

**SOCIALIST REPUBLIC OF VIET NAM**  
**MINISTRY OF TRANSPORT**  
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**PREAMBLE TO THE SCHEDULES OF PRICES AND RATES**

**Can Tho Bridge Construction Project**  
**Under JBIC Loan Agreement**  
**Package III**

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**1 Description**

Schedules of Prices and Rates means Tender Schedules 12 to 15.

Tenderers' attention is drawn to the Description of Works, Conditions of Contract, Specification, Instructions to Tenderers and Drawings, and, specifically, the requirements of the prefaces to the Schedules of Prices and Rates, all of which shall be read in conjunction with the Schedules of Prices and Rates.

This preamble has been prepared in order to assist Tenderers in pricing the Schedules of Prices and Rates and to serve as a guide to the measurement of quantities.

**2 Application of Preamble to Fixed Price Works**

The prices in the Schedule of Prices for the Construction of Fixed Price Works, inclusive of all labour, materials, equipment, overhead costs and profit, set down against the items shall be taken as the full inclusive value of the finished fixed price work shown on the Drawings and/or described in the Specification or which can reasonably be inferred from them, and cover the cost of every description of temporary works required, all the Contractor's obligations under the Contract, and all matters and things necessary for the proper completion and maintenance of the Works.

The Tenderer shall make his own assessment of the scope of work included in the fixed price part of the Contract Price and shall verify that the estimated quantities in the Schedule of Prices for the Construction of Fixed Price Works are correct.

The Tenderer shall be deemed to have determined and verified the quantities and items of work with the Drawings and Specification prior to submitting his Tender and, if the Tenderer remains not satisfied with the quantities or items listed in the Schedule of Prices for the Construction of Fixed Price Works at the time of submitting his Tender, he shall insert in the Schedule any such items and quantities as computed by him for which he wishes to enter a price to cover the completion and proper performance of the Contract.

The fixed price part of the Contract Price shall be fixed prior to award of the Contract and the quantities making up this price will not be subject to remeasurement.

The Schedule will be used in assessing tenders and also progress claims during the construction of the Works. The quantities in the Schedule of Prices for Construction of Fixed Price Works, including any inserted and included in Bill 8 (Miscellaneous) are the Contractor's own assessment of the scope of work included in the fixed price part of the Contract Price and shall be fixed and not subject to remeasurement.

### **3 Application of Preamble to Remeasured Works**

The rates in the Schedule of Prices for the Construction of Remeasured Works, inclusive of all labour, materials, overhead costs and profit, set down against the items shall be taken as the full inclusive rates for the finished work to be remeasured as shown on the Drawings and/or described in the Specification or which can reasonably be inferred from them, and cover the cost of every description of temporary works required, all the Contractor's obligations under the Contract, and all matters and things necessary for the proper completion and maintenance of the Works.

The Schedule will be used in assessing tenders and also progress claims during the construction of the Works. The quantities given in the Schedule are believed to be approximately correct, but they shall not be taken as a guarantee that the quantities will be carried out or are required or that they will not be exceeded. Quantities shall be measured in accordance with the provisions of Clauses 55 and 56 of the Conditions of Contract.

### **4 Application of Preamble to Additional Work**

The clauses of this Preamble shall apply to any additional or varied work which the Contractor may be required to execute under this Contract except where specifically amended or supplemented by the instructions given to him to carry out such work.

### **5 Method of Measurement**

The Works as executed shall be measured for payment in accordance with the method adopted in the Schedules of Prices and Rates and under the items as therein set forth notwithstanding any custom to the contrary. The net measurement or weight of the finished work in place shall always be taken and, except where otherwise stated or separate items are provided, no allowance shall be made for cutting, waste, laps or circular work.

#### **5.1 Units and Currency**

All sizes and quantities have been entered in the Schedules of Prices and Rates in metric units.

Units or terms used in these Schedules of Prices and Rates are:

m	=	linear meter
m <sup>2</sup>	=	square meters
m <sup>3</sup>	=	cubic meters
tonne	=	tonne
mnth	=	month

PS	=	Provisional Sum
PQ	=	Provisional Quantity
LS	=	Lump Sum
BI	=	Bill Item
No	=	Number off

The units of currency used in this Contract are the Japanese Yen and the Vietnamese Dong.

## 5.2 Rates and Sums to be for Work Complete

Notwithstanding any limits which may be implied by the wording of the individual items and/or the explanations in this Preamble, the rates and sums which a Tenderer enters in the Schedules of Prices and Rates shall be for the work finished complete in every respect; he will be deemed to have taken full account of all requirements and obligations, whether expressed or implied, covered by all parts of this Contract and to have priced the items herein accordingly. The rates and sums shall therefore include for all incidental and contingent expenses and risks of every kind necessary to construct, complete and maintain the whole of the Works in accordance with the Contract.

Full allowance is to be made in the rates and sums against the various items in the Schedules of Prices and Rates for all costs involved in the following, inter alia, which are referred to and/or specified herein:-

- all setting out and survey work;
- temporary access roads, fencing, watching, lighting, mooring and buoys;
- paying fees and giving notices to Authorities;
- payment for all patent rights and royalties;
- safety precautions and all measures to prevent and suppress fire and other hazards;
- interference to the Works by persons, vehicles, vessels and the like being legitimate users of the on-shore and off-shore facilities on or in the vicinity of the Site;
- the protection and safety of adjacent structures and shoreline in so far as they may be affected by the Works or Temporary Works;
- the supply, inspection and testing of materials and of the Works under construction, including the provision and use of equipment;
- setting to work, operating (including all fuel and consumable stores) and maintaining all constructional plant and equipment necessary for the execution of the Works and including the cost of all tests and other requirements in respect to such plant and equipment;
- working adjacent to or across existing services and installations;
- the recruitment, bringing to and from the Site, and all incidental costs and expenses involved in the provision of all necessary skilled and unskilled labour and supervision.

No claim will be considered for further payment in respect of any work or method of execution which may be described in the Contract or is inherent in the construction of the Works and detailed in the Drawings, on account of:

- items having been omitted from the Schedules of Prices and Rates
- any omission from the wording of items or from clauses in the Preamble or
- no mention of such work or method of execution having been made in the Preamble.

Items against which no rates or sums are entered by a Tenderer, whether quantities are stated or not, shall be regarded as covered by other rates in the Schedules of Prices and Rates.

Subject to Sub-Clause 52.3 of the Conditions of Contract the quantities for work and materials stated in the Schedules of Prices and Rates are not to be considered as limiting or extending the amount of work to be done or materials to be supplied by the Contractor.

