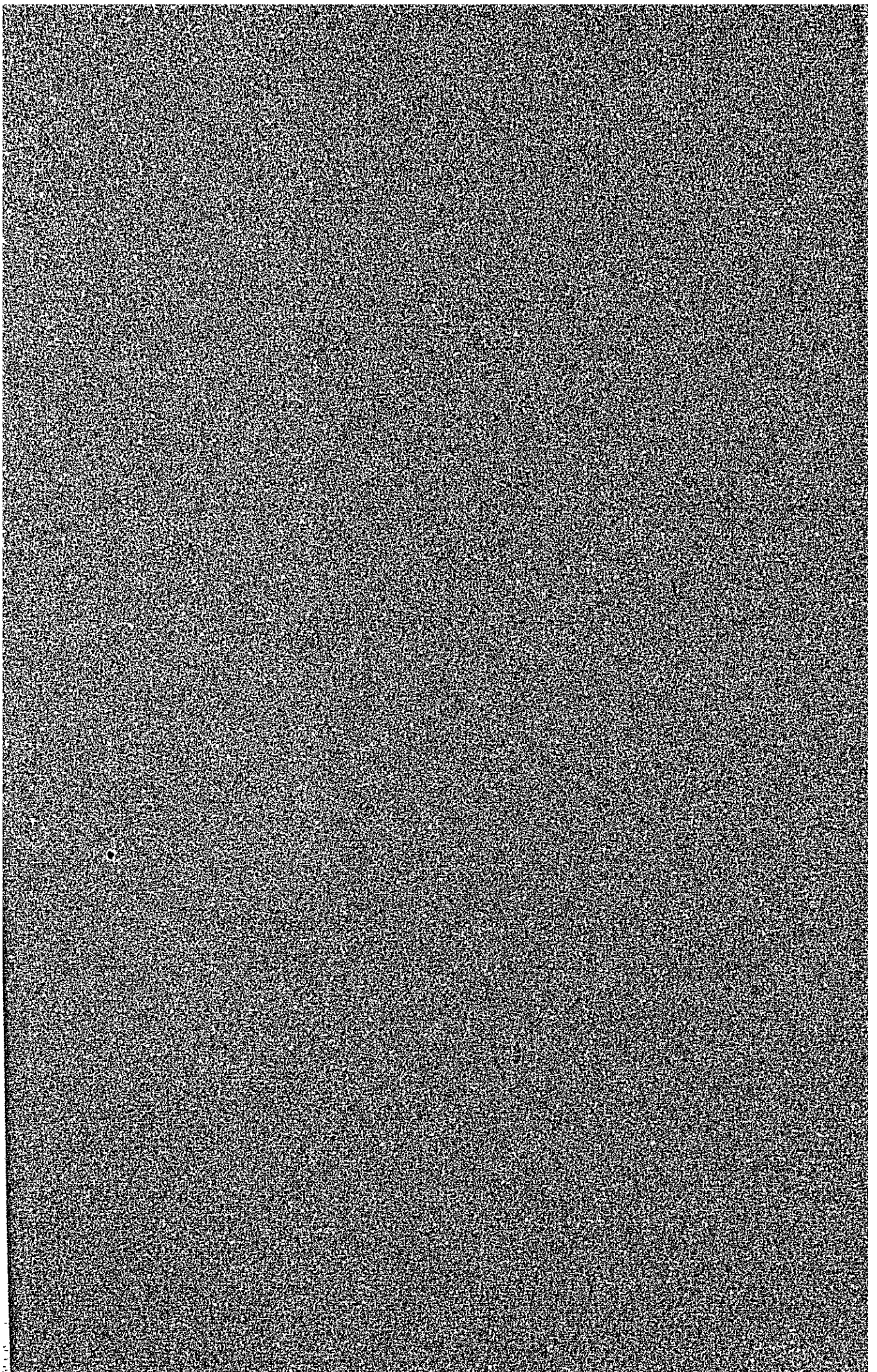


3-3 RESEARCH ACTIVITIES



3-3 RESEARCH ACTIVITIES

3-3-1 RESEARCH FACILITIES

A. Research Building

- a. Facilities equipped with provisions to investigate the causes of a variety of fires.
- b. Facilities for the trainee's experimental study:
These facilities should be equipped with physicochemical instruments for the study of junior course trainees, senior course trainees and experts.

B. Detached Laboratories

- a. Indoor fire testing laboratory
- b. Smoke testing laboratory
- c. Heat-resistance testing laboratory
- d. Outdoor fire experiment space

In this group, the laboratories, a., b. and c. may be combined into one laboratory.

All the facilities above will not be required from the beginning. The construction program may be at several stages, and one to three rooms, for example, may be planned at the first stage according to the development of the research program.

Therefore, the building should be designed in a reasonable way to facilitate the future expansion. That is why the Research Laboratory is designed in the systematic way as shown on para. 3-1-11.

3-3-2 THEMES FOR RESEARCH

In selecting themes for the research, all the conditions pertinent to the fire service in Brasilia must be taken into account and, for this reason, practical advice is considered difficult to give. Therefore, general information and literature are given for reference. Specific themes or problems will be properly solved or discussed on later occasion of the exchange of information between Brazilian and Japanese fire service authorities or consultation made upon the future request when such need arises.

Research Papers (in Japanese)

- o STUDY REPORT published by Fire Defense Research Institute, Fire Defence Agency, Ministry of Home Affairs
- o STUDY REPORT published by Fire Science Laboratory, Tokyo Fire Department

Books (in Japanese)

"Combustion Fire: Causes and Identification,"
Tokyo Fire Department, March 1, 1974

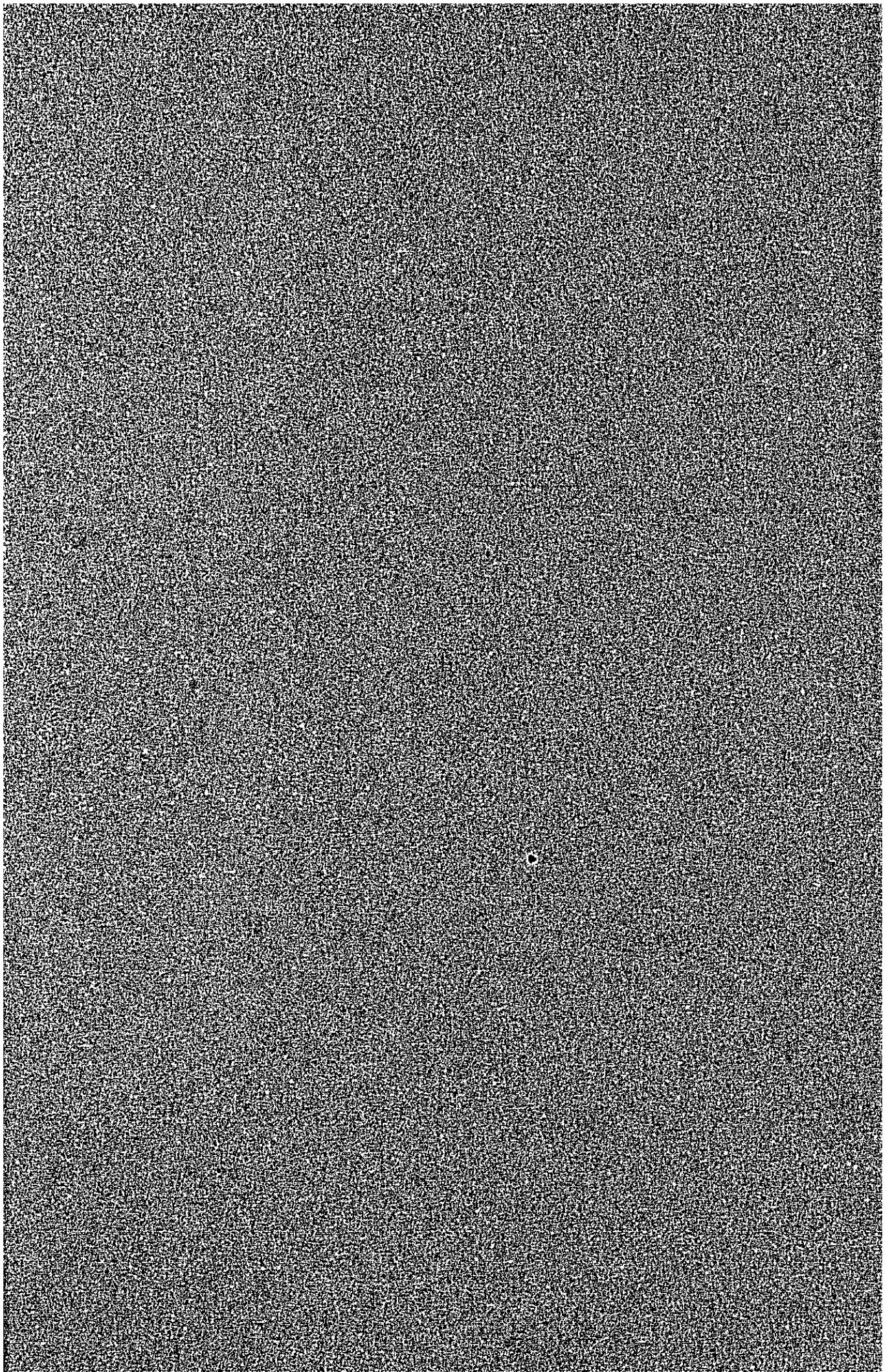
"Chemical Fire: Causes and Identification,"
Tokyo Fire Department, December 1, 1971

