

THE HORTICULTURAL DEVELOPMENT PROJECT
IN
THE KINGDOM OF NEPAL

CONTRACT
FOR
THE CONSTRUCTION
OF
DEMONSTRATION FARM
IN
THE SINDHULI SUB-CENTER

VOLUME I

INSTRUCTIONS TO TENDERERS
FORM OF TENDER
FORM OF AGREEMENT
FORM OF TENDER DEPOSIT
FORM OF PERFORMANCE BOND
CONDITIONS OF CONTRACT
GENERAL SPECIFICATIONS
TECHNICAL SPECIFICATIONS
BILL OF QUANTITIES

MARCH 1986

JAPAN INTERNATIONAL COOPERATION AGENCY

ADD

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HORTICULTURAL DEVELOPMENT PROJECT
 CONTRACT
 FOR
 THE CONSTRUCTION OF DEMONSTRATION FARM
 IN
 SINDHULI SUB-CENTER

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INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

Tender Document 1. Each Tender shall comprise Instructions to Tenderers, Form of Tender, Form of Agreement, Conditions of Contract, Specification, Form of Performance Bond, Form of Bid Bond, Bill of Quantities and Drawings.

Eligible Tenderers 2. Only those local businesses, firms, association and partnerships which have been nominated by the Employer to tender are eligible to participate in this Tender.

Tender Document to be filled-up 3. The Tenderer shall complete the Form of Tender, the Bill of Quantities and the Schedule with all blanks duly filled up in ink and each page thereof duly signed.

No alternation is to be made in the Tender Document except in filling up the blanks as required.

Submission of Tender 4. The Tender Document duly completed (and any other accompanying document) shall be enclosed in a strong sealed parcel addressed to the addressee below. This parcel shall itself be enclosed in a second strong plain sealed cover which shall conspicuously bear the words (TENDER FOR CONSTRUCTION OF DEMONSTRATION FARM IN SINDHULI SUB-CENTER FOR HORTICULTURAL DEVELOPMENT PROJECT, JAPAN INTERNATIONAL COOPERATION AGENCY IN NEPAL), but which shall bear no mark indicating the Tenderer, and which shall be addressed to: THE RESIDENT REPRESENTATIVE, JAPAN INTERNATIONAL COOPERATION AGENCY IN NEPAL, WARD NO. 1, BAKUNDOLE, PULCHOK, PATAN, NEPAL.

Tenders shall be delivered at any time up to 17:00 hours (Kathmandu local time) on _____ 1986. Any Tenders received thereafter will be returned to the Tenderer unopened.

Opening of Tenders 5. Tenders will be opened publicly at noon on _____ 1986 at the Office of JAPAN INTERNATIONAL COOPERATION AGENCY IN NEPAL. The representatives of Tenderers may attend.

Tender Deposit 6. In order to secure the fulfilment by the Tender of the obligations under taken by him, the Tender must be accompanied by a deposit of an amount not less than two (2) percent of the tender sum. The deposit may take the form of either:

(a) a receipt of cash deposit in Account No. _____ in favour of _____, or

(b) a letter of guarantee by any of the approved Commercial bank in Nepal, namely, Nepal Bank Limited or Rastriy Banijya Bank, in the form given in the Tender Document or in a separate letter issued by the Bank to that effect if considered acceptable by the Employer.

- Completeness of Tender 7. The Tender Document issued by the Employer must be duly completed and accompanied by the Tender Deposit as aforesaid.
- Any Tender which is not duly completed with all informations and price called for therein or not accompanied by sufficient Tender Deposit shall not be considered.
- Validity of Tender 8. The Tender shall be valid for a period of thirty (30) days from the date specified above for delivery of Tenders.
- Expenses in Preparation of Tender 9. The Employer will neither be responsible for, nor pay for any expense which may be incurred by any Tenderer in the preparation or submission of Tenders.
- Acceptance and Rejection of Tender 10. The Employer is not bound to accept the lowest or any Tender, nor is he obliged to give any reason for acceptance or rejection of any Tender.
- Security Deposit 11. The successful Tenderer shall be required to execute the Contract Agreement, and furnish within seven (7) days from the date of receipt of the Employer's notice of acceptance a Security Deposit as provided for in Clause 10 of the Condition of Contract.
- Forfeiture of Tender Deposit 12. If the Tenderer whose tender is accepted fails to execute the Contract Agreement or to furnish the Security Deposit within seven (7) days after being required so to do the Employer shall be entitled (but not obliged) to withdraw his acceptance of the Tender. Such acceptance if so withdrawn shall be void and the Tender Deposit shall become forfeited to the Employer.
- Interpretation 13. Should there be any doubt as to the true meaning of any portion of the Contract Documents, he shall apply in writing to the Engineer, with a copy to the Employer for information and explanation before submitting his Tender. Any such application must allow adequate time for the Engineer to response. Copies of any such information and explanations shall be given by the Engineer to all persons who have purchased the Tender Documents.
- Correspondence 14. All correspondence in connection with the Tender and Contract and all matters accompanying the Tender which are relevant to its examination are to be in the English language and expressed in units of the metric system. The Gregorian Calendar shall be used for the purposes of this Contract.
- Additions to Tenders 15. Tenderers are at liberty to add further details that they may desire, and in the event of their so doing, shall print or type such details and annex the said details to their Tenders. Such additional details shall not be binding on the Employer, unless they are subsequently incorporated in the Contract.

Site
Conditions

16. Tenderers shall have personal knowledge of the location of the proposed work and access thereto, and shall acquaint themselves with the actual conditions and requirements thereof, and shall not claim at any time after the submission of the Tenders or the subsequent execution of the Contract that there was any misunderstanding with regard to the conditions imposed by the Contract or prevailing at the site.

Further
Information

17. Any further information may be obtained on application in writing to the Engineer. Information if given verbally by the Engineer or by the staff of the Engineer or of the Employer will not be binding on either the Employer or the Engineer.

Information
to be sent
with Tender

18. The following shall be prepared by the Tenderers and shall be incorporated in the Tenders:

- (a) A preliminary construction programme, showing the sequence of construction operations in which the Tenderers propose to construct the various parts of the Work which may differ from that in the Drawings.
- (b) A list of the construction equipment or plant proposed to be used for the performance of the Contract, if any. The list shall enumerate the number, type and capacity of all major items of the construction plant.
- (c) A schedule for procurement of construction materials filled in by the Tenderer.
- (d) A list of parts of the Works the Tenderer proposes to sublet together with names of intended sub-contractors.
- (e) Business and technical organization
- (f) Financial resources
- (g) Experience in performing work of this nature and magnitude

FORM OF TENDER

The Resident Representative
Japan International Cooperation Agency
Patan, Nepal

Gentleman:

Having examined the Figures, Conditions of Contract, Specifications, and Bill of Quantities for the above works, we hereby offer to construct, complete and maintain the whole of the said works in conformity with the said figures, conditions and specifications, and described in the Contract, for the sum of
..... Nepalese Rupees.

We hereby agree, if our Tender is accepted, to commence the work within 15 days upon receipt of the commencement order, and to complete and deliver the whole of the works in the Contract within one hundred and fifty (150) days calculated from the last day of the aforesaid period in which the works are to be commenced.

We undertake, in the event of our Tender being accepted, to execute a formal contract for the due execution of the works in the terms of the annexed Form of Agreement and to furnishing an Earnest Money Deposit (Tender Deposit) on the annexed form amounting to being not less than percent of the tender sum.

At the time of Contract Agreement, we agree to furnish a Security Deposit of a sum equal to percent of the accepted tendered amount for the due performance of the Contract.

In the event of our failure to execute Contract Agreement when called upon so to do or failure to furnish a Security Deposit within seven (7) days after being required so to do, we agree and shall not claim if the acceptance of our tender is withdrawn and the Earnest Money Deposit (Tender Deposit) forfeited.

We agree to abide by this Tender for the period of thirty (30) days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this day of
1986. Signature in the Capacity of ...
..... duly authorised to sign
tenders for and on behalf of

APPENDIX TO TENDER

	Clause	
Amount of Security Deposit	10	Five (5) percent of the Contract Price
Period for commencement from the commencement order	37	Fifteen (15) calendar days
Time for completion	39	One hundred and fifty (150) calendar days
Amount of Liquidated Damages	43	One tenth (0.1) of one (1) percent of the Contract Price
Limit of Liquidated Damages	43	Five (5) percent of the Contract Price
Period of Maintenance	57	One hundred and eighty (180) days
Limit of Retention Money	57	Five (5) percent of the Contract Price

FORM OF AGREEMENT

HORTICULTURAL DEVELOPMENT PROJECT
DEMONSTRATION FARM
IN
SINDHULI SUB-CENTER

CONTRACT FOR CIVIL WORKS

AGREEMENT

THIS AGREEMENT made between
JAPAN INTERNATIONAL COOPERATION AGENCY IN NEPAL (Hereinafter called "The
EMPLOYER" of the one part and
..... whose Registered
Office is at
(Hereinafter called "THE CONTRACTOR") of the other part.

WHEREAS the Employer is desirous that certain works should be constructed,
namely the Construction of a Demonstration Farm in Sindhuli Sub-center for
the Horticultural Development Project and has accepted a Tender for the
Construction Completion and Maintenance of such Works NOW THIS AGREEMENT
WITNESSETH AS FOLLOWS:

1. In the Agreement words and expression shall have the same meaning as
are respectively assigned to them in the conditions of contract herein-
after referred to.
2. The following documents shall be deemed to form and to read and
construed as part of this Agreement, namely:
 - a) The said Tender
 - b) The Drawings
 - c) The Conditions of Contract
 - d) The Specifications
 - e) The Bill of Quantities
 - f) The Schedule of Rates and Prices (if any)
 - g) Notice of Acceptance
3. In consideration of the payments to be made by the Employer to the
Contractor as hereinafter mentioned, the Contractor hereby covenants
with the Employer to construct complete and maintain the Works in
conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay to the Contractor in consideration
of the construction, completion and maintenance of the Works the
Contract Price at the time and in the manner prescribed under the
Contract.

