

REPUBLIC OF KENYA



MINISTRY OF PUBLIC WORKS

NAIROBI BYPASS PROJECT

PREQUALIFICATION DOCUMENTS
FOR
CONTRACT NO.....

DRAFT

SEPTEMBER 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

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REPUBLIC OF KENYA



MINISTRY OF PUBLIC WORKS

NAIROBI BYPASS PROJECT

PREQUALIFICATION DOCUMENTS
FOR
CONTRACT NO.....

DRAFT

SEPTEMBER 1992

THE JAPAN INTERNATIONAL
COOPERATION AGENCY

CHIEF ENGINEER (ROADS)
MINISTRY OF PUBLIC WORKS
P.O. BOX 30260, NAIROBI

PERMANENT SECRETARY FOR
MINISTRY OF PUBLIC WORKS
P.O. BOX 30260, NAIROBI



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I - INTRODUCTION AND GENERAL INFORMATION FOR PROSPECTIVE TENDERERS

- 1.01 The Ministry of Public Works, the Government of the Republic of Kenya, wishes to select Contractors, through analysis of their legal, technical, economic and financial backgrounds, who will be invited to tender for construction of the Nairobi Bypass Project. Prequalification is open to all Contractors from eligible source countries as defined in the current "Guidelines for Procurement under OECF Loans". The approximate scope of work is outlined in Part III of this document.
- 1.02 The following words, expressions and abbreviations shall have the meaning hereby assigned to them, except where the context otherwise requires .
- | | | |
|--------------------|---|---|
| "MOPW" | : | Ministry of Public Works |
| "The Engineer" | : | The Chief Engineer (Roads), MOPW |
| "OECF" | : | Overseas Economic Cooperation Fund of Japan |
| "Consultant" | : | |
| "Project" | : | Nairobi Bypass Project |
| "Works" | : | The works and associated services to be executed by the Contractor under the Contract |
| "Applicant" | : | Firms, partnerships, and companies who wish to be qualified for tendering, alone, or as a leading firm and member firm in case of a joint venture or a consortium |
| "Tenderer" | : | An applicant qualified by the MOPW to present a tender. |
| "Tender Documents" | : | Documents for Tender of the Project. |
| "KSh" | : | Kenya Shillings. |
| "US\$" | : | United States Dollars. |
| "JY" | : | Japanese Yen. |
- 1.03 The information in this document is for orientation purposes in order that Applicants can evaluate their interest in pre-qualifying and tendering for and in constructing the works covered by this Invitation, and is not a guarantee of the actual conditions under which the works will be tendered or constructed.
- 1.04 This prequalification is governed by the laws of the Republic of Kenya. It is to be understood that the Applicants who participate in the prequalification have full knowledge of the laws and legislation of the Republic of Kenya which are in force at the present time. Furthermore, submission of prequalification documents implies full acceptance of the conditions in this Invitation.
- 1.05 The Government of Kenya has received a loan from the OECF to cover a considerable part of the implementation cost for the Project. Participants in the prequalification of the tenderers for the Project shall be contractors of nationals of the eligible countries as defined in the attached sheet in APPENDIX.
- 1.06 The Project will be financed by two sources of fund; loans from the Government of Japan (OECF) and the annual fund of the Government of Kenya.
- 1.07 Since OECF will assist in financing the Project, all procurement for the Work shall be made in accordance with OECF's Guidelines for Procurement by international competitive bidding (ICB). Payment to the contractor will be made in Japanese Yen (JY) or US Dollars (US \$) for the foreign element of cost and in Kenya Shillings (KSh) for the local element.
- 1.08 The Contractor and his foreign employees will be required to pay income tax arising out of profits and personal taxes under the laws of Kenya.
- 1.09 An Applicant who intends to participate in tendering shall submit to MOPW the accompanying prequalification forms duly filled in, in the manner prescribed herein.

- 1.10** MOPW will first examine and evaluate the Prequalification Documents and will verify their compliance with the requirements of the prequalification conditions.
- 1.11** Based on the results of the prequalification examination, MOPW will select the Applicants to whom the tender documents will be distributed but will not accept any claim regarding either the procedure or the results of the prequalification.
- 1.12** All Prequalification Documents and information received by MOPW from Applicants will be treated as strictly confidential. The documents will not be returned. All expenses relating to participation in this prequalification shall be borne by the Applicants, and in no case will such expenses be reimbursed.
- 1.13** Any questions that the Applicants may have about the scope of the information and details given in the Invitation must be written in English and sent to the MOPW at the address given. Questions will be accepted provided they are received not later than 28 days prior to the Closing Date.
- Such questions will be answered three weeks before the Closing Date in such a way that all holders of the Invitation will be informed of the questions and the answers given.
- All clarifications, additions or deletions in the Invitation will be made through a circular letter which will be mailed or faxed to each holder of the Invitation.
- All circular letters that are issued will form part of the Invitation and the holders of the Invitation must acknowledge their receipt to the MOPW by telex or fax.
- 1.14** Applicants should note that the project is a time-bound project, and any delay in completion of construction would result in a monetary loss to the MOPW and the Government of Kenya. The anticipated construction period is 30 months.

II - INSTRUCTIONS TO APPLICANTS FOR PREQUALIFICATION

2.01 GENERAL INSTRUCTIONS TO APPLICANTS

The issuing and closing dates of the Prequalification Documents are as follows:

- (1) Issuing date : 1992
- (2) Closing date and hours : 10:00 a.m. 1992

2.02 Completed Prequalification Documents must be submitted in one original and four copies. Original to be marked "MASTER COPY" and each copy marked "DUPLICATE COPY". Should any discrepancy arise, the text of the "MASTER COPY" will prevail.

2.03 The Completed prequalification questionnaire should be returned to the following address by 12.00 noon Kenyan Time on date/month/year.
Chief Engineer (Roads)
Ministry of Public Works
P.O. Box 30260,
Nairobi, Kenya.
Room 618 Transcom House
Tel.723101 Ext.3121.
Telex 22174 MINWORKS

2.04 The inner and outer envelopes should bear the following identification:

- i) Prequalification for Nairobi Bypass Project
- ii) Contract No.....
- iii) Date for Submission of Applications

2.05 The forms given in Part V of this document are to be completed by Applicants who wish to be prequalified for submission of tenders for Contract ... - Construction of Nairobi Bypass. Tenders will be accepted only from those Contractors or joint-ventures who are from eligible source countries and who, having submitted the information requested herein, have been subsequently determined as qualified.

2.06 The Applicants, and if it is intended to tender as a consortium or a joint venture, all members, shall be from the eligible source countries, whose names are given in the attached APPENDIX, and shall be nationals of the eligible source countries or juridical persons governed substantially by the nationals of the eligible source countries. The juridical persons as mentioned above shall satisfy the following conditions:

- (A) That a majority of the shares of the juridical persons shall be held by the nationals of the eligible source countries;
- (B) That a majority of directors of the juridical persons shall be the nationals of the eligible source countries; and
- (C) That juridical persons have been registered in the eligible source countries.

The Applicants shall submit the Certificates of Eligibility in accordance with the form attached hereto.

2.07 Applications submitted by a joint venture must meet the following requirements:

- (A) Each partner of the joint venture must submit the complete documentation required of a Contractor applying for individual prequalification.

- (B) The application must confirm that if, after prequalification, the Applicants submit a tender, then:
- (a) that tender as well as (in case of an award) the resulting contract would be signed so as to be legally binding on all partners jointly and severally, and
 - (b) a joint venture agreement providing the joint and several liability of all partners in respect to the contract would be submitted together with the tender.
- (C) The application must include a description of the proposed participation and responsibility of each partner of the joint venture.
- (D) All joint venture partners must be jointly and severally liable to MOPW for the works under the contract. The joint venture partners must appoint one among them to be the sponsor firm who will legally represent the joint venture for all their rights and obligations under the tender and the contract vis-a-vis MOPW and who will accept full responsibility for contract supervision and execution of the work.

The Applicant must designate one of the partners as the partner - in - charge through whom any correspondence between the Applicant and MOPW will be channelled.

2.08 Any change in the formation of a joint venture will be subject to MOPW's approval in writing prior to the deadline set for the receipt of tenders. Such an approval will not be granted if, among other things, any change in the proposed formation would result, in MOPW's opinion, in:

- (A) a substantial reduction of competition,
- (B) the inclusion of a firm which had not previously been prequalified (either individually or as part of another joint venture) or
- (C) the lowering of the joint venture's qualifications below the minimal standards stated as acceptable in the prequalification documents.

2.09 All documents that form part of the prequalification application must be written in English.

2.10 **QUALIFICATIONS**

It shall be understood and agreed by the Applicants that the prequalification data to be submitted are to be used by MOPW and its authorised agents in determining the qualifications of prospective Contractors to construct the works described in Part III of this document. In consideration of being permitted to submit his qualifications as a prospective Contractor for review, the Applicant for prequalification waives any claim against MOPW and its authorised agents that might arise with respect to their decision as to a prospective Contractor's qualifications. It is to be understood that the decision of MOPW and its authorised agents, with respect to the qualifications of Applicants, is final and not subject to appeal of any kind.

2.11 In evaluation of prequalifications, an Applicant will not be considered qualified by the MOPW and its authorised agents unless he possesses an international reputation, capability, technical experience, qualified personnel with abundant experience in related fields, available and suitable equipment, and net current assets and working capital sufficient in the judgement of the MOPW and his authorised agents that he can satisfactorily execute the contract should it be awarded to him.

2.12 FINANCIAL CONDITION

The Applicant's financial condition must be sound, having adequate working capital to carry out the works of the Project.

The Applicant's financial condition will be determined from the financial statement submitted as well as from letter(s) of credit issued by banks. Special consideration will be given to the financial resources available as working capital for new works, taking into consideration the amount of uncompleted work on contracts now in progress.

The financial statement shall be submitted in the attached Form 4 and shall be certified by authorised chartered or public accountants in the home country of the applicant.

2.13 EXPERIENCE AND PAST PERFORMANCE

Applicants should have appropriate operational experience as a prime contractor for high quality construction works in tropical areas.

Details of previous experience should be submitted on Forms 5-7, and the Applicants should provide recommendations that have been given by former clients. Failure to complete past work due to fault of the Applicant will be sufficient reason for disqualification.

Applicants would be expected to meet the following specific requirements:

- experience of urban expressway construction in their home countries as well as overseas
- experience of major infrastructure construction in Kenya
- evidence of good project management and quality control

2.14 EXISTING AND EXPECTED COMMITMENTS

Information on other jobs that Contractors have on their books to complete and what other work they are planning to take on must be identified in the attached Form 8.

2.15 CAPABILITY IN RESPECT OF PERSONNEL

The names and pertinent information about key personnel proposed for site management and field supervision duties must be identified on the attached Form 9. This list should include at least five (5) key personnel highly experienced in civil construction work similar to that of the Nairobi Bypass, and especially with lean concrete base-course construction and high quality asphalt construction under tropical conditions.

It is essential that the Contractor shall have competent technical and managerial staff at site to plan and execute the work as well as to coordinate all the activities relevant to the works to be constructed.

2.16 CAPABILITY IN RESPECT OF EQUIPMENT

Contractors/joint ventures should list in the attached Form 10 the major construction equipment, types, makes and models which are owned and which would be assigned to the work and the additional number and types of new plant that would be purchased or leased for execution of the Contract. The construction equipment should be of suitable type and should be sufficient in number and capacity to execute the work and should include:

- Quarry plant including impact crushers.
- Concrete batching plant for lean mix concrete.
- Concrete paver equipment and associated equipment.

Asphalt mixing plant.
Self-propelled spreaders and layers for asphalt and associated equipment.
Rollers including self-propelled rubber covered steel cylinder vibrating rollers and rubber tyred rollers.

2.17 SUBCONTRACTORS

Applicants should list in the attached Form 11 the subcontractors to be employed for part or parts of the Works.

2.18 ADDITIONAL INFORMATION

If Applicants wish to submit further information and references to demonstrate their ability and/or to support their previous working record, they should enclose any such supplementary information with their applications.

2.19 EXCHANGE RATES

The Applicant should indicate the rate of exchange for his and other currencies to US dollars, when he enters the US dollar equivalents in the prequalification forms.

2.20 AMENDMENT, ETC. OF DOCUMENTS

Addenda may be issued by the MOPW to amend, supplement or partly delete the Prequalification Documents not later than fifteen (15) days prior to the closing date stipulated in Part I. Each addendum to be issued will be distributed to all Applicants, who shall acknowledge receipt of each addendum by signing and returning the receipt form issued with the addendum. All addenda issued shall become part of the Prequalification Documents.

III - DESCRIPTION OF THE PROJECT

3.01 GENERAL

The Nairobi Bypass will be a new dual carriageway Class A International Trunk Road (Expressway) which will form part of the future Trans-African Highway. The Nairobi Bypass will be approximately 29.2 km long and will be situated in the City of Nairobi and the Kikuyu Division of Kiambu District, Central Province. It will start from the Mombasa Road near the eastern gateway of Nairobi National Park, and will terminate at the Nairobi-Nakuru road on the western outskirts of Kikuyu town. The roadworks will include construction of six interchanges and a variety of small drainage structures.

The project area is located at an altitude of 1,700 to 2,000 metres above sea level with a predominantly dry climate except for two rainy seasons from March to June and from the end of October to December.

The Site is marked on the ground by wooden centre-line pegs and limits to right-of-way pegs. Traverse stations and benchmarks are also available for re-establishing the alignment during construction.

3.02 SITE CLEARANCE

Site clearance will be mostly in open government owned land (126 ha) with a further 45 ha in government owned dry mixed tropical forest. There are few existing structures to be removed other than a railway bridge which is to be re-sited alongside an existing bridge with the railway works being undertaken by the Kenya Railways. About 107,000 m³ of topsoil is to be removed. Also about 2,700 m² of existing pavement is to be scarified and disposed of.

3.03 DRAINAGE WORKS

These will comprise open road drains and relocation of water courses together with a few concrete cross-drainage structures as follows:

| | |
|------------------------|--------|
| Concrete Box culverts | 5 No. |
| Concrete pipe culverts | 18 No. |

3.04 EARTHWORKS

The main earthworks items will be about 1,234,000 m³ of soft material and about 105,000 m³ of hard material to be excavated and compacted into embankment fill.

In addition, about 190,000 m³ of unsuitable topsoil (black cotton soil) is to be removed and placed in landscaped spoil heaps within the clover-leaf slip roads at the first interchange.

Altogether about 3,443,000 m³ km of overhaul will be required.

All slopes are to be planted and stabilised.

3.05 BRIDGES AND CULVERTS

The main structures may be summarised as follows:

- Bridges at Mombasa Junction Interchange
- Over-bridge at Uhuru Monument Junction
- Railway Bridge Relocation
- Pedestrian Bridges - 2 No.
- Other Over-bridges - 2 No.
- Box Culverts for Road Crossings - 7 No.
- Box Culverts for Drainage - 5 No.
- Box Culverts for Footpaths - 4 No.

The total amount of structural concrete required for all purposes will be around 22,000 m³

3.06 ROAD CONSTRUCTION

The pavement structure is based on a graded crushed stone sub-base course; lean concrete (cement stabilised crushed stone) base course; an asphalt concrete binder course; and an asphalt concrete wearing course. The approximate quantities are:

| | |
|----------------------|------------------------|
| Graded Crushed Stone | 155,000 m ³ |
| Lean Concrete | 102,000 m ³ |
| Asphalt Concrete | 55,700 m ³ |

3.07 RELOCATION OF UTILITIES

Prime Cost items will be provided for relocation of utilities, some to be done by the Contractor and some to be done by the authorities concerned as follows:

| <u>Item</u> | <u>To be undertaken by</u> |
|--------------------------|---|
| Telecommunications Lines | Kenya Posts and Telecommunications |
| Electric power lines | Kenya Power and Lighting Co. Company |
| Water pipelines | Water Conservation and Pipeline Corporation |
| Railway relocation | Kenya Railways Corporation |
| Sewer lines | Nairobi City Commission |
| Street lighting | Nairobi City Commission |
| Electric game fencing | Kenya Wildlife Service/KPLC |
| Security Fence | Department of Defence |

3.08 ROAD FURNITURE

Road furniture will include informatory signs, warning signs, priority signs, mandatory signs, road marking signs, guardrails, marker posts, grassing and planting in central reserves, flush kerbs, ramped kerbs, and raised kerbs.

3.09 BASE CAMP

The Contractor will be required to select and acquire suitable sites for his base camp, work yards etc. and to make his own arrangements for necessary services.

3.10 TENDERING AND CONSTRUCTION SCHEDULE

The schedule for tendering and construction is currently envisaged as follows:

- Tender period
- Tender Evaluation
- Contract Negotiation
- Approval of the Kenya Government and OECF
- Award of Contract
- Completion of Contract

3.11 CLIMATE

The climate of Nairobi is very mild due to its altitude and distance from the sea. Temperatures change little from year to year and from season to season, and temperatures and wind speeds may be summarised as follows:

| STATION NAME | TEMPERATURE MEANS °C | | ALTITUDE | WIND SPEED AV. | |
|-----------------|----------------------|-------|----------|----------------|----------|
| | MAX | MIN | | 0600 GMT | 1200 GMT |
| Nairobi (J.K.A) | 24.4° | 12.3° | 1,624 m | 6 Knots | 10 Knots |
| Wilson Airport | 24.8° | 13.1° | 1,683 m | 6 Knots | 10 Knots |
| Dagoretti | 23.4° | 11.9° | 1,798 m | 5 Knots | 9 Knots |
| Muguga | 20.9° | 10.8° | 2,096 m | - | - |

Annual rainfall in the project area ranges from 800 mm to 1,100 mm and mostly occurs from March to June, with the remainder occurring from October to December.

3.12 TOPOGRAPHY AND GEOLOGY

The site is generally undulating with elevations rising 300 metres from East to West. The road will cross several small rivers which flow towards the east forming alluvial deposits in some places.

The soils are mostly highly weathered red tuff or trachyte, and excellent material for embankment construction. Some is weathered but sound and will require blasting. In addition there is some black cotton soil which will have to be removed as stated above, and a small amount of shallow peat.

The red soils are stiff clays of uniform grading and vulnerable to erosion when dry.

3.13 SOURCES OF CONSTRUCTION MATERIALS

A number of quarry sites and gravel deposits have been investigated and details will be given in the Materials Report available for reference by tenderers. The quality and quantity of gravel deposits near the road is not good, and the price of rock at existing quarries has recently increased greatly. Most quarries have been given a "stoppage notice" by the Kenya Power and Lighting Company and new quarries are to be opened up. Accordingly a new quarry site near the Athi river and just off the A 104 Namanga-Arusha road called Kitengela quarry may be a suitable source of materials for the Project. The source is 23 km from the Project; the average overburden is 1.1 m and the estimated quantity is in excess of 324,000 m³. Only a short access road would be required.

There is no source of suitable sand in the Project area and this will have to be purchased from distributors in Nairobi or from the main source at Machakos.

The road alignment runs along the Motoine river so that water can be easily obtained. However, to use this water agreement must be obtained from the holders of the water rights.

3.14 ACCESS TO SITE

There is good initial access to the site at many points throughout its length. Operational access however will depend on the Contractor's Work Plan but is likely to be from the East where the best rock deposits are located.

3.15 COMMUNICATIONS

Telecommunications are not reliable in many parts of the city and the surrounding countryside, and the Contractor will have to assess the situation and make his own arrangements.

3.16 SITE ACCOMMODATION

Furnished office, laboratory and rented housing accommodation will be required for the Resident Engineer and his staff as described in the Specification. Houses for the Resident Engineer and his staff will be as follows:

| | |
|----------|-------|
| Type I | 1 No. |
| Type II | 5 No. |
| Type III | 3 No. |
| Type IV | 5 No. |

3.17 HEALTH; MEDICAL FACILITIES

Good health facilities are available in Nairobi to international standards. The Contractor, however, will be required to provide day to day health care to his work force as required by law.