"Electrical Fire: Causes and Identification,"
Tokyo Fire Department, March 1, 1971

"Introductory Guide to Fire Cause Investigation,"
Koichi Tsukamoto, March 1, 1974

"Investigation into Causes of Fires,"
Japan National Association of Fire Marshals, April 1, 1977

APPENDICES



APPENDICES

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1. BRAZILIAN OFFICIALS AND ENGINEERS CONCERNED

GOVERNOR of Brasilia,
Federal District:

AIME ALCIBIADES SILVEIRA LAMAISSON

SUB CHIEF
Municipal Office of Governor:
(TENENTE COLONEL BM)

PAULO JOSE MARTINS DOS SANTOS

FIRE HEADQUARTERS OF FEDERAL DISTRICT (CBDF)

COLONEL BM (Commander)

MANOELITO L. BARRETO

COLONEL BM

NESTOR PUGA WANDERLEY

TENENTE COLONEL BM

ALVARO DA NATIVIDADE

MAJOR BM

LAURO SABACK DA HORA

CAPTAIN BM

CICERO VALMIR LIMA

CAPTAIN BM

SERGIO ANGELO DE ARAIÛJO ROCHA

CAPTAIN BM

GIOVANI ALCEMIR NUNES

CAPTAIN BM

HENRIQUE CORRÊA SOARES

1º TENENTE BM

NERCINIO SILVA MORAES

1º TENENTE BM

HEITOR DE SOUZA FRANÇA

NOVACAP (New Capital Development Corp.)

ARCHITECT

JOSE EDUARDO LADEIRA FILHO

CIVIL ENGINEER

DURCEMAR MARTINS

ENGINEER

MAURO BARBOZA

STRUCTURE ENGINEER

RAIMUNDO VIELA DE CARVALHO

EQUIPMENT ENGINEER

MARIA AUGUSTA FERNANDES

COST ESTIMATOR

PEDRO ALCANTARA COSTA

COST ESTIMATOR

JACYLENE SEREJO FREIRE MARTINS

CAESB (Brasilia Sanitation Corp.)

ENGINEER

MARINA TOCIE ONAYAMA

ENGINEER

GUSTAVO CHAVES BASTOS

2. MISSION'S CHRONOLOGICAL RECORDS & EXCHANGED DOCUMENTS

2-1 PRELIMINARY SURVEY MISSION

a. Dates and Events

- Oct. 12/13 Tokyo → Mexico → Brasilia
(Fri/Sat)
- 14 (Sun) Arrived at Brasilia; called at Japanese Embassy and JICA Office; Discussed on schedule with Brazilian Authorities; Observation trip in the City of Brasilia.
- 15 (Mon) Courtesy call at Fire Headquarters of Brasilia, Federal District (CBDF); Visit to Fire Stations (D, F and No.1), Fire Training School, Fire Officer Cadet Academy, etc.
- 16 (Tue) Visit to the site for the Fire Fighting Training Center and to Fire Stations (D, F and No.2);
Brasilia → São Paulo
- 17 (Wed) Courtesy call at São Paulo Military Police (Fire Headquarters); Visit to Fire Station, Special Rescue Crew, Vehicle Repair/Maintenance Shop, etc.
- 18 (Thu) Courtesy call at São Paulo State Government; Aerial observation of São Paulo City (by helicopter);
São Paulo → Rio de Janeiro
- 19 (Fri) Courtesy call at Rio Military Police Headquarters (also serving as Fire Service Headquarters); Visit to Fire Officer Cadet Academy.
- 20 (Sat) } Free (Prepared S/W proposal and Minutes draft)
21 (Sun) } Rio de Janeiro → Brasilia
- 22 (Mon) Minutes signed between Brasilia, D.F. Governor and Team Leader; Prepared S/W
- 23 (Tue) Left Brazil
- 25 (Thu) Arrived at Narita

Minutes of the Meeting
Between
The Japanese Preliminary Mission and
The Fire Headquarters of the Federal District

1. On the request of the Government of Brazil with intention of establishing a fire fighting training center in Brasilia, DF., the Government of Japan through the Japan International Cooperation Agency (JICA) has sent a preliminary Mission to find the possibility of extending a technical cooperation in the field of fire fighting.

The mission stayed in Brazil from October 14 to October 22, during which the Mission interviewed with the Brazilian authorities concerned and collected data and informations. In the meantime, the Mission visited a number of the fire stations and the fire fighting training institutions in São Paulo and Rio de Janeiro as well as in Brasilia in order to realize the activities of fire fighting in Brazil.

2. As a result of the intensive discussions, the both parties (the Mission and Corpo de Bombeiros do Distrito Federal) has agreed to executing the Study in conformity with the attached Scope of Work.

3. At the meeting the Brazilian party presented to the Mission a number of requests as follows:

1) to send to Japan two senior administrators to observe fire fighting institutions and exchange views of effective administration of fire fighting training and research system and also to send two trainees to study and practice in the institutions concerned in Japan at earliest opportunity in 1980, and also 1981 and 1982.

2) to pay favourable consideration to bringing adequate quantity of materials and equipments necessary for the Study.

3) to send the Japanese Study Team to Brazil at the earliest convenience to conduct the study described in the Scope of Work.

4) to send to Brazil the qualified experts to take care of study after the study finish.

4. To the request mentioned above the Mission replied to convey them to the Japanese authorities concerned and to try to respond them in the framework of the agreed Scope of Work.

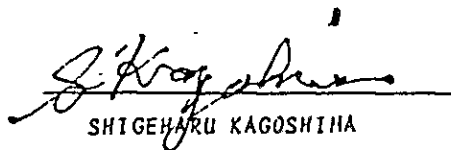
5. In connection with the smooth operation of the Study the Mission asked to the Brazilian party (1) smooth customs clearance of the materials and equipments delivered from Japan (2) to provide adequate accommodation to the Japanese Study Team to do the study.

6. At the end of the final meeting the Mission expressed its deep gratitude for the excellent arrangements made by the Corpo de Bombeiros do Distrito Federal, and the Mission was well satisfied with the result of the discussion.

7. The both parties recognized that this technical cooperation would be one of most valuable way to promote mutual understanding and friendship as well as to transfer the technology in the field of fire fighting.

Brasilia

October 22, 1979


SHIGEHARU KAGOSHIMA


AIME ALCIBADES SILVEIRA LAMAISSON
GOVERNADOR

SCOPE OF WORK FOR THE STUDY ON THE
ESTABLISHMENT OF FIRE FIGHTING
TRAINING CENTER AND RESEARCH INSTI
TUTE OF FIRE HEADQUARTERS (DRAFT)
IN FEDERAL DISTRICT OF FEDERATIVE
REPUBLIC OF BRAZIL.

1. Introduction

In response to a request made by the Government of the Federative Republic of Brazil for technical cooperation in carrying out the Study on the establishment of a fire fighting training center in Brasilia, the Government of Japan agreed to provide the services of a Japanese expert team for the study.

According to the Basic Agreement on Technical Cooperation between the Government of the Federative Republic of Brazil and the Government of Japan, the Japan International Cooperation Agency (JICA), which is responsible for the implementation of technical cooperation programmes of the Government of Japan, will implement the study in close cooperation with the Brazilian authorities concerned.

2. Objective

The Study will be conducted to (1) drawing up a basic design of various educational, training and research facilities which are expected to be built in the compound of the fire fighting training center and (2) making recommendations and advice to establish educational and training programmes for fire service personnel.

3. Scope of Study

The Scope of Study will consist of the following activities:

1) Preparation of basic design of the facilities required for educational and training activities such as indoor training facilities, drill tower, training grounds for fire fighting and water rescue etc.,



2) Preparation of basic design of the facilities required for research activities such as laboratory of heat resistance, laboratory of smoke-testing, chemical laboratory, analysis laboratory etc.,.

3) Recommendation and advice for drawing up educational and training programmes.

4) Recommendation and advice for drawing up research programmes.