5. The Contractor hereby covenants to commence the Works at Site within 15 days from the date of commencement order issued by the Engineer and shall complete in all respects the construction of the Works by not later than _____ 1987.
6. Pursuant to Clause 43(1) of the General Conditions of the Contract the Contractor also covenants to pay as Liquidated Damage one tenth (0.1) of one (1) percent of the total contract value per day for delay completion and handingover to the Employer upto an amount equal to five (5) percent of the contract value.

IN WITNESS WHEREOF, the parties hereto have hereunto set their respective hands and seals; the day and year first above written.

Signed Sealed and Delivered by

(Resident Representative)

Signed Sealed and Delivered by

(Contractor)

FORM OF TENDER DEPOSIT

Date 1986

Name of Bank
Situatd at
agrees to make a bid bond to Japan International Cooperation Agency in Nepal
on the following terms.

1. That the Tender of
(name of tenderer) is made in agreement with the Tender notice from
Japan International Cooperation Agency in Nepal dated
1986 for the Construction of Demonstration Farm in Sindhuli Sub-center
for the Horticultural Development Project according to the related
Contract Documents.
2. In submitting the Tender the tenderer agrees to furnish a bid bond
through the above named bank in the sum of
..... Nepalese Rupees.
3. The Bank hereto agrees to be a guarantor for the bid bond for the above
sum in the name of the
4. When
(name of tenderer) who has submitted the bid does not abide by the bid
of any of the conditions related to it in the Contract Documents, the
Bank agrees to pay the sum of
..... Nepalese Rupees to
Japan International Cooperation Agency in Nepal within
days after notification to the Bank of the default of the tenderer.
5. This bid bond becomes effective from
..... to
(The Bond shall be effective from the date of submission of the Tender
until days after the opening of the
Tenders).

IN WITNESS WHEREOF, the authorized representative of the Bank has hereunto
signed, sealed and delivered in the presence of:

Guarantor

Witness

FORM OF PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, That we,

(Name of Contractor)

(hereinafter called "Principal"), as Principal, and the

(Name of Survey Company)

(hereinafter called "Surety"), are jointly and severally held and firmly bound unto JAPAN INTERNATIONAL COOPERATION AGENCY IN NEPAL, ITS Successors and assigns (hereinafter called the "Employer") in the penal sum of of lawful money of the for the payment whereof we the Principal and the Surety bind ourselves and our successors and assigns and each of us jointly and severally, firmly, by these presents.

SEALED with our seals and dated this day of WHEREAS the Principal has, by means of a written agreement dated the day of, entered into a Contract for the Construction of Demonstration Farm in the Sindhuli Sub-center for the Horticultural Development Project including the guarantee for the Stipulated period after the issue of completion certificates for the Works shown and described in the said Contract, which agreement is by reference made a part hereof and a copy is attached hereto.

AND WHEREAS, the Surety has agreed to execute these presents to secure the due performance on the part of the said Principal of the said Contract as in the said Contract set forth or as the same may be changed, altered or varied as hereinafter provided. NOW the condition of this bond is such that if the Principal, its successors or assigns shall henceforth and at all times faithfully perform and observe the said Contract as in the said Contract set forth or as the same by changed, altered or varied as hereinafter provided and cost which they may suffer, by reason of or incidental to the failure so to do and shall fully reimburse and repay the Employer for all outlay and expense which they may incur in making good any such default, then this obligation shall be null and void after the date of issuing the final acceptance certificate as set forth in the provisions of the Contract, and if the partial acceptance certificate shall be issued, the corresponding part in value under this obligation shall become null and void after the date so applicable thereto, otherwise it shall remain in full force and effect.

Provided always and it is hereby agreed and declared that the Employer acting directly with the Principal shall have the right to change, alter and vary the terms of the said Contract and that the Employer may in its discretion at any time or times take and receive from the said Principal any security whatsoever and grant any extension of time thereon or any liability of the Principal to the Employer.

Provided further and it is hereby agreed and declared that the Principal and Surety, their Successors and Assigns, or any of them, shall not be discharged or released from any liability hereunder or such liability be in any way affected by any such changes, alterations, or variations, taking or receiving of security, or extension of time as aforesaid, or by any dealing or transactions or forbearances which may take place between the Principal and the Employer and the Employer shall not be required to give the Surety notice of any such or of any default of the Principal such notice being hereby waived but upon request from the Surety, the Employer shall furnish any information which it may have at the time of such request.

SIGNED, SEALED AND DELIVERED
in the Presence of:

(Principal)

(Surety)

GENERAL CONDITIONS

GENERAL CONDITIONS

DEFINITIONS AND INTERPRETATIONS

Definitions 1.(1) In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

- (a) "EMPLOYER" means the Japan International Cooperation Agency in Nepal, who has called for Tenders to build or construct, erect or deliver the Works and who will employ the Contractor and the Legal Successors in title to the Employer but not (except with the consent of the Contractor) any Assignee of the Employer.
- (b) "CONTRACTOR" means the person or persons, firm or company whose tender has been accepted by the Employer and includes the Contractor's personal representatives, successors and permitted assigns.
- (c) The "ENGINEER" is the Engineer-in-Charge designated by the Employer to carry out the Employer's obligations and exercise the Employer's rights under this Contract, and any Engineer appointed to act on his behalf and notified to the Contractor in writing.
- (d) "ENGINEERS ASSISTANT" means any Assistant or Subordinate of the Engineer or any clerk of works appointed from time to time by the Employer or the Engineer to perform the duties set forth in Clause 2 hereof.
- (e) "WORKS" means the works to be executed in accordance with the Contract.
- (f) "CONTRACT" means the Conditions of Contract, Specifications, Drawings, Priced Bill of Quantities, Schedule of Rates and Prices (if any), Letter of Acceptance and the Contract Agreement.
- (g) "CONTRACT PRICE" means the sum named in the Tender, subject to such additions thereto or deductions therefrom as may be made under the provisions hereinafter contained.
- (h) "CONSTRUCTIONAL PLAN" means all appliances or things of whatsoever nature required in or for the execution, completion or maintenance of the Works or Temporary Works (as hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.

- (j) "DRAWINGS" means the drawings referred to in the Specification and any modification of such drawings approved in writing by the Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.
- (k) "SITE" means the lands and other places on, under, in or through which the Works are to be executed or carried out and any other lands or places provided by the Employer for the purposes of the Contract together with such other places as may be specifically designated in the Contract as forming part of the Site.
- (1) "APPROVED" means approved in writing, including subsequent written confirmation of previous verbal approval and "APPROVAL" means approval in writing including as aforesaid.

Singular and Plural

- (2) Words importing the singular may also include the plural and vice-versa where the context requires.

Marginal Headings or Notes

- (3) The marginal headings or notes in these General Conditions and Specifications shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

ENGINEER'S ASSISTANT

Duties and Powers of Engineer's Assistant

- 2. The duties of the Engineer's Assistant are to watch and supervise the Works and to test and examine any materials to be used or workmanship employed in connection with the Works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the Contract nor except as expressly provided hereunder or elsewhere in the Contract to order any work involving delay or any extra payment by the Employer nor to make any variation of or in the Works.

The Engineer may from time to time in writing delegate to the Engineer's Assistant any of the powers and authorities vested in the Engineer and shall furnish to the Contractor a copy of all such written delegations of powers and authorities. Any written instruction of approval given by the Engineer's Assistant to the Contractor within the terms of such delegations (but not otherwise) shall have the same force and authority as though it had been given by the Engineer. Provided always as follows:

- (a) Failure of the Engineer's Assistant to disapprove any work or materials shall not prejudice the Engineer thereafter to disapprove such work or materials and to order the pulling down, removal or breaking up thereof.

- (b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's Assistant he shall be entitled to refer the matter to the Engineer who shall thereupon confirm reverse or vary such decision.

ASSIGNMENT AND SUB-LETTING

- Assignment 3. The Contractor shall not assign the Contract or any part thereof or any benefit or interest therein or thereunder (otherwise than by a charge in favour of the Contractor's Bankers of any monies due or to become due under this Contract) without the prior written consent of the Employer.
- Sub-letting 4. The Contractor shall not sub-let the whole of the Works. Except where otherwise provided by the Contract the Contractor shall not sub-let any part of the Works without the prior written consent of the Engineer (which shall not be unreasonably withheld) and such consent if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any sub-contractor, his agents, servants or workmen as fully as if they were the acts defaults or neglects of the Contractor, his agents servants or workmen. Provided always that the provision of labour on a piece work basis shall not be deemed to be a sub-letting under this Clause.

EXTENT OF CONTRACT

- Extent of Contract 5. The Contract comprises the construction and completion of the Works and maintenance of the Works (as defined in Clause 44 hereof) and except in so far as the Contract otherwise provides, the provision of all labour, materials, Constructional Plant, Temporary Works and everything whether of a temporary or permanent nature required in and for such construction, completion and maintenance so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.

CONTRACT DOCUMENTS

- Languages 6.(1) The language in which the Contract Documents shall be drawn up shall be English.
- Documents Mutually Explanatory (2) The several documents forming the Contract are to be taken as mutually explanatory of one another but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the Contractor instructions directing in what manner the work is to be carried out. Provided always that if in the opinion of the Engineer compliance with any such instructions shall involve the Contractor in any expense which by reason of any such ambiguity or discrepancy the Contractor did not and had reason not to anticipate the Engineer shall certify and the Employer shall pay such additional sum as may be reasonable to cover such expense.

Custody of Drawings

7.(1) The Drawings shall remain in the custody of the Engineer but a reasonable number of copies thereof shall be furnished to the Contractor free of cost. The Contractor shall provide and make at his own expense any further copies required by him. At the completion of the Contract the Contractor shall return to the Engineer all drawings provided under the Contract if instructed by the Engineer to do so.

The Contractor shall give adequate notice in writing to the Engineer or the Engineer's Assistant of any further Drawing or Specification that may be required for the execution of the Works or otherwise under the Contract.

One copy of Drawings to be kept on Site

(2) One copy of the Drawings furnished to the Contractor as aforesaid shall be kept by the Contractor on the site and the same shall at all reasonable times be available for inspection and used by the Engineer and the Engineer's Assistant and by any other person authorised by the Engineer.