#### 5.3 Rates and Sums to Bear Proper Relation to Work Described

The rates and sums entered by a Tenderer against all items in the Schedules of Prices and Rates shall bear a proper relationship to the cost of carrying out the work described in the Contract and shall include for the Contractor's head office, profit and risk and all other on-costs and similar charges which are applicable to the Contract as a whole are to be spread over all the rates in the Schedules of Prices and Rates, whilst those which apply to particular sections of the Contract are only to be spread over the items to which those sections refer.

#### 5.4 Provisional Sums

Provisional Sums will be dealt with as provided for in the Conditions of Contract.

Provisional Sums are represented by the letters PS entered in the Unit column.

#### 5.5 Interim Payment of Lump Sums for Permanent Work

Interim payment under items of permanent work priced as lump sums will be made on the basis of the estimated percentage completion of the work covered by such items at the time to which interim measurement relates. Lump Sums are represented by the letters LS entered in the unit column.

#### 5.6 Attendance on the Engineer

Items that include the provisions of crew, drivers, chain persons, trades persons, laborers, cleaners, attendants and etc., shall cover in their corresponding rates all costs in connection therewith for the full time engagement and overtime as required under the instruction of the Engineer.

#### 5.7 Control and Protection of Vehicle and Vessel Traffic

The price for control and protection of vehicle and vessel traffic shall include for all measures necessary to comply with the requirements of the contract and any regulatory authority.

#### 5.8 Engineering Services

The price for engineering services shall allow for all costs associated with the design, checking, submission and re-design re-checking and re-submission as necessary of all works to ensure the proper construction of the Works. No additional payment will be made irrespective of the number of design iterations required.

#### 5.9 Protection of Work and Cleaning up on Completion

The Contractor shall allow in his rates for protecting completed work at all times and for making good all damage to completed work due to any cause whatsoever, for clearing away rubbish as it accumulates and for maintaining the Site in a tidy condition to the satisfaction of the Engineer.

#### 5.10 Testing of Materials and Permanent Works

The cost of all testing detailed in the Specification or reasonably to be inferred therefrom is deemed to be included in the rates entered in the Schedules of Prices and Rates. If the Engineer should require additional tests, the cost thereof shall be charged to the item for additional testing of materials and permanent works if the results of the tests shown the materials or permanent works tested to be in accordance with the Contract.

#### 5.11 Dayworks

No work may be claimed as Dayworks by the Contractor unless prior written instruction has been given by the Engineer.

The cost of labour including plant operators shall be charged for the actual hours worked at the direction of the Engineer at the rates in Tender Schedule TS 14 submitted with the Contractor's tender. These rates shall allow for all overtime and other allowances.

The cost of materials shall be charged at the net price paid for the materials delivered to Site as substantiated by supplier's invoices. Payment will only be made for the quantity required for the Dayworks including any surplus material accepted by the Engineer.

Payment for plant shall be for actual hours worked at the rates in Tender Schedule TS 14 submitted with the Contractor's tender. These rates shall include for transport of plant and labour to the site. Plant rates shall include the cost of fuel and all other consumables but shall exclude the cost of operators who shall be charged as labour.

Subject to the provisos of the preceding paragraph the rates in the Schedule of Rates for Daywork shall be basic cost rates and exclude overheads and profits which will be paid additionally at the percentages shown in Schedule TS - 15, Schedule of Overheads and Profit submitted with the Contractor's tender.

Standing time for plant on Site and used on Dayworks shall not be paid for

The cost for plant detailed in Tender Schedule TS 14 shall be for all plant required for Dayworks whether supplied by the Contractor, any sub-contractors or any plant hire contractors.

#### 5.12 Payment of Items Measured on a Monthly Basis

Payment under items in Bidding Schedule which are measured on a monthly basis shall not be commenced until the full facilities described in the items and the Specification have been provided to the satisfaction of the Engineer. Payment will continue so long as such facilities continue to be provided to the satisfaction of the Engineer and until such time as the Engineer shall signify that facilities are no longer required.

#### 5.13 Establishment, Maintenance and Demobilisation

The amount the costs of mobilising plant, equipment and site establishment will be separated interim certificate issued by the Engineer following completion of all necessary site facilities and mobilisation of all plant and equipment by the Contractor.

The amount of the costs of establishing the Engineer's office, the laboratory and the weighbridge will be separated interim certificate issued by the Engineer following completion of the relevant facility by the Contractor.

The amounts of the costs of demobilisation and removal of the Engineer's office, the laboratory and the weighbridge will be included generally in the certificate of payment following the contractor's statement at completion but part thereof may be included in a preceding interim valuation where appropriate and entirely at the Engineer's option due to some site facilities or plant having been dismantled or removed.

In the event of an extension of the time for Completion becoming apparent but either:

- no extension of time has been granted; or
- an extension has been granted but not to the full extent of such delay; or
- an extension of time has been granted but such extension is on one of the grounds not entitling the Contractor to reimbursement of cost then-

The amounts for monthly items will not be paid beyond the due date for completion.

In the event of an extension of the Time for Completion being granted by the Engineer on grounds which entitle the Contractor for reimbursement of extra costs, the amounts for monthly items will be paid throughout the extended time. In the event of the extension of the Time for Completion granted not being in units of complete calendar months, the extra amount due shall be calculated as pro rata to the monthly instalment.

## 6 General

### 6.1 Mobilization

Transport of Construction Plant, on the basis of the list of Construction Plant submitted with the Bid, from the port of unloading in Vietnam to the sites where they are to be used on the bridges and roads under Construction, and their installation:

Payment is also intended to cover the dismantling of the work sites by the Contractor, with the removal of all the installations, Constructional Plant and equipment, so that the site is restored to the state it was in before the installations, plant and equipment were placed there.

### 6.2 Construction of Temporary Yard

Lump sum price of construction of temporary yard shall include the cost of earth work, road, services of sewers, stormwater facilities, watermains, electricity supply lines, telephone lines of contractor's office, installation of construction plant with equipment of the Prestressed Concrete Box Girder (PC segment) and PC I Girder.

The rates are also include that the contractor shall be maintained in a neat and tidy condition in keeping with their location throughout the course of the Contract and completely removed from site at the completion of the Works.

### 6.3 Temporary Road and Bridge Works

The rates for this work shall include furnish, maintain during construction, and remove on completion of the work of all temporary roads and road works, access and service roads, temporary crossing or bridges over streams.

The Contractor shall provides for items such as signing, lighting and riding quality of the temporary road together with the proposed maintenance arrangements.

### 6.4 Maintenance and Protection of Traffic

The Contractor shall keep open to traffic existing roads during the performance of the Works and at all times keep roads and footpaths, affected by his operations from soil and material spillage.

The rate for payment to the contractor shall be deemed to include the cost to the Contractor of meeting his obligation under this Clause together with such other items as are expressly stated in the General Specification.