4. Tentative schedule

Year & Month Activities	1980												1981		
	4	5	6	7	8	9	10	11	12	1	2	3			
Field study			—	—											
Study in Japan					—	—									
Reports															
1) Inception report.		○													
2) Progress report.				○											
3) Draft final report								○							
Study on the comments and revision of the draft final report.										—					
4) Final report.														○	

5. Reports

1) Inception Report

The JICA will prepare and submit to the Brazilian authorities concerned 10 copies of Inception Report in English at the beginning of the field study.

2) Progress Report

The JICA will prepare and submit to the Brazilian authorities concerned 10 copies of Progress Report in English at the end of the field study.

3) Draft Final Report

The JICA will prepare and submit to the Brazilian authorities concerned 10 copies the Draft Final Report in English within three months after the completion of the field study. The Brazilian authorities will provide the JICA with its comments on the Draft Final Report within one month after the receipt of the Draft Final Report.

Handwritten signatures

4) Final Report

The JICA will prepare and submit to the Brazilian authorities concerned 30 copies of Final Report in English two months after the receipt of the comments on the Draft Final Report.

6. Undertaking of the Brazilian authorities concerned

For the smooth execution of the study, the Brazilian authorities concerned will agree in:

- 1) Assigning counterpart personnel to the Study Team during the study period.
- 2) Allocating the required budget to the Study.
- 3) Providing available data and information for the study.
- 4) Providing the Team with suitable office space with necessary office furniture during the field study.
- 5) Providing the Team with necessary number of vehicles and drivers during the field study.
- 6) Providing any other facilities that may be required for the execution of the study during the field study.
- 7) Securing the safety of the Team.

7. Undertaking of the Government of Japan

The Government of Japan will agree in:

- 1) Sending the Japanese Study Team to conduct the study.
- 2) Bringing in some of the required materials and equipments for the efficient conduct of the study.
- 3) Transferring the knowledge to Brazilian counterparts during the field study.
- 4) Accommodating Brazilian counterparts of the study for training in Japan. *Handwritten signature*

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2-2 FIRST MISSION

a. Dates and Events

Nov. 7/8 (Fri/Sat)

Tokyo — Los Angeles — Lima — Rio de Janeiro
— Brasilia

- 9 (Sun) Preparatory meeting among Mission members
- 10 (Mon) Courtesy call at Japanese Embassy; JICA Office; Fire Department of Brasilia, D.F. (CBDF)
- 11 (Tue) First meeting with CBDF; Visit to the site for Fire Fighting Training Center (CeFAE)
- 12 (Wed) Second meeting with CBDF; Visit to Central Bank of Brazil, a three-storied apartment house, Taguatinga satellite city, school, etc.
- 13 (Thu) Third meeting with CBDF
- 14 (Fri) Visit to 2^o GI, GBS, 1^o GI
- 15 (Sat) Meeting among Japanese members (Minutes draft prepared)
- 16 (Sun)
- 17 (Mon) Fourth meeting with CBDF; Minutes signed by Commander General, CBDF and Team Leader, Japanese Mission
- 18 (Tue) First detail discussion with CBDF; Visit to auditorium of DER-DF, IDR, CC; CeFAE site
- 19 (Wed) Second detail discussion with CBDF; attended Ensign Ceremony at CBCF; Visit to SUBIN
- 20 (Thu) Third detail discussion with CBDF; discussion with NOVACAP engineers; Visit to Brasilia Military Police's circuit training field
- 21 (Fri) Observed training at 1^o GI; Discussion with CAESB engineers; Fourth detail discussion with CBCF

- 22 (Sat) Record of Meeting signed between Commander and
Team Leader
Brasilia — São Paulo
- 23 (Sun) Visit to São Paulo Fire Department and Military Police
Training Center
São Paulo — Rio de Janeiro
- 24 (Mon) Visit to Rio de Janeiro Fire Department
- 25 (Tue) Visit to Rio de Janeiro Coastal Rescue Service
Rio de Janeiro — Brasilia
- 26 (Wed) Prepared schematic design
- 27 (Thu) First meeting with CBDF on the design requirements;
Discussion with CAESB engineers
- 28 (Fri) Second meeting with CBDF on the design requirements
- 29 (Sat) Free (analyzed the design requirements and compiled
30 (Sun) data and information)
- Dec. 1 (Mon) Visit to Sara Kubitschek Hospital, P. Itamarati,
National Theater, P. JUSTICA, 1º/2º·4º GI, 2º/3º·2º GI
- 2 (Tue) Visit to National Congress, NOVACAP, University of
Brasilia, Medical Care Center and Garage in the CeFAE
site
- 3 (Wed) Discussion with NOVACAP engineers; Reporting the
Mission's work progress status to Foreign Affairs
Ministry; Meeting with CBDF to confirm the design
requirements
- 4-6 (Thu-Sat)
Brasilia — Rio de Janeiro — New York — Tokyo

MINUTES OF DISCUSSIONS
ON
THE FIRE FIGHTING TRAINING CENTER IN BRASILIA

In response to the request made by the Government of Federative Republic of Brazil concerning the Fire Fighting Training Center (Centro de Formação Aperfeiçoamento e Especialização) in Brasilia (hereinafter referred to as "the Center") and in accordance with the Scope of Work which was agreed on the occasion of the visit to Brazil of the Japanese Preliminary mission, the Government of Japan has sent, through the Japan International Cooperation Agency (JICA), a basic design survey team headed by Mr. Toshikazu Koike to conduct a survey for a basic design of the Center for thirty days from November 7th, 1980.

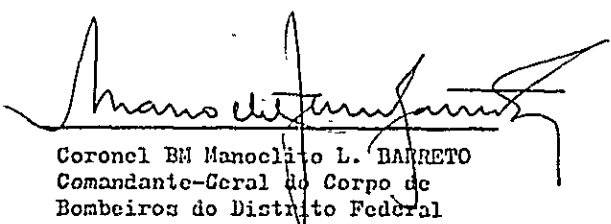
The team had a series of discussions and exchanged views with the officials concerned of Fire Headquarters in Federal District, headed by Coronel BM Manoelito L. Barreto.

As a result of the survey and discussions, both parties have agreed to recommend to their respective Governments to examine the results of the discussions attached herewith toward the realization of the Center.

Brasilia DF., November 17, 1980



Mr. Toshikazu KOIKE
Team Leader
The Japanese Survey Team

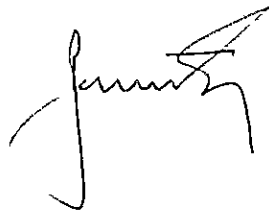


Coronel BM Manoelito L. BARRETO
Comandante-Geral do Corpo de
Bombeiros do Distrito Federal

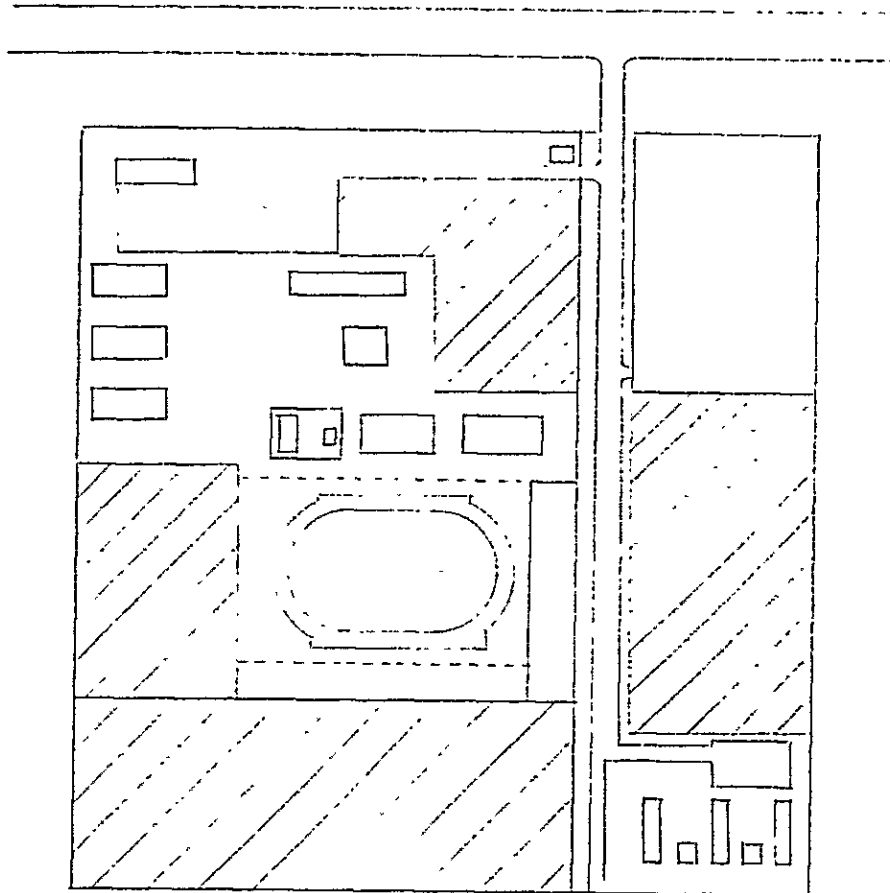
MINUTES AGREED BY BOTH PARTIES


1. The proposed Center will be laid out in the area as shown in Annex I.
2. The Center to be designed by the Japanese side is composed of the following facilities:
 - a. Drill tower
 - b. Auxiliary drill tower
 - c. Gymnasium
 - d. Oil pan
 - e. Outdoor fire training area
 - f. Water reservoir
 - g. Diving pool
 - h. Auditorium
 - i. Circuit training field
 - j. Research laboratory
3. The outline of the drill tower is as described on Pages 14 through 16 of the Inception Report, November 1980. (Annex II)
4. The Japanese side will prepare the basic design (anteprojeto) of the facilities as described above and the Brazilian side will execute the detailed design (projeto de execucao) including construction program, construction and supervision of the Center.
5. The Japanese side will recommend and advise to the Brazilian side the training guidance for the drill tower and auxiliary drill tower and research activities for the research laboratory to be designed by the Japanese side.
6. The next survey team will visit Brasilia in January, 1981 with the progress report including the basic design documents of the facilities.