Further Drawings & Instructions

8. The Engineer shall have full power and authority to supply to the Contractor from time to time during the progress of the Works such further drawings and instructions as shall be necessary for the Works and the Contractor shall carry out and be bound by the same.

GENERAL OBLIGATIONS

Contract Agreement

9. The Contractor shall when called upon so to do enter into and execute immediately a Contract Agreement (to be prepared at the cost of the Employer) in the form annexed with such modifications as may be necessary.

Security Deposit Performance Bond

10.(1) At the time of signing of the Contract Agreement the Contractor shall furnish to the Employer the security of a sum equal to five (5) percent of the accepted Tender Sum for the due performance of the Contract. Such security may take the form of either.

- (a) a receipt of cash deposit in the specified account of the Employer in the Nepal Rastra Bank, or
- (b) a Guarantee of a Bank to be jointly bound with the Contractor to the Employer for the due performance of the Contract by the Contractor. The Bank and terms of the Bond shall be such as would be acceptable to the Employer.

(2) The Security bank deposit shall be held or the Performance Bond shall remain in force (as the case may be) until the completion certificate is issued in pursuance of Clause 57 hereof in respect of all Works provided in the Contract.

Inspection
of Site

11. The Contractor shall at his own cost inspect and examine the Site and its surroundings and shall satisfy himself (as far as is practicable) before submitting his Tender as to the form and nature of the Site, the quantities and nature of the Work and materials necessary for the completion of the Works and the means of access to the Site, the accommodation he may require and in general shall himself obtain all necessary informations as to risks contingencies and other circumstances which may influence or affect his Tender.

Sufficiency
of Tender

12. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the Works and of the rates and prices stated in the Bill of Quantities, and the Schedule of Rates and Prices (if any) which rates and prices shall (except in so far as it is hereinafter otherwise provided) cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works.

Adverse
Physical
Conditions
or
Obstructions

If however during the execution of the Works the Contractor shall encounter physical conditions or obstructions which condition or obstruction could not have been reasonably foreseen by an experienced contractor the Contract shall forthwith give written notice thereof to the Engineer and if in the opinion of the Engineer such conditions or obstructions could not have been reasonably foreseen by an experienced contractor then the Engineer shall certify and the Employer shall pay the additional expense to which the Contractor shall have been put by reason of such conditions including the proper and reasonable expense:

- (a) of complying with any instruction which the Engineer may issue to the Contractor in connection therewith, and
- (b) of any proper reasonable measures approved by the Engineer which the Contractor may have taken in the absence of specific instructions from the Engineer

as a result of such conditions or obstruction being encountered.

Work to
be to
satisfaction
of Engineer

13. The Contractor shall execute complete and maintain the Works in strict accordance with the Contract to the satisfaction of the Engineer and shall comply with and adhere strictly to the Engineer's instructions and directions on any matter (whether mentioned in the Contract or not) touching or concerning the Works. The Contractor shall take instructions and directions only from the Engineer or (subject to the limitations referred to in Clause 2 hereof) from the Engineer's Assistant.

Execution
Programme
to be
Approved

14. (1) As and when required by the Engineer the Contractor shall submit a programme showing the order of procedure or method and the provisions of equipment, workmen and material with which he proposes to carry out the Works and the progress of the execution of Works he plans to achieve in the period specified in Clause 39. The Engineer shall as he deems fit approve or amend and approve as amended the programme and the Contractor shall abide by such approved programme and execute the Works accordingly.

(2) If the Contractor fails to submit the programme within the specified time the Engineer may issue a programme of works as approved by him to the Contractor and the Contractor shall abide by such approved programme and execute the Works accordingly.

(3) Notwithstanding any thing provided in Sub-clause (1) and (2) of this Clause the submission to and approval by the Engineer or the issuance by the Engineer of such programme or the furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

Contractor's
Super-
intendence

15. The Contractor shall give or provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligation under the Contract. The Contractor or a competent and authorized agent or representative approved of in writing by the Engineer (which approval may at any time be withdrawn) is to be constantly on the Works, and shall give his whole time to the superintendence of the same. If such approval shall be withdrawn by the Engineer, the Contractor shall, as soon as is practicable (having regard to the requirement of replacing him as hereinafter mentioned) after receiving written notice of such withdrawal, remove the agent from the Site and shall not thereafter employ him again on the Site in any capacity and shall replace him by another agent approved by the Engineer. Such authorized agent or representative shall receive on behalf of the Contractor, directions and instructions from the Engineer or (subject to the limitations of Clause 2 hereof) the Engineer's Assistant.

Contractor's
Employees

16. (1) The Contractor shall provide and employ on the Site in connection with the execution and maintenance of the Works:

(a) only such technical assistants as are skilled and experienced in their respective callings and such sub-agents foremen and leading hands as are competent to give proper supervision to the work they are required to supervise, and

(b) such skilled, semi skilled and unskilled labour as is necessary for the proper and timely execution and maintenance of the Works.

(2) The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person employed by the Contractor in or about the execution or maintenance of the Works, who in the opinion of the Engineer misconducts himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the Engineer to be undesirable and such person shall not be again employed upon the Works without the written permission of the Engineer. Any person so removed from the Works shall be replaced as soon as possible by a competent substitute approved by the Engineer.

(3) The Contractor shall if required by the Engineer deliver to the Engineer or the Engineer's Assistant returns in such form and at such intervals as the Engineer may prescribe showing in detail the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site.

Setting Out 17. The Contractor shall be responsible for the true and proper setting-out of the Works and for the correctness of the position levels, dimensions and alignment of all parts of the Works in relation to points, lines and levels of reference given by the Engineer in writing, and for the provision of all necessary instruments, appliances and labour in connection therewith. If, at any time during the progress of the Works, any error shall appear or arise in the position levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer, unless such error is based on incorrect data supplied in writing by the Engineer, in which case the expense of rectifying the same shall be borne by the Employer. The checking of any setting-out or of any line or level by the Engineer shall not in any way relieve the Contractor of his responsibility for the correctness thereof, and the Contractor shall carefully protect and preserve all bench-marks, sight rails, pegs, and other things used in setting-out the Works.

Boreholes and Exploratory Excavation 18. If, at any time during the execution of the Works, the Engineer shall require the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be ordered in writing and shall be deemed to be an addition ordered under the provisions of Clause 47 hereof unless a provisional sum in respect of such anticipated work shall have been included in the Bill of Quantities.

Watching and Lighting 19. The Contractor shall, in connection with the Works, provide and maintain at his own cost all lights, guards, fencing and watching when and where necessary or required by the Engineer's Assistant or by any duly constituted authority for the protection of the Works or for the safety and convenience of the public or others.

Care of Works

20.(1) From the commencement to the completion of the Works the Contractor shall take full responsibility for the care thereof and of all Temporary Works and in case any damage loss or injury shall happen to the Works or to any part thereof or to any Temporary Works from any cause whatsoever (save and except the excepted risks as defined in Sub-clause (2) of this Clause) shall at his own cost repair and make good the same so that at completion the Works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions. In the event of any such damage loss or injury happening from any of the excepted risks the Contractor shall, if and to the extent required by the Engineer and subject always to the provisions of Clause 60 hereof, repair and make good the same as aforesaid at the cost of the Employer. The Contractor shall also be liable for any damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under Clause 45 hereof.

Excepted Risks

(2) The "Excepted Risks" are war, hostilities (whether war be declared or not), invasion act of foreign enemies, rebellion, revolution, insurrection, or military or usurped power, civil war or (otherwise than among the Contractor's own employees) riot, commotion or disorder, or use or occupation by the Employer of any portion of the Works, or a cause solely due to the Engineer's design of the Works, or any such operation of the forces of nature as reasonable foresight and ability on the part of the Contractor could not foresee, or reasonably provide against (all of which are herein collectively referred to as "the Excepted Risks".)

Damage to Persons & Property

21. The Contractor shall be liable for or in respect of any damage loss or injury to any property (including that of the Employer) or to any person (including any employee of the Employer) which may arise out of or in consequence of the execution of the Works by the Contractor and the Contractor shall be solely responsible for paying such damages and compensations in accordance with any rule of law in force in Nepal. Provided that so long as there are no laws or rules on this point in force in Nepal the compensation shall be payable by the Contractor on the lines decided by the Engineer. Provided further that the Contractor shall not be liable for or in respect of damages or compensation for or with respect to:

- (a) the permanent use or occupation of land by Works or any part thereof,
- (b) the right of the Employer to construct the Works or any part thereof on, over, under, in or through any land, and
- (c) the interference whether temporary or permanent with any right of light, airway or other easement or quasi-easement which is the unavoidable result of the construction of the Works in accordance with the Contract.

Giving of
Notices and
Payment of
Fees

22. The Contractor shall give all notices and pay all fees required to be given or paid by any Statute Ordinance or other Law or any Regulation or Bye-Law or any local or other duly constituted authority in relation to the execution of the Works or of any Temporary Works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works or any Temporary Works.

Fossils, etc.

23. All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site of the Works shall, as between the Employer and the Contractor, be deemed to be the absolute property of the Employer, and the Contractors shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer's Assistant of such discovery and carry out at the expense of the Employer the Engineer's Assistant's orders as to the disposal of the same.

Patents
Rights and
Royalties

24. The Contractor shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent right, design, trademark or name or other protected rights in respect of any Constructional Plant, machine, work or material used for or in connection with the Works or Temporary Works or any of them and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. Except where otherwise specified, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation (if any) for getting stone, sand, gravel, clay or other materials required for the Works or Temporary Works or any of them.

Interference
with Traffic
and Adjoining
Properties

25. All operations necessary for the execution of the Works and for the construction of any Temporary Works shall, so far as compliance with the requirements of the Contract Permits, be carried on so as not to interfere unnecessarily or improperly with the public convenience or the access to use and occupation of public or private roads and footpaths or to or of properties whether in possession of the Employer or of any other person, and the Contractor shall save harmless and indemnify the Employer in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such matters in so far as the Contractor is responsible therefor.