3.18 ELECTRIC POWER FOR CONTRACTOR'S CAMP/CONSTRUCTION

Nairobi is suffering from power shortages from time to time and it is anticipated that the Contractor will have to make his own arrangements for a secure power supply.

3.19 REGISTRATION AS A CONTRACTOR

International Contractors not already registered in Kenya will be required to do so before submitting tenders.

IV - GENERAL INFORMATION ON CONTRACTUAL CONDITIONS

4.01 BASIS

The tender documents for construction of the Nairobi Bypass Project will be based on FIDIC Conditions of Contract (Fourth edition), with the Special Conditions being prepared in accordance with the characteristics of the Project, and the requirements of OECF. The tender documents will be governed by the laws of the Republic of Kenya.

4.02 SPECIFICATIONS

The specifications of the tender documents will be prepared using the MOPW Standard Specification for Roads and Bridges, Kenyan Technical Standards (KS), International Standards Organisation (ISO) and British (BS) standards as appropriate. Other standards nominated by Tenderers and which ensure equivalent or higher quality than the designated standards will also be accepted.

4.03 CONTRACT PRICE

The Contract will be a Schedule of Rates contract with some lump sum items. During the execution of the works, day-work may be used for some items subject to the approval of the Engineer.

4.04 RECRUITMENT OF CONSTRUCTION LABOUR

The Contractor will be expected to recruit, as far as possible, Kenya nationals for his labour force. Employment of expatriates will be permitted subject to satisfactory justification and approval of the Engineer.

4.05 CONSTRUCTION MATERIALS

The Contractor will be responsible for arranging the supply and delivery of all construction materials. The Contractor will be expected, as far as possible, to purchase construction materials and supplies on the domestic market.

Local materials procured for implementation of the Project will be Zero Rated for Value Added Tax (VAT) according to the Value Added Tax Act, 1989.

Materials approved by the Engineer to be incorporated into the Works or temporary works, and whose importation into Kenya is agreed upon by the Engineer to be essential, shall be free of Customs Duties and Value Added Tax.

Imported materials shall be obtained from the eligible source countries as defined under the current "Guidelines for Procurement under the OECF Loans" and as listed in the Appendix hereto.

4.06 CONSTRUCTION PLANT AND EQUIPMENT

The Contractor will be permitted to import approved plant and equipment (and necessary spare parts) required for the execution of the Works on the basis of temporary admission into Kenya and re-export them thereafter upon completion of the Contract without payment of Customs Duties and Value Added Tax (VAT). If the plant and equipment is not re-exported, duties and Taxes will be payable based upon residual values.

4.07 DUTIES AND TAXES

The Contractor (and his staff) shall be liable to pay all income and other taxes are required by the regulations of Kenya.

4.08 CUSTOM CLEARANCE

The Contractor shall be responsible for Customs clearance of his construction equipment and tools and all imported equipment and materials. The Employer and his authorised agents will, however, assist the Contractor in the preparation and presentation of the documents required by the authorities.

4.09 TENDER SECURITY AND PERFORMANCE SECURITY

- (1) **Tender Security:**
Each Tender will be required to furnish to the Employer a tender security in the form of a Bank Guarantee in an amount of two (2.5%) of the contract price.
- (2) **Performance Security:**
The successful Contractor will be required to furnish to the Employer a Performance Security in the form of a Bank Guarantee in an amount of fifteen (15%) of the contract price, or a Surety Bond in an amount of a hundred (100)% of the contract price.

4.10 PAYMENTS

Payments to the Contractor will be made in Japanese Yen or US Dollars and Kenya Shillings as indicated in the tender and signed contract.

The MOPW will provide the Contractor with an advance payment for mobilisation and equipment purchase in Japanese Yen or US Dollars and Kenya Shillings as indicated in the tender and signed contract.

The MOPW will deduct advance payments from the future payments to the Contractor according to the rates and dates as indicated in the tender documents and signed contract.

The MOPW will pay the Contractor monthly according to the work done by the Contractor and will deduct the retention as indicated in the signed contract.

Details of the payments will be specified in the tender documents.

4.11 PARTICIPATION IN TENDERS

While it is acceptable for any Contractor to apply for prequalification both individually and as a partner of a consortium or joint venture, it will not be acceptable for any Contractor to submit or to participate in more than one tender, and any tender submitted in violation of this rule will be rejected.

4.12 SUBCONTRACTING

Subcontracting is permitted only after obtaining written approval from the Employer, but the prime Contractor or the joint venture will remain responsible for the work.

The subcontract work shall not be more than (25)% of the total contract price.

4.13 INSURANCE

The insurance coverage for the Project shall be obtained by the Contractor from insurers eligible under the current "Guidelines for Procurement under OECF Loans" and to be agreed by the Employer. The details of the coverage to be provided by the Contractor including extent, types and terms will be specified in the tender documents.

4.14 REMITTANCE ABROAD

The Contractor is permitted to make remittances abroad after paying taxes according to relevant regulations of the Republic of Kenya.

4.15 TIME FOR COMPLETION

The works under the contract are expected to commence in (month/year) or thereabouts, and to be due to completion of (month/year)

4.16 LIQUIDATED DAMAGES

Liquidated damages will be assessed against the Contractor by the Employer in case of failure to meet the Time of Completion in the contract. The tender documents will specify details.

4.17 TENDER DOCUMENTS

Tender documents will be made available only to prequalified Contractors and joint ventures. The tender documents are scheduled to be issued in (month/year) and tender opening is scheduled in (month/year).

4.18 LANGUAGE

The language used in the tender documents and any associated correspondence will be English.

V - EVALUATION OF PREQUALIFICATION APPLICATION

- 5.1 The prequalification information submitted by the Applicant shall be used by MOPW in determining the eligibility and competence of the prospective bidders.
- 5.2 MOPW reserves the right to verify or seek clarification of the information furnished by Applicant. The MOPW will reject any misrepresentation made by an Applicant, in or pursuant to his application, or any statement furnished in connection therewith, and intended to be relied upon by the MOPW which is incorrect in any material respect.
- 5.3 The applications will be evaluated by MOPW on the basis of the experience and capability of the Applicants relevant to the Works, financial and operational capacity, availability of experienced personnel, sufficiency and adequacy of equipment and plant.
- 5.4 Past performance, fulfillment of contractual obligations and present commitment will also be considered in evaluating the application. Furthermore, the qualifications of technical and management staff will also be evaluated.
- 5.5 Points will be awarded and an Applicant must obtain not less than the specified minimum number of points for each category and an aggregate total of 60 points or more to be prequalified as a bidder.
- 5.6 The points available and the minimum requirement for each category are set out below:

| Category | Points | |
|---|-----------|---------------------|
| | Available | Minimum Requirement |
| Experience and past performance | 40 | 20 |
| Financial capability | 30 | 15 |
| Technical qualifications/ Operational - Capacity | 30 | 15 |

5.7 Experience

| | | | | |
|---|----|--------------------|---|---|
| Total available points | 40 | 5 | 10 | 15 |
| | | Own Country | Overseas & developed countries | Kenya & developing countries |
| High quality Semi-Urban Expressway Construction | 30 | 5 | 10 | 15 |
| Bridge Construction | 10 | 2 | 3 | 5 |

5.8 Financial capability

Total available points 30

1. Total assets - 9 points
2. Working capital - 9 points
3. Annual turnover in last five years - 9 points
4. Commercial bank credit - 3 points

5.9 Technical qualifications/operational capacity

Total available points 30

1. Staff proposed for execution of the works - 12 points
2. Equipment and plant proposed for construction of the works - 12 points
3. Status of contracts in progress - 6 points

- 5.10** Joint venture or consortia applications will be evaluated in proportion to each member declared participating in the joint venture or consortium.
- 5.11** An Applicant must have experience in high quality asphalt concrete works and bridge construction works not only in the Applicants own country but also overseas, preferably in Kenya or any other developing country.

VI - INFORMATION REQUIRED TO BE FURNISHED BY APPLICANTS

6.1 Applicants are required to complete the 15 forms listed below:

| Form No. | DESCRIPTION | No. of sheets |
|----------|---|---------------|
| 1. | Application for Prequalification | 3 |
| 2. | Statement of Applicant | 2 |
| 3. | Certificate of Eligibility | 1 |
| 4. | Financial Status of Applicant | 5 |
| 5. | Experience record of Applicant | 2 |
| 6. | List of all Projects over \$1 M over last ten Years | 1 |
| 7. | Similar Type of Project : Semi-urban Expressway | 2 |
| 8. | Status of Contracts in Progress | 1 |
| 9. | Supervisory Personnel | 1 |
| 10. | List of Main Equipment Owned and in Good Working Order | 1 |
| 11. | List of Subcontractors | 1 |
| 12. | Certificate for Source and Origin | 1 |
| 13. | Record of Litigation and Arbitration | 1 |
| 14. | Joint Venture / Consortium Data | 1 |
| 15 | List of Prequalification Forms filled in by the Applicant | 1 |

6.2 If Applicants intend to participate in tendering in a joint venture, each Contractor must fill in Forms 2-13 as if applying for individual prequalification. The "Name of Applicant" on these forms is to be the individual Contractor's name.

6.3 In completing the forms listed above and their attachments, Applicants are required to include the following documents with their applications:

(1) A photocopy of the business registration certificate signed by the competent national authority stating the full name of the Applicant, and date and place of registration as a contractor.

(2) Power of Attorney stating clearly the person or persons empowered to sign the application.

(3) The appropriate Joint Venture or consortium agreement if any.

(4) A list of the Contractor's proposed sub-contractors and suppliers and the the materials and equipment to be purchased.

6.4 If the Applicant wishes to submit further information to demonstrate his ability and/or to submit his previous working record, he should attach such supplemental information to the documents.

FORM 1

APPLICATION FOR PREQUALIFICATION

The Chief Engineer (Roads)
Ministry of Public Works
P.O. Box 30260,
Nairobi, Kenya.

Sir,

In accordance with the Prequalification Document, the undersigned Representative:

(Full name and Title)

Legally authorised to act in name and on the account of the Applicant

Firm : -----

(Name and Address of the Applicant)

Company : -----

Partnership : -----

Joint Venture : -----

*Composed of : -----

(a) Sponsoring Member (and % contribution) -----

and the following other members:

(List % contribution of each)

(b) -----

- (c) -----

- (d) -----

- (e) -----

by means of certified power of attorney -----

(Place and date of the Power of Attorney)

attached to these documents, hereby applies for prequalification as a tenderer for Contract No.... Construction of Nairobi Bypass Project in the Republic of Kenya.,

It is understood and agreed that the information submitted herein is to be used by the MOPW in determining, according to their sole judgement and discretion, the qualifications of prospective contractors to perform the Works in connection with the Nairobi Bypass Project. In consideration of being permitted to submit his qualifications as a prospective contractor for review, the undersigned waives any claim against the MOPW that might arise with respect to their decision as to a prospective contractor's qualifications. It is understood that the decision of the MOPW, with respect to the qualification of any prospective contractor, is final and not subject to appeal of any kind.

It is recognised that a prospective contractor will not be considered to be qualified by the MOPW unless he possesses reputation, ability, experience, qualified personnel, availability of equipment and plant and net current assets or working capital sufficient in the judgement of the MOPW to render it probable that he can satisfactorily execute the contract, should it be awarded to him, and meet his obligations therein incurred.

The signing by the undersigned of this questionnaire guarantees the truth and accuracy of all statements and of all answers to the interrogatories hereinafter made.

The undersigned hereby authorise(s) and request(s) any public official, engineer, surety company, bank, depository, material or equipment manufacturer or distributor or any other person, firm or corporation to furnish any pertinent information, requested by the MOPW deemed necessary to verify the information and assurances provided by the undersigned herein, or regarding the competence and general reputation of the prospective contractor.

The undersigned agrees that failure to complete the forms adequately may result in disqualification.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the MOPW.

The undersigned guarantees that, if after prequalification, a tender is submitted then that tender as well as (in case of an award) the resulting contract will be signed so as to be legally binding on all partners jointly and severally. In addition, a joint venture agreement providing the joint and several liability of all partners will be submitted together with the tender.

By this Letter, the undersigned, who acts in name and on account of the Applicant, declares that, by virtue of the Power of Attorney he has been granted with, he has the widest authority to effect all the necessary formalities for the Tender.

The undersigned hereby indicates the address in which he has his legal domicile, and for the purposes of this tender procedure, to which the MOPW may direct its correspondence:

(Address for Mailing)

Telefax Number

Telex Number

Telephone Number

(Place and Date)

(The Representative)

*Delete the part not applicable.

FORM 2

STATEMENT OF APPLICANT

1. Name of Applicant -----

2. Address of Head Office -----

3. Legal Status^{1/} -----
4. Place and date of establishment (Place) -----

(Day) (Month) (Year)
5. Branch of Specialisation^{2/} -----

6. Nominal Capital -----
(Original Currency)

(Equivalent in US\$)
Exchange rate adopted for the equivalent in US\$ -----

7. Places of branch offices and/or factories operating with full addresses of each:

8. Sponsoring member^{3/} of joint venture:

(Name and Address of Head Office)
9. Proposed distribution of responsibilities between partners

10. Number of personnel from the permanent staff of the Applicant:
Employees (total)-----
Labourers (total)-----

in which there are with at least ten (10) years experience:

Engineers -----

Specialists -----

(Place & Date)

(The Representative)

- 1/ Attach copies of original documents defining the Constitution a Legal Status, Place and Date of registration of Company/Firm/Partnership/Joint Venture.
- 2/ Attach copies of original Memorandum or Articles, Deed of Partnership or other relevant documents as applicable.
- 3/ Delete if not applicable.

FORM 3

CERTIFICATE OF ELIGIBILITY

I (We) hereby certify;

That my(our) company is an eligible contractor, as -----per cent (%) of the shares are held by nationals of -----(eligible source country), and ----- per cent (%) of the directors are nationals of -----(eligible source country), and my (our) company has been registered in -----(eligible source country).

(Place and Date)

(The Representative)

FORM 4

FINANCIAL STATUS OF APPLICANT

(Each individual contractor to complete)

(For each of the last five (5) fiscal years)

1. Name of Applicant : (-----)
2. Date Company organised/registered : (-----)

3. Share capital : (-----)
(Original currency)
(-----)
(equivalent in US\$)

4. Total current assets : (-----)
(Original currency)
(-----)
(-----)
(equivalent in US\$)

- 4.1 Total cash and deposits : (-----)
(Original currency)
(-----)
(equivalent in US\$)

- 4.2 Deposits with bids or otherwise as
guarantees (due within ninety (90)
days) : (-----)
(Original currency)
(-----)
(equivalent in US\$)

4.3 Accounts receivable from completed contracts (due within ninety (90) days) : (-----)
(Original currency)

(-----)
(equivalent in US\$)

4.4 Amounts receivable after deducting retention from uncompleted contracts (due within ninety (90) days) : (-----)
(Original currency)

(-----)
(equivalent in US\$)

4.5 Stocks and bonds at present market value : (-----)
(Original currency)

(-----)
(equivalent currency)

4.6 Life insurance at cash surrender value (for an individual or partnership only) : (-----)
(Original currency)

(-----)
(equivalent in US\$)

4.7 Other current assets (due within ninety (90) days) : (-----)
(Original currency)

(-----)
(equivalent in US\$)

| | | | |
|-----|--|---|-----------------------|
| 5. | Total current liabilities | : | (-----) |
| | | | (Original currency) |
| | | | (-----) |
| | | | (equivalent in US\$) |
| | | | |
| 5.1 | Notes payable (to banks, regular and for certified checks and to others) | : | (-----) |
| | | | (Original currency) |
| | | | (-----) |
| | | | (equivalent in US\$) |
| 5.2 | Accounts payable | : | (-----) |
| | | | (Original currency) |
| | | | (-----) |
| | | | (equivalent currency) |
| 5.3 | Other current liabilities | : | (-----) |
| | | | (Original currency) |
| | | | (-----) |
| | | | (equivalent in US\$) |
| | | | |
| 6. | Total assets | : | (-----) |
| | | | (Original currency) |
| | | | (-----) |
| | | | (equivalent in US\$) |
| | | | |
| 7. | Total liabilities | : | (-----) |
| | | | (Original currency) |
| | | | (-----) |
| | | | (equivalent in US\$) |

5. Net worth : (-----)
(Original currency)

(-----)
(equivalent in US\$)

9. Total profit before tax : (-----)
(Original currency)

(-----)
(equivalent in US\$)

10. Turnover in the previous financial year : (-----)
(Original currency)

(-----)
(equivalent currency)

11. Annual turnover in last five years :

| Year | Country | Independent Contract | Joint Venture/Consortium Contract | |
|------|-------------|----------------------|-----------------------------------|----------------|
| | | | As Prime Firm | As Member Firm |
| 1991 | Own country | | | |
| | Overseas | | | |
| 1990 | Own Country | | | |
| | Overseas | | | |
| 1989 | Own Country | | | |
| | Overseas | | | |
| 1988 | Own Country | | | |
| | Overseas | | | |
| 1987 | Own Country | | | |
| | Overseas | | | |
| 1986 | Own Country | | | |
| | Overseas | | | |

12. Amount of balance last year : (-----)
(Original currency)

(-----)
(equivalent in US\$)

13 Date of balance : (-----)
(Day) (Month) (Year)

14. Exchange rate adopted for the equivalent in US\$: -----

15. Current credit resources :

16. Bank references and address :

16. Bonding capacity : (List names of institutions and bondable amounts; attach respective letters from sureties)

Table with 2 columns: INSTITUTION, AMOUNT IN US\$. Includes dotted lines for data entry.

REMARKS :

Attach Balance Sheet of the last five (5) years.

To 13 : The accounts shall be certified by chartered or public accountants.

To 15 : The maximum current credit resources the Applicant's bank(s) hold(s) available for the fulfillment of Applicant's obligations for the Project if the Applicant is awarded the contract shall be stated and certified by the bank.

To 16 : Attach respective letters from banks.

(Place and Date)

(The Representative)

FORM 5

EXPERIENCE RECORD OF APPLICANT

(Each individual Contractor to complete)

- 1. Name of Applicant :
- 2. Business experience of the Applicant as a contractor under present business name;
..... (Years)
- 3. Experience of the Applicant in civil engineering construction works;
 - (1) As a prime contractor (Years)
 - (2) As a sub-contractor (Years)
- 4. Experience of the Applicant in civil engineering construction works in :
 - (1) Kenya (Years)
 - (2) Elsewhere (indicate names of the countries and the projects' names) (Years)
.....
.....
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6. Number of personnel engaged as of the end of December, 1990 as employees of the Applicant :

| | ENGINEERS | SUPERVISORY PERSONNEL |
|-----------------|-----------|-----------------------|
| (1) Kenya | ----- | ----- |
| (2) Elsewhere : | | |
| Country | | |
| ----- | ----- | ----- |
| ----- | ----- | ----- |
| ----- | ----- | ----- |
| ----- | ----- | ----- |

7. Approximate value of heavy construction work on road construction projects completed for each year during the past ten years, (equivalent in US\$);

CIVIL ENGINEERING WORKS

| | |
|------------|------------|
| 1990 ----- | 1985 ----- |
| 1989 ----- | 1984 ----- |
| 1988 ----- | 1983 ----- |
| 1987 ----- | 1982 ----- |
| 1986 ----- | 1981 ----- |

8. Approximate value of work in hand (1991)

| | |
|---------------------|----------------------|
| ----- | (-----) |
| (original currency) | (equivalent in US\$) |
| ----- | (-----) |
| (Place and Date) | (The Representative) |

FORM 6

MAJOR PROJECTS

(Each individual contractor to complete)

Major civil engineering construction works successfully completed by the Applicant as a prime contractor but not as a subcontractor in the past ten (10) years. Attach the forms copied from this page to declare as may as necessary. Experience in Africa especially in Kenya should be stressed.