R.K.



ANNEX I



 Proposed area for the facilities to be designed by the Japanese side

J.K.

Janet

ANNEX II

Drill Tower

1. Heat endurance training room
2. Smoke endurance training room
3. Subway
4. Firemen's access to underground railway
5. Sewer manhole
6. Fire extinguishing room
7. Elevator for training
8. Air filling room
9. Generator room
10. Water discharge training area
11. Rescue ladder room
12. Safety net room
13. Elevator machine room
14. Chute training
15. Rescue and escape training room
16. Salvage training room
17. Room for training in water discharge from a ladder truck
18. Room for training in making access by a ladder truck and making rescue

PK

Janet

RECORD OF MEETING

REGARDING

BASIC DESIGN CONDITIONS FOR FIRE FIGHTING TRAINING CENTER

Following the Minutes of Discussions signed by Coronel BM MANOELI TO LEMOS BARRETO, Comandante-Geral do Corpo de Bombeiros do Distrito Federal and Mr. Toshikazu KOIKE, Team Leader of the Japanese Survey Team on November 17, 1980 regarding the Fire Fighting Training Center (CeFAE) in Brasília, the team had a series of discussions and exchanged views with the officials concerned about the basic design conditions for the Center.

Both parties have agreed to take the following conditions into consideration in the basic design of the Center.

1. GENERAL

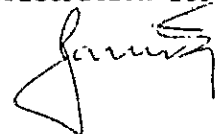
- a - Trainees per class: 30 trainees/class
- b - Proportion of male and female: No female trainees will be recruited.
- c - Training term:

Oficiais:.....	1 - 12	Months
Cadetes:	03	Years
Cabos e Soldados:.....	06	Months

2. BLOCK PLAN

The proposed layout of the facilities to be designed by the Japanese side is as shown on the attached block plan. The following basic concept has been taken into consideration in the block plan:

- a - The auditorium will be located at the original place as shown on the drawing prepared by NOVACAP.
- b - Parking lots at the east to the track field can be reduced to accommodate the circuit training field.
- c - Trees in the south of the site will be reserved as much as possible.
- d - Wind direction will be taken into consideration for the decision of oil pan location.



3. FACILITIES

a. Drill tower

- The height of the drill tower is about 40 m.
- The tower will be capable of training for ladder-handling, rescue rope-work and fixed-ladder-climbing, with one basement and three floors (GL + 11 m) at the first phase of the construction.
- Underground passage connecting to the auxiliary tower is not required.
- The tower will be provided with such facilities as gas, steam smoke, fire hydrant, man-hole and ladders.

b. Gymnasium

The gymnasium will be provided with the following sports facilities:

- Hand ball
- Basket ball
- Volley ball
- Mini football
- Judo
- Exercise room
- Horizontal bar training

c. Oil pan

The oil pan will be of elevated type.

d. Outdoor fire fighting area

The minimum/of the area will be 30x60m. /dimensions

e. Water Reservoir

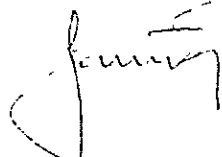
The water reservoir will be located underground.

f. Diving pool

The diving pool will have a water depth of 7 m and be located on the ground and be provided with observation windows.

g. Auditorium

The auditorium will have about 300 seats, a stage and a projection room.



h. Research laboratory

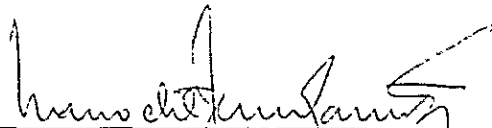
The research laboratory will be of the optimum size to include the following laboratory at the first stage and be designed to allow easy extension in future:

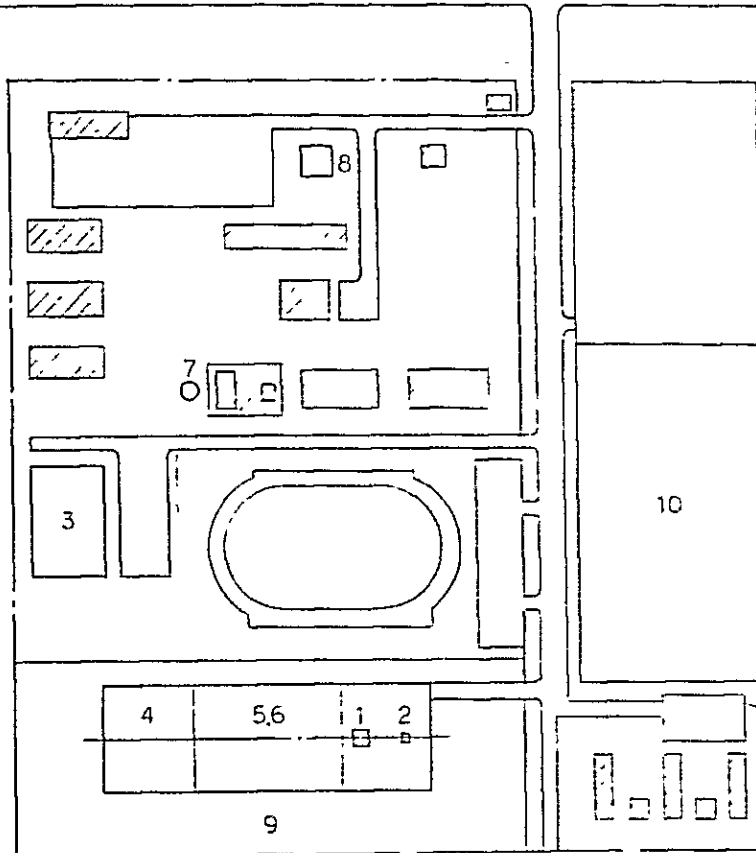
- Combustion Laboratory
- Electrical Laboratory
- Science and Chemical Laboratory

Brasília, - DF, November 21, 1980.




Mr. Toshikazu KOIKE
Team Leader
The Japanese Survey Team


MANOELITO Lemos Barreto-Cel BM
Comandante-Geral do Corpo de
Bombeiros do Distrito Federal



1. Drill Tower
2. Auxiliary drill tower
3. Gymnasium
4. Oil pan
5. Outdoor firetraining area
6. Water reservoir
7. Diving pool
8. Auditorium
9. Circuit training field
10. Research laboratory

 : Existing bldgs.

J.K.

BLOCK PLAN

Curry

2-3 SECOND MISSION

a. Dates and Events

Jan. 26/27 (Mon./Tue.)	Tokyo → New York → Rio de Janeiro → Brasilia Discussion with Brazil side on schedule
Jan 28 (Wed.)	Courtesy call at Japanese Embassy, JICA Office, Fire Department of Brasilia, D.F. (CBDF); Visit to the Fire Fighting Training Center (CeFAE) site.
Jan. 29 (Thu.)	Material/Equipment Delivery Ceremony; Presentation of CeFAE Design to Gover- nor and Ambassador; Refuge practice observation at Brasilia Telephone and Telegram Co.
Jan. 30 (Fri.)	Commentary on the refuge practice above by the request of CBDF Commander; Commentary by Brazil side on the cere- mony and the presentation above; Detail presentation of CeFAE Design; Lake tour (GBS)
Jan. 31 (Sat.)	Discussion among the Mission members.
Feb. 1 (Sun.)	Compilation of data and information.
Feb. 2 (Mon.)	Demonstration of the materials/equip- ment at 1º/1º GI; Presentation of Training Guidance at 1º/2º GI; Detail presentation on CeFAE Design to NOVACAP.