### 6.5 Payment under Clause 6.2 and 6.3 shall be made in three installments as follows:

- 40% (forty percent) on completion of the installation of plant, equipment, office and etc.
- 40% (forty percent) with the Monthly Certificates in installments proportional to the cost of work executed; and



- 20% (twenty percent) in the Final Certificate on completion of all necessary dismantling and restoration of the Site.

Payment under Clause 6.4 (Maintenance and Protection of Traffic) shall be made on a monthly basis.

#### 6.6 Engineer's Office

The rate for construction of office maintaining and cleaning the Engineer's office shall include for the following:

- charges for power, lighting, water supply and refuse disposal;
- maintenance of buildings, services including air conditioning, vehicle access and hard-standing, office equipment, furnishings and fittings listed in Table ... are given as a guide.
- provision of consumables stores, such as fax paper, general stationery, cleaning materials, chemicals, etc.
- pest control and eradication;
- security and fire protection, prevention and control.

#### 6.7 Vehicles and Launches for the Engineer

The rate for maintenance and operation of vehicles and launches for Engineer shall include maintenance, fuel, repairs and spare parts, licensing, taxing and insurance. Cleaning and provision of suitable replacements when the regular vehicles or launches are unserviceable.

#### 6.8 Engineer's Accommodation

Construction of the buildings, provision of furnishing and equipment shall be in good condition, walls and woodwork fresh or newly painted. The size, furnishings and equipment listed in Table ---- are given as a guide to the minimum acceptable requirement.

The rate for accommodation shall include full compensation for providing the housing unit, furnishing servicing, repairing, maintaining and providing utilities, all for the period specified.

### 7 Site Clearance and Demolition

The rates and prices for site clearance and demolition works shall include for the removal and disposal of all demolished materials off site, unless otherwise stated, safety precautions and for all temporary props, bracing, plant and labour required. Rates shall also allow for backfilling of trenches and other excavations.

The rate for site clearance shall include for the removal and stockpile of all topsoil and the removal and disposal of unsuitable material both to a depth of 300mm.

Rates for excavation below 300 mm from the original ground level shall include for excavation, loading and hauling to temporary stockpile locations or directly to fill or spoil, and maintenance of the stockpile by grading and compaction as necessary. Where unsuitable material is excavated the rate shall also include for disposal of the material off site.

The volume of excavation shall be measured in its original position and of filling in its final position as the neat line quantity shown on the drawings or as agreed by survey in the field. No allowances shall be made for over excavation or filling, working space, bulking, shrinkage or settlement as appropriate.

## **8 Earthworks**

8.1 The rates for filling shall include the cost of trial demonstrations of proposed compaction equipment.

The volume of filling shall be measured in its final position from the actual interface, post settlement, of the fill material with the in-situ material to the neat line shown on the drawings or as agreed by survey in the field. The interface shall be determined using settlement plates substantiated by trial pits. No allowances shall be made for over filling, working space, bulking or shrinkage.

8.2 The rate for sand blanket shall include the cost of placing and compaction.

The quantity of sand blanket to be measured and paid for, will be the number of cubic meters of suitable material supplied and compacted to the engineer's satisfaction and in accordance with Specification. This material is required to be placed when filling within the influence zone of certain structures and any material placed outside the specified zone will not be measured for payment.

The price and payment will be full compensation for the work described including furnishing, hauling, placing and compacting the material.

8.3 Prefabricated Vertical Drain (PVD) and Sand Compaction Pile

The quantities of prefabricated vertical drain (PVD) and sand compaction pile to be paid for, shall be the number of linear meters measured of center-line between the top and bottom in under ground, as installation of PVD and pile as shown on drawings.

PVD shall be provided with an anchor plate or rod and plumpness of the equipment is required.

Sand Compaction pile shall be provided driving a pipe, vibratory hammer equipment to specified compacted.

The price and payment shall be full compensation for all costs including furnishing, hauling, placing and for all materials, labour, tools, equipment and incidentals necessary to complete the works.

#### 8.4 Structural Excavation

The quantity of structure excavation to be paid for shall be the number of cubic meters of material measured in its original position and shall be computed as follows.

The volume of earth to be measured for structure excavation shall consist of a prismaoid bounded by the following planes:

- upper plane; that plane reproduced by the projection of the perimeter of the base of the structural member and passing through the cleared ground along the perimeter above which plane excavation shall be considered as site clearing and below which excavation shall be considered as structure and shall be measured and paid for accordingly;
- lower plane; the horizontal plane at the base of the foundation; which will be taken as the lower surface of the structural concrete as shown on the Drawings or instructed by the Engineer;
- the vertical planes coinciding with the perimeter of the base of the structural member. Any additional width of excavation necessary for the installation of blinding stone or leveling concrete or structural concrete exceeding area of lower plane will not be measured for payment and the cost of this excavation will be deemed to be included in the unit price for the measures quantity as described above.

The volume of Blinding Stone measure for payment will be the number of cubic meters of stone completed using the dimensions shown in the drawings. Prices and payment shall be full compensation for all costs necessary or usual for the proper completion of the work.

#### 9 Drainage

Lengths of pipes and U ditches shall be measured from the internal face of catchbasins or pits.

The rate for pipes shall include for excavation and maintenance of such excavation, manufacture, supply, and delivery to site of pipes, bedding, laying, jointing of pipes, testing, backfilling material compacted in layers and disposal of spoil.

Rates for pits and catchbasins and U ditches shall include for excavation and maintenance of the excavation, concrete, reinforcement, formwork, blinding, supply and installation of covers, ladders, cast in fittings, backfilling and compaction and disposal of spoil.

#### 10. Pavement

Sub-base, base course and asphalt pavement shall be measured as the area of net dimensions of the pavement layers for the layer thickness specified.

The rates for sub-base and base course materials shall include for the removal from stockpile, or where stockpiled material is not available, provided from a Contractor developed or existing borrow area, hauling, placing in layers to the specified levels and tolerances, watering, mixing and compaction, grading and trimming to level and control testing as specified.

The rates for asphalt pavements shall include for the profiling to tolerance of the base course and wearing course and their compaction to the required line and level.

The rates for concrete kerbing and inverts shall include for excavation, preparation of surface, supply and placement of concrete, construction joints, curing and testing of concrete and backfill as required.

The rates for scarifying the existing pavement, shall include for all trimming and preparing the subgrade and for compaction and testing as specified.

## **11. Piling**

11.1 The cost of operating pile boring equipment shall be included in the rates for remeasured items for piling within the bridge section. Mobilisation and demobilisation rates are covered in Bill 1.

The various rates for piling shall include for the supply of all labour, testing, materials, plant, tools, survey equipment and miscellaneous equipment necessary to complete each particular item including:

- Taking observations, including video recording, and compiling the record of each pile and supplying one copy to the Engineer
- Providing access and facilities for the Engineer during driving

### **11.2 Testing**

The test drilling pile load test and sonic test will be measured for payment purposes as lengths of hole drilled and per each in schedule of Bid.