Extra-ordinary Traffic

26. (1) The Contractor shall use every reasonable means to prevent any of the highways or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his sub-contractors and in particular shall select routes choose and use vehicles and restrict and distribute loads so that any such extra-ordinary traffic as will inevitably arise from the moving of plant and material from and to the Site shall be limited as far as reasonable and so that no unnecessary damage or injury may be occasioned to such highways and bridges.

Special Loads

(2) Should it be found necessary for the Contractor to move one or more loads of Constructional Plant machinery or pre-constructed units or parts of units or work over part of a highway or bridge the moving whereof is likely to damage any highway or bridge unless special protection or strengthening is carried out then the Contractor shall before moving the load on to such highway or bridge give notice to the Engineer or Engineer's Assistant of the weight and other particulars of the load to be moved and his proposals for protecting or strengthening the said highway or bridges. Unless the Engineer shall direct that such protection or strengthening is unnecessary then the Contractor will carry out such proposals or any modification thereof that the Engineer shall require and unless there is an item or are items in the Bill of Quantities for pricing by the Contractor of the necessary works for the protection or strengthening aforesaid the costs and expenses thereof shall be paid by the Employer to the Contractor.

Opportunities for Other Contractors

27. The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to any other contractors employed by the Employer and their workmen and to the workmen of the Employer and of any other duly constituted authorities, who may be employed in the execution on or near the Site of any work not included in the Contract or of any Contract which the Employer may enter into in connection with or ancillary to the Works. If however the Contractor shall, on the written request of the Engineer or the Engineer's Assistant, make available to any such other Contractor or to the Employer or any such authority any roads or ways for the maintenance of which the Contractor is responsible, or permit the use by any such of the Contractor's scaffolding or other plant on the Site, or provide any other service of whatsoever nature for any such, the Employer shall pay to the Contractor in respect of such use or service such sum or sums as shall in the opinion of the Engineer be reasonable.

- Supply of Plant Materials and Labour 28. Except where otherwise specified, the Contractor shall at his own expense supply and provide all the Constructional Plant, Temporary Works materials both for temporary and for permanent works labour (including the supervision therefor) transport to or from the site and in and about the Works and other things of every kind required for the construction, completion and maintenance of the Works.
- Clearance of Site on Completion 29. On the completion of the Works, the Contractor shall clear away and remove from the site all Constructional Plant, surplus materials, rubbish and Temporary Works of every kind and leave the whole of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer.

LABOUR

- Engagement of Labour 30.(1) The Contractor shall make his own arrangements for the engagement of all labour, local or otherwise, and save in so far as the Contract otherwise provides for the transport housing feeding and payment thereof.
- Supply of Water (2) The Contractor shall so far as is reasonably practicable having regard to local conditions provide on the site to the satisfaction of the Engineer's Assistant an adequate supply of drinking and other water for the use of the Contractor's staff and work people.
- Alcoholic Liquor or Drugs (3) The Contractor shall not otherwise than in accordance with the Statutes Ordinances and Government Regulations or order for the time being in force import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs or permit or suffer any such importation, sale, gift, barter or disposal by his sub-contractors agents or employees.
- Arms & Ammunition (4) The Contractor shall not give barter or otherwise dispose of, to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.
- Festivals and Religious Customs (5) The Contractor shall in all dealings with labour in his employment have due regard to all recognised festivals days of rest and religious or other customs.
- Epidemics (6) In the event of any out breaks of illness of an epidemic nature, the Contractor shall comply with any carry out such regulations orders and requirements as may be made by the Government, or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.
- Disorderly Conduct, etc. (7) The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees, and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.

Observance
by Sub-
contractors

(8) The Contractor shall in respect of his employees who are employed by him in Nepal pay rate of wages, observe hours of labour, and provide conditions amenities and facilities not less favourable than those required by the appropriate wage fixing authority and generally recognised by other employees in the district whose general circumstances in the trade or industry in which the Contractor is engaged are similar.

(9) The Contractor shall be responsible for observance by his sub-contractors of the foregoing provisions.

Returns of
Labour, etc.

31. The Contractor shall if required by the Engineer deliver to the Engineer's Assistant or at his office a return in detail in such form and at such intervals as the Engineer may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting Constructional Plant as the Engineer's Assistant may require.

MATERIALS AND WORKMANSHIP

Quality of
Materials and
Workmanship
and Tests

32.(1) All materials and workmanship shall be of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture of fabrication or on the Site or at all or any of such places. The Contractor shall provide such assistance, instrument, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used, and shall supply samples of materials before incorporation in the works for testing as may be selected and required by the Engineer.

Cost of
Samples

(2) All samples shall be supplied by the Contractor at his own cost if the supply thereof is clearly intended by or provided of in the Specification of Bill of Quantities but if not then at the cost of the Employer.

Cost of
Tests

(3) The cost of making any test shall be borne by the Contractor if such test is clearly intended by or provided for in the Specification or Bill of Quantities and (in the cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfill) is particularised in the Specification or Bill of Quantities in sufficient detail to enable the Contractor to price or allow for the same in his Tender.

- (4) If any test is ordered by the Engineer which is either:
- (a) not so intended by or provided for, or
 - (b) (in the cases above-mentioned) is not so particularised, or
 - (c) though so intended or provided for is ordered by the Engineer to be carried out by an independent person at any place other than the Site or the place of manufacture or fabrication of the materials tested.

then the cost of such test shall be borne by the Contractor if the test shows the workmanship or materials not to be in accordance with the provisions of the Contract or the Engineer's instructions or otherwise ordered by the Employer.

Access to
Site

33. The Engineer and any person authorised by him shall at all times have access to the Works and to the Site and to all workshops and places where work is being prepared or whence materials manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

Examination
of Work
before
Covering up

34. (1) No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's Assistant, and the Contractor shall afford full opportunity for the Engineer or the Engineer's Assistant to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Assistant whenever any such work or foundations is or are ready, or about to be ready for examination, and the Engineer's Assistant shall without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly attend for the purpose of examining and measuring such work or of examining such foundations.

Uncovering
and Making
Openings

(2) The Contractor shall uncover any part or parts of the Works, or make openings in or through the same, as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirements of Sub-clause (1) of this Clause and are found to be executed in accordance with the Contract, the expenses of uncovering making openings in or through reinstating and making good the same shall be borne by the Employer but in any other case all such expenses shall be borne by the Contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor.

Removal of
Improper
Work and
Materials

35.(1) The Engineer shall during the progress of the Works have power to order in writing from time to time:

- (a) the removal from the Site, within such time or times as may be specified in the order of any materials which in the opinion of the Engineer are not in accordance with the Contract.
- (b) the substitution of proper and suitable materials, and
- (c) the removal and proper re-execution (notwithstanding any previous test thereof or interim payment therefor) of any work which, in respect of materials or workmanship, is not in the opinion of the Engineer in accordance with the Contract.

Default of
Contractor in
Compliance

(2) In case of default on the part of the Contractor in carrying out such order, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor.

Suspension
of Work

36.(1) The Engineer shall have the authority to issue instructions to the Contractor to delay or suspend the work in whole or in part for such period as he may deem necessary if in his opinion such delay or suspension is necessary due to such conditions as are considered unfavourable for the proper execution of the Work or due to failure on the part of the Contractor to perform any provision of the contract or carry out orders given.

No Claim by
Contractor

(2) The Contractor shall on the written order of the Engineer suspend the progress of the Works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the Work so far as is necessary in the opinion of the Engineer. No such delay or suspension shall vitiate or void this contract or any part thereof or any security or obligation for the performance thereof nor shall the Contractor be entitled to make any claim damage by reason thereof.

COMMENCEMENT TIME AND DELAYS

Commencement
of Works

37. The Contractor shall commence the works on Site within fifteen (15) days after the receipt of an order in writing to this effect from the Engineer, and shall proceed with the same with due expedition and without delay, except as may be expressly sanctioned or ordered by the Engineer or be wholly beyond the Contractor's control.

Possession
of Site

38.(1) Save in so far as the Contract may provide, the extent of portions of the Site of which the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will with the Engineer's written order to commence the Works give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the construction of the Works in accordance with the programme referred to in Clause 14 hereof (if any) and otherwise in accordance with such reasonable proposals of the Contractor as he shall by notice in writing to the Engineer, make, and will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the construction of the Works with due despatch in accordance with the said programme or proposal (as the case may be).

Wayleaves,
etc.

(2) The Contractor shall bear all expenses and charges for special or temporary wayleaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the site required by him for the purposes of the Works.

Time for
Completion

39. Subject to any requirement in the programme referred to in Clause 14 hereof as to completion of any portion of the Works before completion of the whole, the whole of the Works shall be completed within the time stated in the Contract or such extended time as may be allowed under Clause 40 hereof.

Extension of
Time for
Completion

40. Should the amount of extra or additional work of any kind or other special circumstances of any kind whatsoever which may occur be such as fairly to entitle the Contractor to an extension of time for the completion of the Work the Engineer shall determine the amount of such extension. Provided that the Engineer is not bound to take into account any extra or additional work or other special circumstances unless the Contractor has within fifteen (15) days after soon work has been commenced or such circumstances have arisen or as such thereafter as is practicable delivered to the Engineer's Assistant full and detailed particulars of any entitlement in order that such claim may be investigated at the time.

No Night
Work

41. None of the permanent work shall save as hereinafter provided be carried on during the night without the permission in writing of the Engineer's Assistant save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works in which case the Contractor shall immediately advise the Engineer's Assistant. Provided always that the provisions of this Clause shall not be applicable in the case of any work which it is customary to carry out by rotary or double shifts.

Rate of
Progress

42. The whole of the materials plant and labour to be provided by the Contractor under Clause 5 hereof and the mode manner and speed of execution and maintenance of the Works are to be of a kind and conducted in a manner to the satisfaction of the Engineer. Should the rate or progress of the Works or any part thereof be at any time in the opinion of the Engineer too slow to ensure the completion of the Works by the prescribed time or extended time for completion the Engineer shall so notify the Contractor in writing and the Contractor shall thereupon take such steps as the Contractor may think necessary and the Engineer may approve to expedite progress so as to complete the Works by the prescribed time or extended time for completion. If the Work is not being carried on by day and by night and the Contractor shall request permission to work by night as well as by day then if the Engineer shall grant such permission the Contractor shall not be entitled to any additional payment for so doing but if such permission shall be refused and there shall be no equivalent practicable method expediting the progress of the Work the time for completion shall be extended by such period as is solely attributable to such refusal. All work at night shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out the Work and from and against all claims demands proceedings costs charges and expenses whatsoever in regard or in relation to such liability.