- Feb. 3 (Tue.) Presentation on CeFAE Design at City Transportation Bureau; Presentation on the Training Guidance and the materials & equipment at 1^o GI; Detail discussion with NOVACAP on CeFAE Design.
- Feb. 4 (Wed.) Prepared the records of presentations; Prepared a draft of Minutes; Memorandum of the discussions on CeFAE Design signed by CBDF, NOVACAP and Mission.
- Feb. 5 (Thu.) Minutes signed by CBDF Commander MANOELITO and Mission Leader HOSONO; Mission submitted the following for the project;
- Progress Reports
 - CeFAE Basic Design drawings
 - Models of Drill Tower, Auxiliary Drill Tower and Oil Pan
 - Perspective rendering of Drill Towers and Gymnasium
 - Slide films of training in Yokohama
- Feb. 6 (Fri.) Brasilia → Rio de Janeiro → New York
Feb. 8 (Sun.) → Tokyo

MINUTES OF DISCUSSIONS
ON
THE PROGRESS REPORT FOR THE FIRE FIGHTING
TRAINING CENTER IN BRASILIA

In accordance with the Minutes of Discussions which was agreed on November 17, 1980 on the occasion of the visit to Brazil of the basic design survey team, the Government of Japan sent, through the Japan International Cooperation Agency (JICA), the Japanese team headed by Mr. Mitsuhiro Hosono from January 26 to February 8, 1981.

The team had a series of discussions and exchanged views with the officials concerned of Fire Headquarters in Federal District, headed by Coronel Manoelito L. Barreto, on the Progress Report for the Construction Project of the Fire Fighting Center (Centro de Formação Aperfeiçoamento e Especialização).

As a result of discussions, both parties have agreed as follows.

1. After the presentation by the Japanese team on the basic design of the CeFAE Project through the Progress Report , drawings, models and perspective renderings, C.B.D.F. has completely satisfied its facility design. Meanwhile, NOVACAP, who is to be assigned to execute the detail design of the CeFAE facilities, had meetings with Japanese Team to understand the basic concept of the design and some additional requirements shown in the memorandum (ATA DE REUNIÃO SOBRE ANTE-PROJETO DO CeFAE, Annex 1.) In consequent, C.B.D.F. and NOVACAP are now ready to realize the detail design of CeFAE facilities with careful study of their usage and of the fire fighting trainings to be expected there.

M. Hosono

Jamity

2. As for the training programs, various training method was presented to C.B.D.F. by the Japanese Team through the text in the Progress Report, slides and training demonstrations. C.B.D.F. has now recognized the importance to keep security for fire men during fire fighting and rescue activities.
3. C.B.D.F. has also recognized the importance to set up the research institution which is expected to be developed in Brasília in near future, including research facilities and educational programs of the staffs.
4. The Progress Report, which accomplished the expected goal on CeFAE project without any change and any additional requirement, is considered as the final document by both parties.
5. The next Japanese Team will be here in Brasilia in March, 1981.

In addition, demonstrations and guidance presented by the Japanese Team, to use the Japanese materials for fire fighting and rescue activities, stimulated C.B.D.F. to much extent for the development of future activities.

C.B.D.F. expressed that they desire Japanese qualified experts to be sent to Brazil to give a technical guidance and advice for training method in future.

Brasilia DF., February 5, 1981

Mitsuhiro Hosono

Mr. Mitsuhiro HOSONO
Team Leader
The Japanese Survey Team

Manoelito Lemos Barreto
MANOELITO Lemos Barreto- Cel BM
Comandante-Geral do Corpo de
Bombeiros do Distrito Federal

ATA DE REUNIÃO SOBRE ANTE-PROJETO DO CEFAE

2-3, c

Brasília, DF, 04 de fevereiro de 1981

No dia 02 de fevereiro, no período da tarde, reuniram-se no Quartel do Comando-Geral do Corpo de Bombeiros do Distrito Federal, os membros da Missão Japonesa, representados pelo Senhor KONO (Engenheiro) e o Senhor OTSUKA (Arquiteto), juntamente com representantes da NOVACAP: Senhor DURCENAR MARTINS, Senhora MARIA AUGUSTA FERNANDES para o esclarecimento sobre o Ante-Projeto do CeFAE. Assistiu a essa reunião o 1º Tenente BM FRANÇA, representando o Corpo de Bombeiros do Distrito Federal.

Prosseguiu-se com a reunião no dia seguinte, 03 de fevereiro, também à tarde, com os dois que vieram no dia anterior, bem como, o Senhor PEDRO ALCANTARA COSTA e Senhora JACYLENE SEREJO FREIRE MARTINS. O Capitão BM GIOVANI, representando o Corpo de Bombeiros do Distrito Federal, também esteve presente.

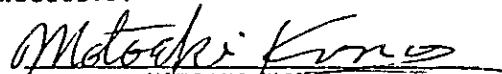
Nessa ocasião foram entregues à NOVACAP pela missão Japonesa os seguintes materiais:

- 1 - Progress Report 02 vol
- 2 - Desenho Esquemático do CeFAE, 11 folhas..... 02 jog
- 3 - Desenho do CeFAE (reduzido)-11 folhas..... 02 vol
- 4 - Xerox dos dimensionamentos e posição dos tubos e argolas - 02 folhas..... 02 jog
- 5 - Perspectiva em xerox - 02 folhas..... 02 jog

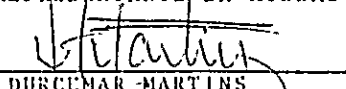
Transmitiu-se aos membros da NOVACAP, os detalhes sobre o projeto do CeFAE, utilizando maquetes, desenhos esquemáticos e relatório (PROGRESS REPORT).

Foi acrescido na mesma ocasião pela missão Japonesa, os elementos indispensáveis para o projeto executivo, conforme discutido e aceito pelas partes envolvidas.

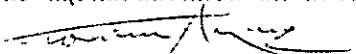
Com os itens mencionados, o ante-projeto, bem como, a maquete que foi entregue ao Corpo de Bombeiros do Distrito Federal, a NOVACAP, juntamente com membros da referida Corporação Militar, realizarão o Projeto Executivo.



MOTOAKI KONO
ENGENHEIRO REPRESENTANTE DA MISSÃO JAPONESA



DURCENAR MARTINS
ENGENHEIRO REPRESENTANTE DA NOVACAP



GIOVANI ALCEMIR NUNES
CAPITÃO BM REPRESENTANTE DO C. BOMBEIROS DO DF



CEFAE - CENTRO DE FORMAÇÃO E APERFEIÇOAMENTO DO
CORPO DE BOMBEIROS DO D.F.

RELATÓRIO DAS REUNIÕES REALIZADAS NOS DIAS 02 e 03 DE FEVEREIRO DE 1981, ENTRE TÉCNICOS DA NIKKEN SEKKEILTD e da NOVACAP.

1 - INTRODUÇÃO

O presente relatório tem por objetivo , descrever os principais pontos tratados entre os técnicos da Nikken Sekkei Ltd do Japão e da NOVACAP, relativos a apresentação pelos primeiros dos anteprojetos, para as unidades que complementarão o Centro de Formação e Aperfeiçoamento do Corpo de Bombeiros do Distrito Federal.

Os anteprojetos apresentados foram:

a - Área específica de treinamento compreendendo:

- a.1 - Torre Principal de treinamento;
- a.2 - torre Auxiliar de treinamento;
- a.3 - área de treinamento com mangueira;
- a.4 - tanque de treinamento de extinção de incêndio em combustível.

b - Auditório;

c - Laboratório de pesquisas;

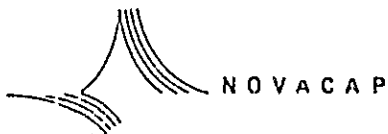
d - Tanque de treinamento;

e - Ginásio de esportes.

Sobre cada uma das unidades foi feita a explanação dos principais detalhes que deverão constar do projeto construtivo a ser elaborado sobre a responsabilidade da NOVACAP, tanto no que diz respeito a parte arquitetônica quanto das diversas instalações, sendo parte destes itens descritos a seguir.

Todos os itens do projeto deverão ser discutidos com o pessoal do Corpo de Bombeiros, que complementarão as informações para conclusão do projeto.

Mika
Wstet



2 - DESCRIÇÃO DE RECOMENDAÇÕES ESPECÍFICAS
PARA CADA ITEM

2.1 - Área específica de treinamento.

2.1.1 - Torres principais e auxiliar de treinamento.

Trata-se de duas torres paralelas que possibilitarão os mais diversos tipos de treinamento de pessoal, através da simulação de diversos tipos de edifícios, tendo a destacar:

a - Subsolo - Labirinto escuro que deverá possibilitar a colocação de painéis removíveis, possivelmente metálicos, em diversas posições, moduladas em aproximadamente 1,10m, de modo a possibilitar as mais diversas posições para treinamento de deslocamento de pessoal no escuro, tais painéis deverão estar solidamente fixados no teto (através de malha de fixação modulada) e no piso.

b - Térreo - Conterá principalmente área de treinamento com fumaça e calor.