The rate for testing shall include full compensation for all drilling, casing, if necessary, penetration test and split-barrel sampling, recording and presenting the results and storing the samples.

## **12. Concrete**

### **12.1 General**

All volumes of concrete shall be measured by net volume. No deductions in the measurement of concrete shall be made for small cavities, chamfers, nosings, bolt holes, and for totally encased rails, joists, reinforcement and the like. Deductions shall be made for openings exceeding one tenth of one square metre, pipes, etc.

The rates and prices for concrete shall include for all testing and test batching, the supply of all materials, plant, labour, formwork, reinforcement, chamfers and for all other work required to construct the concrete to the forms, dimensions, strengths and finishes as specified.

Bar and rod reinforcement shall be measured according to the weight as calculated from the Drawings or specified, the basis of the calculated weights being that steel weighs 7.85

kg per 1000 square mm of nominal cross sectional area per lineal metre, no allowance being made for waste or rolling margin.

The rates for concrete shall include for:

- formwork and chamfers and for all other work required to construct the concrete to the forms, dimensions, strengths and finishes as specified;
- all costs incurred in determining the mixes to satisfy the Specification;
- variations in cement content of the concrete mixes from the guide quantities given in the Specification;
- supplying all materials, mixing, transporting, placing and compaction (whether by hand or vibration);
- roughening the surface of previously executed work (including those parts of precast concrete work against which in-situ concrete will be placed) in order to provide the necessary bond with new concrete;
- blinding the surfaces to receive the concrete or providing a layer of approved polythene;
- achieving specified tolerances;
- forming slopes, falls and the like;
- forming all temporary joints, keys, stop ends, temporary stops and shuttering of other than permanently exposed faces;
- curing the concrete and all measures to protect freshly-poured concrete from direct sunlight and action of the elements;
- rubbing down and making good the concrete surfaces;
- the cost of control testing throughout the period of concreting and for the testing of concrete and remedial work ordered by the Employer consequent upon the results of control tests falling below the minimum specified;
- overtime working to maintain continuity of casting;
- a daily return to the Employer showing the quantities of cement and the number of mixings of each class of concrete used in each section of the Works.

## 12.2 Prestressed Concrete Members

The quantity of prestressed concrete I-girders and Box-girders segment to be measured for payment shall be the actual number of precast prestressed concrete structural members, installed in place, completed and accepted. Each member shall include the contained within or attached to the beam or slab unit.

Prestressed cast-in-place concrete box girder will be paid for on the basis of the number of cubic meters of concrete, the weight (kg) of reinforcing steel and the weight (kg) of prestressing steel, respectively.

The prices and payment shall be full compensation for furnishing and placing all materials including all labour, tools, equipment and incidentals necessary to complete the work prescribed in this Clause. The payment of PC cable shall include the work of tensioning, grouting, anchorages and ducts. The unit price for I-girders and Box-girders segment will be deemed to include all concrete, reinforcement, PC cable, hauling and erection.

12.3 Concrete or pipe culvert shall be measured by linear meter. No deductions in the measurement of concrete shall be made for small cavities, chamfers, nosings, bolt holes, and for totally encased rails, joists, reinforcement and the like.

The rates and prices for concrete or pipe shall include for culvert concrete, labour, formwork, reinforcement, chamfers and for all other work required to construct the concrete to the forms, dimensions, strengths and finishes as specified.

The prices and payment shall be full compensation for furnishing and placing all materials including all labour, tools, equipment and incidentals necessary to complete the work.

### **13. Structural Steelwork**

Rates for structural steelwork shall include for all tasks specified, including but not limited to, preparation, cutting, marking, welding, drilling, fabrication, supply, erection, preparation of shop drawings, testing, welder pre-qualification testing, etc.

Structural steelwork shall be measured net from the Drawings and no deduction shall be made for holes. The density of steel shall be taken as 7850 kilograms per cubic metre for determining the mass of pieces cut from plate or bar. The mass of steel sections shall be taken as those published by the manufacturers. Tolerance for rolling margin, wastage in fabrication, and the weight of welding material, bolts, nuts and washers shall not be included in the measured weight.

The rates for steelwork, protective plates and angles, hold down bolts and plinths, etc. shall include supply and fabrication, preparation and application of protective coatings, transport and fixing.

### **14. Cable Stay Work**

14.1 Cable stay work including all anchorage, dampers and associated items shall be paid based on the theoretical weight (in tons) of installed and accepted stay cables measured from the theoretical final position of the outer surface of the steel anchor plate at the lower end the upper end.

The price shall cover all necessary works for stay cables cited including all fabricating furnishing, installing, and adjusting of stay cables, complete with anchorage components, anchor pipes, split shims (if used), wedges, bearing plates, tension rings, polyethylene pipes including, painting, sealing and damping rings, boots, bolts, clamping bands, corrosion protection, erection devices and all incidental materials, tests, quality control and

labor and equipment necessary to construct the stay cables, and all inspection, testing and safety provisions.

14.2 The cost for material supply shall include the stay cables, and anchorage materials. The stay cable material of PC strand, and lost materials of the PC strands. The anchorage material of anchorage devices with cap on pylons, anchorage devices on box girders. The protection pipe materials of high density polyethylene pipe (HDPE), recess tubes on pylon, recess tubes on box girders spiral bars, water proofing protection covers, bands for hanging, and their transportation and storage.

14.3 The costs for installation of anchorage devices, metal fittings for anchorage devices with assembling form and concrete work for cut off at the anchorage devices on pylons and protection cover works for fixing to anchorage.

The costs for installation shall include the works of stay cables for fabrication and installation of HDPE pipes, stress installation to the stay cable by strand-by strand and adjusting works, machinery /equipment costs for installation, and vibration control devices.

## **15. Bearing Pads**

The quantities of bearing pads shall be measured by the number of each type completed in place in accordance with the Drawings irrespective of size. The rate and price for bearing pads shall consist of full compensation for furnishing, fabricating, transporting, painting and placing all materials including all labor, tools, equipment, and incidentals necessary to complete the work prescribed. Details of necessary accessories are shown on the Drawings, and include anchor bar and cap, and reinforcement, etc.

## **16. Bridge Utility**

### **16.1 Bridge Railing**

Price rates for road and bridge furniture of railing shall include the following:

- Material, fabrication work, marking, delivery and storing on site;
- All bolts and cast in fittings in structural connections other than those supplied;
- Making good any damage and repair to any protective treatments.

### **16.2 Expansion Joint**

The quantities to be paid for shall be the actual number of linear meters of preformed expansion joints completed including sealant and back up form of foamed polystyrene or similar material used in adjacent curbs and parapet walls in place in accordance with the drawings.