- 1. Name of Applicant _____
- 2. Name of Project _____
- 3. Work performed by the Applicant _____

- 4. Participation in per cent _____
- 5. Contract amount (equivalent in US\$)* _____
- 6. Final amount billed (equivalent in US\$)* _____
- 7. Date of commencement _____
- 8. Date of completion _____
- 9. Name and address of owner _____
- 10. Name and address of the engineer
(consultant) in charge of the design
and supervision of construction _____

- 11. Name of financier(s) _____
- 12. Name of Contractor's three senior personnel on the project together with their title,
function or responsibility.

- 13. Brief description of project, including any particular or special aspect of the same.

(Place and Date)

(The Representative)

*Indicate exchange rate adopted for the equivalent in US\$.

FORM 7

SIMILAR TYPE PROJECT

(Each individual contractor to complete)

SEMI-URBAN EXPRESSWAY#

Give full information of construction experience for semi-urban expressways successfully completed by the Applicant as a prime contractor but not as a subcontractor in the past ten (10) years. (Use as many copies of this form as necessary).

1. Name of Applicant : -----
2. Name of location of project : -----
: -----
3. Features of the expressway (length, width and number of lanes/carriage ways; volume of excavation and concrete; type and number of structures/interchanges; etc):

4. Concrete work

5. Road construction work - cement stabilised base course or similar (concrete production capacity; transport and placing methods; type and capacity of equipment; etc):

6. Road construction work - asphalt (asphalt production capacity; transport and placing methods; type and capacity of equipment; etc):

7. Contract amount (equivalent in US\$)*

8. Final amount billed (equivalent in US\$)*

9. Contracted construction period (from month/year to month/year)

10. Actual construction record; indicate time span (calendar basis) for each of the main components of the works (foundation excavation, grouting, concrete placement, finishing works).

11. Reason of delay, if any

(Place and Date)

(The Representative)

*Indicate exchange rate adopted for the equivalent in US\$.

Enclose completion certificates and letter of recommendation from owners of completed projects.

FORM 8

STATUS OF CONTRACTS IN PROGRESS

Give full information about all your uncompleted works on contract now in progress whether prime or subcontracts. List new work under negotiation. (Use as many copies as necessary).

| Project Name | Country | Owner | Contract Amount as of December 90 (equivalent in US\$ 1,000) | Amount Completed | Date of Commencement | Scheduled Date of Completion |
|--------------|---------|-------|--|------------------|----------------------|------------------------------|
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| Total | | | | | | |

..... (Place and Date) (The Representative)

FORM 9

SUPERVISORY PERSONNEL

(Each individual contractor to complete)#

Give the detailed information of five (5) key supervisory personnel who would be employed as full-time site staff on the Nairobi Bypass Project if awarded contract. (Complete a form for each person).

- 1. Name -----
- 2. Date of birth -----
- 3. Nationality -----
- 4. Education and degrees -----
- 5. Languages -----
- 6. Speciality -----
- 7. Registration -----
- 8. Length of service with Applicant ----- Years: from ----- (Month)
----- (Years) to ----- (Month) ----- (Year)
- 9. Year of experience -----

10. If item 8 is less than 10 years, give names and length of service with previous employers employers covering a 10 year period:

| <u>NAME OF EMPLOYER</u> | <u>LENGTH OF SERVICE</u> |
|-------------------------|---------------------------|
| ----- | Years from ----- to ----- |
| ----- | Years from ----- to ----- |

11. Construction of experience: (This should cover the past 10 years experience. Use as many pages as necessary)

- (1) Name of project -----
- (2) Name and address of owner -----
- (3) Name and address of the Engineer (Consultant) for supervision -----
- (4) Indicate the features of Project, work volume, etc. -----
- (5) Contract amount (equivalent in US\$) -----
- (6) Position -----
- (7) Part of works for which the person was responsible -----
- (8) Assignment period from ----- (Month) ----- (Year)
to ----- (Month) ----- (Year)

(Place and Date)

(The Representative)

In the case of a joint venture of two or more partners, each partner shall provide information on three (3) supervisory personnel.

FORM 11

LIST OF SUBCONTRACTORS

Give the detailed information of subcontractors to be employed for execution of a part or parts of the Works. (Use as many copies as necessary).

- 1. Name and status of the subcontractor -----

- 2. Address of the subcontractor -----

- 3. Works to be subcontracted -----

- 4. Subcontract period -----
- 5. Experience of the subcontractor -----

- 6. Plant and Equipment owned by the subcontractor

- 7. Number of technical staff of the subcontractor broken down according to the grade and disciplines

- 8. Registration in the Republic of Kenya in case that the subcontractor is a Kenya national

(Place and Date)

(The Representative)

FORM 12

CERTIFICATE FOR SOURCE & ORIGIN

I(We) hereby certify;

That the equipment and goods to be supplied are produced in(eligible source country) and the service is provided by persons located in and national of (eligible source country).

That to the best of my (our) information and belief imported portion from non-eligible source countries is less than fifty per cent (50%) of the price per unit according to the following formula:

(i) when a Kenyan applicant is awarded the contract concerned:

$$\frac{\text{Imported CIF Price} + \text{Import Duty}}{\text{Supplier's Ex-factory Price}} \times 100$$

(ii) when an applicant of the eligible source countries other than Kenya is awarded the contract concerned:

$$\frac{\text{Imported CIF Price} + \text{Import Duty}}{\text{Supplier's FOB Price}} \times 100$$

(Place and Date)

(The Representative)

FORM 13

RECORD OF ARBITRATION AND LITIGATION

List all arbitrations proceedings and/or court cases during the past ten (10) years

- (a) Name of Project : _____
- (c) Nature of the work : _____

- (d) Prime or sub contractor : _____
- (e) Contract amount in US dollars : _____
- (f) Contract period : _____
- (g) Date of arbitration/litigation : _____
- (h) Cause of arbitration/litigation : _____

- (i) Arbitrator/Court : _____

- (j) Results or current status : _____

(Place and Date)

(The Representative)

Note: Use copies of form as necessary.

FORM 14

JOINT VENTURE/CONSORTIUM DATA

- 1. Name of Joint Venture/Consortium :
- 2. Head Office Address
 - Address :
 - Telephone :
 - Telex :
 - Fax :
- 3. Office in Nairobi if any
 - Address :
 - Telephone :
 - Telex :
 - Fax :
- 4. Names of Partners :
 - (a)
 - (b)
 - (c)
 - (d)
- 5. Name of Lead Firm :
- 6. Joint Venture/Consortium Agreement
 - (a) Date of Agreement :
 - (b) Place :
- 7. Indicate how the responsibilities of day to day management will be handled by the partners :
-
-
-
-

(Place and Date)

(The Representative)

Note: (1) For Item (4), details concerning each partner to be provided on separate sheet as per Clause 2.3, Instructions to Applicants for Prequalification and attach a copy of the certificate of registration and ownership.
(2) For Item 6, attach copy of joint Venture/Consortium agreement.

FORM 15

LIST OF PREQUALIFICATION FORMS FILLED IN
BY THE APPLICANT

Indicate the number of sheets duly filled in by the Applicant for each Form No.

| FORM NO. | NUMBER OF SHEETS PREPARED BY THE APPLICANT | REMARKS |
|------------|--|---------|
| FORM NO. 1 | ----- | ----- |
| FORM NO. 2 | ----- | ----- |
| FORM NO. 3 | ----- | ----- |
| FORM NO. 4 | ----- | ----- |
| FORM NO.5 | ----- | ----- |
| FORM NO.6 | ----- | ----- |
| FORM NO.7 | ----- | ----- |
| FORM NO. 8 | ----- | ----- |
| FORM NO.9 | ----- | ----- |
| FORM NO.10 | ----- | ----- |
| FORM NO.11 | ----- | ----- |
| FORM NO.12 | ----- | ----- |
| FORM NO.13 | ----- | ----- |
| FORM NO.14 | ----- | ----- |
| FORM NO.15 | ----- | ----- |

(Place and Date)

(The Representative)

APPENDIX

LIST OF ELIGIBLE SOURCE COUNTRIES (August 1992)

1. **Japan**

2. **Asia**

Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Abu Dhabi, Yemen, Yemen Dem., Afghanistan, Bangladesh, Bhutan, Burma, India, Maldives, Nepal, Pakistan, Sri Lanka, Brunei, Kampuchea, Hong Kong, Indonesia, Korea, Laos, Macao, Malaysia, Philippines, Singapore, Thailand, Taiwan, Socialist Republic of Vietnam, People's Republic of China, Timor

3. **Africa**

Algeria, Egypt, Libya, Morocco, Tunisia, Angola, Benin, Botswana, Burundi, Cameroon, Cape Verde, Central African Rep., Chad, Comoros, People's Republic of Congo, Equatorial Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Niger, Nigeria, Reunion, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Djibouti, St. Helena, Sudan, Swaziland, Tanzania, Togo, Uganda, Upper Volta, Zaire, Zambia, Zimbabwe, Ethiopia, Gabon, Gambia, Ghana, Guinea

4. **America**

Bahamas, Barbados, Belize, Bermuda, Costa Rica, Cuba, Dominican Republic, El Salvador, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Netherlands Antilles, Nicaragua, Panama, St. Pierre & Miquelon, Trinidad and Tobago, West Indies, Anguilla, Antigua, Cayman Islands, Dominica, Grenada, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent, Turks and Caicos Islands, Virgin Islands (Br.), Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, Guyana, Guiana (Fr.), Paraguay, Peru, Surinam, Uruguay, Venezuela

5. **Europe**

Cyprus, Gibraltar, Greece, Malta, Spain, Turkey, Yugoslavia

6. **Oceania**

Cook Islands, Fiji, Kiribati, French Polynesia, Nauru, New Caledonia, Niue Island, Pacific Islands (U.S.), Papua New Guinea, Solomon Islands (Br.), Tokelau Islands, Tonga, Tuvalu, Wallis and Futuna, Western Samoa, Vanuatu (Ex.N.H).

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| Figure | 5 | Typical Plan and Profile Km20+200 to Km 21+700 |
| Figure | 6 | Typical Details Standard Pavement |
| Figure | 7 | Typical Cross Sections in Cutting |
| Figure | 8 | Typical Drainage Details |
| Figure | 9 | Uhuru Monument Bridge |
| Figure | 10 | Railway Bridge No.3 |
| Figure | 11 | Typical Vehicle Over Bridge |
| Figure | 12 | Typical Box Culvert for Footpath |
| Figure | 13 | Typical Box Culvert for Road |
| Figure | 14 | Typical Pedestrian Bridge |

Figure 1
Location Map

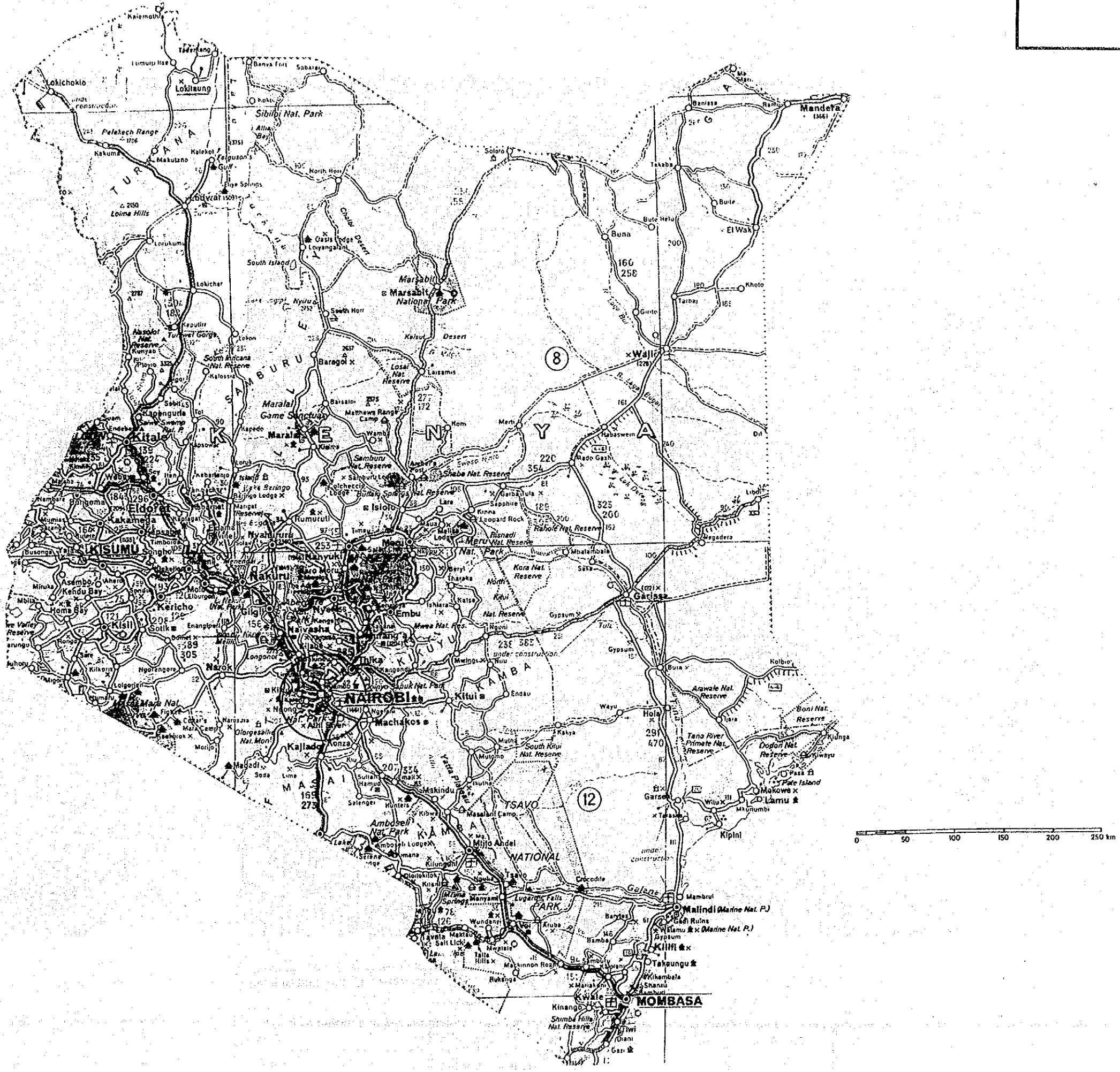
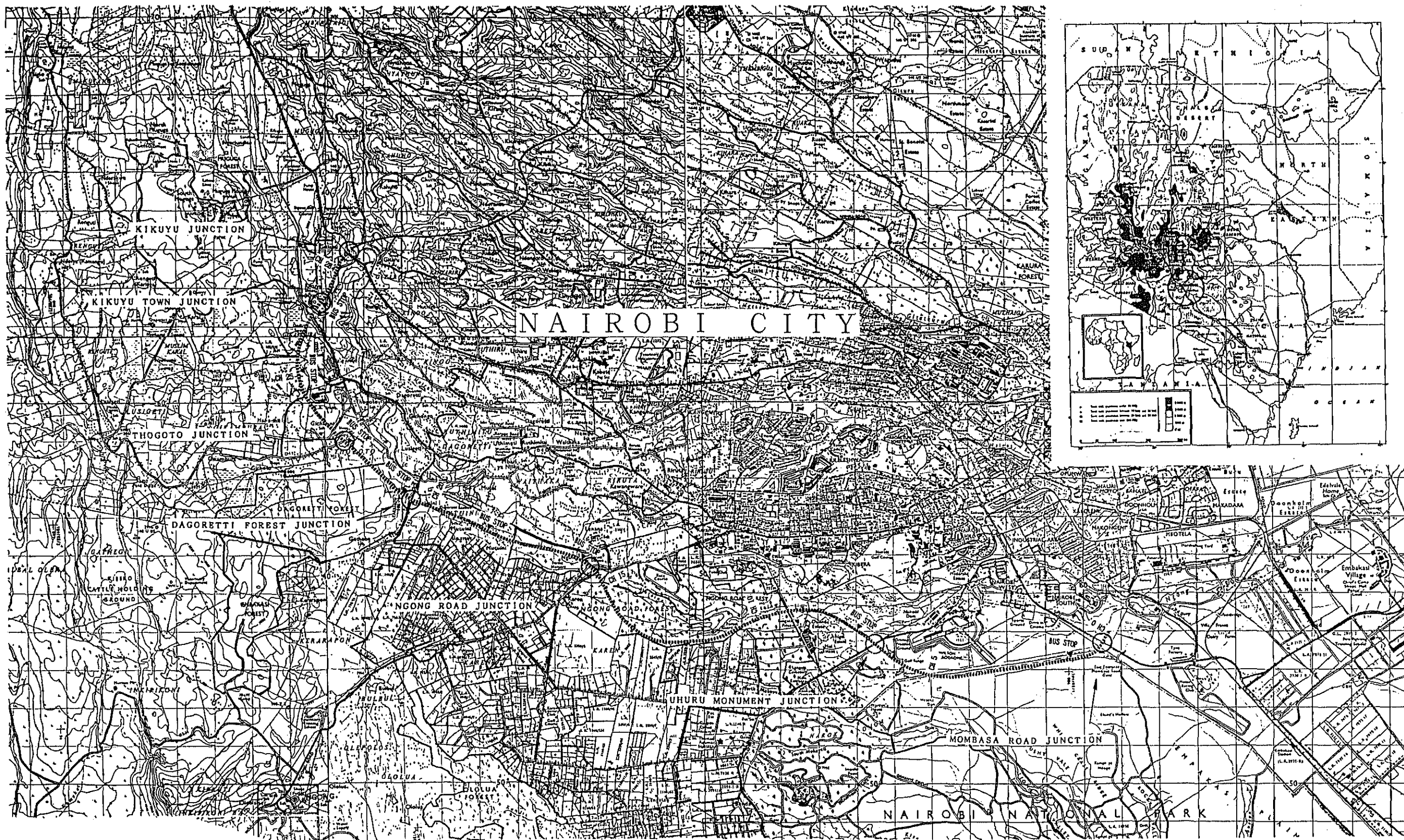


Figure 2
General Plan



SURVEYED BY
 TRACED BY
 CHECKED BY
 AERIAL PHOTO BY
 MAPPING BY
 LOCATION BY
 MOPW ROADS DEPT DRG NO.

| REVISIONS | |
|-------------|------|
| DESCRIPTION | DATE |
| | |
| | |
| | |

JAPAN INTERNATIONAL
COOPERATION AGENCY

CHIEF ENGINEER (ROADS)
CHIEF SUPT. ENG. (DESIGN)

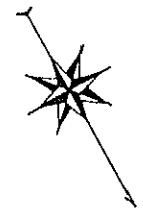
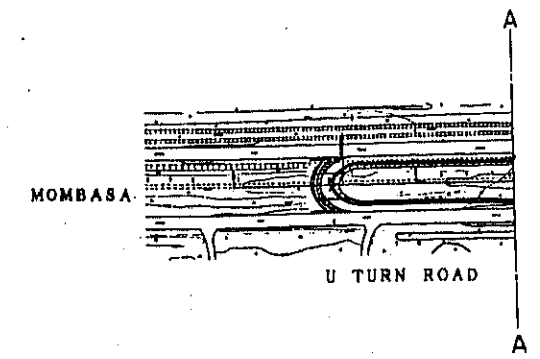
SEN. SUPT. ENG. (DESIGN)
SUPT. ENGINEER (DESIGN)
PROJECT ENGINEER