Nesta área que circundará uma sala de controle e instrução, será injetado através de dutos, fumaça e calor, sendo que uma recomenda importante é de que a fumaça a ser gerada para tal sala, através de forno localizado neste andar, deva ser feita apenas de materiais que não produzam gases tóxicos, podendo ser utilizações materiais como capim seco e pneus, sendo recomendado para tal fim o uso de madeira verde.

A sala de instrução será separada da sala de treinamento através de vidro ou vidros, resistentes ao calor de modo a possibilitar a observação do pessoal em treinamento, o controle das condições internas da sala de treinamento deverá ser localizado dentro da sala de instrução, para que em qualquer emergência o instrutor possa tomar as providências que venham a ser necessárias para que o pessoal em treinamento não corra riscos.

c - O primeiro pavimento conterá uma sala de SPRINKLERS, onde

COMPANHIA URBANIZADORA DA NOVA CAPITAL DO BRASIL
SETOR DE ÁREAS PÚBLICAS - LOTE H - FONE 2335735 - CEP 71200 - BRASÍLIA - DF

MANDOC - 4401

serão colocados no mínimo três tipos de saída para que possibilite ao pessoal em treinamento o conhecimento dos diversos tipos deste equipamento que existam em uso nas edificações.

- d - Segundo pavimento conterá uma sala que poderá ser utilizada para treinamentos diversos, sem caixa de incêndio.
- e - Pavimento tipo conterão salas de treinamentos diversos, inclusive com caixas de incêndio.
- f - Quinto e Sexto pavimentos - Salas de treinamento interligados por um buraco na laje que possibilitará maior diversidade de exercícios.
- g - Sétimo ao Décimo pavimentos - Além das salas de treinamento, conterão uma torre de elevadores que possibilitará, através da instalação de telas em seu contorno e também nas salas dos diversos andares, a observação do treinamento que está sendo feita em seu interior.
O elevador deverá conter saída de emergência no teto.
- h - Terraço - Conterá apenas tubos e argolas fixados em diversos pontos para amarração de cordas para treinamento.
Deverá ser estudada com o CBDF a conveniência de instalação de heliporto neste terraço.
- i - Fachadas - As fachadas das torres são de suma importância nos treinamentos, já que as mesmas simulam diversos tipos de fachadas encontradas nos edifícios de Brasília, assim sendo, haverá variações quanto aos modelos e dimensões de esquadrias, dimensões diversas de sacadas, escadas junto a fachadas, combogôs, etc.
Todos os cuidados quanto ao acabamento destas torres deverão ser tomados, já que dos mesmos dependerá a segurança do pessoal em treinamento.
Em diversos pontos de ambas as torres serão colocados tubos e argolas para amarração de cordas, tais elementos deverão ser fixados na armadura do concreto, antes da concretagem para garantir sua maior segurança.
- j - Outras considerações sobre as torres de treinamento.
 - No teto do terraço do primeiro andar da torre auxiliar deverá ser instalado equipamento automático para recolhimen-

to de uma rede de segurança que deslizará por cabos de aço até o terraço correspondente na torre principal. Esta rede de segurança deverá ser bastante estudada em sua especificação por se tratar de elemento muito importante para dar confiança do pessoal em treinamento, sendo que a mesma deverá suportar a um impacto de 90kg, com uma faixa de segurança de 10 vezes.

- Foram também demonstrados todos os itens relevantes das instalações a serem feitas nas duas torres.
- Não haverá caixa d'água superior nas torres, sendo que na torre principal haverá no térreo um hidrante através do qual se abastecerá a rede interna.

2.2 - Área para treinamento com mangueiras

- Será uma área específica para treinamento com viaturas e mangueiras, que serão alimentados através de três hidrantes e um reservatório subterrâneo.
- Nesta área poderão treinar três equipes simultaneamente.
- A pavimentação da área será em asfalto.

2.3 - Área para treinamento de extinção de incêndio em combustíveis.

- Esta área constará no seu centro um tanque elevado, executado em concreto armado, no qual se colocará água e posteriormente óleo ou outro combustível no qual ateará fogo para realização do treinamento, através de viaturas providas de escadas e mangueiras, com água e produtos químicos de extinção.
- A pavimentação da área será em concreto, com caimentos definidos que levarão a água e produtos excedentes a um tanque acumulador e posteriormente a uma estação de tratamento que será especificada de acordo com as normas específicas da CAESB.

3 - GINÁSIO DE ESPORTES

Esta edificação não difere muito de outras edificações do gênero construídas na cidade, apenas, para que possibilite o treinamento de pessoal em tempo de chuva, serão instalados os seguintes equipamentos:

- a - Argolas articuladas presas no concreto dos pilares em diversos pontos determinados.
- b - Cordas de treinamento presas a trilhos resistentes, fixados no teto, que permitirão o recolhimento para junto das paredes de fundo quando não estiverem em uso.
- c - Tela protetora da iluminação, sob a estrutura metálica.
- d - Passarela suspensa a 10,00m do piso, em todo o contorno interno da edificação.

4 - LABORATÓRIO DE PESQUISA

Conterá salas de pesquisas e treinamento, com áreas específicas para química, elétrica e preparos.

Será executada em concreto armado, e conterà uma calha central sob o piso na qual passarão todas as instalações de gás, elétrica, água, esgoto, etc.

A exaustão, que será natural, será feita através de SHIELD no teto que irá de uma extremidade a outra da edificação.

Existe a possibilidade de futuras ampliações através de construção de novos módulos semelhantes ao primeiro, que por serem modulados, permitirão adaptações às necessidades da época.

5 - AUDITÓRIO

Esta edificação também não difere de outras do gênero já executadas na cidade, sendo sua estrutura em concreto armado, com capacidade para 300 (trezentas) pessoas.

M.K. et al.
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NOVACAP

Tem-se a destacar nesta obra o sistema natural de ventilação que será feito através da entrada do ar fresco através de aberturas sob a sala de projeção e sob o palco, com a saída do ar quente através de tomadas de ar no teto.

6 - TANQUE DE TREINAMENTO DE MERGULHO

Compreenderá um tanque de concreto armado, com 6 m de diâmetro e 8 m de altura.

Conterá quatro visores para observações de treinamento, escada de acesso, sob a qual se instalarão os equipamentos de tratamento d'água, semelhante ao tratamento usado para piscinas.

7 - CONSIDERAÇÕES FINAIS

Todos os acabamentos que não merecerem considerações especiais, deverão ser executados semelhantes ao acabamento dos alojamentos já executados no CLFPA.

O Corpo de Bombeiros deverá fazer outras recomendações que possam complementar os dados dos treinamentos e demais atividades a executar, de modo que permitam o detalhamento final do projeto em perfeita concordância com os treinamentos a serem feitos no Centro.

Motoaki Kuro
NIKKEN SEKKI LTD

Dupontar Ferreira Martins
DUPONTAR FERREIRA MARTINS
Chefe da Divisão Técnica/DE
NOVACAP
NOVACAP

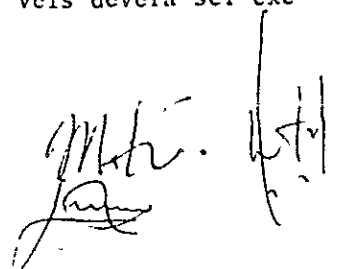
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CORPO DE BOMBEIROS DO DISTRITO FEDERAL