The rate and price for expansion joint shall constitute full compensation for all cutting and excavation of pavement, formation of construction joint with existing concrete and for all labour and equipment, furnishing of materials including epoxy concrete, epoxy mortar, fiber reinforced plastic, reinforcement and concrete, fabricating, transporting, painting,

setting expansion joints, and for other incidentals. Cost for preformed expansion joints will be deemed to include the cost of sealant used in adjacent works and parapets.

## **17 Electrical Services**

### **17.1 General**

Rates for electrical supply and installation shall include where applicable for all materials, plant and labour including all wiring, civil works as required, conduits, cable trays, fixings and fasteners, terminations, finishes, protection, cuttings, chasing, drilling and making good on completion.

### **17.2 Street Lighting Pole, Panel, Cable and PVC Conduit**

The quantity of each item paid for under this clause will be the number of linear meters or individual items as indicated in Bid which are furnished and installed in accordance with this specification, the Drawings and the instructions of the Engineer.

The price and payment will be full compensation for all the work shown on the Drawings or described in the Specifications. The scope of work included in each pole item shall be as shown on the Drawings or as described in the Specifications.

The work of high mast lighting will include furnishing, assembly and erection of the mast, mast head, lanterns, wiring, electrical control gear, base plate and anchor bolts for the mast. One removable lowering and raising device drive motor unit shall be furnished and payment shall be full compensation for furnishing the drive motor and all its mounting and control equipment.

The payment for tunnel lighting panel will include furnishing and installing the remotely sited photo sensor.

The payment for cable will be full compensation for the furnishing, laying or pulling, and jointing cable, but excavation, protection and backfilling will be paid for under Clause Earth work.

## **18. Toll Collection Booths**

### **18.1 General**

The price for the toll collection booths shall include all building works and services works to provide the complete toll collection facilities including all internal and external finishes

### **18.2 Portland Cement Concrete (PCC) Pavement**

The quantity to be paid for under this item will be the number of square meters of concrete pavement completed and accepted as measured complete in place in the permanent works. The width for measurement will be the width of the pavement shown on the typical cross section of the plans. The length will be measured along the center line of each roadway.

Joints and reinforcing steel required for the work of this clause will not be measured for separate payment.



The price for PCC pavement shall include the full compensation for furnishing and placing all materials, including, but not limited to, class P concrete, reinforcing steel, forms, dowels, tie bars and joint materials, and all other material, labour, equipment and incidentals necessary to complete the work as shown on the Drawings.

**19. Vehicle Guardrail, Precast Concrete km Indicator Posts**

The quantities to be paid for shall be the number of linear meters of each type of guardrail or fence, completed and accepted in accordance with the Drawings, Specifications, and as directed by the Engineer. Vehicle guardrail will be used at diverging noses, for protection of bridge piers and between earthwork and bridge sections.

The price and payment shall be full compensation for furnishing and installing all materials, including labour, equipment, tools and all incidentals necessary to complete the work as shown on the Drawings.

**20. Traffic Signs**

The quantities to be paid shall be the actual number of each type warning signs, maintenance marker posts, kilometer posts, guide-posts and concrete guard posts furnished, placed and accepted.

Payment shall be paid for in accordance with applicable Unit Prices as indicated on the Bid Price Schedule. Payment shall constitute full compensation for furnishing and placing all materials, including all labor, equipment, tools and incidentals necessary to complete the work.

**21. Traffic Control Utility**

**21.1 Road Marking**

The quantities of road marking to be paid for will be the number of square meters of the relevant material applied to the surface, completed and accepted in accordance with the Drawings, these Specifications, and as directed by the Engineer.

The price and payment shall constitute full compensation for furnishing all materials, labor and equipment and for fulfilling all the work as described in this clause.

**21.2 Delineators**

The quantities to be paid for shall be the actual number of delineators furnished, installed and accepted in accordance with the Drawings.

The prices and payment shall be full compensation for furnishing and installing delineators, including labour, equipment, tools and all incidentals, necessary to complete the work.

**21.3 Concrete Curb and Barrier**

Concrete Curb and Barrier shall be measured by number of linear meter. No deductions in the measurement of concrete shall be made for small cavities, chamfers, nosings, bolt holes, and for totally encased rails, joists, reinforcement and the like.

The rates and prices for concrete shall include for all materials, plant, labour, formwork, reinforcement, chamfers and for all other work required to construct the concrete to the forms, dimensions, strengths and finishes as specified.

## **22. Landscaping Work**

### **22.1 Interlocking Concrete Block Paving**

Concrete block pavement shall be measured as the area of net dimensions of the pavement.

The rates for sub-base and base course materials shall include for the removal from stockpile, or where stockpiled material is not available, provided from a Contractor developed or existing borrow area, hauling, placing in layers to the specified levels and tolerances, watering, mixing and compaction, grading and trimming to level and control testing as specified.

The rates for concrete kerbing and inverts shall include for excavation, preparation of surface, supply and placement of concrete, construction joints, curing and testing of concrete and backfill as required.

The rates for concrete block pavements shall include for the placing and compaction of sub-base and base course materials including their placing in layers to the specified levels and tolerances, watering, mixing and compaction, grading and trimming to level and the profiling to tolerance of the base course and bedding sand, the supply, placing, cutting as necessary of blocks and compaction to the required line and level.

## **23. Slope Protection**

### **23.1 Clay Fill**

The quantities of Clay Fill to be paid for shall be the number of square meters of treated surface measured on the slope in accordance with the Drawings.

The price and payment shall be full compensation for furnishing all materials, labour, equipment, tools including preparation of surface, protection and maintenance, and other incidentals to complete the work in accordance with the Drawings and Specifications.

### **23.2 Masonry Slope Protection and Revetment Work**

The quantities to be paid for shall be the number of square meters on slope rubble measured as indicated on the Drawings, completed and accepted. In computing the area for payment the dimensions used will be those determined by the payment lines or payment areas shown on the Drawings or ordered by the Engineer.

Any coping provided shall be included in the measurement as though it was mortared rubble. Where the Engineer instructs special joint or edge details of a thickness greater than the standard shown on the Drawings, this will be measured by volume and converted to an equivalent area of the standard thickness for the purpose of payment.

The price and payment shall be full compensation for furnishing all labour, equipment, and materials necessary for the proper completion of the work.

## **24. Drain for Bridge**

The quantities of drain pipe to be paid for will be the number of linear meters measured along the central lines of pipe runs and no extra measurement will be made for bends or junction pieces.

The quantities of deck drain to be paid for shall be measured by the number of each type, completed in place and accepted.

Drain pipe shall be 20 cm and 15cm diameter. Payment for drain pipe and deck drain will be deemed to include for all fittings and supports necessary to install the drains in accordance with the details shown on the Drawings.

The prices and payment for this items shall be included full compensation for labour, tools and equipment, furnishing of materials, fabricating, transporting, and setting of each item and all other incidental works.