SCALES

NAIROBI BYPASS

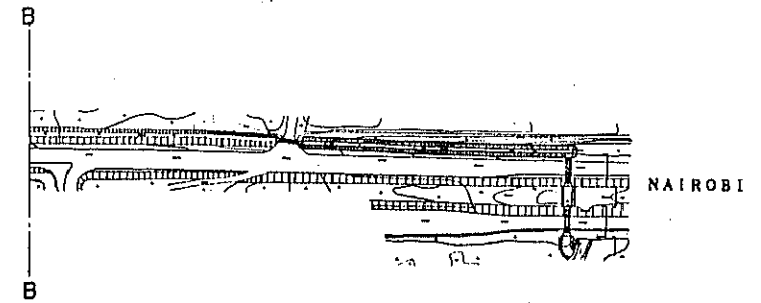
SHEET OF

Figure 3
Layout of Mombasa Road Junction

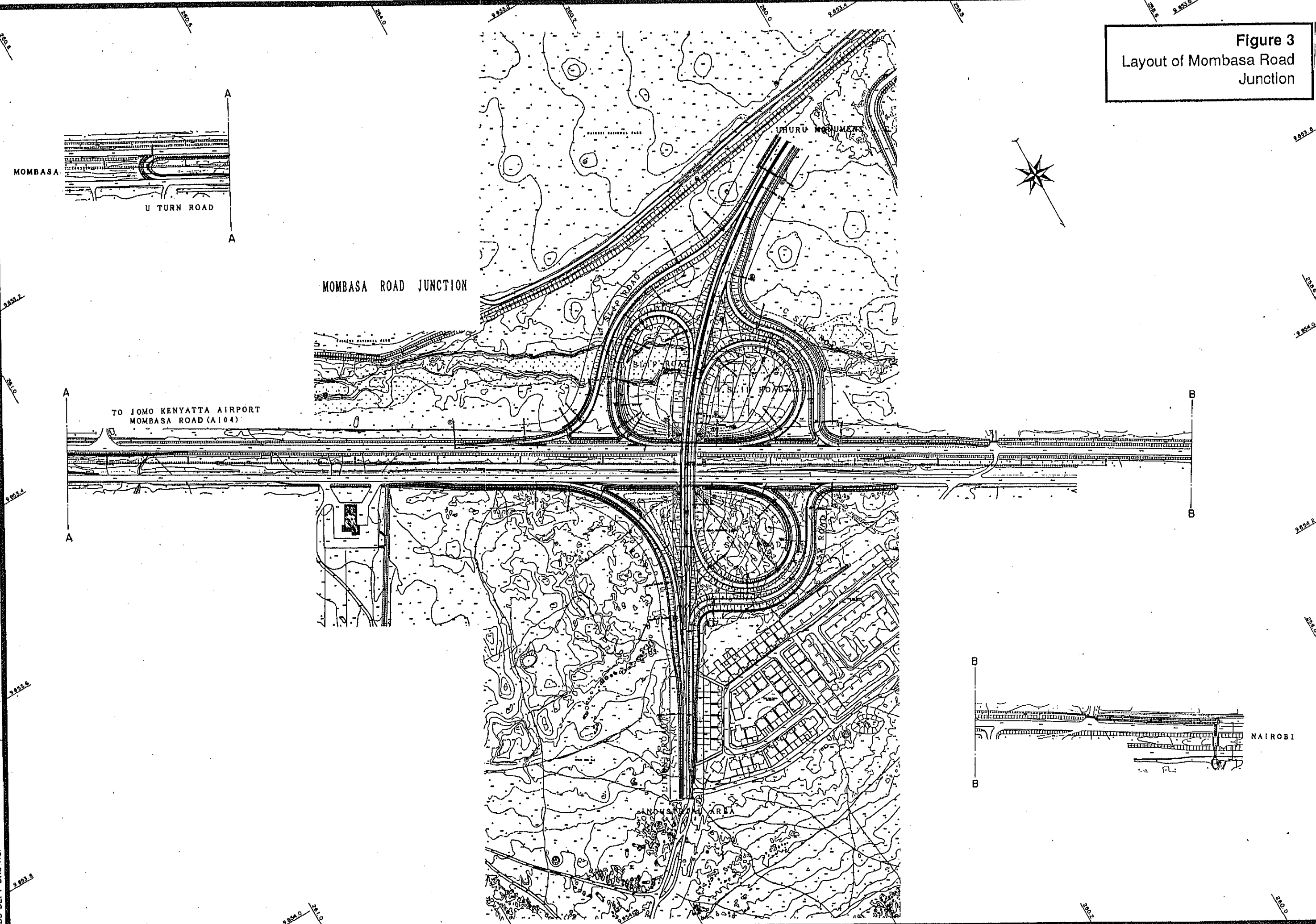


MOMBASA ROAD JUNCTION

TO JOMO KENYATTA AIRPORT
MOMBASA ROAD (A104)

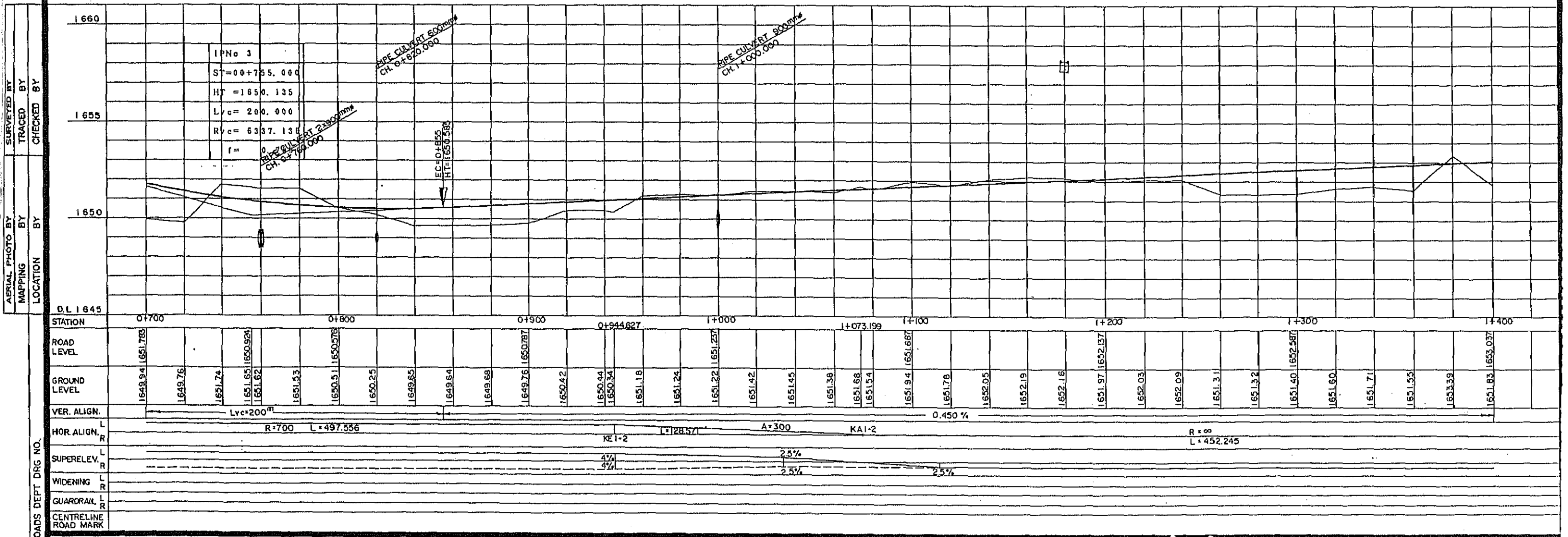
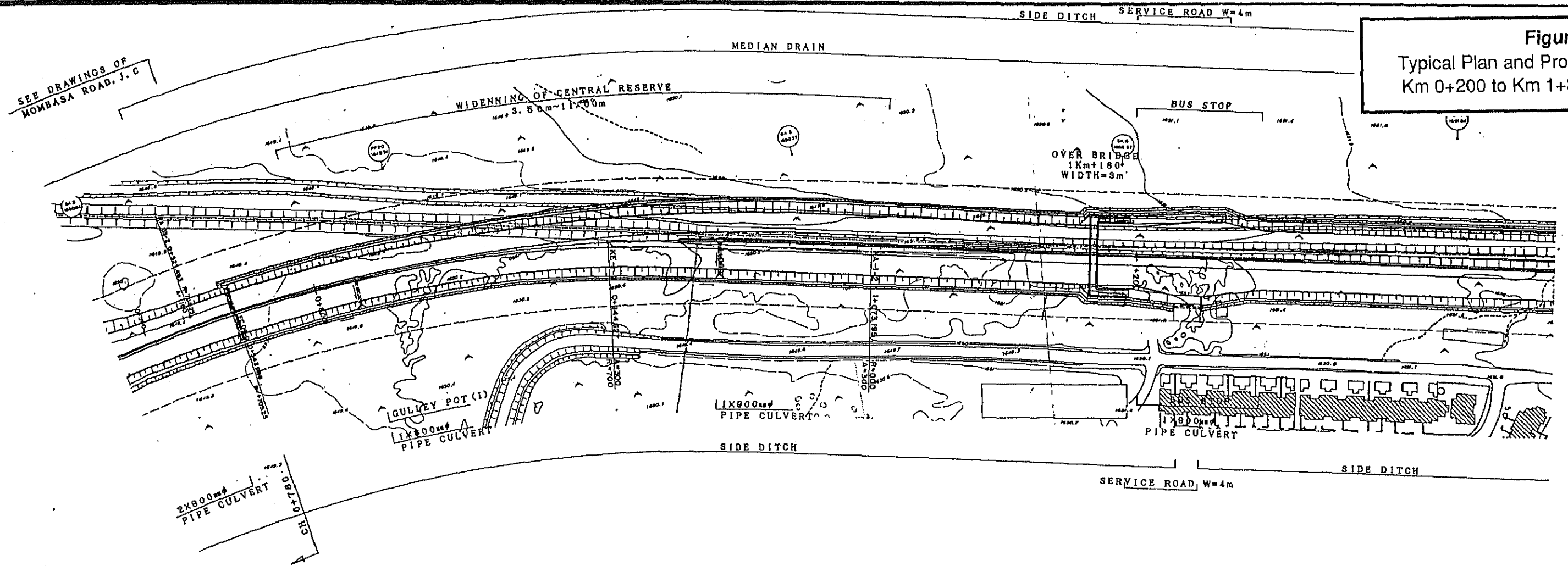


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 M.O.P.W. ROADS DEPT DRG NO.



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|------------------------------------|--|---|---|---|---------------------|--|--------------------|
| REVISIONS DESCRIPTION DATE | | JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) CHIEF SUPT. ENG. (DESIGN) | SEN. SUPT. ENG. (DESIGN) SUPT. ENGINEER (DESIGN) PROJECT ENGINEER | SCALES 1 : 2 000 | NAIROBI BYPASS MOMBASA ROAD JUNCTION PLAN | C SHEET 1 OF 50 |
| | | | | | | | |

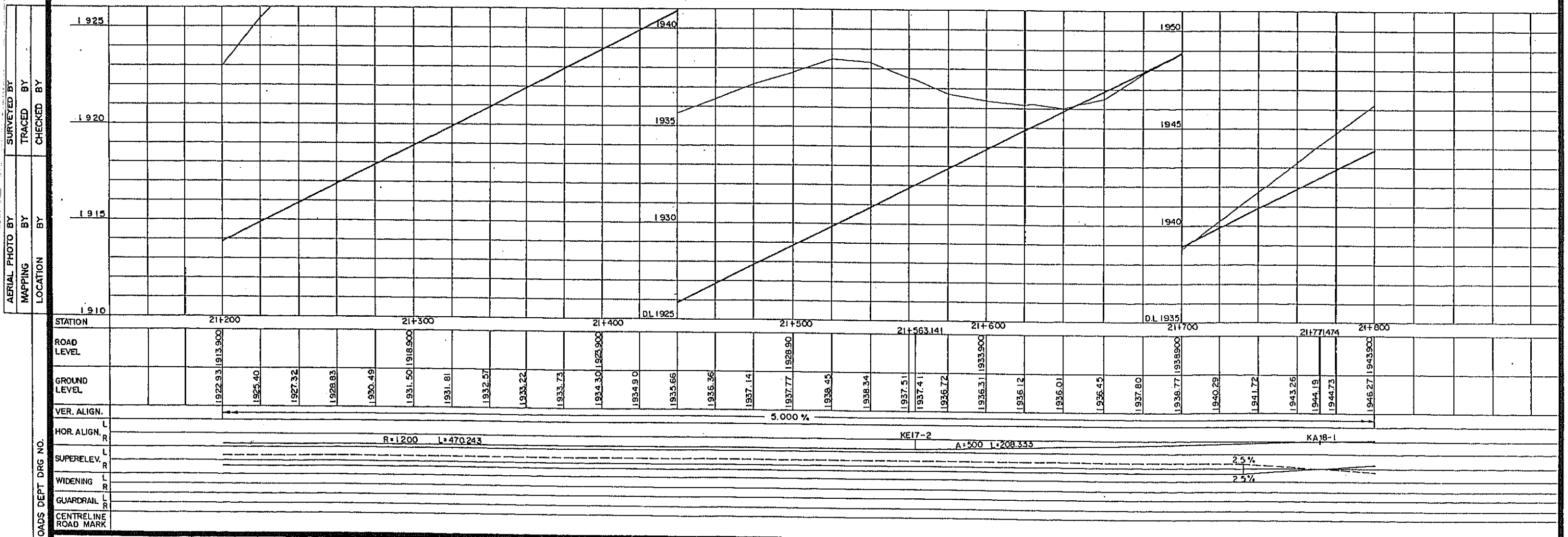
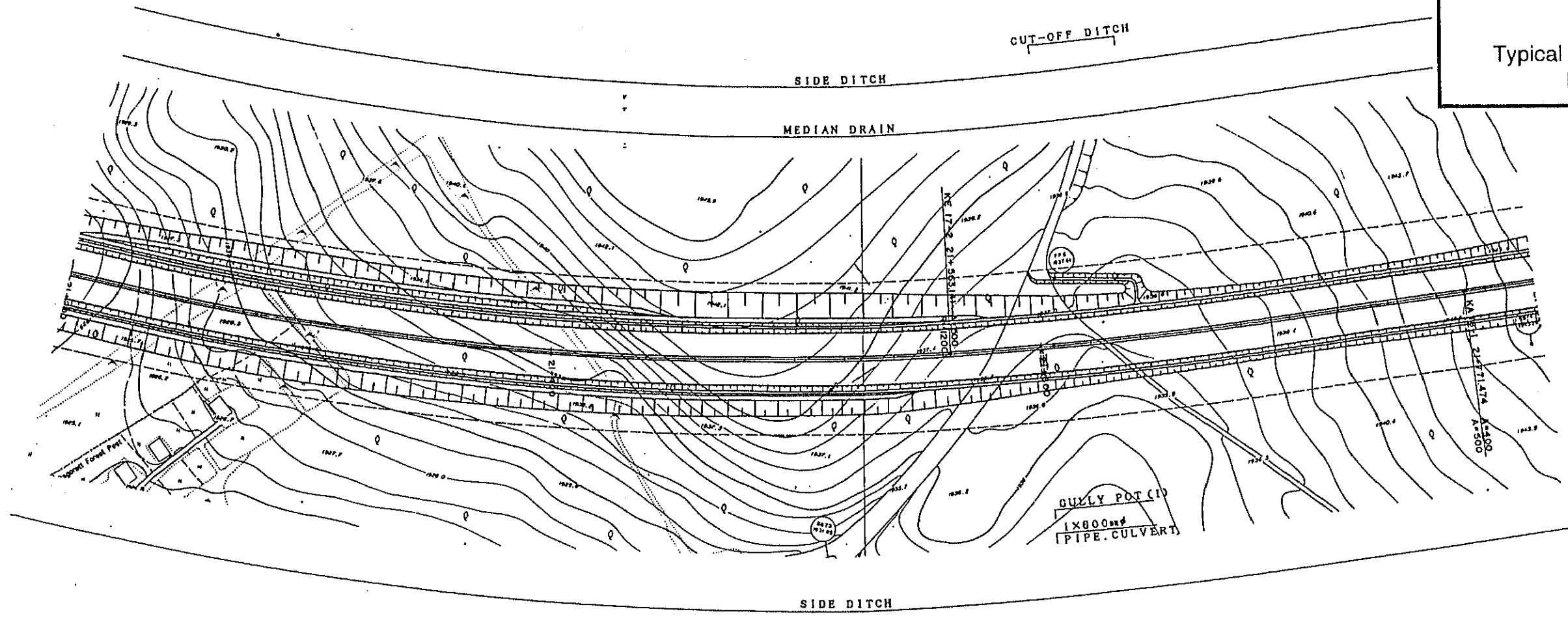
Figure 4
 Typical Plan and Profile
 Km 0+200 to Km 1+300



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| REVISIONS | | JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) | SEN. SUPT. ENG. (DESIGN) | Scales | NAIROBI BYPASS |
| DESCRIPTION | DATE | | | | | |
| | | CHIEF SUPT. ENG. (DESIGN) | SUPT. ENGINEER (DESIGN) | PROJECT ENGINEER | HORIZONTAL 1:1000 | PLAN AND PROFILE CH. 0+700 TO 1+400 |
| | | | | | VERTICAL 1:100 | SHEET OF |

Figure 5
Typical Plan and Profile
Km 20 to Km 21

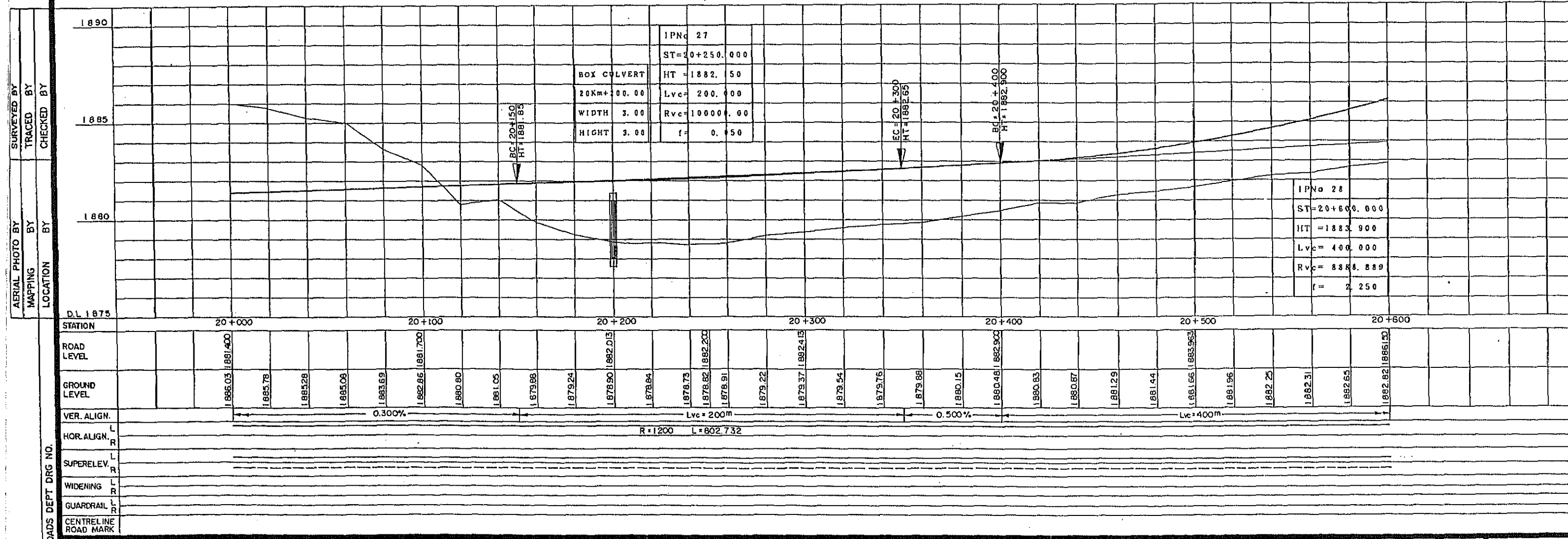
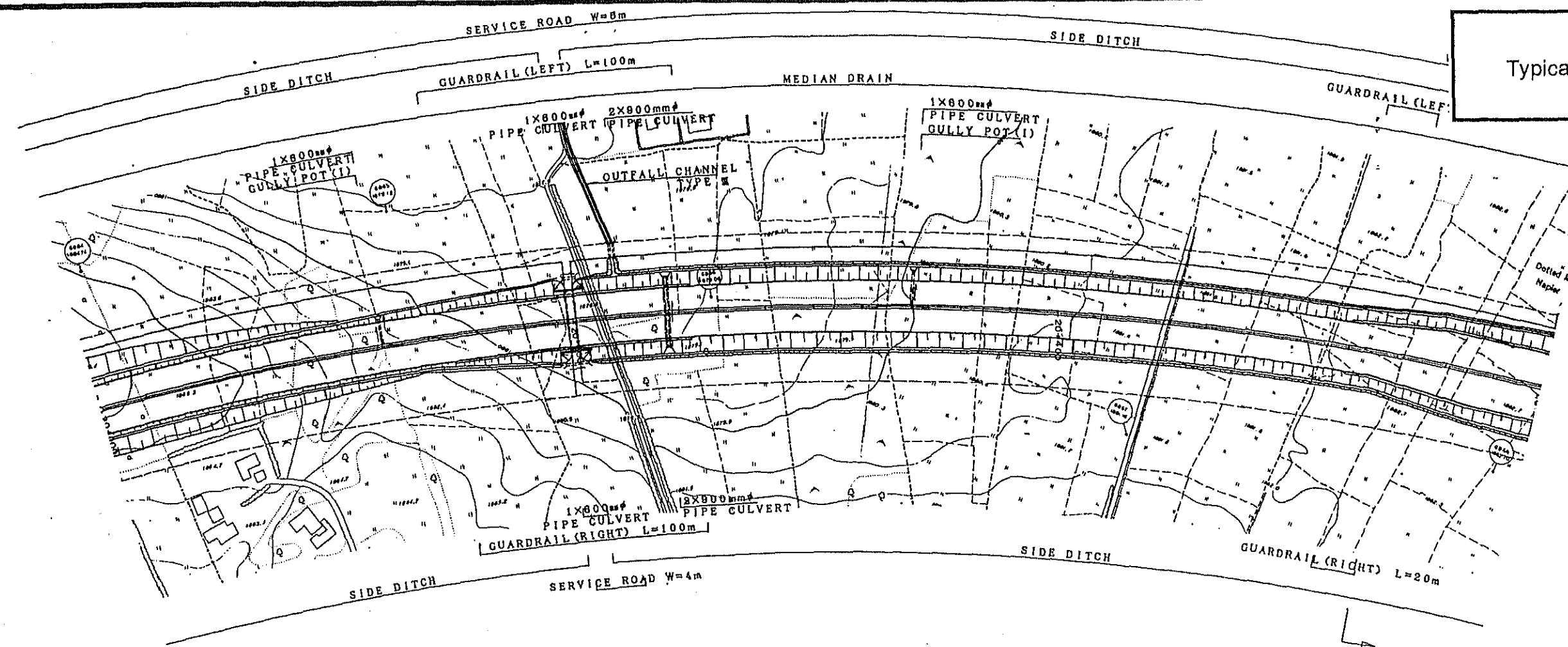


