International Division, AJTS
Mr. Jiro Ohno	Transmitting Tower (Antenna)	International Division, AJTS
Mr. Kiyoshi Ueda	Building and Construction Planning	International Division, AJTS
Mr. Akira Fujimoto	Cost Estimate	International Division, AJTS



### III Itinerary of the Study

Date	Abstract
Oct. 3 (Fri.)	Departure from Tokyo (KL868)
Oct. 4 (Sat.)	Via Amsterdam (KL567)
Oct. 5 (Sun.)	Arrival at Dar es Salaam Meeting on itinerary at JICA Office
Oct. 6 (Mon.)	- Meeting at Embassy of Japan - Formal visit to Prime Minister's Office and RTD
Oct. 7 (Tue.)	- Presentation and explanation of the Inception Report to Prime Minister's Office and RTD - Presentation and explanation of the Questionnaire to RTD - Mr.Saika's arrival at Dar es Salaam
Oct. 8 (Wed.)	- Visit to JETRO Office - Mr.Saika, Mr.Sato, Mr.Matsuda and Mr.Toyoda survey at Dodoma Site ( to Oct.12 ) - Mr.Ohno, Mr.Ueda and Mr.Fujimoto survey at Kigoma site ( to Oct.13 )
Oct. 9 (Thu.)	Site survey
Oct.10 (Fri.)	Ditto { - Visit to relevant authorities
Oct.11 (Sat.)	Ditto { - Measurement of field strength
Oct.12 (Sun.)	Ditto { - Observation of studio building and transmitting site
Oct.13 (Mon.)	- Meeting with RTD - Discussion within the Team
Oct.14 (Tue.)	- Mr.Ueda and Mr.Fujimoto soil survey at Dodoma site (to Oct.16) - Observation of RTD Pugu Road transmitting station - Preparation of Minutes Draft
Oct.15 (Wed.)	- Visit to TANESCO - Meeting with RTD
Oct.16 (Thu.)	- Visit to Ministry of Finance, Economic Affairs and Planning - Observation of Matsushita Electric Co., Ltd. factory - Meeting with Prime Minister's Office and RTD on Minutes Draft
Oct.17 (Fri.)	- Signing and exchange of the Minutes of Discussions at Prime Minister's Office - Reporting to Embassy of Japan and JICA Office

Date	Abstract
Oct.18 (Sat.)	<ul style="list-style-type: none"> <li>- Visit to TPTC</li> <li>- Data analysis and arrangement</li> <li>- Mr.Saika and Mr.Sato departure from Dar es Salaam for Tokyo</li> </ul>
Oct.19 (Sun.)	Discussion within the Team
Oct.20 (Mon.)	<ul style="list-style-type: none"> <li>- Mr.Ohno, survey at Nachingwea site ( to Oct.23 )</li> <li>- Mr.Ueda, soil survey at Kigoma site ( to Oct.22 )</li> <li>- Meeting with RTD</li> </ul>
Oct.21 (Tue.)	<ul style="list-style-type: none"> <li>- Visit to Ministry of Health and Welfare</li> <li>- Visit to Ministry of Education ( Adult Education )</li> <li>- Meeting with RTD</li> </ul>
Oct.22 (Wed.)	<ul style="list-style-type: none"> <li>- Visit to Philips Ltd.</li> <li>- Visit to Ministry of Education ( School Education )</li> <li>- Observation of RTD existing Studio</li> </ul>
Oct.23 (Thu.)	<ul style="list-style-type: none"> <li>- Meeting with TPTC</li> <li>- Observation of RTD Kunduchi and Mabibo Transmitting Stations</li> <li>- Visit to Ministry of Communications and Works ( Central Materials Laboratory )</li> </ul>
Oct.24 (Fri.)	<ul style="list-style-type: none"> <li>- Visit to Ministry of Agriculture and Livestock Development ( Farmers Education )</li> <li>- Visit to National Vocational Training Center</li> <li>- Meeting with RTD</li> </ul>
Oct.25 (Sat.)	<ul style="list-style-type: none"> <li>- Visit to the Dar es Salaam University</li> <li>- Visit to SHIHATA</li> <li>- Meeting with RTD</li> </ul>
Oct.26 (Sun.)	<ul style="list-style-type: none"> <li>- Discussion within the Team</li> <li>- Data analysis and arrangement</li> </ul>
Oct.27 (Mon.)	<ul style="list-style-type: none"> <li>- Reporting to Embassy of Japan, JICA Office and Prime Minister's Office</li> <li>- Meeting with RTD</li> </ul>
Oct.28 (Tue.)	Departure from Dar es Salaam (SR293)
Oct.29 (Wed.)	Via Zurich (JL428)
Oct.30 (Thu.)	Arrival at Tokyo