## **25. Lightning Protection**

The quantity of lightning protection to be measured and paid for will be number of liner meters of cabling or individual items on the Schedules of Prices and Rates which are furnished and installed in accordance with the specification, the Drawings and the instruction of the Engineer.

Measurement of external cable to be taken to the junction box located within the elevation rod or conductor, grounding rod.

Payment for lightning rods shall include lightning receive parts, elevation rod, lightning conductor, down conductor, and earth electrode, grounding connections and wiring, fittings and all necessary equipment, materials, devices and incidentals necessary for complete operating units.

## **26. Navigation Aids**

### **26.1 Aviation Obstruction Light and Navigation Bridge Light**

The quantity of each item paid for will be the number of linear meters or individual items as detailed on the Schedules which are furnished and installed in accordance with this specification, the Drawings and the instructions of the Engineer.

Cable within each pole will not be measured for payment, but will be considered to be included in the unit price for the pay item being installed. Measurement of external cable will be taken to the junction board located within the hand-hole of the pole or to the first junction within the control panel.

The quantity measured as provided above, shall be paid for in accordance with applicable Unit Prices and Rates as indicated on the schedule of Prices and Rates. The price and payment will be full compensation for all the work shown on the Drawings or describe in these Specification.

The payment for cables will be full compensation for the furnishing, laying or pulling, and jointing cables, and all necessary protection.

#### 26.2 Navigation Marker Bouys

The quantity of bouy to be paid for shall be the number of each unit measured on the schedule of Prices and Rates in accordance with the specification, the Drawings and directed by the Engineer.

The prices and rates for bouy shall include for supply and complete installation of all item comprising (except the spare parts) of bouy body, mooring chain and shinker, lighting equipment and painting.

The price the payment shall be full compensation for furnishing and installation all materials including all labour, tools, equipment and incidental necessary to complete the work.

**SOCIALIST REPUBLIC OF VIET NAM**  
**MINISTRY OF TRANSPORT**  
**MY THUAN PROJECT MANAGEMENT UNIT**  
**My Thuan Project Management Unit (My Thuan PMU)**  
**127B Dinh Tien Hoang St, Binh Thanh District Ho Chi Minh City - Viet Nam**  
**Tel: (84 - 8) - 841 0088; Fax: (84 - 8) - 841 1872**

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**FORMS OF BANK GUARANTEE**

**Advance Payment Security**  
**Performance Security**

**Can Tho Bridge Construction Project**  
**Under JBIC Loan Agreement**  
**Package IIII**

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**FORM OF GUARANTEE**  
**ADVANCE PAYMENT SECURITY**

**Can Tho Bridge Construction Project**  
**Under JBIC Loan Agreement**  
**Packages II**

The Contractor shall provide an Advance Payment Security in the form below:

**Form of Bank Guarantee for Repayment of the Advance Payment**

No. \_\_\_\_\_ Date \_\_\_\_\_

WHEREAS, \_\_\_\_\_ (Name of Contractor) (hereinafter called the "Contractor"), whose registered office is at \_\_\_\_\_ (Address), has entered a written contract agreement (hereinafter called the Contract) dated \_\_\_\_\_ (Date) with My Thuan Project Management Unit (hereinafter called the "Employer") for the construction and completion of Can Tho Bridge, Package \_\_\_\_\_ (Name and No of Package) in conformity with the provisions of the Contract,

AND WHEREAS it has been agreed that the Contractor shall be entitled to draw an advance payment of \_\_\_\_\_ (Amount of Yen in Words) Japanese Yen, ¥ (Amount of Yen in Figures) and \_\_\_\_\_ (Amount of Dong in Figures) Vietnamese Dong, Đ \_\_\_\_\_ (Amount of Dong in Figures) in conformity with the provisions of the Contract

AND WHEREAS, it has been agreed that the said advance payment will be repaid by the Contractor in conformity with the provisions of the Contract.

AND WHEREAS it has been agreed that the Contractor shall obtain and provide a security for his proper performance in the repayment of the advance payment

We, \_\_\_\_\_ (Name of a State Bank or a Private Bank in Vietnam) (hereinafter called the Guarantor), having our Registered Office at \_\_\_\_\_ (Address), unconditionally guarantee to pay to the Employer as primary obligator, on demand, any sum or sums which may from time to time be demanded by the Employer from the Guarantor, in respect of the Contractor's proper performance in the repayment of the advance payment, up to the maximum aggregate sums of \_\_\_\_\_ (Amount of Yen in Words) Japanese Yen, ¥ (Amount of Yen in Figures) and \_\_\_\_\_ (Amount of Dong in Words) Vietnamese Dong, Đ (Amount of Dong in Figures) without the Employer needing to show grounds or reasons for the demand.

This payment will be made without any need for the Employer to demand payment from the Contractor, without reference by the Guarantor to the Contractor and notwithstanding any notice given by the Contractor not to make the payment.

If at any time in the course of the Contractor's obligations under the Contract there is any change, addition or other modification to the terms of the Contract, or of the Works to be performed thereunder, including any extension of the period of the Contractor's obligations, it shall be deemed that such change, addition or modification shall have been made with the Guarantor's consent and shall in no way release the Guarantor from any liability under this guarantee.

This guarantee shall remain in full force from the date of its signature either until such time as the Contractor has fulfilled all the Contractor's obligations in the repayment of the advance payment in conformity with the provisions of the Contract or the maximum aggregate sums above have been paid by the Guarantor to the Employer within the terms of this guarantee, whichever occurs sooner

SEALED with the Common Seal of the said Guarantor this \_\_\_\_\_ (date) day of \_\_\_\_\_ (month) 20\_\_\_\_ (year).

SIGNATURE AND SEAL OF THE GUARANTOR \_\_\_\_\_

WITNESS \_\_\_\_\_

WITNESS \_\_\_\_\_

(Signature, Name and Address to be provided)

**SOCIALIST REPUBLIC OF VIET NAM**  
**MINISTRY OF TRANSPORT**  
**MY THUAN PROJECT MANAGEMENT UNIT**  
**My Thuan Project Management Unit (My Thuan PMU)**  
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**FORM OF GUARANTEE**  
**PERFORMANCE SECURITY**

**Can Tho Bridge Construction Project**  
**Under JBIC Loan Agreement**  
**Package III**

The Contractor shall provide a Performance Security in the form below:

**Form of Bank Guarantee for Performance**

No. \_\_\_\_\_

Date \_\_\_\_\_

WHEREAS, \_\_\_\_\_ (Name of Contractor) (hereinafter called the "Contractor"), whose registered office is at \_\_\_\_\_ (Address), has entered a written contract agreement (hereinafter called the Contract) dated \_\_\_\_\_ (Date) with My Thuan Project Management Unit (hereinafter called the "Employer") for the construction and completion of Can Tho Bridge, Package \_\_\_\_\_ (Name and No of Package) in conformity with the provisions of the Contract.