Liquidated
Damages for
Delay

43. (1) If the Contractor shall fail to complete the Works within the time specified in the Contract or extended time approved by the Engineer then the Contractor shall pay to the Employer the sum stated in the Tender as liquidated damages for such default and not as a penalty for every day or part of a day which shall elapse between the time specified in the Contract or extended time as the case may be. The Employer may without prejudice to any other method of recovery deduct the amount of such damages from any monies in his hands due or which may become due to the Contractor from his obligation to complete the Works or from any other of his obligations and liabilities under the Contract.

Reduction of Liquidated Damages (2) If, before the completion of the whole of the Works, any part of the Works has been certified by the Engineer as completed pursuant to Clause 57 hereof and occupied or used by the Employer the liquidated damages for delay shall for any period of delay after such certification be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works.

MAINTENANCE AND DEFECTS

Definition of Maintenance and Period of Maintenance 44. In these Conditions of Contract, the expression "Maintenance" shall mean the maintenance of the Works or any part thereof in respect of which the certificate of completion will not have been issued by the Engineer and the "Period of Maintenance" with respect to such works or any parts thereof shall mean the period until the certificate of completion is issued by the Engineer in accordance with Clause hereof.

Execution of Work of Repair, etc. 45.(1) The Contractor shall guarantee that the works executed by him under the Contract shall meet fully all requirements thereof as to the quality of workmanship and of materials used in the Works. To the intent that the Works shall be delivered up to the Employer in good and perfect condition the Contractor shall execute all such work of repair amendment reconstruction rectification and making good of defects imperfection shrinkages or other faults as may be required of the Contractor by the Engineer.

Cost of Executions of Work of Repair, etc. (2) All such work shall be carried out by the Contractor at his own expense if the necessity thereof shall in the opinion of the Engineer be due to the use of materials or workmanship not in accordance with the Contract or to neglect or failure on the part of the Contractor to comply with any obligation expressed or implied on the Contractor's part under the Contract.

Remedy on Contractor's Failure to Carry out Work Required (3) If the Contractor shall fail to do any such work as aforesaid required by the Engineer the Employer shall be entitled to carry out such work by his own workmen or by other contractors and if such work is work which the Contractor should have carried out at the Contractor's own cost shall be entitled to recover from the Contractor the cost thereof or may deduct the same from any monies due or that become due to the Contractor.

Contractor
to Search

46. The Contractor shall if required by the Engineer in writing search for the cause of any defect imperfection of fault under the directions of the Engineer. Unless such defect imperfection of fault shall not be one for which the Contractor is liable under the Contract the cost of the Work carried out by the Contractor in searching as aforesaid shall be borne by the Employer. But if such defect imperfection or fault shall be one for which the Contractor is liable as aforesaid the cost of the Work carried out in searching as aforesaid shall be borne by the Contractor and he shall in such case repair rectify and make good such defect imperfection or fault at his own expense in accordance with the provisions of Clause 45 hereof.

ALTERATIONS ADDITIONS AND OMISSIONS

Variations

47. (1) The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may in his opinion be necessary and for that purpose or if for any other reason it shall in his opinion be desirable, shall have power to order the Contractor to do and the Contractor shall do any of the following:

- (a) increase or decrease the quantity of any work included in the Contract,
- (b) omit any such works,
- (c) change the character or quality or kind of any such work,
- (d) change the levels, lines, position and dimensions of any part of the Works, and
- (e) execute additional work of any kind necessary for the completion of the Works,

and no such variation shall in any way vitiate or invalidate the Contract but the value (if any) of all such variations shall be taken into account in ascertaining the amount of the Contract Price.

Order for
Variations
to be in
Writing

(2) No such variation shall be made by the Contractor without any order in writing of the Engineer. Provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increases or decrease is not the result of an order given under this Clause but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities. Provided also that if for any reason the Engineer shall consider it desirable to give any such order verbally, the Contractor shall comply with such order, and any confirmation in writing of such verbal order given by the Engineer whether before or after the carrying out of the order shall be deemed to be an order in writing within the meaning of this Clause. Provided further that if the Contractor shall confirm in writing to the Engineer any verbal order of the Engineer and such confirmation shall not be contradicted in writing by the Engineer it shall be deemed to be an order in writing by the Engineer.

Valuation of
Variations

48. (1) The Engineer shall determine the amount (if any) which in his opinion should be added to or deducted from the sum named in the Tender in respect of any extra or additional work done or work omitted by his order. All such work shall be valued at the rates set out in the Contract if in the opinion of the Engineer the same shall be applicable. If the Contract shall not contain any rates applicable to the extra or additional work then suitable prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such prices as shall in his opinion be reasonable and proper.

Power of
Engineer to
Fix Rates

(2) Provided that if the nature or amount of any commission or addition relative to the nature or amount of the whole of the Work or to any part thereof shall be such that in the opinion of the Engineer the rate or price contained in the Contract for any item of the Works is by reason of such omission of addition rendered unreasonable or inapplicable then suitable rate or price shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such other rate or price as shall in his opinion be reasonable and proper having regard to the circumstances.

Provided also that no increase of the Contract price under Sub-clause (1) of this Clause or variation of rate or price under Sub-clause (2) of this Clause shall be made unless as soon as after the date of the order as is practicable notice shall have been given in writing:

- (a) by the Contractor to the Engineer of his intention to claim extra payment or varied rate, or
- (b) by the Engineer to the Contractor of his intention to vary a rate or price as the case may be.

Claims (3) The Contractor shall send to the Engineer's Assistant one in every month an account giving particulars (as full and detailed as possible) of all claims for any additional expense to which the Contractor may consider himself entitled and of all extra or additional work ordered by the Engineer which he has executed during the preceeding month and no claim for payment for any such work will be considered which has not been included in such particulars. Provided always that the Engineer shall be entitled to authorise payment to be made for any such work notwithstanding the Contractor's failure to comply with this condition if the Contractor has at the earliest practicable opportunity notified the Engineer that he intends to make a claim for such work.

PLANT TEMPORARY WORKS AND MATERIALS

Plant, etc. Exclusive Use for the Works 49.(1) All Constructional Plant, Temporary Works and materials provided by the Contractor shall when brought on to the Site be deemed to be exclusively intended for the construction and completion of the Works and the Contractor shall not remove the same or any part thereof (save for the purpose of moving it from one part of the Site to another) without the consent in writing of the Engineer which shall not be unreasonably withheld.

Removal of Plant, etc. (2) Upon completion of the Works the Contractor shall remove from the Site all the said Constructional Plant and Temporary Works remaining thereon and any unused materials provided by the Contractor.

Employer not Liable for Damage to Plant, etc. (3) The Employer shall not at any time be liable for the loss of or injury to any of the said Constructional Plant, Temporary Works or materials save as mentioned in Clause 20 hereof.

Re-export of Constructional Plant (4) In respect of any Constructional Plant which the Contractor shall have imported for the purposes of the Works of Employer will obtain the Government's consent to the re-export of such Constructional Plant by the Contractor upon the removal thereof as aforesaid.

Customs Clearance (5) The Employer will assist the Contractor where required in obtaining clearance through the Customs of Constructional Plant materials and other things required for the Works.

Approval of Materials, etc. not Implied 50. The operation of Clause 49 hereof shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein nor shall it prevent the rejection of any such material at any time by the Engineer.

MEASUREMENT

Quantities 51. The quantities set out in the Bill of Quantities are the estimated quantities of the Work, but they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfilment of his obligations under the Contract.

Works to be Measured 52. The Engineer shall, except as otherwise stated, ascertain and determine by measurement the value of works done in accordance with the Contract. He shall, when he requires any part or parts of the Works to be measured, give notice to the Contractor who shall forthwith attend or send a qualified agent to assist the Engineer or the Engineer's Assistant in making such measurement and shall furnish all particulars required by either of them. Should the Contractor not attend or neglect or omit to send such agent, then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of the Works.

Method of Measurement 53. Unless otherwise provided in the Specification, all measurements shall be net according to the actual dimensions notwithstanding any general or local custom to the contrary and no payment shall be allowed for any work which shall exceed the quantities required under the Contract or ordered as herein provided as modified or extra works.

PROVISIONAL SUMS

Use of Provisional & Contingency Items 54. (1) All sums set out in the Bill of Quantities which shall be stated to be provisional or for contingencies shall be used only at the direction and discretion of the Engineer and if not used either wholly or in part shall as to the amount not used be deducted from the Contract Price.

Production of Vouchers, etc. (2) The Contractor shall when required by the Engineer produce all quotations invoices vouchers and accounts or receipts in connection with expenditure in respect of provisional or prime cost items.

Assignment of Sub-contractor's Obligations (3) In the event of a nominated Sub-contractor (as hereinafter defined) having undertaken towards the Contractor in respect of the work executed or the goods or materials supplied of such nominated Sub-contractor any continuing obligation extending for a period exceeding that of the period of maintenance under this Contract the Contractor shall at any time after the expiration of period of Maintenance assign to the Employer at the Employer's request and cost the benefit of such obligation for the unexpired duration thereof.