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| | | | | | | | |
|----------------------|------------------|---------|---------|------------------------|---------|---------|---------|
| STATION | 21+200 | 21+300 | 21+400 | 21+500 | 21+600 | 21+700 | 21+800 |
| ROAD LEVEL | | | | | | | |
| GROUND LEVEL | 1922.93 | 1925.40 | 1927.32 | 1928.83 | 1930.49 | 1931.81 | 1932.57 |
| VER. ALIGN. | 5.00% | | | | | | |
| HOR. ALIGN. | R=1200 L=470.243 | | | KE17-2 A=500 L=208.355 | | | KA18-1 |
| SUPERELEV. | 2.5% | | | | | | |
| WIDENING | 2.5% | | | | | | |
| GUARDRAIL | | | | | | | |
| CENTRELINE ROAD MARK | | | | | | | |

| | | | | | | |
|-------------|------|--|---------------------------|--------------------------|-------------------|---|
| REVISIONS | | JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) | SEN. SUPT. ENG. (DESIGN) | SCALES | NAIROBI BYPASS |
| DESCRIPTION | DATE | | | | | |
| | | | CHIEF SUPT. ENG. (DESIGN) | SUPT. ENGINEER (DESIGN) | HORIZONTAL 1:1000 | PLAN AND PROFILE CH. 21 ^{km} +200 TO 21 ^{km} +800 |
| | | | | PROJECT ENGINEER | VERTICAL 1:100 | |
| | | | | | | SHEET OF |

Figure 5
Typical Plan and Profile
Km 20 to Km 21

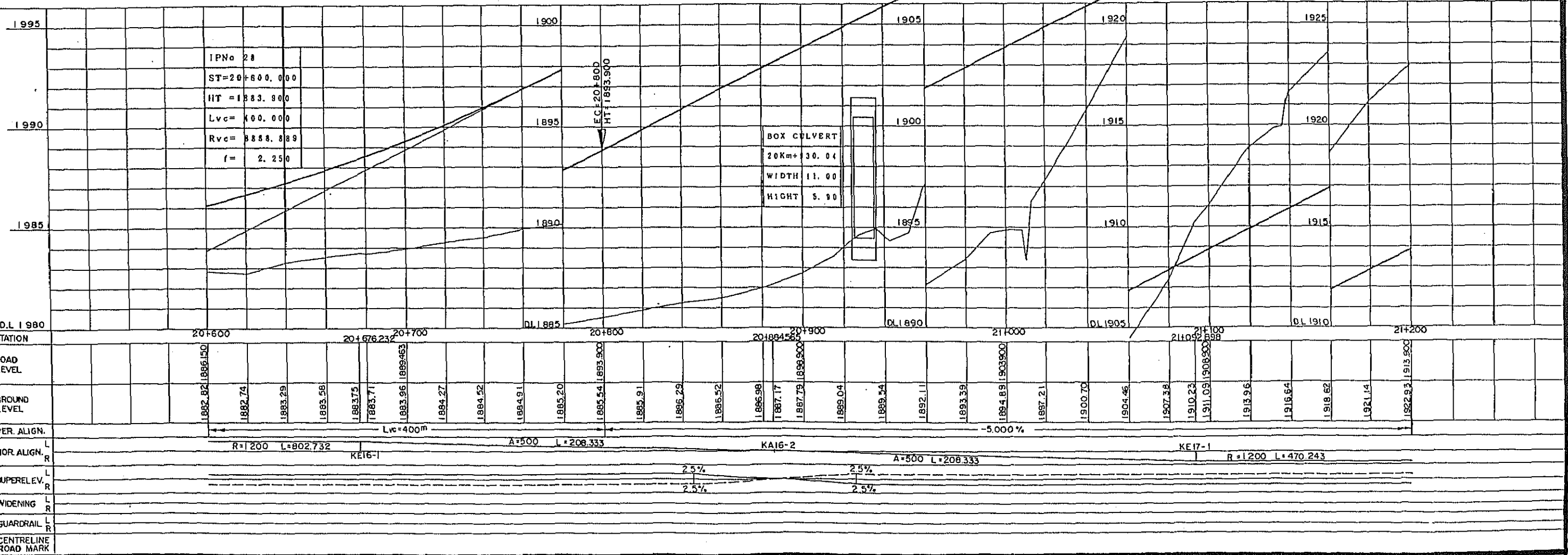
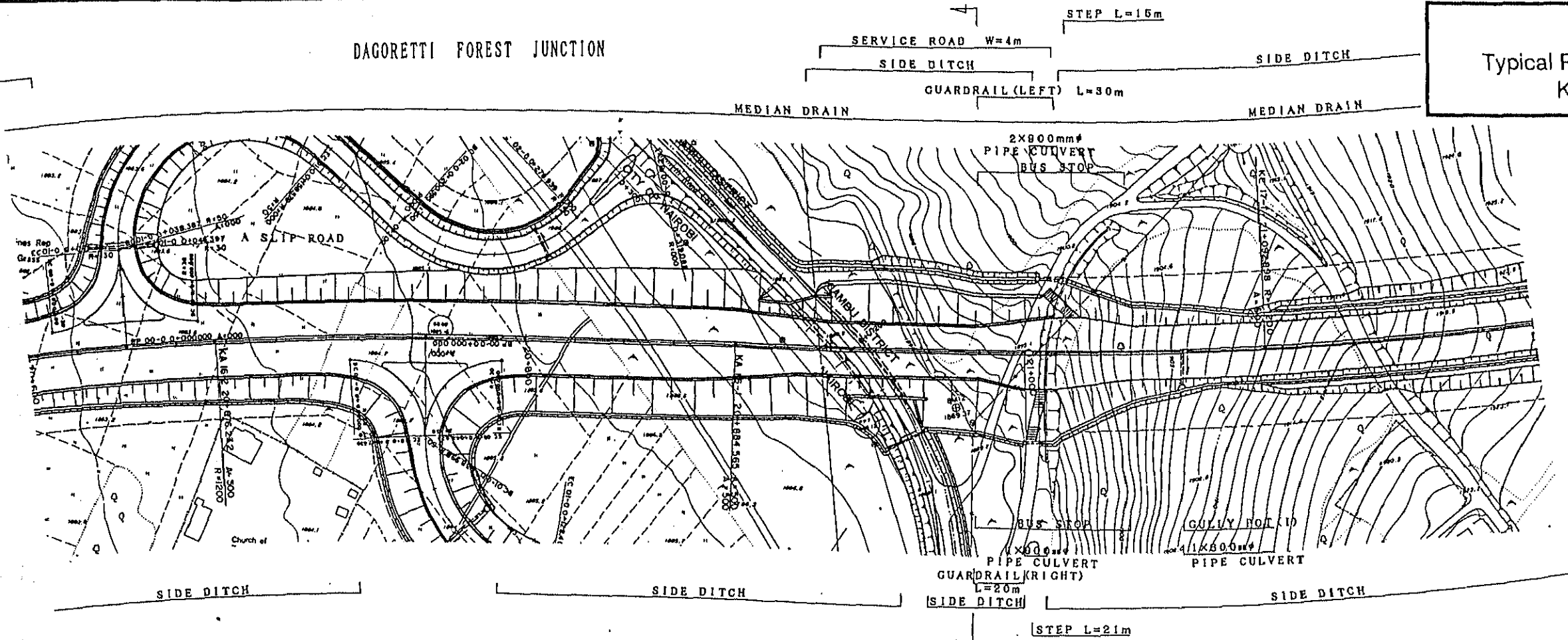


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| | | | | | |
|-------------|---------------|-------------|-------------|--------------|---------|
| IPNo 27 | ST=20+250.000 | HT=1882.50 | Lvc=200.000 | Rvc=10000.00 | f=0.50 |
| BOX CULVERT | 20Km+200.00 | WIDTH 3.00 | HIGHT 3.00 | | |
| IPNo 28 | ST=20+600.000 | HT=1883.900 | Lvc=400.000 | Rvc=8888.889 | f=2.250 |

DAGORETTI FOREST JUNCTION

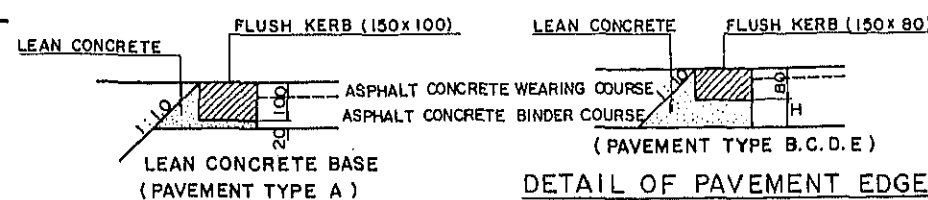
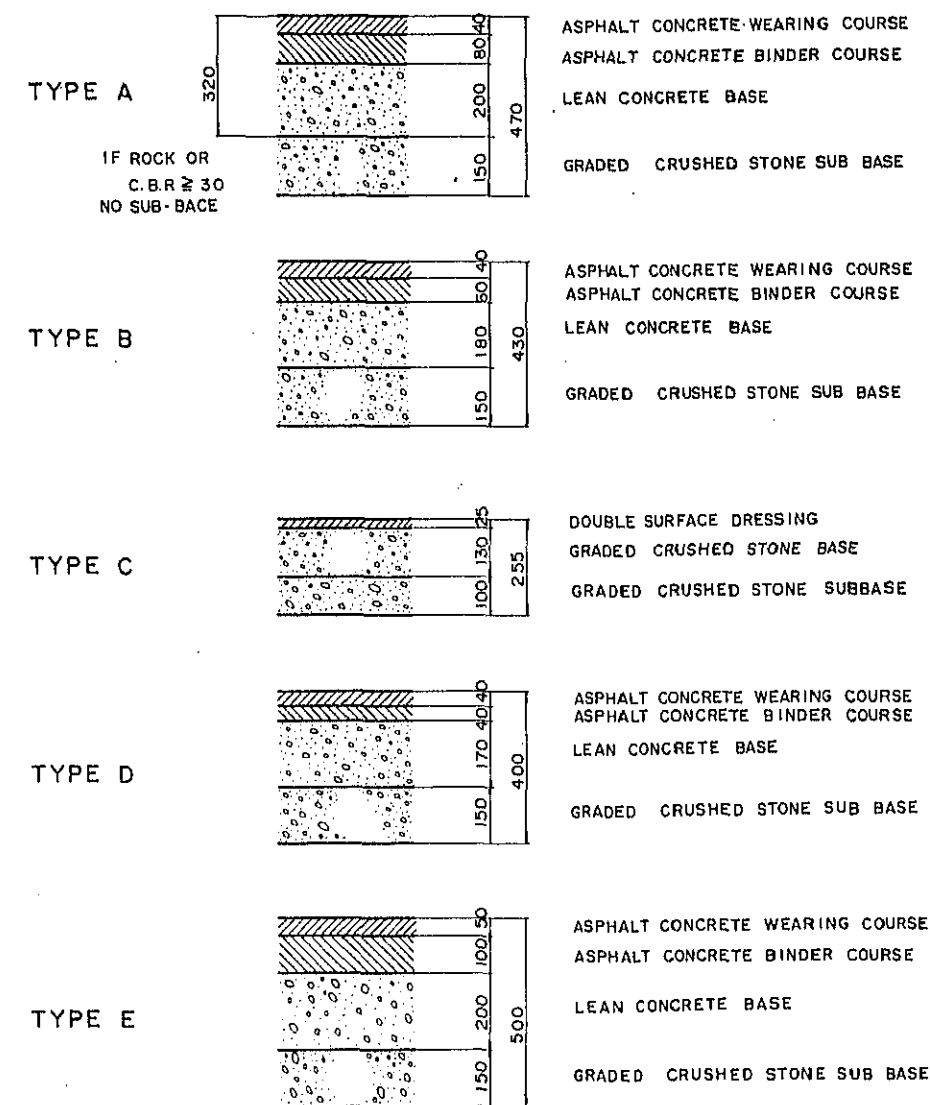
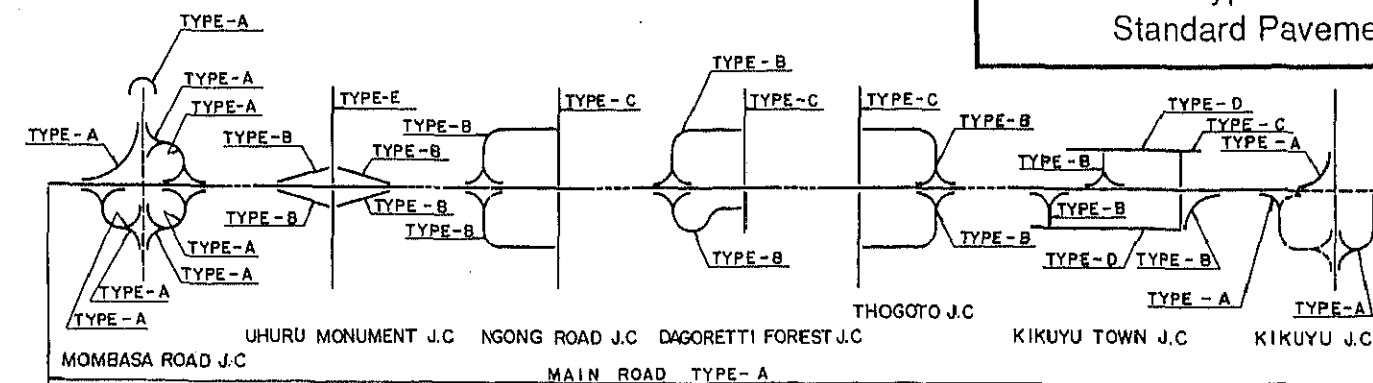
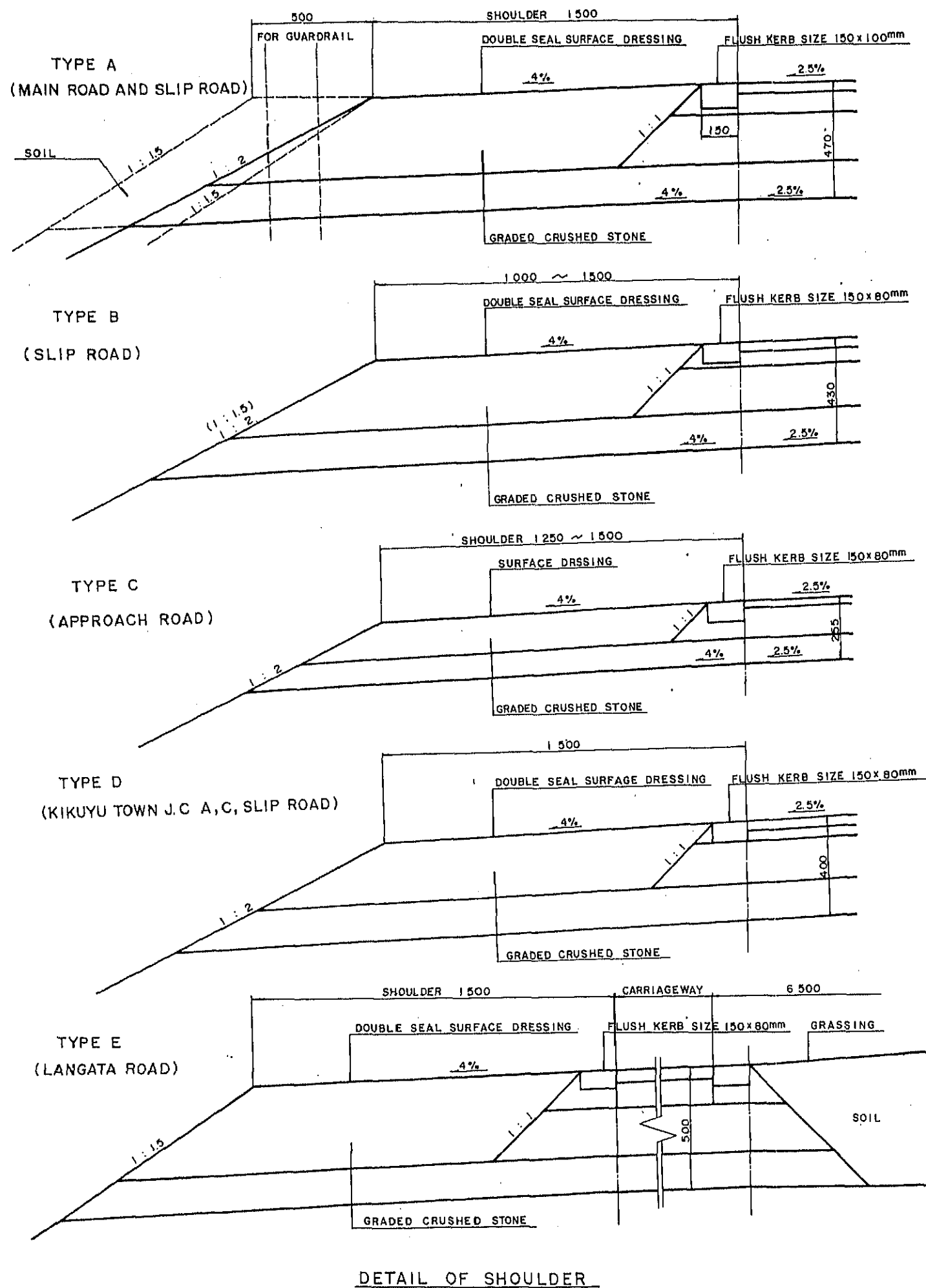
Figure 5
Typical Plan and Profile
Km 20 to Km 21