AND WHEREAS it has been agreed in the Contract that the Contractor shall obtain and provide a security for his proper performance of the Contract

We, \_\_\_\_\_ (Name of a State Bank or a Private Bank in Vietnam) (hereinafter called the Guarantor), having our Registered Office at \_\_\_\_\_ (Address), unconditionally guarantee to pay to the Employer as primary obligator, on demand, any sum or sums which may from time to time be demanded by the Employer from the Guarantor, in respect of the Contractor's proper performance of the Contract, up to the maximum aggregate sums of \_\_\_\_\_ (Amount of Yen in Words) Japanese Yen, ¥ \_\_\_\_\_ (Amount of Yen in Figures) and \_\_\_\_\_ (Amount of Dong in Words) Vietnamese Dong, Đ \_\_\_\_\_ (Amount of Dong in Figures), without the Employer needing to show grounds or reasons for the demand.



This payment will be made without any need for the Employer to demand payment from the Contractor, without reference by the Guarantor to the Contractor and notwithstanding any notice given by the Contractor not to make the payment.

If at any time in the course of the Contractor's obligations under the Contract there is any change, addition or other modification to the terms of the Contract, or of the Works to be performed thereunder, including any extension of the period of the Contractor's obligations, it shall be deemed that such change, addition or modification shall have been made with our consent and shall in no way release the Guarantor from any liability under this guarantee.

This guarantee shall remain in full force from the date of its signature either until such time as the Contractor has fulfilled all the Contractor's obligations under or in relation to the Contract or the maximum aggregate sums above have been paid by the Guarantor to the Employer within the terms of this guarantee, whichever occurs sooner

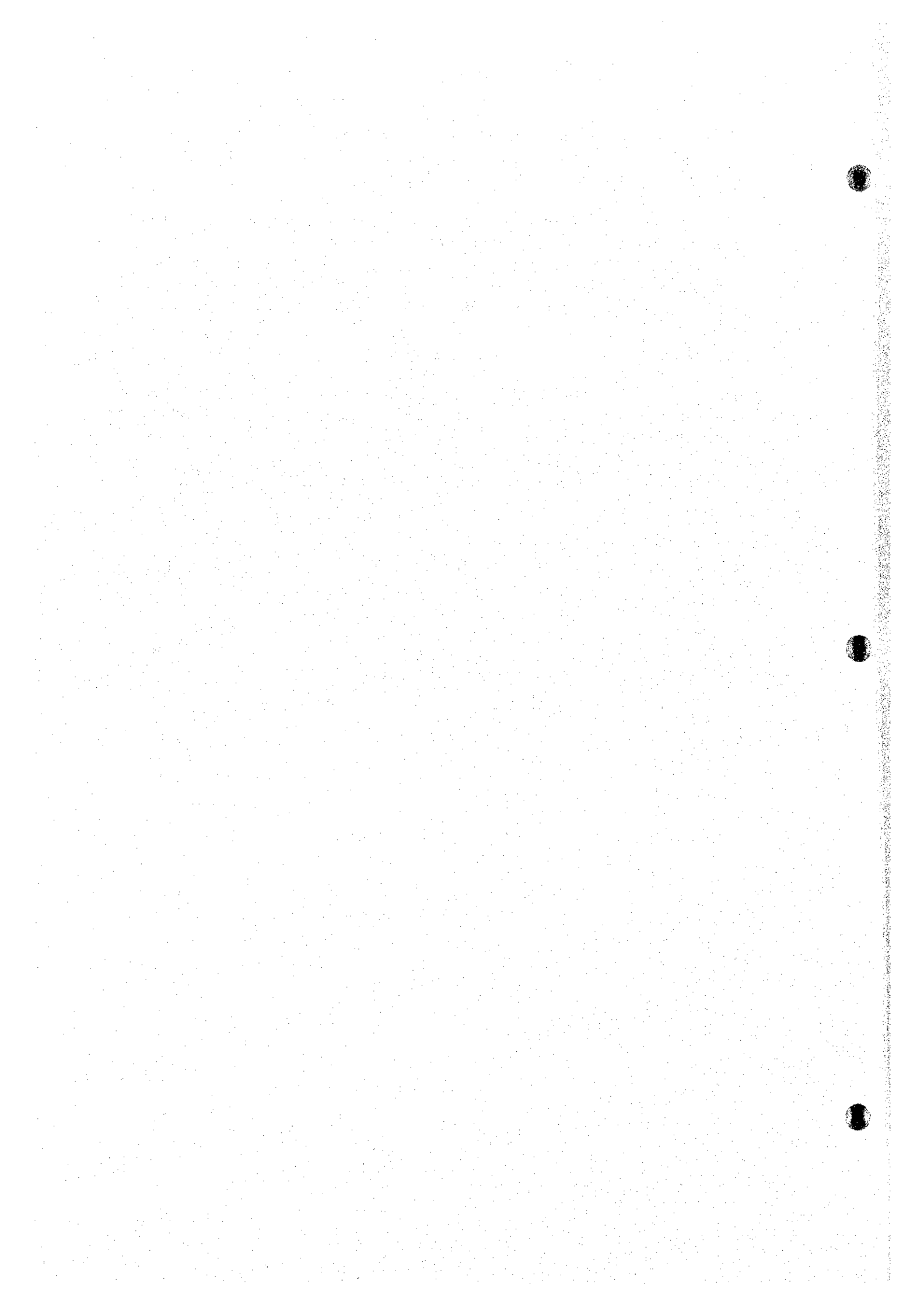
SEALED with the Common Seal of the said Guarantor this        (date) day of        (month) 20    (year).