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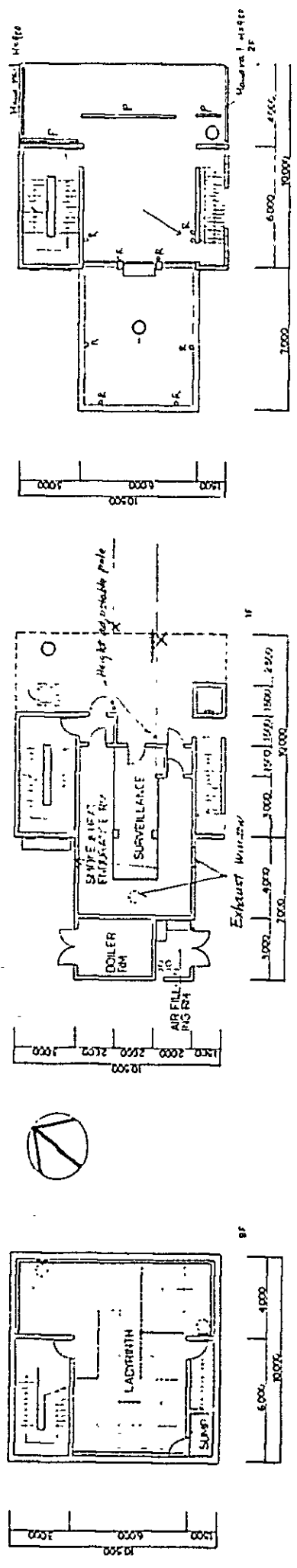
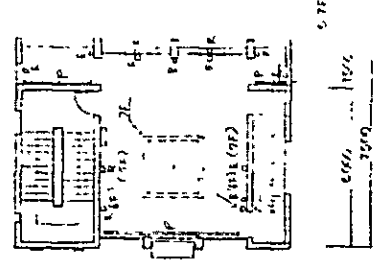
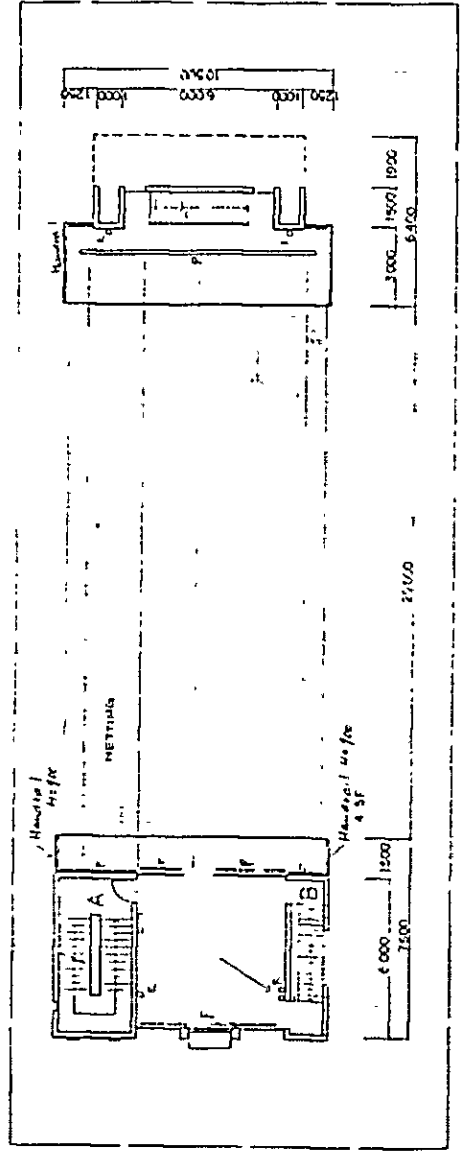
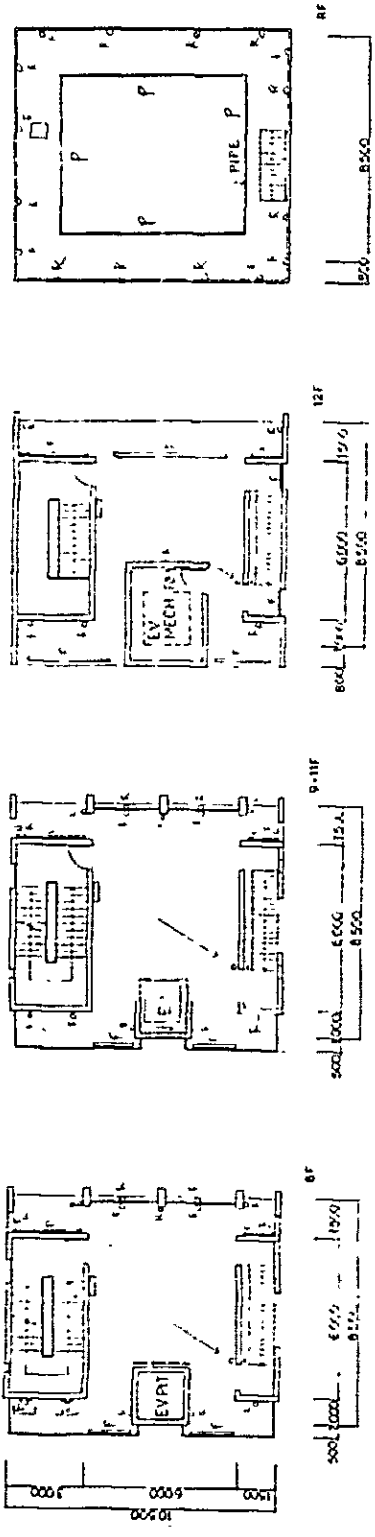
COMPANHIA URBANIZADORA DA NOVA CAPITAL DO BRASIL
Setor de Arena Pública - Lote B - CEP 71200
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OUTROS ÍTENS A SEREM CONSIDERADOS NO DESENVOLVIMENTO DO PROJETO CONSTRUTIVO

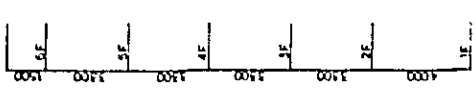
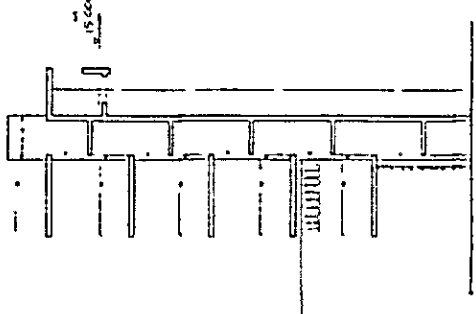
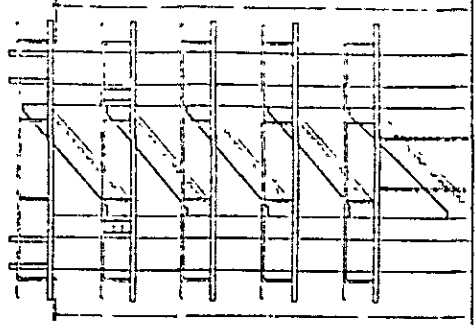
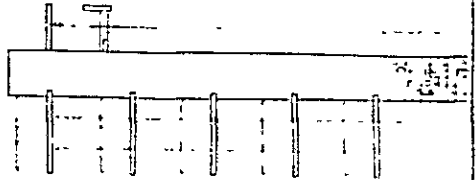
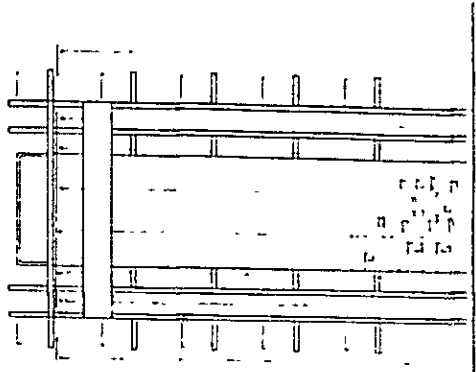
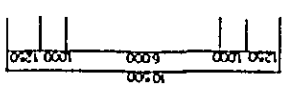
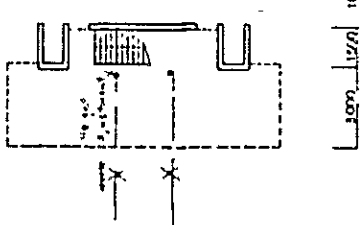
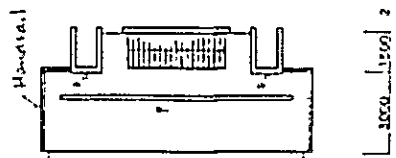
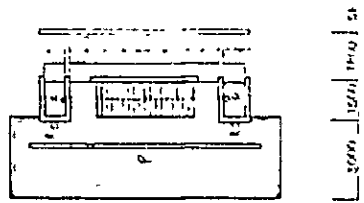
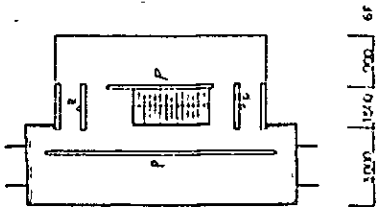
- 1 - A torre principal de treinamento poderá ser contruída por etapas, sendo que tais etapas deverão ser definidas pelo Corpo de Bombeiros juntamente com a NOVACAP.
- 2 - Ambas as torres de treinamento deverão ser contruídas integralmente em concreto armado, com exceção da área onde será colocado combogó.
- 3 - Todas as esquadrias deverão ser solidamente fixadas na armadura do concreto armado.
- 4 - A escada da torre principal que não tem comunicação com o exterior diretamente deverá ter fechamento através de portas colocadas em um andar a ser definido conjuntamente com o Corpo de Bombeiros, de modo que possibilite a injeção de fumaça em seu interior para treinamento.
- 5 - Na sala de treinamento de fumaça e calor deverão existir três saídas de gases colocadas uma no teto e duas lateralmente.
- 6 - Todas as bordas de concreto das diversas sacadas deverão ser protegidas através do chumbamento de meios-tubos de ferro, de modo a impedir o desgaste das cordas que venham neles roçar.
- 7 - A largura das diversas sacadas da torre auxiliar deverão ser reduzidas para 2,50m, sendo 1,00m do fundo até os tubos e 1,50m dos tubos à borda.
- 8 - Os vãos entre os dois conjuntos de colunas da torre auxiliar deverão ser de duas medidas diferentes, de modo a possibilitar tipos diferentes de treinamentos, sendo suas medidas definidas pelo Corpo de Bombeiros.
- 9 - O revestimento interno do tanque elevado de treinamento de extinção de incêndio em combustíveis deverá ser executado em tijolo refratário.