#### IV List of Interviewees

##### Office of the Prime Minister and First Vice President

Hon. Anna S. Makinda	Minister of State
Mr. Fadbili Mbaga	Deputy Principal Secretary
Mr. Chikira	Coordinator
Mr. Kilenga	Personal Assistant to Minister of State

##### Ministry of Finance Planning and Economic Affairs

Mr. P. J. Mbena	External Finance Officer
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##### Bureau of Statistics

Mr. John Komba	Assistant Government Statistician
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##### Radio Tanzania Dar es Salaam (RTD)

Mr. David G. Wakati	Director of Broadcasting
Mr. P. I. Mhumbira	Chief Radio Engineer
Mr. S. Hegga	Controller of Programmes
Mr. S. P. Assey	Director of Manpower Development & Administration
Mr. K. Mpenda	Chief News Editor
Mr. R. Mgaya	Accountant
Mr. E. T. K. Maugulla	Engineer (Head of Project)
Mr. T. A. Usi	Engineer (Training)

Mr. Peter Mamu	Engineer (Project )
Mr. E. A. Mkongwe	Engineer (Research)
Mr. Edward Kwilasa	Technician
Mr. Richard E. Max	Head of TX Maintenance
Mr. James Mokiwa	Head of Studio Maintenance

Ministry of Education

Mrs. Rest B. Lasway	Adult Education Division
Mr. Amsgar Mapunda	Adult Education Division
Mr. Jacob Akwisombe	School Education Division

Dar es Salaam University

Mr. Deo Tungaraza	Director, Dar es Salaam University
Dr. A. L. Kyulule	Acting Dean, Faculty of Engineering
Dr. M. L. Luhanga	Acting Head, Department of Electrical Engineering

Ministry of Health and Social Welfare

Dr. Kitindi Kumpuni	Assistant Chief Medical Officer (Training and Manpower Development )
Mr. Benito Eagar Anlri	Senior Health Officer, Health Education Division
Mr. Sunny S. A. Kiluvia	Senior Health Officer, Health Education Division

Mr. Sunny S.A. Kiluvia      Senior Health Officer,  
Health Education Division

Ministry of Agriculture and Livestock Development

Mr. S.A.N. Muro              Assistant Commissioner  
(Farmers Education)

Ministry of Labour and Manpower Development

Mr. S.C. Runzanga          Principal, National Vocational  
Training Center

Mr. E.N. Ngowi              Assistant Director for Vocational  
Training

East Africa Community Regional Headquarters

Mr. A.H. Kaila              Meteorologist, Meteorological Department

Ministry of Communications and Works  
Central Materials Laboratory

Dr. Peter F.C. Komba      Chief Engineer

Mr. Jackson Mrema

Mr. Abaul Kimaro



Express Tanzania Ltd.

Mr. Mathew C. Haule                      General Manager

at DODOMA

Mr. Banabas Mluge                      Regional Commissioner

Mr. Mapunda                              Regional Development Director

Mr. Thomas Mtei                        Acting Director General,  
Capital Development Authority (CDA)

Mr. Mpoli                                 CDA

Mr. Thabit Manka                        Head of Physical Planning Division  
CDA

Mr. S. D. Nyoni                         Head of Telecommunication Services,  
TPTC

Mr. B. Mluge                             Program Officer, RTD

Mr. C. Kisanji                          Technical Officer, RTD

Mr. B. Kiko                                News Reporter, RTD

at KIGOMA

Prof. J. B. Machunda                    Regional Commissioner

Mr. D. D. Masanja                        Regional Development Director

Mr. Ernest Rugemlila                    Regional Engineer

Mr. James Nyabakari                    Regional Building Engineer

Mr. Hamis I. Gobeka                     Technician Civil

Mr. F. Ruangish                         Area Commissioner

Mr. Walala                                Regional Police Commander

Mr.Lunyungu	Town Director
Mr.S.G.Nandi	Marine Administrative Officer
Mr.E.C.Ponerd	Regional Information Officer
Mr.J.B.Mwakipesile	Regional Manager, T A N E S C O
Mr.P.H.Sanga	T P T C
Mr.David Mcanja	Station Master, T R C
Mr.D.M.Bonda	Marketing Manager, Regional Trading Company(R T C)
Mr.Cyril Kenyaga	Administrative Officer, R T C
Mr.Kondo	Regional Manager,Air Tanzania Corporation(A T C)
Mr.N.M.Chabwi	Resident Engineer, Kigoma Airport Project, A T C
Mr.R.Kilindo	Airport Manager, A T C
Mr.J.Kapamba	Airport Fire Officer, A T C
Mr.Chisunga Stephen	Program Officer, R T D
Mr.Beda Ndembo	Radio Technician, R T D
Mr.Titus Phillipo	News Reporter, R T D