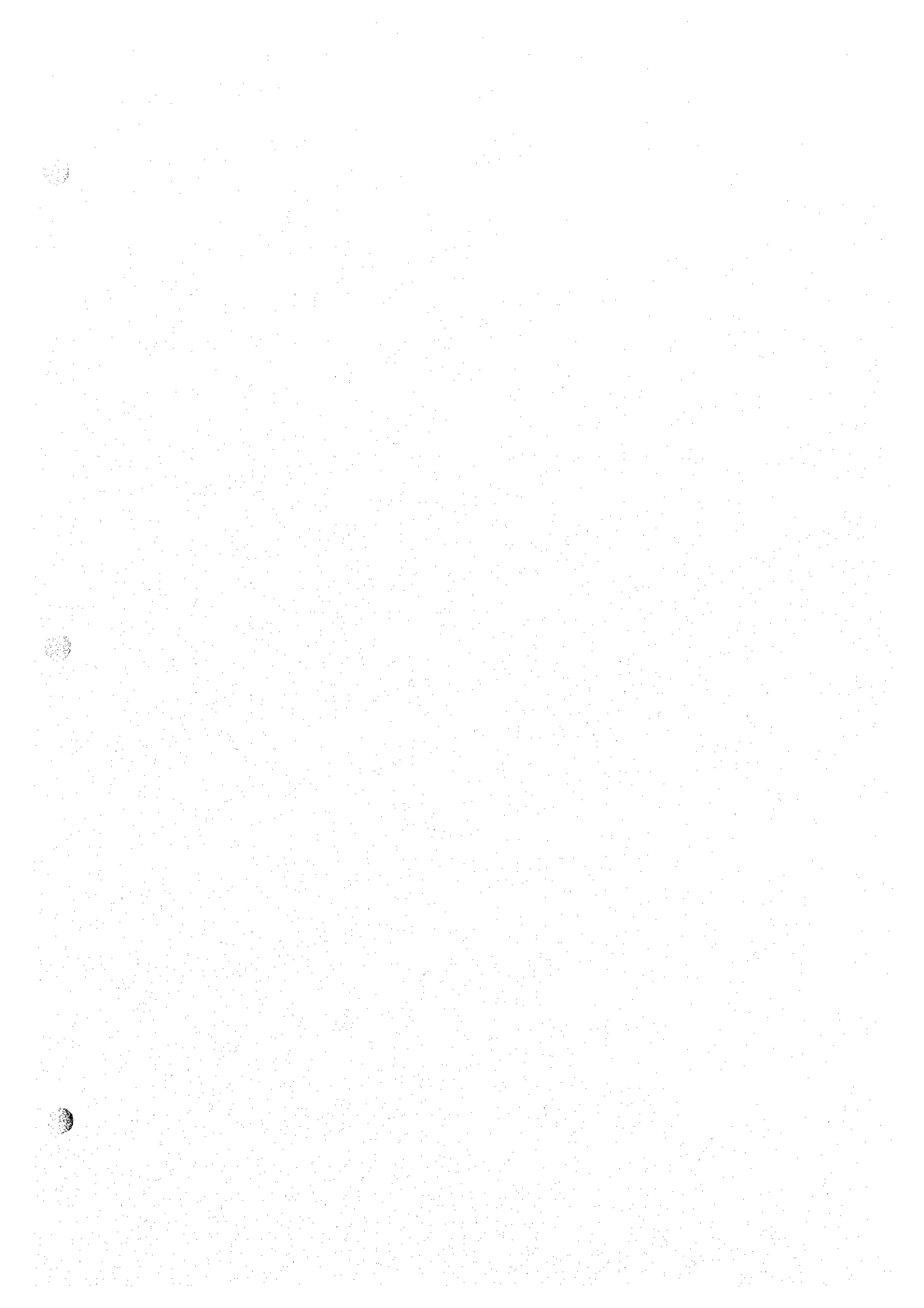
SIGNATURE AND SEAL OF THE GUARANTOR \_\_\_\_\_

WITNESS \_\_\_\_\_

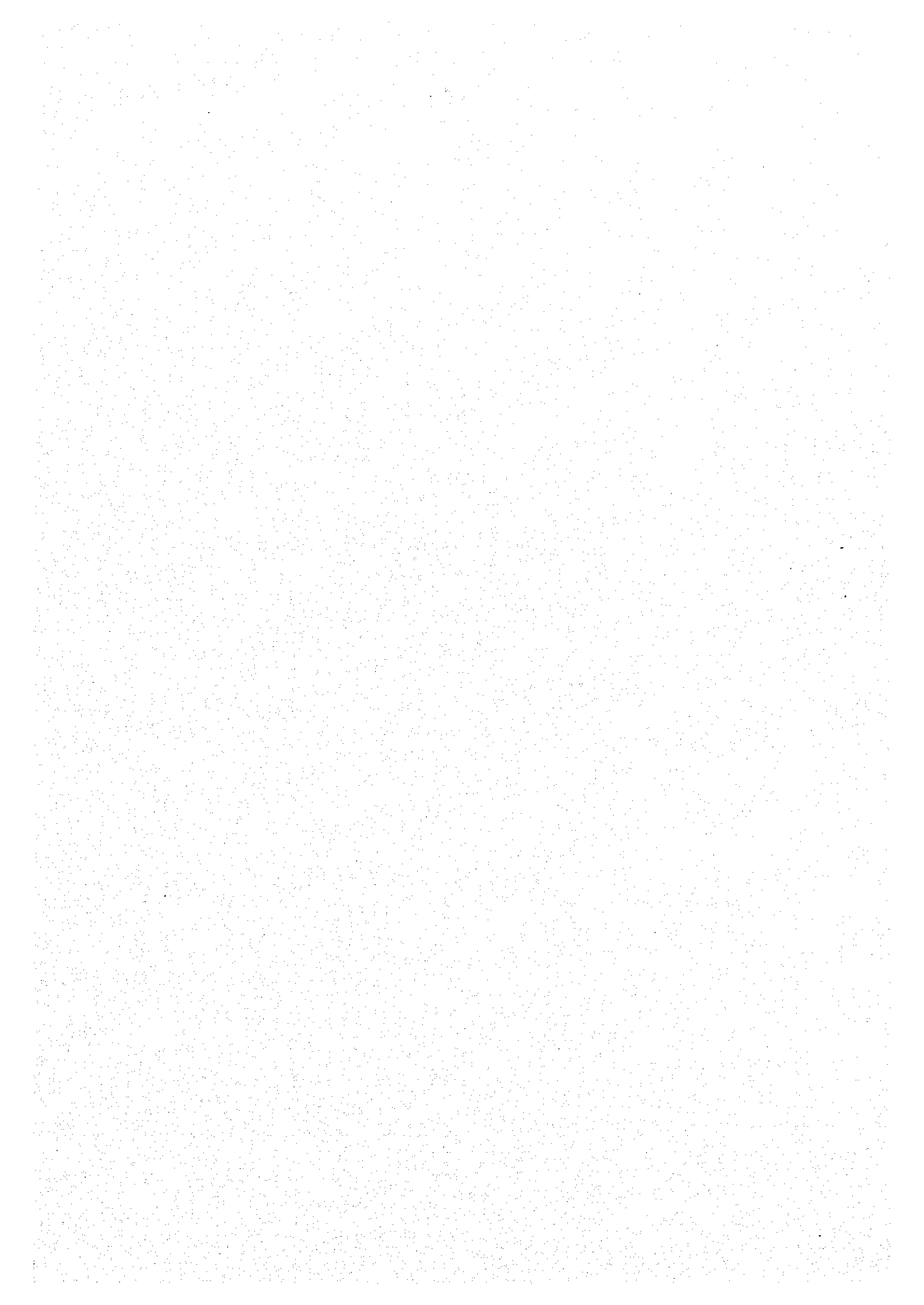
WITNESS \_\_\_\_\_

(Signature, Name and Address to be provided)









JICA

