

PAMBANSANG PANGASIWAAN NG PATUBIG  
(National Irrigation Administration)  
EDSA, Diliman, Quezon City

MC # 22 S. 1997

TO : THE DEPUTY ADMINISTRATOR, ASSISTANT ADMINISTRATORS, DEPARTMENT MANAGERS, REGIONAL /OPERATION MANAGERS, PROJECT MANAGERS, PROVINCIAL IRRIGATION OFFICERS, IRRIGATION SUPERINTENDENTS, CORPORATE AUDITOR, REGIONAL/PROJECT AUDITORS AND ALL OTHERS CONCERNED  
This Agency

SUBJECT : MANUAL ON LOCAL MINOR CONTRACT

For the information and guidance of all concerned, attached is the Manual on Local Minor Contract (LMC) which aims to establish a uniform interpretation of policies on local minor contract, simplify and improve contract management procedures and install a monitoring and evaluation system for more effective contract administration.

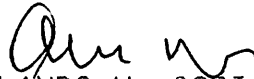
The LMC Manual covers guidelines on the following areas:

1. Limits of Authority
2. Scope of Work
3. Packaging & Scheduling of Local Contract
4. Instruction to Bidders
5. Implementation of Administration of Local Minor Contracts
6. Quality Control and Assurance

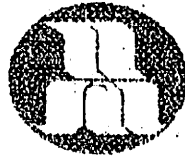
This Manual is open to amendments/modifications from time to time to keep pace with subsequent laws, rules and issuances on the implementation of civil works contracts. Any proposal to revise these guidelines shall be submitted to the Task Force created under memorandum of the Administrator dated August 4, 1995, whose main functions are to review and consolidate all existing NIA contract administration policies and to prepare a Manual on Contract Management.

The conduct of Local Minor Contract shall be strictly implemented in accordance with this Manual. All previous issuances which are not consistent with this Circular are amended/repealed accordingly.

For immediate compliance.

  
ORLANDO V. SORIANO  
Administrator.

June 26, 1997



MANUAL  
ON  
**LOCAL MINOR CONTRACT**

## ACKNOWLEDGEMENT

This Manual was prepared by a Task Force, created under NIA Memorandum dated October 13, 1995, composed of the following:

- |                               |                 |
|-------------------------------|-----------------|
| 1. Engr. Romeo E. Carbonell   | - Chairman      |
| 2. Engr. Rogelio M. Rotoni    | - Vice Chairman |
| 3. Engr. Antonio A. Galvez    | - Member        |
| 4. Engr. Consorcio O. Cotejar | - Member        |
| 5. Engr. Lawrence O. Acebedo  | - Member        |
| 6. Atty. Mario M. Tomas       | - Member        |
| 7. Engr. Fidelito E. Velasco  | - Member        |

Appreciation and gratitude are hereby extended to the members of the Task Force and to all other officials and personnel who in one way or another have provided their valuable assistance in the preparation of this Manual.

It is understood that this Manual is open to amendments and/or modifications from time to time to keep pace with subsequent laws, rules and regulations, issuances and guidelines on the implementation of civil works contract.

## TABLE OF CONTENTS

### LOCAL MINOR CONTRACT - IMPLEMENTING RULES AND REGULATIONS

	PAGE NO.
I. Limits of Authority - - - - -	1
II. Scope of Work - - - - -	1
II-1 Diversion Works - - - - -	1
II-2 Irrigation Facilities - - - - -	1
II-3 Access/Farm-to-Market Road & Road Structures -	2
II-4 Drainage Facilities - - - - -	2
II-5 Project/Service Facilities - - - - -	2
II-6 Project/Service Facilities - - - - -	2
III. Packaging and Scheduling of Local Contract - - - - -	3
III-1 Requirements - - - - -	3
III-2 Work Schedule - - - - -	3
III-3 Composition of Work Schedule/Package- - - - -	3
III-4 Conditions/Limitations- - - - -	4
IV. Instructions to Bidders - - - - -	5
IV-1 Who May Be Allowed to Bid - - - - -	5
IV-2 Organization of the PBAC - - - - -	5
IV-3 Invitation to Prequalify and to Bid - - - - -	5
IV-4 Issuance of Qualification Statements/Forms - -	5
IV-5 Classification and Registration of Contractors	6
IV-6 Pre-Qualification of Contractors - - - - -	6
IV-7 Issuance of Plans, Specifications, Proposal Book Form (3) and Draft Contract - - - - -	7
IV-8 Interpretation of Bid/Tender Documents and Other Supplemental Notices- - - - -	7
IV-9 Prospective Bidder's Responsibility - - - - -	8