Nominated
Sub-
contractors

55.(1) All specialists, merchants, tradesmen and others executing any work or supplying any goods, for which provisional sums are included in the Bill of Quantities who may have been or be nominated or selected or approved by Employer or the Engineer and all persons to whom by virtue of the provisions of the Bill of Quantities or Specification, the Contractor is required to sub-let any work, shall, in the execution of such work of the supply of such goods, be deemed to be sub-contractors employed by the Contractor and are hereinafter referred to as "nominated Sub-contractors". Provided always that the Contractor shall not be required by the Employer or the Engineer or be deemed to be under any obligation to employ any nominated Sub-contractor, who shall decline to enter into a sub-contract with the Contractor containing provisions:

- (a) that in respect of the work or goods, the subject of the sub-contract, the nominated Sub-contractor will undertake towards the Contractor the like obligations and liabilities as are imposed upon the Contractor towards the Employer by the terms of the Contract and will save harmless and indemnify the Contractor from and against the same and from all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection therewith or arising out of or in connection with any failure to perform such obligations or to fulfil such liabilities, and
- (b) that the nominated Sub-contractor will save harmless and indemnify the Contractor from and against any negligence by the nominated Sub-contractor, his agents, workmen and servants, and from and against any misuse by him or them of any Constructional Plant or Temporary Works provided by the Contractor for the purposes of the Contract and from all claims as aforesaid.

Payments to
Nominated
Sub-
contractors

(2) Before issuing under Clause 56 hereof any certificate which includes any payment in respect of work done or goods supplied by any nominated Sub-contractor, the Engineer shall be entitled to demand from the Contractor reasonable proof that all payments (less retentions) included in previous certificates in respect of the work or goods of such nominated Sub-contractor have been paid or discharged by the Contractor in default whereof the Contractor shall:

- (a) inform the Engineer in writing that he has reachable cause for withholding or refusing to make such payment, and
- (b) produce to the Engineer reasonable proof that he has so informed such nominated Sub-contractor in writing,

the Employer shall be entitled to pay to such nominated Sub-contractor direct upon the certificate of the Engineer all payments (less retentions) which the Contractor has failed to make to such nominated Sub-contractor and to deduct by way of set-off the amount so paid by the Employer from any sums due or which become due from the Employer to the Contractor.

Provided always that, where the Engineer has certified and the Employer has paid direct as aforesaid, the Engineer shall in issuing any further certificate in favour of the Contractor deduct from the amount thereof the amount so paid direct as aforesaid but shall not withhold or delay the issue of the certificate itself when due to be issued under the terms of the Contract.

CERTIFICATES AND PAYMENT

Bill 56. (1) At the end of every two (2) months or such interval of time as specified by the Engineer, the Contractor shall submit to the Engineer a statement in a prescribed form (hereinafter referred to as Running Bill) showing the details of quantity and the price of the works executed upto the end of the second month of the period or the specified date as the case may be. On receipt and verification of the Running Bill the Engineer shall as he deems fit certify or amend and certify as amended such Running Bill for payment.

Provided always that the Engineer may prepare such a Running Bill of himself on the basis of measurement taken by him or his assistant in respect of the works executed by the Contractor in accordance with Clause 52 hereof.

Provided further that in regard to the Running Bill the Engineer may admit as he deems fit a rate less than the Contract Rate for any item of the Work executed but not accomplished to the final requirement of the Specification at the time of measurement such part rates and payments thereof being always subject to revision when the Works are completed to the requirements of the Specification.

(2) On the basis of the Running Bill, interim payments shall be made to the Contractor subject to a retention of five (5) percent of the value of the works entered in the Running Bill (hereinafter referred to as the Retention Money). Provided that the Contract Tax shall be deducted at the time of payment of the Running Bills and such tax deductions shall be delivered by the Employer to the concerned tax office of His Majesty's Government of Nepal.

Correction and With-
holding of
Certificate (3) The Engineer may by any certificate make any correction or modification in any previous certificates which shall have been issued by him and shall have power to withhold any certificate if the Works or any part thereof are not being carried out to his satisfaction.

Advance for Preconstruction (4) Upon application in writing by the Contractor to the Employer through the Engineer an interest free advance will be made by the Employer to the Contractor for the purpose of assisting him in financing preconstruction costs. The amount of such advance shall be equal to or less than five (5) percent of the accepted tender sum. The payment of such advance will be made within fifteen (15) days from the date of the application by the Contractor, provided that at the date of the application, the value of the permanent work as certified by the Engineer does not exceed thirty (30) percent of the accepted tender sum less provisional sums.

Repayment of Advances (5) In the event that advance payment is made under Sub-clause (4) of this Clause, all interim payments to be made to the Contractor in accordance with Sub-clause (1) of this Clause shall be reduced by such a percentage determined by the Engineer that the reductions spread over the remaining payments under the Contract equal to the total of all advance payments.

Certificate of Completion 57.(1) As soon as in the opinion of the Engineer the Works shall have been completed in all respects in accordance with the Contract he shall issue a certificate of completion in respect of the Works. Provided that the Engineer may give a Certificate with respect to any part of the Works which has been both completed to his satisfaction and handed over to or occupied or used by the Employer before the completion of the whole of the Works.

Approval only by Completion Certificate (2) No certificate other than the completion certificate signed by the Engineer shall be deemed to constitute approval of any work of other matter in respect of which it is issued or shall be taken as an admission of the due performance of the Contract or any part thereof or of the accuracy of any claim or demand made by the Contractor or of additional or varied work having been ordered by the Engineer.

Final Bill and Payment (3) On the basis of the certificates of completion issued by the Engineer in respect of the whole of the Works provided for the Contract and the measurement of such completed works done in accordance with Clause 52 hereof the Final Bill shall be drawn wherein all advances and previous on-account payments made to the Contractor and any claims of the Contractor shall have been fully and finally accounted for adjusted and settled and the Contractor shall have put his signature indicating his acceptance of the Final Bill.

The Employer shall make the final payment to the Contractor on the basis of such Final Bill within 35 days after receiving the same duly completed in respect of all certificate, endorsements and acceptance as aforesaid, subject to a retention of five (5) percent of the value of the works.

- Cessation of Employers Liabilities (4) The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or the execution of the Works unless the Contractor shall have made a claim in writing in respect thereof before accepting the Final Bill.
- Currency of Contract (5) The Contract shall be made up in Nepalese Rupees.
- Currency of Payment to Contractor (6) All payments due to the Contractor shall be made in the Nepalese Rupees.
- Release of Retention Money (7) The Retention Money shall be paid to the Contractor within fifteen (15) days after the expiry of a period of 180-days defect liability period from the date of the payment of the Final Bill. Provided always that if during the said period any defects in the Works shall be noticed which shall have to be rectified and made good of by the Contractor as provided under Clause 45 hereof the payment of the Retention Money shall be withheld until the completion of such repair or rectification work to the satisfaction of the Engineer.

REMEDIES AND POWERS

- Forfeiture 58.(1) If the Contractor shall become bankrupt or have a receiving order made against him or shall present his petition in bankruptcy or shall make an arrangement with or assignment in favour of his creditors or shall agree to carry out the Contract under a Committee of Inspection of his creditors or (being a Corporation) shall go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction) or if the Contractor shall assign the Contract without the consent in writing of the Employer first obtained or shall have an execution levied on his goods or if the Engineer shall certify in writing to the Employer that in his opinion the Contractor:
- (a) has abandoned the Contract, or
 - (b) without reasonable excuse, has failed to commence the Works or has suspended the progress of the Works for fifteen (15) days after receiving from the Engineer written notice to proceed, or
 - (c) has failed to proceed with the Works with due diligence, or
 - (d) has failed to remove materials from the Site or to pull down and replace work for fourteen (14) days after receiving from the Engineer written notice that the said materials or work had been condemned and rejected by the Engineer under these conditions, or

- (e) is not executing the Works in accordance with the Contract or is persistently or flagrantly neglecting to carry out his obligation under the Contract, or
- (f) has to the detriment of good workmanship or in defiance of the Engineer's instructions to the contrary sub-let any part of the Contract, or
- (g) has failed to proceed with or make progress of the execution of the Works in accordance with the programme approved or issued under Clause 14 hereof,

then the Employer may after giving fourteen (14) days notice in writing to the Contractor enter upon the site and the Works and expel the contractor therefrom without thereby avoiding the Contract or releasing the Contractor from any of his obligations or liabilities under the Contract or affecting the rights and power conferred on the Employer or the Engineer by the Contract and may himself complete the Works and employ any other contractor to complete the Works and the employer or such other contractor may use for such completion so much of the Constructional Plant, Temporary Works and materials which have been deemed to be reserved exclusively for the construction of the Works under the provisions of the Contract as he or they may think proper and the Employer may at any time sell any of the said constructional Plant, Temporary Works and unused materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract.

Valuation at
Date of
Forfeiture

(2) The Engineer shall as soon as may be practicable after any such entry and expulsion by the Employer fix and determine exparte or by or after reference to the parties or after such investigation or enquires as he may think fit to make or institute and shall certify what amount (if any) had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract and what was the value of any of the said unused or partially used materials, any Constructional Plant and any Temporary Works.

Payment
after
Forfeiture

(3) If the Employer shall enter and expel the Contractor under this Clause he shall not be liable to pay the Contractor any money on account of the Contract until the expiration of the period of maintenance and thereafter until the costs of completion and maintenance damages for delay in completion (if any) and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deducting the said amount. But if such amount shall exceed the sum which would have been payable to the Contractor on due completion by him then the Contractor shall upon demand pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

Urgent
Repairs

59. If, by reason of any accident or failure or other event occurring to in or in connection with the Works or any part thereof either during the execution of the Works or during the period of Maintenance, any remedial or other work or repair shall in the opinion of the Engineer or the Engineer's Assistant be urgently necessary for security and the Contractor is unable or unwilling at once to do such work or repair the Employer may, by his own or other workmen, do such work or repair as the Engineer or the Engineer's Assistant may consider necessary. If the work or repair so done by the Employer is work which in the opinion of the Engineer the Contractor was liable to do at his own expense under the Contract, all costs and charges properly incurred by the Employer in so doing shall on demand be paid by the Contractor to the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor. Provided always that the Engineer or the Engineer's Assistant (as the case may be) shall as seen after the occurrence of any such emergency as may be reasonably practicable notify the Contractor thereof in writing.

SPECIAL RISKS

No Liability
for Special
Risks

60. Notwithstanding anything in the Contract contained:

(1) If during the currency of the Contract there shall arise a situation in or about the site which whether financially or otherwise materially affects the execution of the Works the Contractor shall unless and until the Contract is terminated under the provisions in this Clause use his best endeavours to complete the execution of the Works provided always that the Employer shall be entitled at any time after such situation arises to terminate his Contract by giving notice in writing to the Contractor and upon such notice being given this Contract shall (save as to the rights of the parties under this Clause and to the operation of Clause 62 hereof) terminate but without prejudice to the rights of either party in respect of any antecedent breach thereof.