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|----------------------------------|--|---|---|---|---|---|----------|
| REVISIONS DESCRIPTION DATE | | JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) CHIEF SUPT. ENG. (DESIGN) | SEN. SUPT. ENG. (DESIGN) SUPT. ENGINEER (DESIGN) PROJECT ENGINEER | SCALES HORIZONTAL 1:1000 VERTICAL 1:100 | NAIROBI BYPASS PLAN AND PROFILE CH. 20 ^{km} +600 TO 21 ^{km} +200 | SHEET OF |
|----------------------------------|--|---|---|---|---|---|----------|

Figure 6
Typical Details
Standard Pavement



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MOPW ROADS DEPT DRG NO

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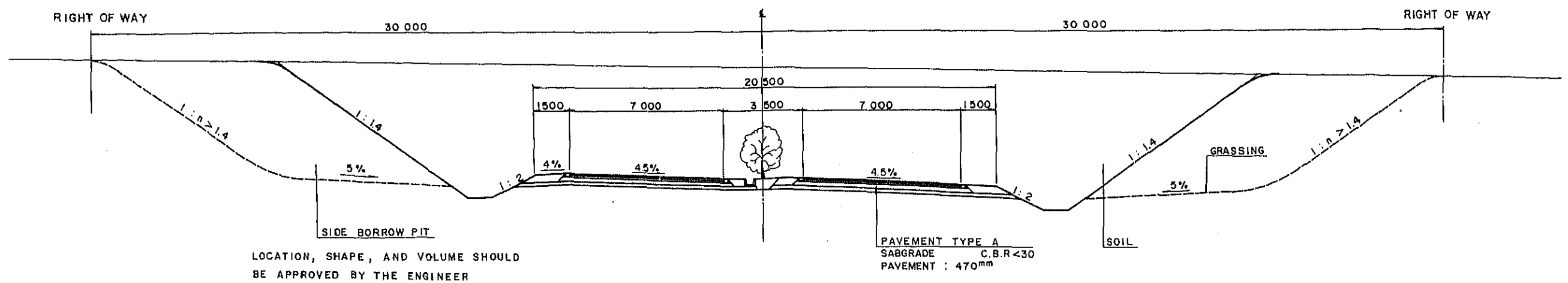
| | |
|--|---------------------------|
| JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) |
| | CHIEF SUPT. ENG. (DESIGN) |

| | |
|-------------------------|--|
| SEN SUPT. ENG. (DESIGN) | |
| SUPT. ENGINEER (DESIGN) | |
| PROJECT ENGINEER | |

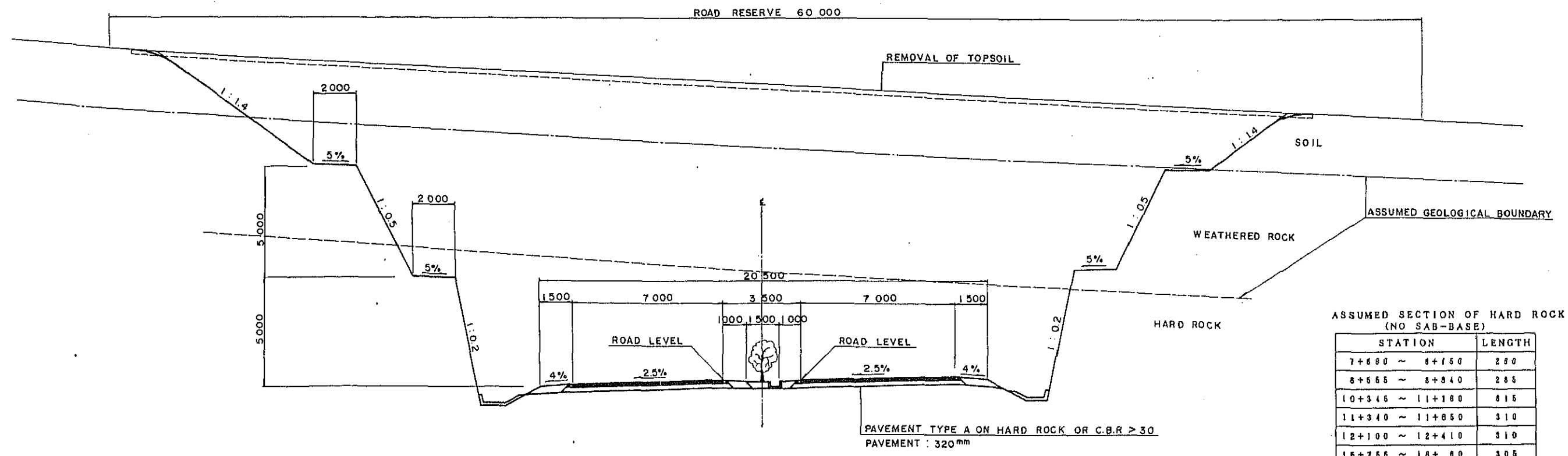
| | |
|--------|--------|
| SCALES | 1 : 10 |
|--------|--------|

| | |
|----------------------------|--------------|
| NAIROBI BYPASS | D |
| PAVEMENT DETAIL (SHOULDER) | SHEET 5 OF 5 |

Figure 7
Typical Cross-Sections in Cutting



TYPICAL CROSS-SECTION AT CUTTING WITH SIDE BORROW SECTION



TYPICAL CROSS-SECTION AT CUTTING

ASSUMED SECTION OF HARD ROCK (NO SAB-BASE)

| STATION | LENGTH |
|-----------------|--------|
| 7+680 ~ 8+160 | 280 |
| 8+565 ~ 8+840 | 285 |
| 10+345 ~ 11+180 | 815 |
| 11+340 ~ 11+850 | 310 |
| 12+100 ~ 12+410 | 310 |
| 15+755 ~ 18+ 00 | 305 |
| 21+100 ~ 21+580 | 480 |
| 21+840 ~ 22+210 | 270 |

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| | |

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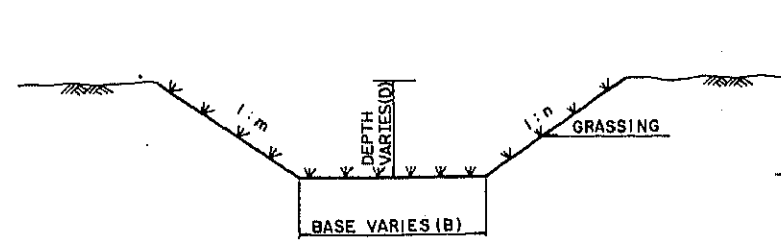
CHIEF ENGINEER (ROADS)
CHIEF SUPT ENG (DESIGN)

SEN SUPT. ENG (DESIGN)
SUPT ENGINEER (DESIGN)
PROJECT ENGINEER

SCALES
1:100

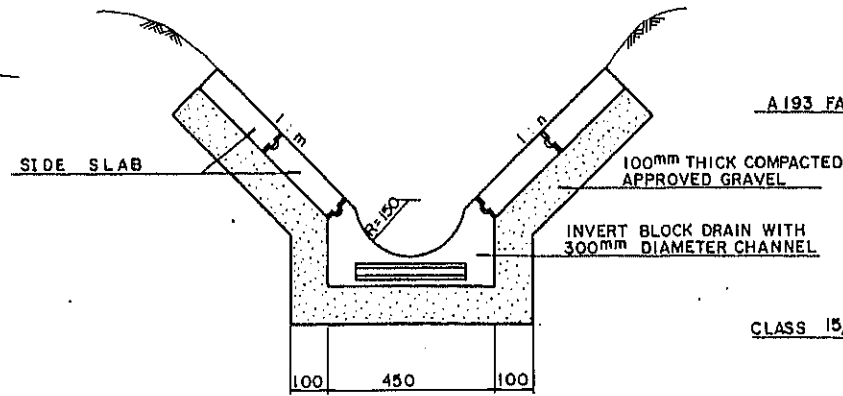
NAIROBI BYPASS
TYPICAL CROSS SECTION (MAIN) 2

D
SHEET 2 OF 5



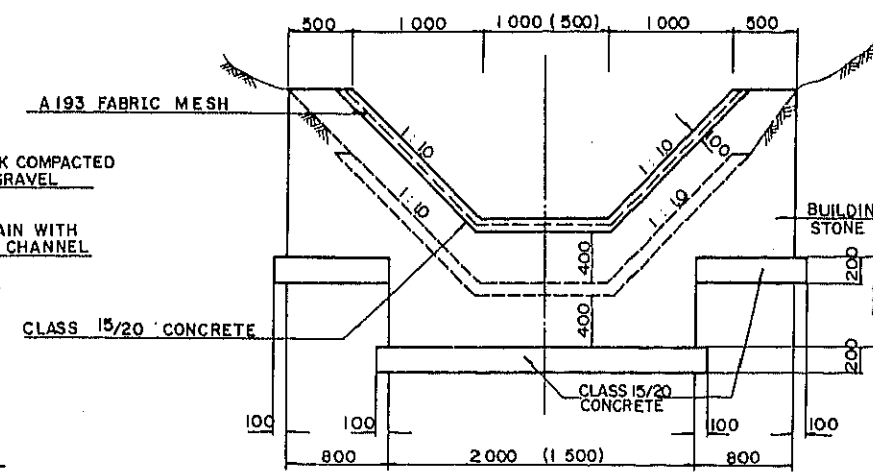
TYPICAL CROSS-SECTION OF DRAIN TYPE-I

SCALE 1:20



TYPICAL CROSS-SECTION OF DRAIN TYPE-V (450x225 INVERT BLOCK DRAIN AND SIDE SLAB)

SCALE 1:10



TYPICAL CROSS-SECTION OF DRAIN TYPE-VI (CONCRETE CHANNEL WITH CASCADE)

SCALE 1:30

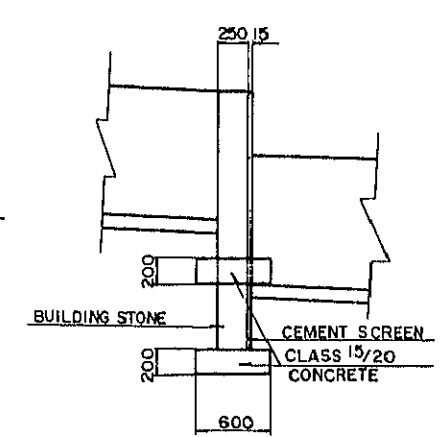
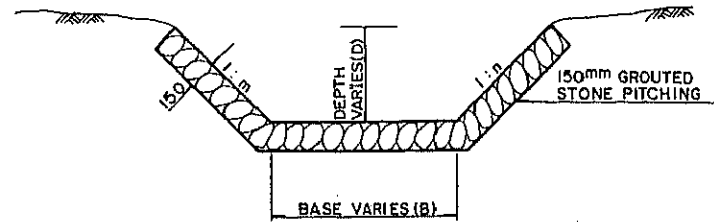
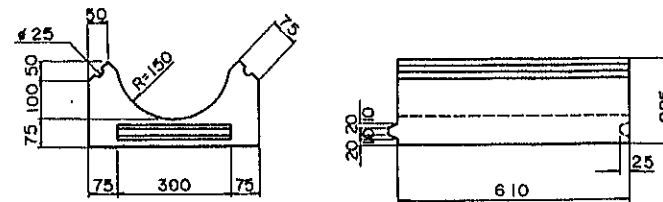


Figure 8
Typical Drainage
Details



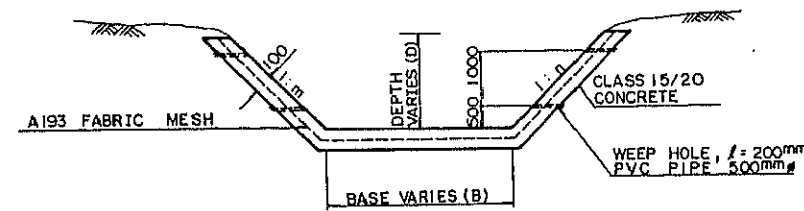
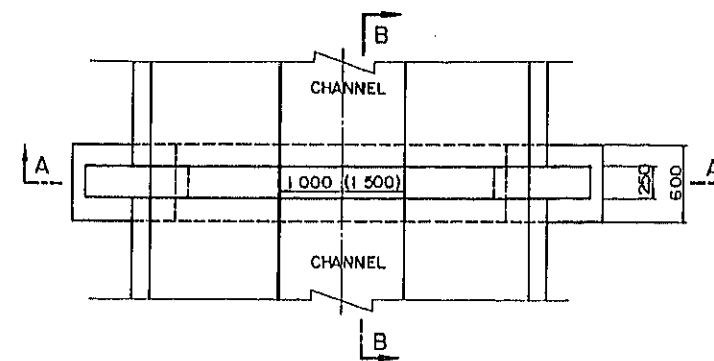
TYPICAL CROSS-SECTION OF DRAIN TYPE-II (STONE PITCHING CHANNEL)

SCALE 1:20



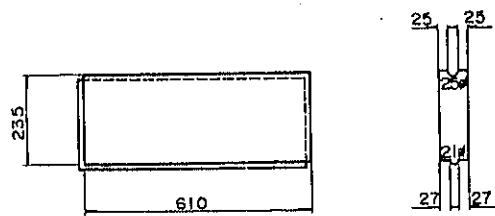
450x225mm INVERT BLOCK DRAIN

SCALE 1:10



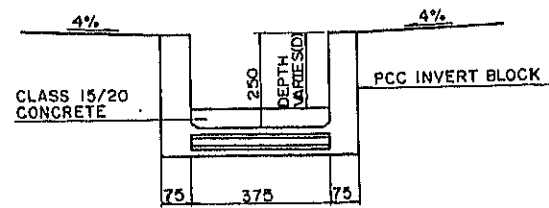
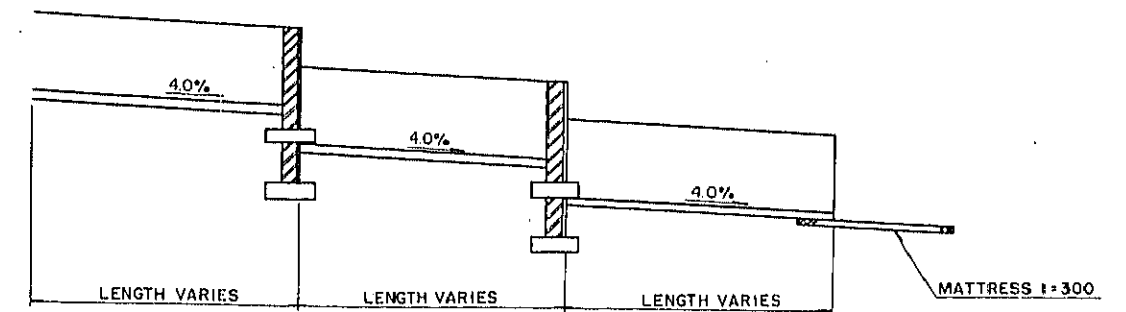
TYPICAL CROSS-SECTION OF DRAIN TYPE-III (CONCRETE CHANNEL)

SCALE 1:20



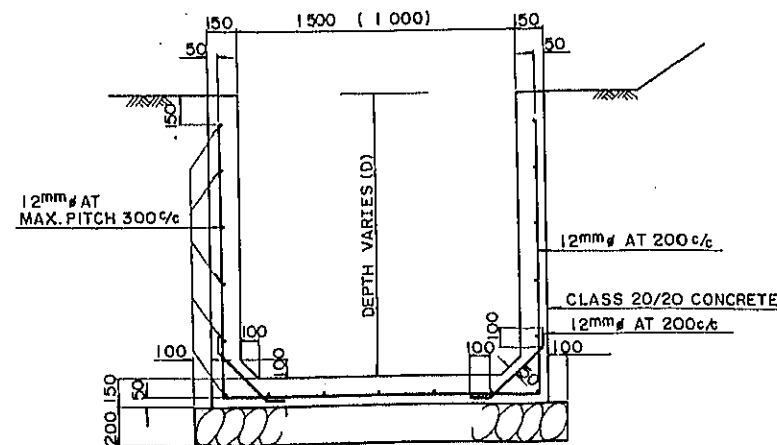
SIDE SLAB FOR INVERT BLOCK DRAIN

SCALE 1:10



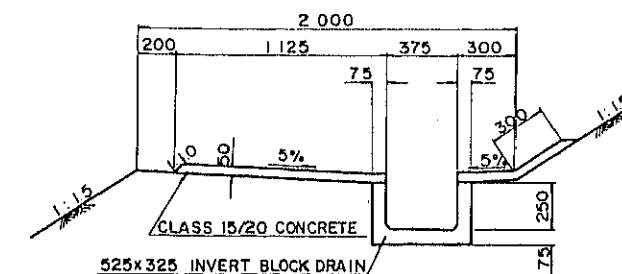
TYPICAL CROSS-SECTION OF DRAIN TYPE-IV (525x325 INVERT BLOCK DRAIN)

SCALE 1:10



TYPICAL CROSS-SECTION OF DRAIN TYPE-VII CONCRETE DITCH

SCALE 1:20



TYPICAL CROSS-SECTION TYPE-VIII (DRAIN DITCH ON BERM)

SCALE 1:20

NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. A193 FABRIC MESH REINFORCEMENT TO BE PLACED AS SHOWN.
3. THE WEEP HOLE (1/200mm, 50mm dia) IS INSTRUCTED BY THE ENGINEER.