at N A C H I N G W E A

Mr.C.Rutaihwa	Regional Development Director
Mr.H.Pamui	Chairman, District Council
Mr.A.D.Mkomambo	District Executive Director
Mr.A.B.Shaibu	District Land Officer
Mr.G.M.Mnayahe	District Commissioner
Mr.A.B.Nakajumo	District Administrative Officer
Mr.L.C.Malunda	Head of Nachingwea, T A N E S C O
Mr.S.G.Nandi	Marine Administrative Officer



Mr. S. J. Simfukwe

T P T C , Masasi Station

Embassy of Japan, Tanzania

His Excellency Yasushi Kurokuchi

Ambassador extraordinary  
and plenipotentiary

Mr. Shosuke Ito

Counselor

Mr. Shogo Takeuchi

First Secretary

J I C A Dar es Salaam Office

Mr. Minori Sano

Resident Representative

Mr. Hiroshi Murakami

Assistant Resident Representative

J E T R O Dar es Salaam Office

Mr. Koichi Kobayashi

Representative

V List of Collected Materials

1. MAPANGO WA MAENDELO WA NWAKA 1986/89  
(Kimetolewa na: WIZARA YA FEDHA, MAPANGO NA UCHUMI)
2. Hali ya Uchumi wa Taifa Katika Mwaka 1985  
(Kimetolewa na: WIZARA YA FEDHA, UCHUMI NA MAPANGO)
3. UCHUNGOZI WA MAHITAJI YA WAFANYAKAZZI WA DARAJA LA JUU NA LA KATI 1984  
(WIZARA YA MAENDELEO YA UTUMISHI NA UENDESHJI KAZI)
4. CAPITAL DEVELOPMENT TO THE BUDGET SESSION OF THE NATIONAL ASSEMBLY FOR THE YEAR 1986/87  
(MINISTER OF STATE IN THE PRESIDENT'S OFFICE)
5. Hotuba Kwa Makatibu Wakuu, Wakuu wa Idara Zinazojitegemea, Wenyevici wa Bodiwa Watendaji Wakuu wa Mashirika. Makubwa  
(RAIS ALI HASSAN MWINYI julai 27, 1986)
6. MAPENDEKEZO YA SEMINA YA NNE YA TAIFA YA VYOMBO VYA HABARI ILIYOFANYIKA ARUSHA in November 1983.
7. TATHMINI YA KIPINDI CHA RADIO-SIRI YA AFYA BORA  
(Ministry of Health)
8. Quarterly Statistical Bulletin Sept. 1985  
(Bureau of Statistics)
9. EDUCATION AND TRAINING STATISTICS 1983  
(Bureau of Statistics)
10. 1978 POPULATION CENSUS VOLUME VI  
(Bureau of Statistics)
11. THE TANZANIAN BANKERS JOURNAL JULY 1986
12. THIRD BI-ANNAC CONFERENCE ON VOCATIONAL/OCCUPATIONAL TRAINING  
(Ministry of Labour and Social Welfare)
13. THE VOCACIONAL TRAINING CURRICULUM  
(Ministry of Labour & Manpower Development)
14. DAR ES SALAAM UNIVERSITY FACULTY OF ENGINEERING  
(DAR ES SALLAAM UNIVERSITY)
15. ANNUAL REPORT AND ACCOUNTS FOR THE YEAR ENDED 1979~1984  
(TANZANIA POSTS AND TELECOMMUNICATIONS CORPORATION)
16. ANNUAL REPORT 1983  
(TANZANIA ELECTRIC SUPPLY COMPANY LIMITED)

17. THE STATE IN TANZANIA  
(HAROUB OTHMAN)
18. THE CHALLENGE FOR TANZANIAN'S ECONOMY  
(C.George Kahawa)
19. ADULT EDUCATION AND THE DEVELOPMENT OF SOCIALISM IN TANZANIA  
(Budd. L. Hall)
20. Towards Rural Development in Tanzania  
(C.K.Omari)
21. TOWARDS UJAMAA  
(GABRIEL PUHUMBIKA)
22. A TIME TO ACT  
(AMONJ. NSEKELA)