Removal of
Plant on
Termination

(2) If the Contract shall be terminated under the provisions of the last preceding Sub-clause the Contractor shall with all reasonable despatch remove from the Site all Constructional Plant and shall give similar facilities to his Sub-contractor to do so.

Payment if
Contract
Terminated

(3) If the Contract shall be terminated as aforesaid the Contractor shall be paid by the Employer (in so far as such amounts or items shall not have already been covered by payments on account made to the Contractor) for all work executed prior to the date of termination at the rates and prices provided in the Contract, and in addition,

- (a) The amounts payable in respect of any preliminary items so far as the work or service comprised therein has been carried out or performed and a proper proportion as certified by the Engineer of any such items the work or service comprised in which has been partially carried out or performed.
- (b) The cost of materials or goods reasonably ordered for the Works or Temporary Works which shall have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery (such materials or goods becoming the property of the Employer upon such payment being made by him).
- (c) A sum to be certified by the Engineer being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works in so far as such expenditures shall not have been covered by the payments in this Sub-clause before mentioned.

Provided always that against any payments due from the Employer under this Sub-clause the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of plant and materials and any sum previously paid by the Employer to the Contractor in respect of the execution of the Works.

FRUSTRATION

Payment in
Event of
Frustration

61. In the event of the Contract being frustrated whether by war or otherwise however the sum payable by the Employer to the Contractor in respect of the Work executed shall be the same as that which would have been payable under Clause 60 hereof if the Contract had been terminated under the provisions of Clause 60 hereof.

SETTLEMENT OF DISPUTES

Settlement
of Dispute
Arbitration

62. If any dispute or difference of any kind whatsoever shall arise between the Employer or the Engineer and the Contractor in connection with or arising out of the Contract or the carrying out of the Works (whether during the progress of the Works or after their completion and whether before or after the termination abandonment or breach of the Contract) it shall be referred for arbitration to a person whose appointment as the arbitrator shall be mutually agreed to pay the Employer and the Contractor. The procedures of arbitration shall be decided by the arbitrator. The decision of the arbitrator shall be final and binding on the Employer and the Contractor. If the two parties cannot agree on the appointment of an arbitrator within a period of 60 days from the date of either party's first request for arbitration then the dispute shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules. The venue of such arbitration shall be Kathmandu.

Provided always that pending the final award of the arbitrator the Contractor shall comply with the instructions of the Engineer and proceed with the Work with due diligence in the manner directed by the Engineer.

NOTICES

Service of
Notices on
Contractor

63.(1) Any notice, order, direction, instruction or other communication which is to be or may be given to the Contractor under the provisions of this Contract shall be deemed to have been sufficiently given if delivered to the Contractor personally or to his representative or left at the Contractor's Site Office or by registered mail to the Contractor at the address mentioned in the Contract.

Service of
Notices on
Employer

(2) Any notice to be given to the Employer under the terms of the Contract shall be served by sending the same by registered post to or leaving the same at the Employer's address.

TAXATION

Taxation

64.(1) The Employer will neither be responsible for nor pay except as otherwise provided in the Contract any tax leviable on the Contractor or on his employees (whether under the designation income tax or otherwise). The Contractor shall at his own expense carry out such duties as may be imposed upon him by Law in respect of any such tax.

(2) The Contractor's employees shall be liable to pay Nepalese Income Tax in respect of their salaries and other emoluments as are chargeable therewith under the Law for the time being in force and the Contractor shall perform such duties in regard to the deduction thereof as may be lawfully imposed on him by His Majesty's Government of Nepal.

(3) The Tender is to be based on rates of taxes and duties current at the date of Tender

The rate and prices stated in the Bill of Quantities shall be deemed to cover all such taxes.

Law
Governing
Contract

65. The Contract shall be governed by and construed according to the laws for the time being in force in Nepal and all legal actions and proceedings arising out of the Contract shall be subject to the jurisdiction of the Courts of Law of Nepal.

GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS

General Description 1. The Japan International Cooperation Agency (JICA) intends to construct the demonstration farm in the Sindhuli Agriculture Farm under the Horticultural Development Project in order to demonstrate and extend the improved Junar (one of the citrus fruits) farming practice to the farmers living around the demonstration farm site. The demonstration farm of about 1.58 ha (gross) is located in the southern part of the Sindhuli Agriculture Farm. The net area of about 1.27 ha will be used for growing of Junar saplings. The water to irrigate the farm will be lifted up by pumping unit from the shallow well, which will be constructed in the riverbed of the Gwang river adjacent to the farm, and will conveyed to the farm pond through the discharge pipeline. After regulated in the farm pond, the water will be conveyed and applied to the farm through the pipeline system by static head.

The works provided for in this Contract are generally:

- the construction of shallow well,
- the installation of pumping and delivery facilities,
- the construction of the farm pond,
- the installation of irrigation pipelines and related facilities,
- the construction of drainage canals and related facilities,
- the construction of farm road network including approach road,
- the improvement of the existing fence, and
- the construction of the grafting house.

Climate 2. The following general information gives some indications of the conditions at the Site which may be expected throughout the year but does not relieve the Contractor in any way from the obligation to consult all available data. The Engineer takes no responsibility whatsoever for the accuracy of the information and any risk consequent on the interpretation of such data is to be entirely borne by the Contractor.

The climate of the demonstration farm site is generally sub-tropical, being characterized by two seasons; the rainy season (May to September) and the dry season (October to April). The annual rainfall averages about 1,500 mm, of which about 1,350 mm falls in rainy season. The monthly mean temperature varies from 14.2°C in January to 27.2°C in June, averaging 22.3°C, while the mean daily maximum temperature reaches more than 32°C, while the mean daily minimum temperature falls to about 6°C. The following meteorological data collected near the site are included as guides for planning construction works.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
Temperature							
(Maximum) °C	22.1	24.2	29.4	31.9	32.8	31.8	30.9
(Minimum) °C	6.3	8.2	11.9	17.7	21.1	22.6	23.0
(Daily) °C	14.2	16.3	20.7	24.8	27.0	27.2	27.0
Relative Humidity							
(08:40) %	82.6	77.8	65.3	62.8	69.1	77.9	83.3
(17:40) %	79.9	70.6	57.0	58.6	66.4	77.1	84.0
Precipitation ^{/1}							
(mm/month)	5.0	7.7	17.9	50.0	101.7	245.6	379.9

	Aug.	Sep.	Oct.	Nov.	Dec.	Average or Total
Temperature						
(Maximum) °C	31.0	30.5	28.6	26.3	22.9	28.5
(Minimum) °C	23.0	21.6	16.6	11.8	7.0	15.9
(Daily) °C	26.9	26.1	22.6	19.1	15.0	22.3
Relative Humidity						
(08:40) %	83.8	82.4	78.3	82.5	85.5	77.6
(17:40) %	86.1	84.6	80.5	84.5	80.0	75.4
Precipitation ^{/1}						
(mm/month)	356.6	255.9	58.7	13.7	5.3	1,498.0

Note: ^{/1}: Precipitation measured in Tulsi is adopted.

Scope of
Contract

3. The Contractor shall, except as otherwise provided for in the Contract, furnish all labor, materials, Constructional Plant, Temporary Works and other necessary for the construction of the Works. The Contractor shall execute, complete and maintain the Works in strict accordance with the Specifications and Drawings or as directed by the Engineer.

The Works to be carried out under the Contract will include the followings:

- (1) The construction and maintenance of any temporary facilities and access roads required by the Contractor for the execution of the permanent works
- (2) The construction of shallow well on the riverbed of the Gwang river adjacent to the farm
 - Diameter of shallow well : 1.5 m
 - Depth of well : 8.6 m
- (3) The installation of pumping and delivery facilities
 - Pumping unit
 - Discharge : 0.44 m³/min.
 - Pump diameter : ϕ 65 mm
 - Actual head : 24.5 m
 - Engine capacity : 9 PS
 - Discharge pipeline
 - Diameter of pipe : ϕ 80 mm
 - Length of pipeline : 190.25 m
 - Pump house : 4 m²
- (4) The construction of the farm road
 - Effective storage capacity : 50 m³
- (5) The installation of irrigation pipeline and related facilities
 - Main Irrigation Pipeline : Approx. 137 m
 - Branch Irrigation Pipeline : Approx. 360 m
- (6) The construction of drainage canals and related facilities
 - Main Drain : Approx. 149 m
 - Minor Drain : Approx. 421 m
 - Catch Drain : Approx. 127 m

(7) The construction of farm road network and approach road

- Approach Road : Approx. 290 m
- Main Farm Road : Approx. 110 m
- Secondary Farm Road : Approx. 580 m

(8) The improvement of the existing fence

- Length of the improved fence : Approx. 210 m

(9) The construction of the grafting house (120 m²)

Equipment
and
Materials
to be
Supplied
by the
Engineer

4. The Employer will supply the Contractor the below-listed equipment and materials and the Contractor shall use the said equipment and materials only for the execution of the Work.

The Contractor shall thoroughly check and examine the list of equipment and materials hereof and the Drawings, and shall satisfy himself as to the quantities of the equipment and materials to be supplied under this Clause. If there is any incompleteness in the quantities, the Contractor shall so notify the Employer in writing at the time of submission of the Tender. Failure to do so shall in no way relieve the Contractor from his obligation to complete the Works.

These equipment and materials will be handed over to the Contractor at the Site within 30 days from the commencement order.

(1) Intake pumping facility

- Single suction volute pump : 1 set
($\phi 65$ mm x $\phi 50$ mm, 2,200 rpm, 9 PS)
- Diesel engine (9 PS, 2,200 rpm) : 1 set
- Sluice valve ($\phi 80$ mm) : 1 no.
- Check valve ($\phi 80$ mm) : 1 no.
- Other materials and accessories : 1 set

(2) Chain block : 1 no.