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CHIEF SUPT. ENG. (DESIGN)

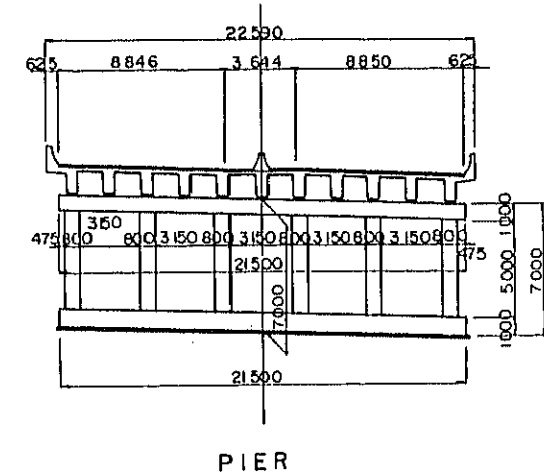
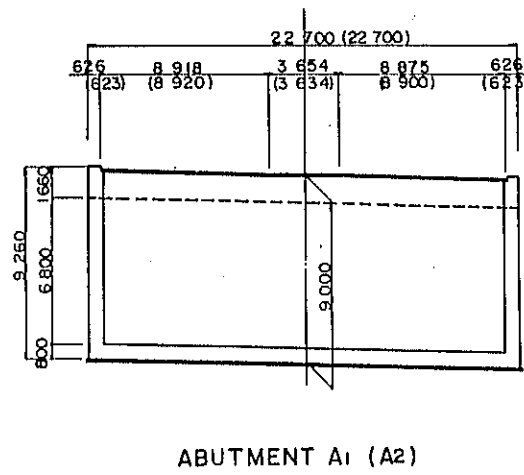
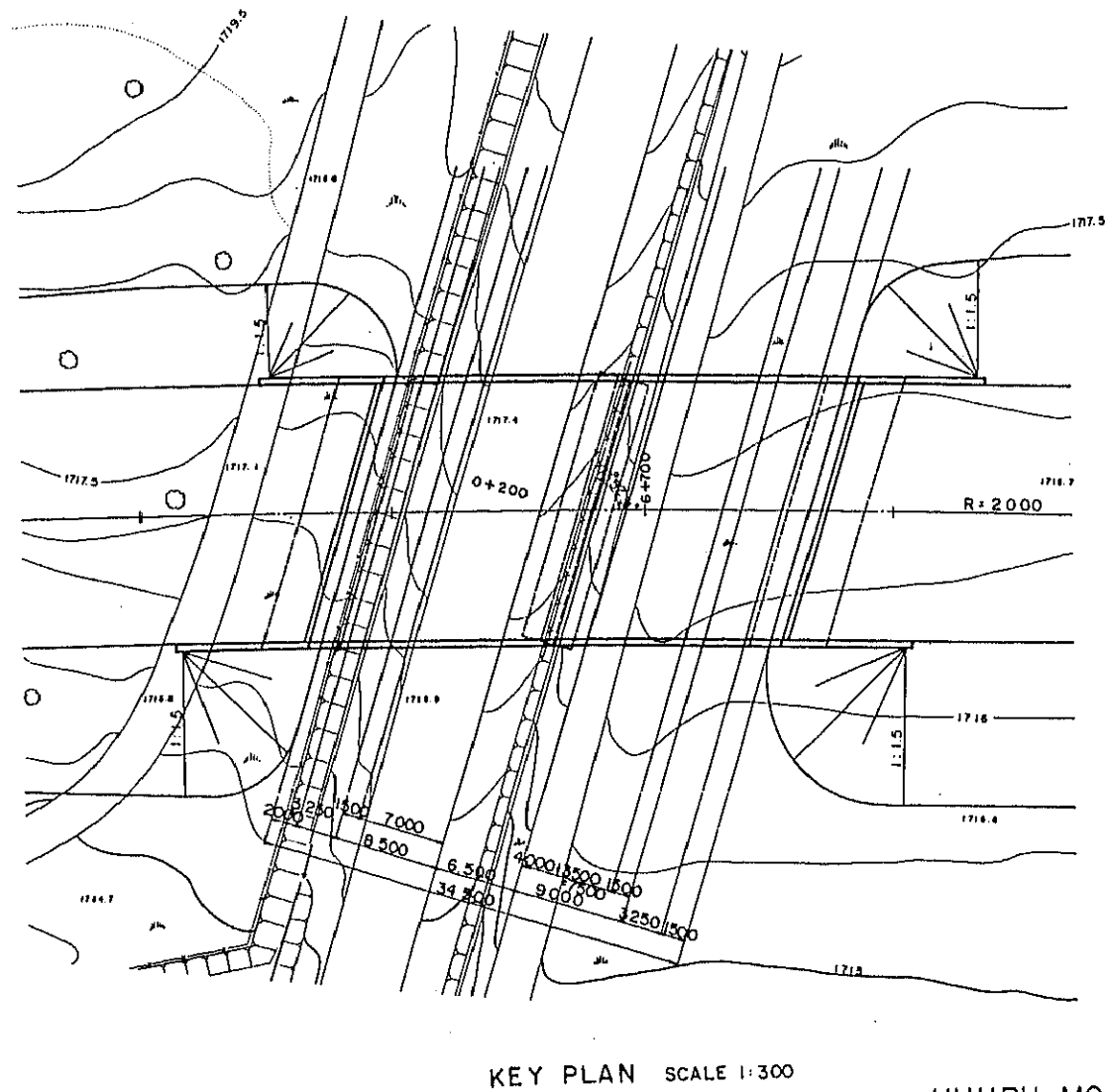
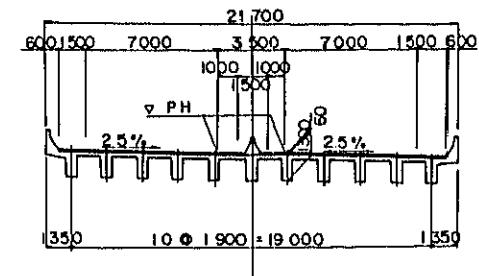
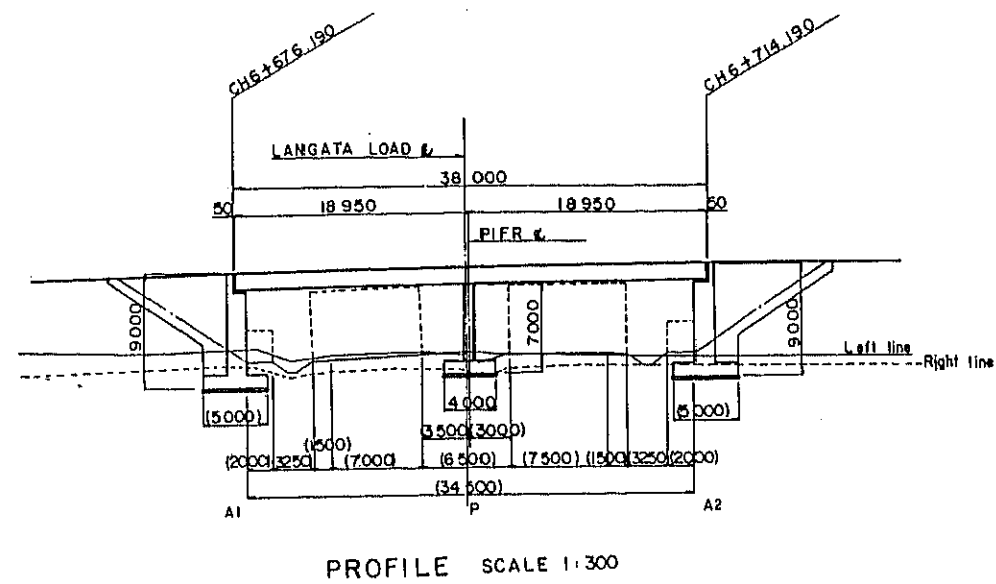
SEN. SUPT. ENG. (DESIGN)
SUPT. ENGINEER (DESIGN)
PROJECT ENGINEER

SCALES
AS SHOWN

NAIROBI BYPASS
DRAINAGE DETAILS

E
SHEET 1 OF 11

Figure 9
Uhuru Monument
Bridge



SUB-STRUCTURE SCALE 1:200

UHURU MONUMENT Ju BRIDGE

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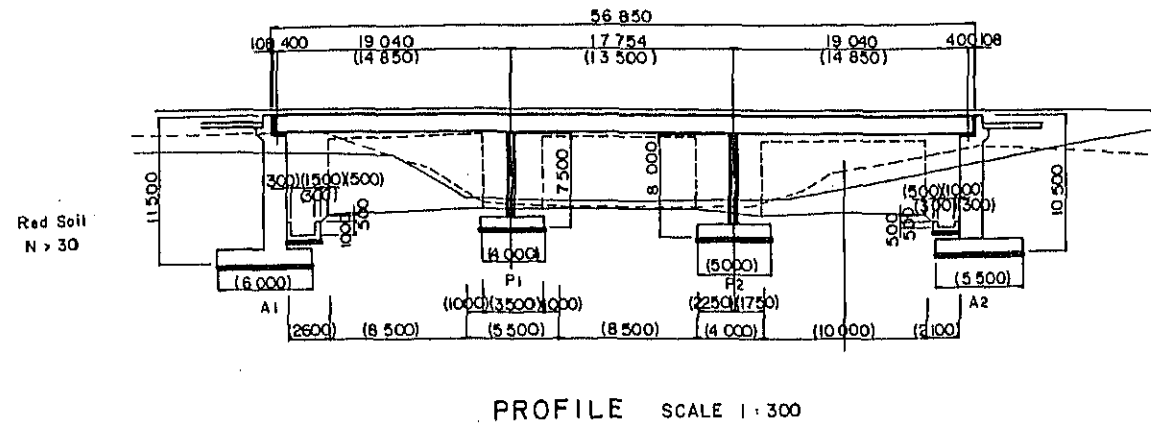
CHIEF ENGINEER (ROADS)
CHIEF SUPT ENG (DESIGN)

S&N SUPT ENG (DESIGN)
SUPT ENGINEER (DESIGN)
PROJECT ENGINEER

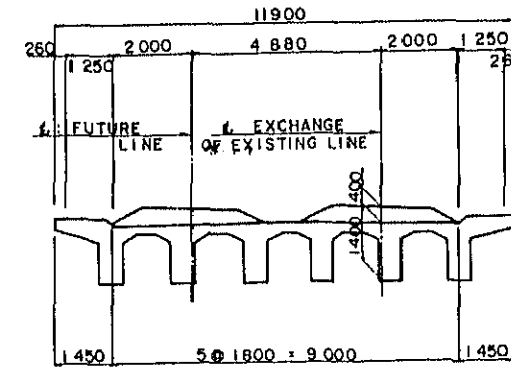
SCALES

NAIROBI BYPASS
UHURU MONUMENT JUNCTION BRIDGE
GENERAL VIEW

Figure 10
Railway Bridge No.3



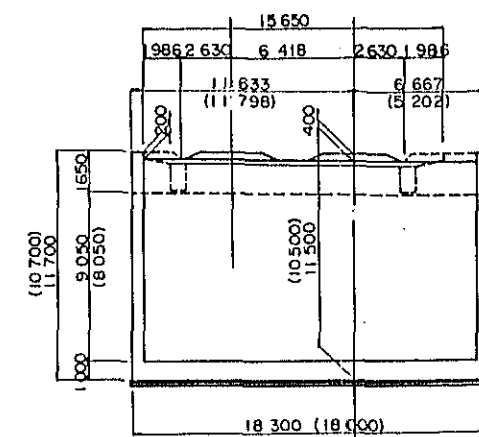
PROFILE SCALE 1:300



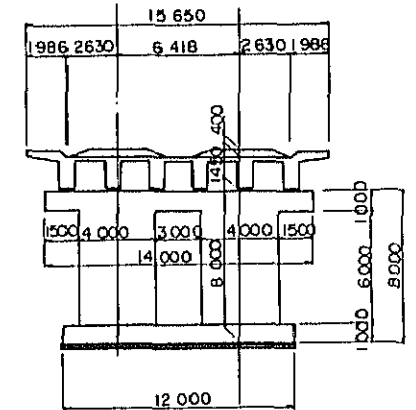
SUPERSTRUCTURE SCALE 1:100



KEY PLAN SCALE 1:300



ABUTMENT A1, (A2)



PIER

SUBSTRUCTURE SCALE 1:200

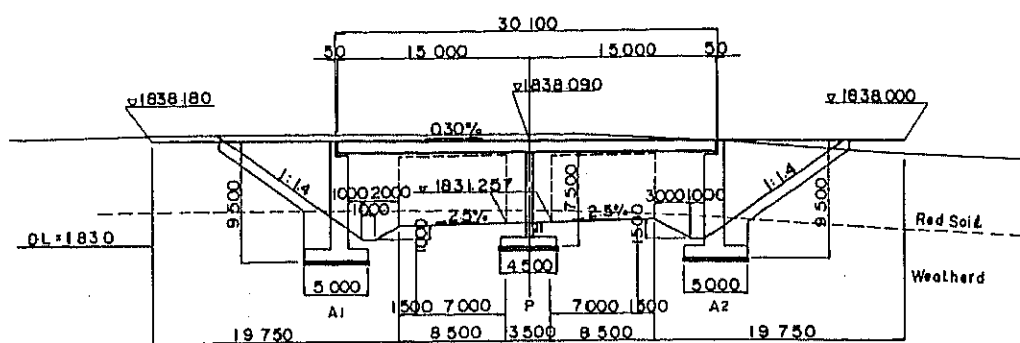
RAILWAY BRIDGE

SURVEYED BY
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 CHECKED BY
 AERIAL PHOTO BY
 MAPPING BY
 LOCATION BY

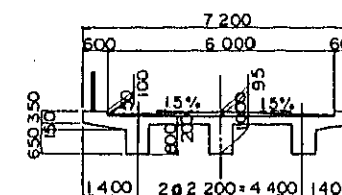
M.O.P.W. ROADS DEPT DRG NO.

| REVISIONS | | JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) | SEN SUPT. ENG (DESIGN) | SCALES | NAIROBI BYPASS | 0 |
|-------------|------|--|--------------------------|-------------------------|--------|-----------------------------|--------------|
| DESCRIPTION | DATE | | | | | | |
| | | | CHIEF SUPT. ENG (DESIGN) | SUPT. ENGINEER (DESIGN) | | RAILWAY BRIDGE GENERAL VIEW | SHEET 1 OF 1 |
| | | | | PROJECT ENGINEER | | | |

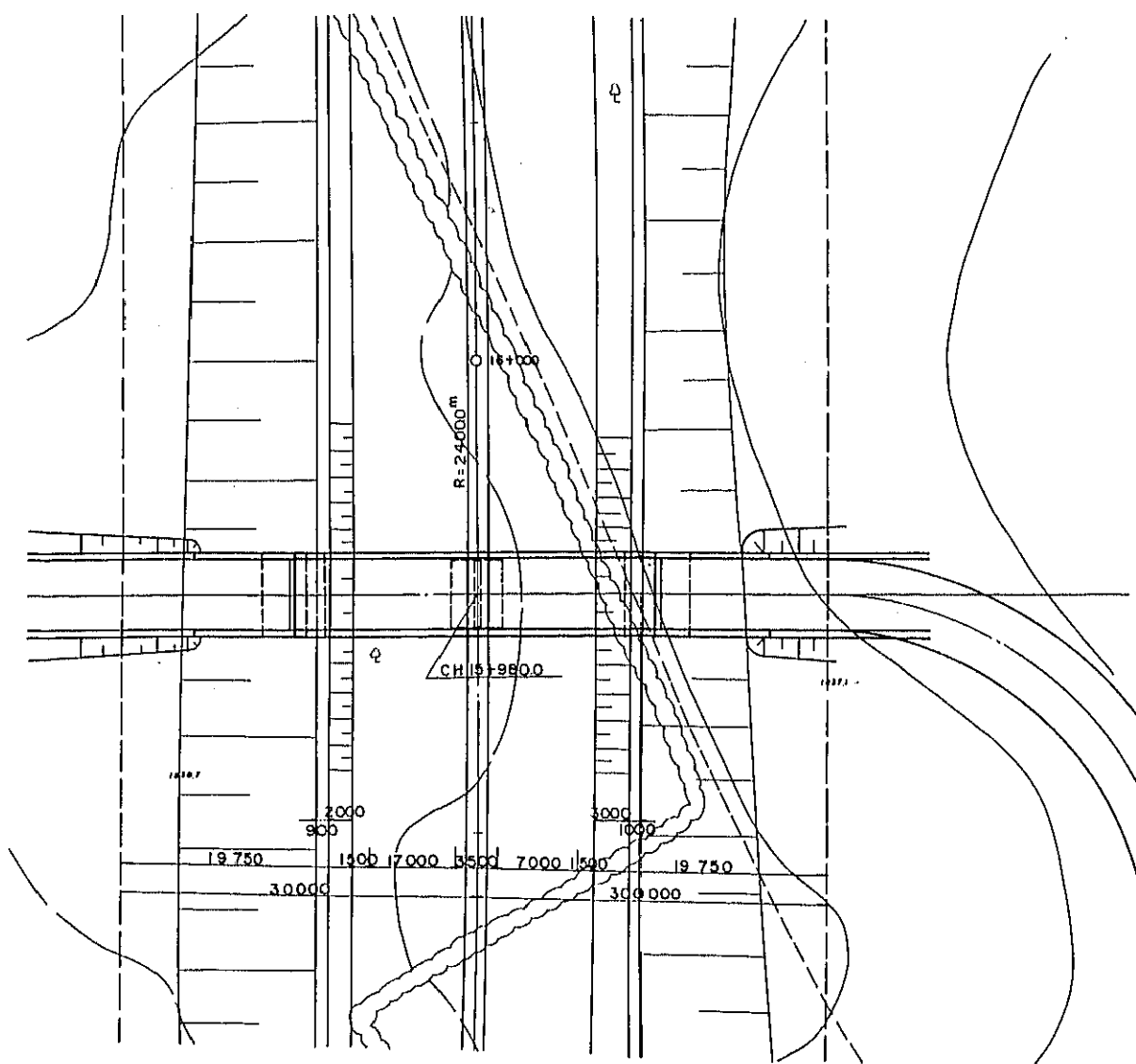
Figure 11
Typical Vehicle
Over - Bridge



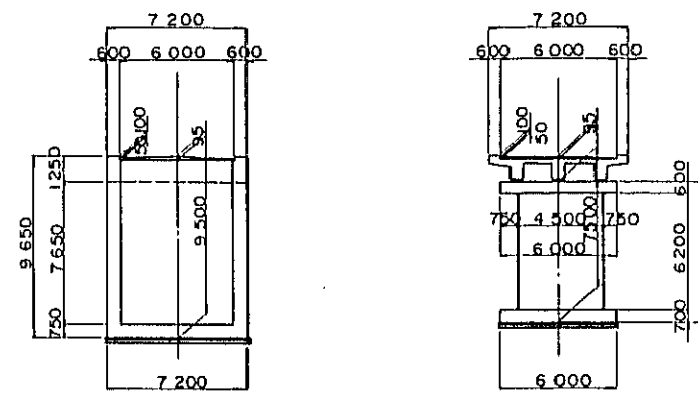
PROFILE SCALE 1:300



SUPERSTRUCTURE SCALE 1:100



KEY PLAN SCALE 1:300



ABUTMENT

PIER

SUBSTRUCTURE SCALE 1:200

NO ① VEHICLE

| | |
|-----------------|-------------|
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CHIEF SUPT ENG (DESIGN)