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REMARKS
 P - Steel Pipe 120φ H = 1200
 H = Window Height (at window)
 Ko - Steel Ring 120φ 2 each H = 2,100
 H = 900
 Handrail Steel pipe 90φ H = 900



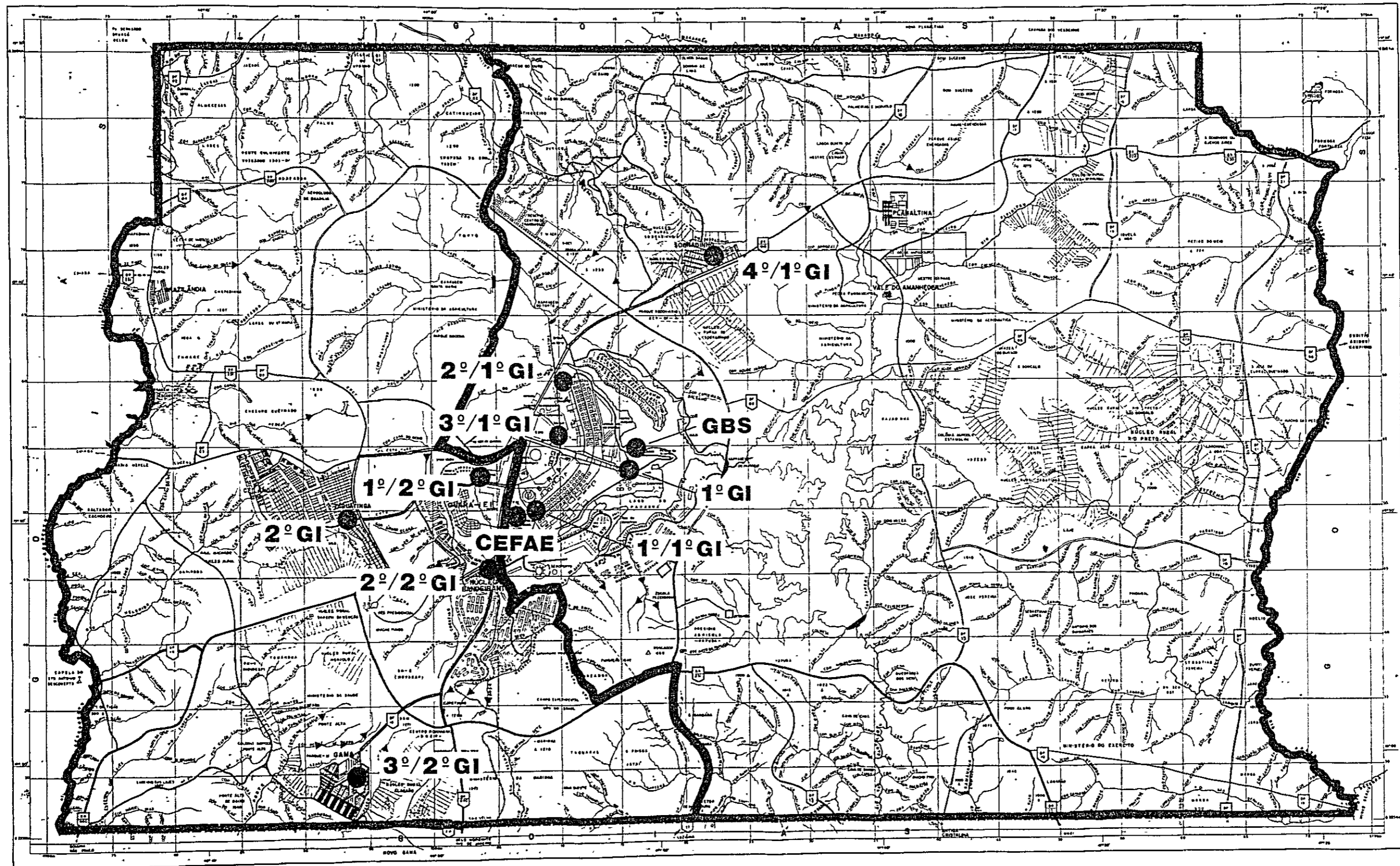
P. Steel pipe 120φ H=1,200
 Ro. Steel ring 120φ H=1,200
 H₂ area | Steel pipe 70φ H=900



AUXILIARY DRILL TOWER
 PLAN · SECTION · ELEVATION 1 200

(25)

PLANO RODOVIÁRIO DO DISTRITO FEDERAL



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5 : RANKS OF OFFICIALS AND FIREMEN (OFFICIAIS SUPERIORES)

OFICIAIS SUPERIORES

- CORONEL BM
- TENENTE-CORONEL BM
- MAJOR BM

OFICIAL INTERMEDIÁRIO

- CAPITÃO BM

OFICIAIS SUBALTERNOS

- 1º TENENTE BM
- 2º TENENTE BM

PRAÇAS ESPECIAIS

- ASPIRANTE-A- OFICIAL BM
- ALUNO DO CURSO DE FORMAÇÃO DE OFICIAIS BM

P R A Ç A S

- SUBTELENTE BM
- 1º SARGENTO BM
- 2º SARGENTO BM
- 3º SARGENTO BM
- CABO BM
- SOLDADO BM DE 1ª CLASSE
- SOLDADO BM DE 2ª CLASSE

SOCORRO COMPLETO

- AR - AUTO RÁPIDO
- ABI - AUTO BOMBA INFLAMÁVEL
- ASSP - AUTO SERVIÇO DE SALVAMENTO E PROTEÇÃO
- AEM - AUTO ESCADA MECÂNICA
- ABT - AUTO BOMBA TANQUE (6.000 litros de água)

OBS: COMANDADO POR OFICIAL BM

6 : CALENDAR OF TRAINING AND STUDY PROGRAMS (CALENDARIO DE ENSINO)

ANEXO "A"

CALENDÁRIO DE ENSINO										
PERÍODO DO ANO ESCOLAR: DE 09 Mar a 18 Dez 81										
APROVOU: Em 06 Nov 1980 COMANDANTE-GERAL DO CBDF										
CURSO/ESTÁGIO	TUPMA	DUPLAÇÃO (SEMANA)	PERÍODO	CARGA			HORÁRIA			LOCAL
				DIÁRIA	SEMANAL	DO CURSO	DISPONÍVEL			
CFSD BH	A/81	20/21	26 Jan a 19 Jun	7	32	640	672			2º GI
CFSD BH	B/81	20/21	25 Mai a 16 Out	7	32	640	672			2º GI
CFSD BM	C/81	20/21	28 Set a 19 Fev	7	32	640	672			2º GI
CFC BH	F/81	20/21	09 Mar a 31 Jul	7	32	640	672			CeFAE
CFC BH	B/81	20/21	27 Jul a 18 Dez	7	32	640	672			CeFAE
CFS BH	ÚNICA	37/41	09 Mar a 18 Dez	7	32	1200	1344			CeFAE
CPS BH	ÚNICA	20/21	27 Jul a 18 Dez	7	32	640	672			CeFAE
CFO BH	1º ANO	37/41	09 Mar a 18 Dez	7	35	1250	1470			CeFAE
CFO BM	2º ANO	37/41	09 Mar a 18 Dez	7	35	1295	1470			CeFAE
CFO BH	3º ANO	37/41	09 Mar a 18 Dez	7	35	1295	1470			CeFAE
CFO SH	ÚNICA	20/21	09 Mar a 31 Jul	7	32	640	672			CeFAE
CIA BH	ÚNICA	11/12	03 Ago a 16 Out	7	35	640	672			GBS
EPCI	A/81	1/1	23 Mar a 27 Mar	3	3	15	15			CeFAE
EPCI	B/81	1/1	06 Abr a 10 Abr	3	3	15	15			CeFAE
EPCI	C/81	1/1	25 Mai a 29 Mai	3	3	15	15			CeFAE
EPCI	D/81	1/1	22 Jun a 26 Jun	3	3	15	15			CeFAE
EPCI	E/81	1/1	20 Jul a 24 Jul	3	3	15	15			CeFAE
EPCI	F/81	1/1	24 Ago a 28 Ago	3	3	15	15			CeFAE
EPCI	G/81	1/1	21 Set a 25 Set	3	3	15	15			CeFAE
EPCI	H/81	1/1	19 Out a 23 Out	3	3	15	15			CeFAE
EPCI	I/81	1/1	23 Nov a 27 Nov	3	3	15	15			CeFAE