(3) Piping for pumping facility

- Flange pipe ($\phi 65$ mm, 5.2 m) : 1 no.
- Flange bend pipe ($\phi 65$ mm, 90°) : 1 no.
- Flange pipe ($\phi 65$ mm, 2.5 m) : 1 no.
- Flange pipe ($\phi 65$ mm, 1.0 m) : 1 no.
- Flange bend pipe ($\phi 80$ mm, 90°) : 3 nos.
- Expansion joint ($\phi 65$ mm, 0.3 m) : 1 no.
- Flange taper pipe : 1 no.
($\phi 80$ mm x $\phi 50$ mm, 0.2 m)

- Flange pipe (ø80 mm, 1.45 m) : 1 no.
- Flange pipe (ø80 mm, 2.2 m) : 1 no.
- Other fitting materials : 1 set

(4) Discharge pipeline

- Flange pipe (ø80 mm, 5.5 m) : 7 nos.
- Flange pipe (ø80 mm, 4.0 m) : 1 no.
- Flange pipe (ø80 mm, 3.5 m) : 1 no.
- Flange pipe (ø80 mm, 3.2 m) : 1 no.
- Flange pipe (ø80 mm, 3.0 m) : 1 no.
- Flange pipe (ø80 mm, 1.0 m) : 1 no.
- Flange pipe (ø80 mm, 0.5 m) : 1 no.
- Single flange pipe (ø80 mm, 5.5 m) : 28 nos.
- Single flange pipe (ø80 mm, 3.8 m) : 2 nos.
- Steel pipe (ø80 mm, 3.0 m) : 1 no.
- Sleeve joint : 13 nos.
- Flange bend pipe (ø80 mm, 90°) : 3 nos.
- Flange bend pipe (ø80 mm, 45°) : 3 nos.
- Flange bend pipe (ø80 mm, 30°) : 2 nos.
- Flange bend pipe (ø80 mm, 15°) : 2 nos.
- Flange bend pipe (ø80 mm, 50°) : 1 no.
- Flange bend pipe (ø80 mm, 60°) : 1 no.
- Air valve (ø25 mm) : 3 nos.
- Other fitting materials : 1 set

(5) Farm pond facilities

- Bellmouth (ø100 mm) : 3 nos.
- Flange pipe (ø100 mm, 1.0 m) : 2 nos.
- Flange pipe (ø100 mm, 5.5 m) : 3 nos.
- Flange bend pipe (ø100 mm, 22°) : 1 no.
- Blowoff valve (ø100 mm) : 3 nos.
- Air valve (ø25 mm) : 1 no.
- Flange pipe (ø100 mm, 1.2 m) : 1 no.
- Flange bend pipe : 2 nos.
(ø100 mm, 90°, 0.7 m x 0.7 m)
- Other fitting materials : 1 set

(6) Pipeline system

- PVC pipe (ø100 mm, 5.0 m)	: 28 nos.
- PVC pipe (ø75 mm, 5.0 m)	: 8 nos.
- Bevelended PVC pipe (ø100 mm, 4.0 m)	: 7 nos.
- Bevelended PVC pipe (ø75 mm, 4.0 m)	: 3 nos.
- Plain ended pipe (ø50 mm, 4.0 m)	: 73 nos.
- TS socket (ø50 mm)	: 72 nos.
- TS tee (ø100 mm x ø100 mm)	: 1 no.
- TS tee (ø100 mm x ø50 mm)	: 2 nos.
- TS bend (ø100 mm, 90°)	: 2 nos.
- TS bend (ø100 mm, 22 1/2°)	: 1 no.
- TS bend (ø100 mm, 5 5/8°)	: 2 nos.
- TS bend (ø75 mm, 90°)	: 1 no.
- TS bend (ø75 mm, 11 1/4°)	: 1 no.
- TS bend (ø50 mm, 90°)	: 12 nos.
- TS bend (ø50 mm, 22 1/2°)	: 1 no.
- TS bend (ø50 mm, 11 1/4°)	: 3 nos.
- TS reducer (ø100 mm x ø75 mm)	: 1 no.
- TS reducer (ø75 mm x ø50 mm)	: 1 no.
- Union joint (ø50 mm)	: 14 nos.
- MF joint (ø100 mm)	: 1 no.
- Valve socket (ø100 mm, 4")	: 1 no.
- Valve socket (ø50 mm, 2")	: 16 nos.
- Malleable tee (2" x 3/4")	: 19 nos.
- Malleable tee (4" x 4")	: 1 no.
- Malleable elbow (3/4")	: 32 nos.
- Malleable elbow (2")	: 7 nos.
- Malleable elbow (4")	: 3 nos.
- Malleable nipple (3/4")	: 32 nos.
- Malleable nipple (4")	: 1 no.
- Steel long nipple (ø100 mm x 0.15 m)	: 2 nos.
- Steel long nipple (ø50 mm x 0.25 m)	: 4 nos.
- Steel pipe (ø100 mm, 1.65 m)	: 2 nos.
- Steel pipe (ø50 mm, 1.65 m)	: 4 nos.
- Steel pipe (ø50 mm, 1.95 m)	: 16 nos.
- Bronze screwed gate valve (3/4")	: 17 nos.
- Bronze screwed gate valve (2")	: 4 nos.

- Cast iron flanged gate valve (ø100 mm) : 1 no.
- Gasket (ø100 mm) : 4 nos.
- Air valve (ø13 mm) : 2 nos.
- Plainended pipe (ø200 mm, 4.0 m) : 1 no.
- Malleable reducing elbow (4" x 2") : 1 no.
- Other fitting materials : 1 set

(7) Other construction materials

- Cement (50 kg/bag) : Approx. 2,300 bags
- Timber for fencing work : Approx. 0.5 m³
- Precast concrete pipe (ø300 mm) : 30.0 m
- Reinforcing bars : Approx. 45 kg

Access to
the Site

5. The Sindhuli Agriculture Farm, where the demonstration farm would be constructed, is located across from Sindhulimadi, the capital of the Sindhuli District. Only during the dry season, car or vehicle can access to Sindhulimadi from the East-West Highway using the unpaved road being constructed along the Ratu and the Kamala rivers.

The Contractor shall be required to repair at his own expense any damage he may cause to the present road surfaces, road crossovers, open culverts and drains at the access to the Sites during the period of the Works.

Setting
Out

6. The Contractor shall be entirely responsible for the accurate setting out of the Works from the information supplied on the Drawings and the instruction given by the Engineer.

The levels shown on the Drawings are related to BM-1 of which temporary elevation is set at 500.00 m.

Drawings

7. The following drawings accompany and form a part of this Specification. During the progress of the Works, additional drawings will be issued by the Engineer as necessity arises to supplement, supersede or further set forth details shown on the Drawings hereto attached and such additional drawings shall thereupon become part of the Specification.

Plate No.	DWG. No.	Title
<u>GENERAL</u>		
1	S100-01	LOCATION MAP
2	S100-02	GENERAL LAYOUT
3	S100-03	COORDINATES OF CANALS AND PIPELINES

(to be continued)

<u>Plate No.</u>	<u>DWG. No.</u>	<u>Title</u>
<u>IRRIGATION FACILITIES</u>		
4	S200-01	SHALLOW WELL AND PUMP ARRANGEMENT
5	S200-02	FARM POND
6	S200-03	PLAN OF PIPELINE ARRANGEMENT
7	S200-04	PROFILE (1/2), DISCHARGE PIPELINE, MIP
8	S200-05	PROFILE (2/2), BIP
9	S200-06	PIPE ARRANGEMENT OF PIPELINE IRRIGATION SYSTEM
<u>DRAINAGE FACILITIES</u>		
10	S300-01	PROFILE (1/2), MD-1, MD-2, MD-1-1, MD-1-2
11	S300-02	PROFILE (2/2), MD-2-1, MD-2-2, CD-1, CD-1-1, CD-1-2
12	S300-03	CHUTE ON CD-1 (1/2)
13	S300-04	CHUTE ON CD-1 (2/2), DROP
14	S300-05	DRAINAGE CULVERT, TYPICAL CROSS SECTION OF DRAINAGE CANAL
<u>ROADS</u>		
15	S400-01	APPROACH ROAD AND FARM ROAD
<u>BUILDINGS</u>		
16	S500-01	PUMP HOUSE
17	S500-02	GRAFTING HOUSE
<u>IMPROVEMENT OF EXISTING FENCE</u>		
18	S600-01	IMPROVEMENT OF EXISTING FENCE
<u>CONSTRUCTION TIME SCHEDULE</u>		
19	S700-01	CONSTRUCTION TIME SCHEDULE

Construction
Program

8. Within seven (7) days after the award of the Contract, the Contractor shall submit to the Engineer for his approval, a construction program in bar chart form or otherwise, as may be required by the Engineer, showing in detail his proposed schedule of operation and providing for the orderly completion of the Work by the dates specified in the Contract. The Engineer's estimate of the construction time schedule shown on the Drawings is to be used only for consideration by the Contractor and does not relieve the Contractor from preparing and submitting his own time bar construction schedule.

The submission to and approval by the Engineer of such program shall not relieve the Contractor from any of his duties of responsibilities under the Contract.

PROGRESS REPORT AND PHOTOGRAPHS

Progress
Report

9.(1) The Contractor shall, before the tenth (10) day of each month or at any time designated by the Engineer, submit five (5) copies of a monthly progress report in a form acceptable to the Engineer on the progress of the Works during the preceding month. The report shall show but not be limited to:

- (a) the total percentage of progress as of the end of the report period and the percentage of each type of work progress for each structure during the preceding month,
- (b) list of activities scheduled to be in progress or actually in progress during the report period with the Contractor's actual forecast start and/or completion date for each activity,
- (c) lists of works done, and labors and equipment used during the report period,
- (d) list of the equipment and materials supplied by the Employer and used during the report period,
- (e) list of activities scheduled to be started within one (1) month with forecast starting dates, and
- (f) photographs set out in Clause 9(2) hereof.

From time to time during the execution of the Contract, the Engineer is empowered to call meetings, either in his office or at the Contractor's offices or on site, as he deems necessary for the purpose of control of the Contract. As required by the Employer or the Engineer, responsible representatives of the Contractor shall attend such meetings.