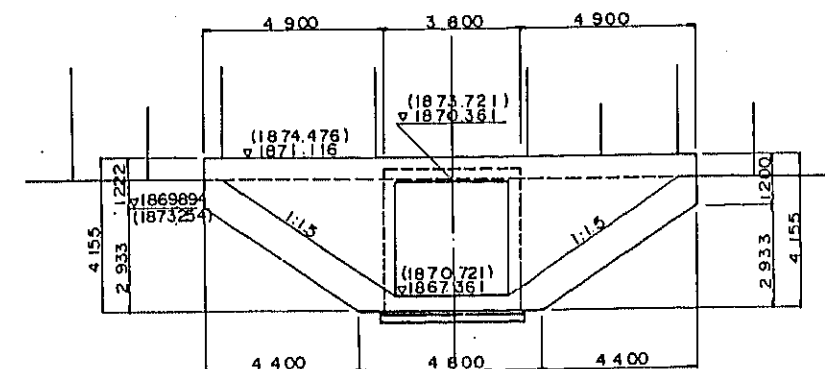
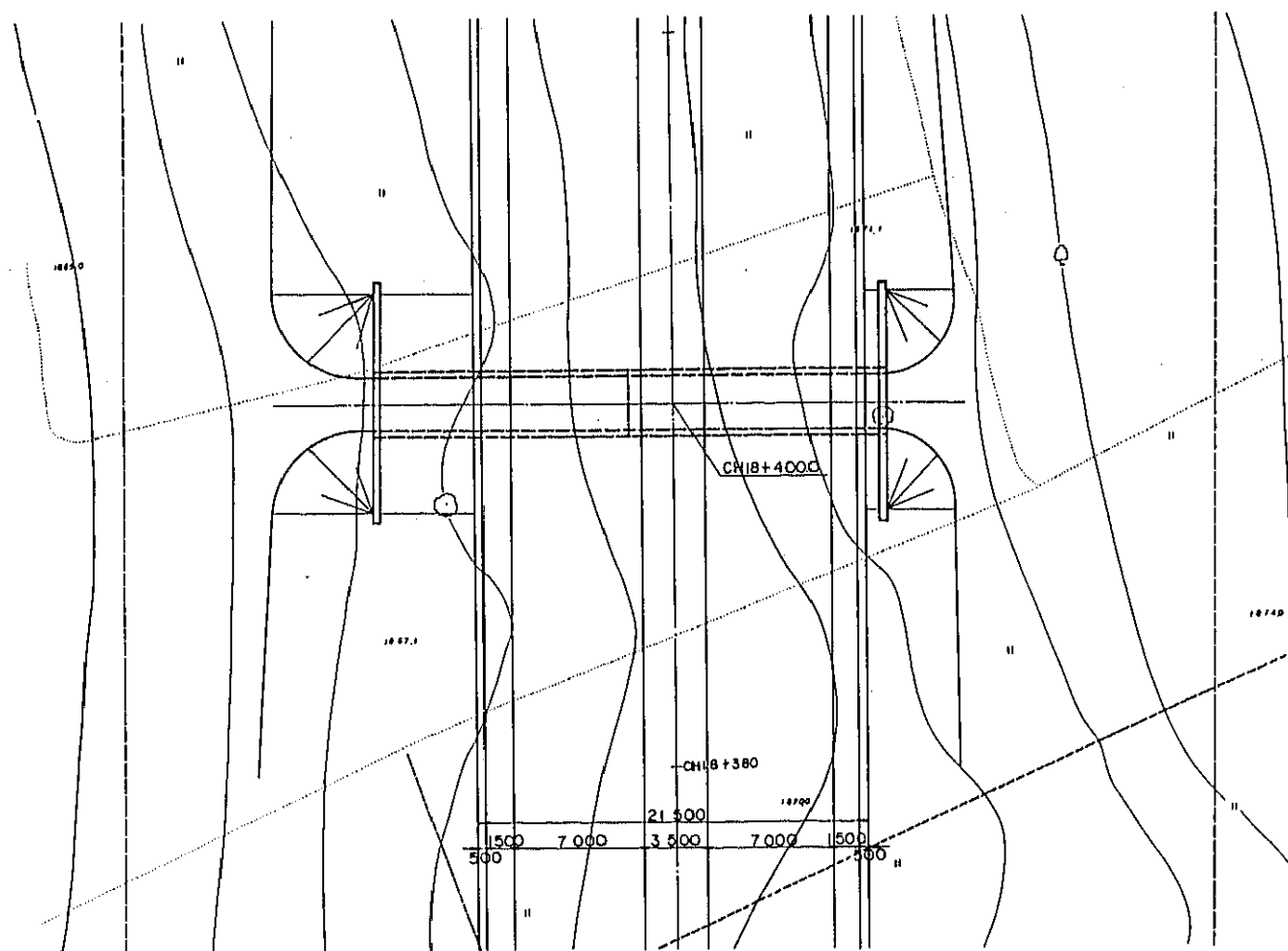
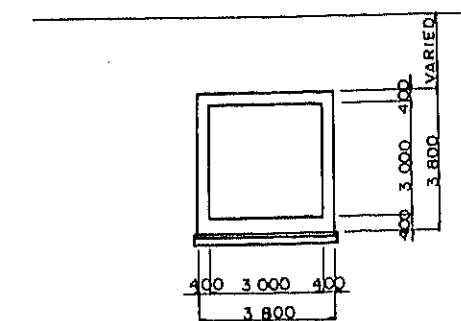
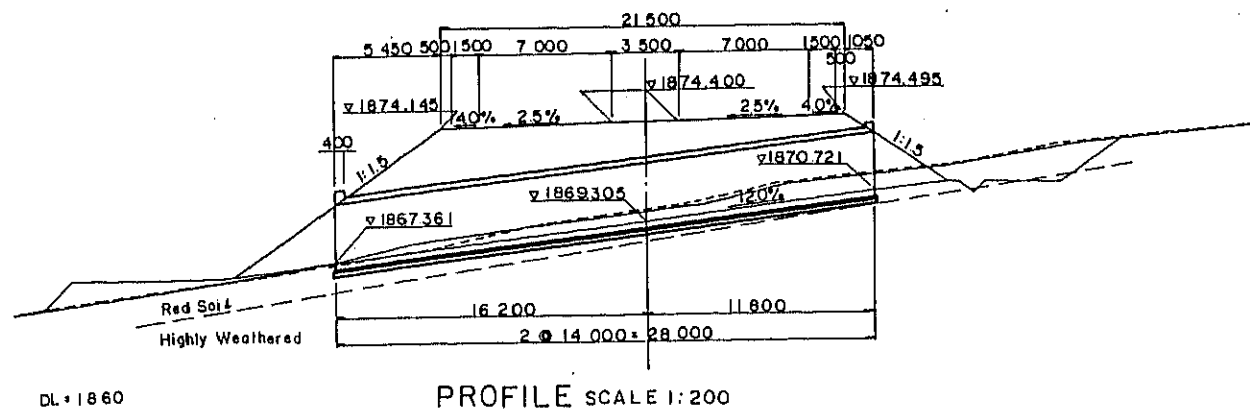
SEN SUPT. ENG (DESIGN)
SUPT ENGINEER (DESIGN)
PROJECT ENGINEER

SCALES

NAIROBI BYPASS
OVER BRIDGE(1) W-6m CH 15km+980
GENERAL VIEW

P
SHEET 1 OF 10

Figure 12
Typical Box Culvert
for Footpath



NO ① BOX FOR FOOTPATH

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AERIAL PHOTO BY
MAPPING BY
LOCATION BY

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CHIEF SUPT ENG (DESIGN)

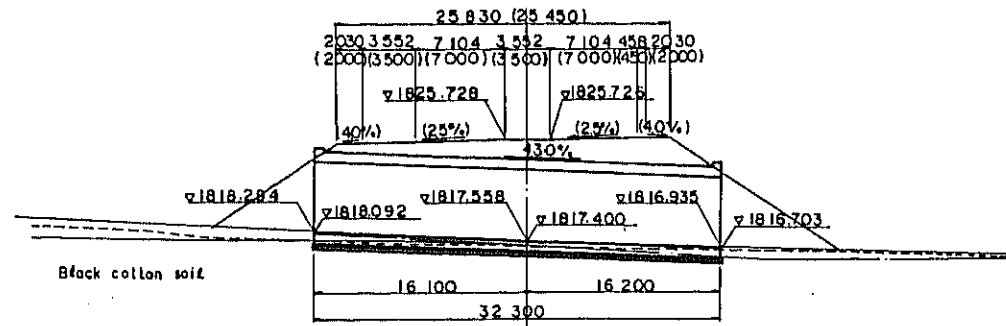
SEN SUPT. ENG (DESIGN)
SUPT ENGINEER (DESIGN)
PROJECT ENGINEER

SCALES

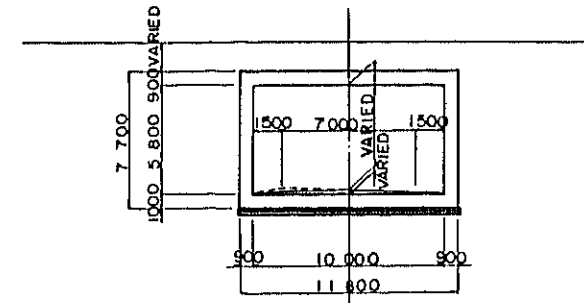
NAIROBI BYPASS
PEDESTRIAN BOX CULVERTS
CN 18+400.00 V=3.00 R=3.00 (1)

0
SHEET 1020F1 8/3

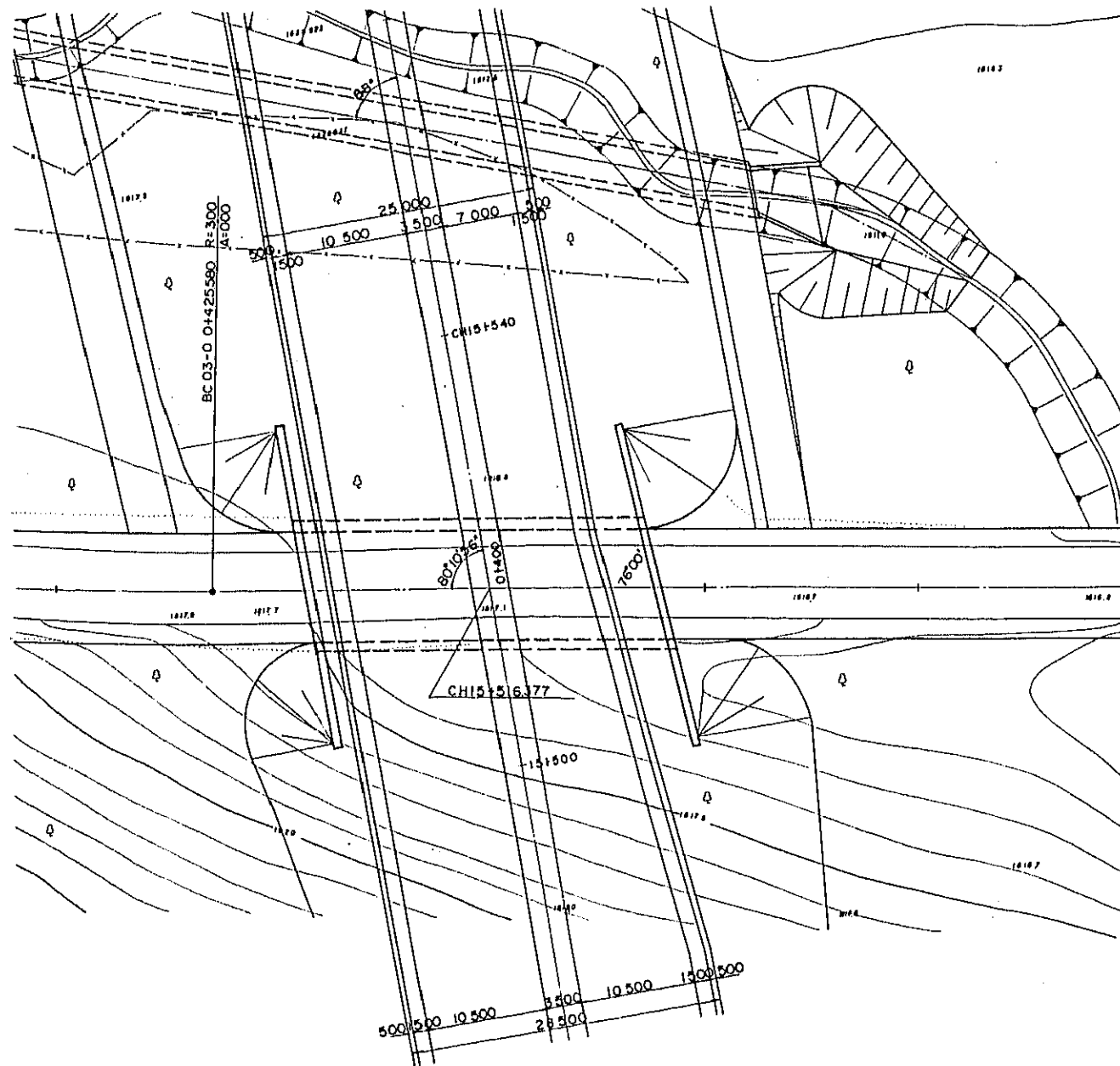
Figure 13
Typical Box Culvert
for Road



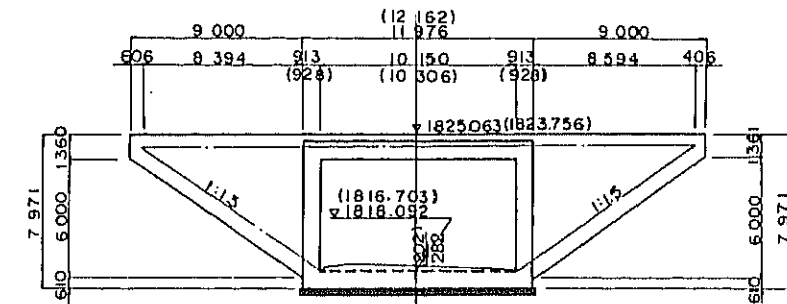
PROFILE SCALE 1:300



CROSS-SECTION SCALE 1:200



KEY PLAN SCALE 1:300



LEFT WING (RIGHT WING)
ELEVATION OF WING WALL SCALE 1:200

NO BOX CULVERT FOR ROAD

AERIAL PHOTO BY
MAPPING BY
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JAPAN INTERNATIONAL
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CHIEF SUPT ENG (DESIGN)

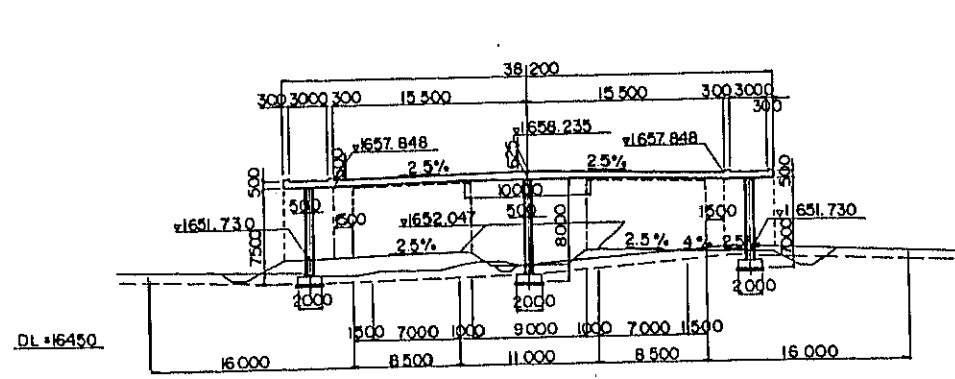
SEN SUPT ENG (DESIGN)
SUPT ENGINEER (DESIGN)
PROJECT ENGINEER

SCALES

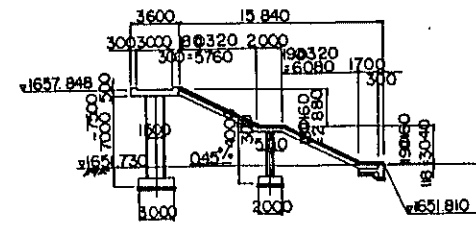
NAIROBI BYPASS
VEHICLE BOX CULVERTS
CN 16+516.37 R=10.00 R=5.40 (1)

0
SHEET 1 OF 183

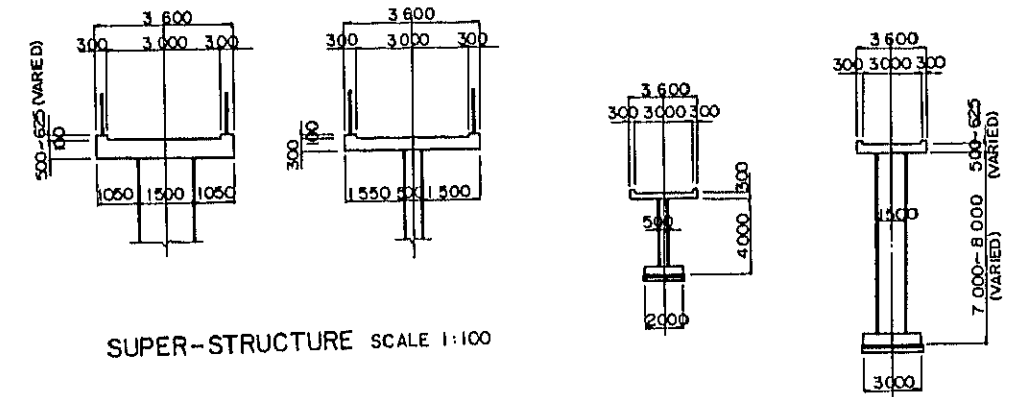
Figure 14
Typical Pedestrian Bridge



ELEVATION



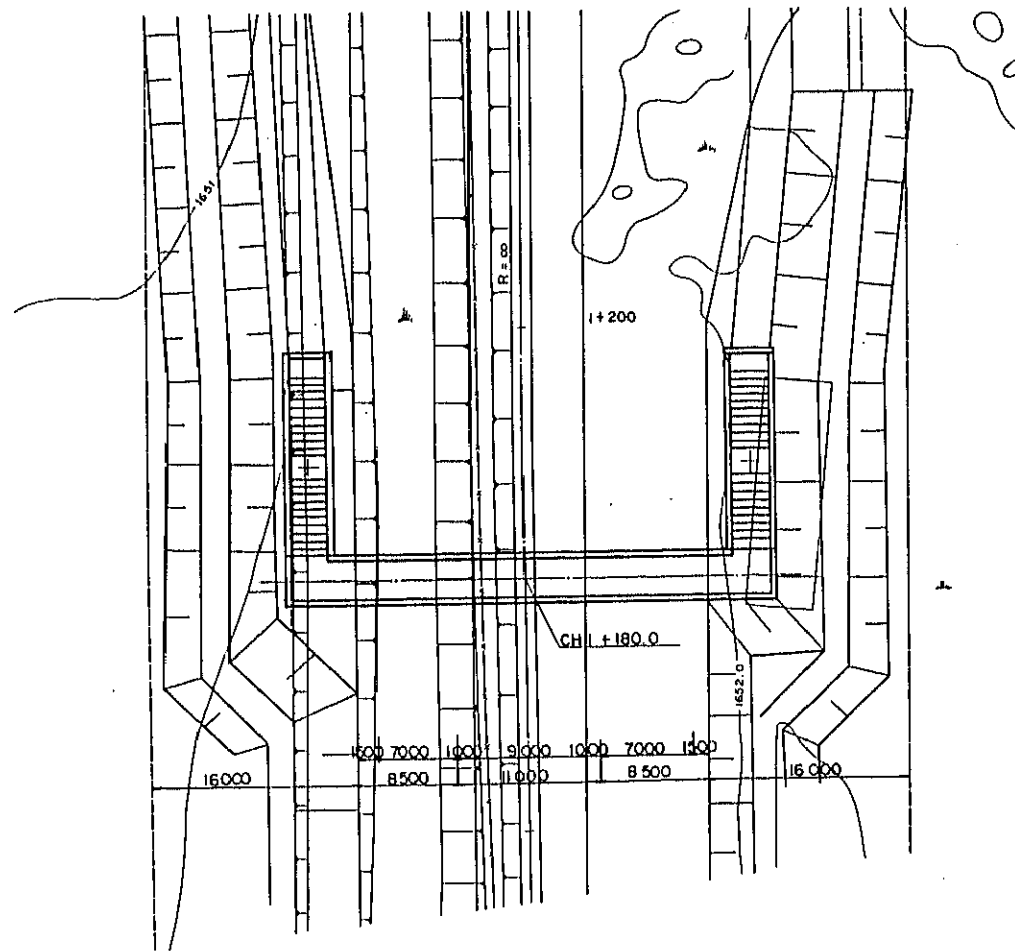
STAIRCASE



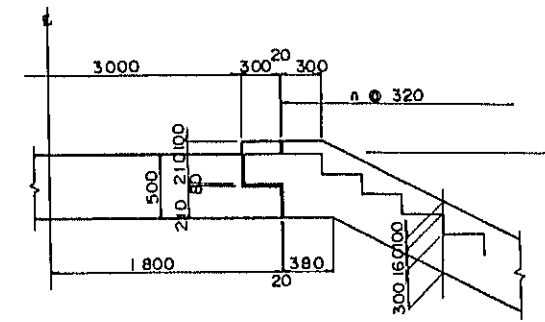
SUPER-STRUCTURE SCALE 1:100

ELEVATION OF PIER SCALE 1:200

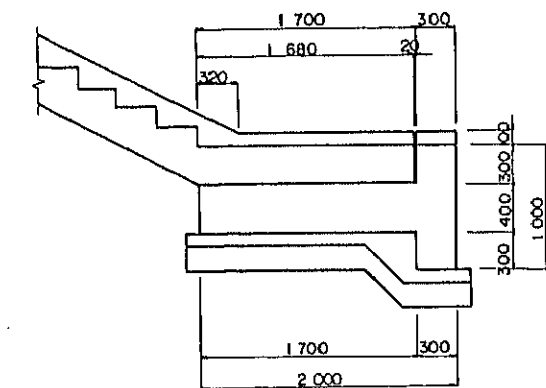
PROFILE SCALE 1:300



KEY PLAN SCALE 1:300



JOINT SECTION



END SECTION

DETAIL OF PEDESTAL SCALE 1:30

① PEDESTRIAN

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TRACED BY
CHECKED BY
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LOCATION

MOPW ROADS DEPT DRG NO

| REVISIONS | | DESCRIPTION | DATE | JAPAN INTERNATIONAL COOPERATION AGENCY | CHIEF ENGINEER (ROADS) | SEN SUPT. ENG (DESIGN) | SUPT ENGINEER (DESIGN) | PROJECT ENGINEER | SCALES | NAIROBI BYPASS PEDESTRIAN OVER BRIDGE(1), 6-3m CR 11x160 GENERAL VIEW | P |
|-------------|------|-------------|------|--|------------------------|------------------------|------------------------|------------------|--------|---|---|
| DESCRIPTION | DATE | | | | | | | | | | |
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| CHIEF SUPT ENG (DESIGN) | |
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