IV-10	Bid/Tender and Award- - - - -	8
IV-10.1	Preparation of Bids, Bid Bonds and Prequalification Statement - - - - -	8
IV-10.2	Awarding of Contract - - - - -	9
IV-10.3	Disclaimer - - - - -	12
IV-10.4	Administrative Sanctions - - - - -	12
IV-11	Approval of Awards and Contracts - - - - -	13
IV-11.1	Documents Comprising the Contract - - - - -	13
IV-11.2	Supporting Documents - - - - -	14
IV-11.3	Approval of Contract - - - - -	14
IV-12	Issuance of Notice to Proceed - - - - -	14
V.	Implementation of Administration of Local Minor Contracts - - - - -	15
V-1	Pre-Construction Conference - - - - -	15
V-2	Contractual Requirements - - - - -	15
V-3	Joint Stake Out Survey - - - - -	16
V-4	Advance Payment - - - - -	16
V-5	Progress Payment - - - - -	17
V-6	Retention Money - - - - -	17
V-7	Liquidated Damages - - - - -	18
V-8	Extension of Contract Time- - - - -	19
V-9	Suspension of Work - - - - -	20
V-10	Variation Orders (Change Order/Extra Work Order	21
V-11	Extra Work Costing - - - - -	23
V-12	Condition Under Which Contractor is to Start Work Under Variation Orders and Reserve Payments -	23
V-13	Contract Price Escalation - - - - -	24
V-13.1	Guidelines on Contract Price Escalation - - - -	24
V-13.2	Fluctuation Factor- - - - -	25
V-14	Firming Up of Contract Quantities and Costs - -	34

V-15	"As Built" Plans and Drawings - - - - -	36
V-16	Contract Completion - - - - -	36
V-17	Certificate of Final Completion and Acceptance-	37
VI	Quality Control and Assurance - - - - -	37
VI-1	General Frame of the Quality Control- - - - -	37
VI-1.1	General - - - - -	37
VI-1.2	Material Quality Check - - - - -	37
VI-1.3	Construction Works Check - - - - -	38
VI-1.4	Constructed Facility Quality Check - - - - -	38
VI-1.4.1	Diversion Check - - - - -	39
VI-1.4.2	Final Quality Check - - - - -	39
VI-1.5	Test Run - - - - -	39
VI-2	Execution Plan for Quality Control- - - - -	39
VI-2.1	General - - - - -	39
VI-2.2	Organization - - - - -	40
VI-2.3	Staffing - - - - -	40
VI-3	Quality Control for Construction Works - - - -	41
VI-3.1	General - - - - -	41
VI-3.2	Earthworks - - - - -	41
VI-3.2.1	Embankment Works - - - - -	41
VI-3.3	Concrete Works - - - - -	45
VI-3.3.1	Concrete Materials - - - - -	45
Figure 1	General Frame of The Quality Control - - - -	49
Figure 2	Organization - - - - -	50
Figure 3	Embankment Works - - - - -	51
Figure 4	Team Obligation - - - - -	52
Table 1	Criteria for Evaluation of Embankment/ Earthfill Material - - - - -	53

## **I. LIMITS OF AUTHORITY**

- 7
- I-1. The authority to undertake the Construction, Approval of Resolution of Award and Approval of Contract and processing and approval of claims and variation orders on Local Minor Contracts are hereby delegated to the Regional Irrigation Manager/Project Manager concerned. A Local Minor Contract shall have a maximum ceiling of TEN MILLION (P10.0 M) Pesos per contract package.

## **II. SCOPE OF WORK**

The following Civil Works Costing P10.00 Million and below can be implemented thru "Local Minor Contract".

- II-1. DIVERSION WORKS - Serves to divert the supply of Irrigation water into the canal system and eventually to the service area from the source such as rivers, lakes or springs.

- a. New Diversion Dam
  - a.1 Ogee Type
  - a.2 Trapezoidal Type/broad crested type
  - a.3 Core-wall type
  - a.4 Checkgate Type
  - a.5 Barrage Type
  - a.6 Teruvian Type
- b. New Intake Structure
  - b.1 Intake Structure
  - b.2 Pumping Station
- c. Repair/Improvement of Diversion Works
  - c.1 Raising of dam crest/lengthening of the dam
  - c.2 Modification of intake structure
  - c.3 Restoration/Extension of dikes
  - c.4 Restoration/Extension of apron

- II-2. IRRIGATION FACILITIES - are conveyance system that can deliver to the farm level, the quantity of water adequate to meet net crop demand.

- a. New
  - a.1 Canalization to include canal lining/service roads
  - a.2 Canal structures/check structures including control gates
  - a.3 On farm facilities/provision for control gates
- b. Repair/Improvement Works
  - b.1 Desilting of Canals
  - b.2 Restoration of canal embankment/service roads
  - b.3 Repair/modification of canal structures including control gates
  - b.4 Construction of additional canal structures

### II-3. ACCESS/FARM-TO-MARKET ROAD AND ROAD STRUCTURE

#### A. New

- a.1 Construction of roads leading to the dam site
- a.2 Construction of roads leading to the project area
- a.3 Construction of roads connecting the project area to the nearest barangay, provincial or national roads.
- a.4 Construction of road structures
  - a.4.1 bridges
  - a.4.2 drainage structures.

#### B. Repair works

- b.1 Repair/upgrading of roads and road structures
- b.2 Road Surfacing

II-4. DRAINAGE FACILITIES - are channels to convey excess water from constructed field/farm drains to natural drainage channels such as creeks and rivers

#### a. New

- a.1 Construction of drainage canals
  - a.1.1 Main drainage
  - a.1.2 Farm Drainage
- a.2 Drainage structure

#### b. Existing drainage facilities

- b.1 Drainage Channels
- b.2 Drainage Structures

### II-5. PROJECT/SERVICE FACILITIES

- a. Office building
- b. Quarters
- c. Site Developments
  - c.1 Fences
  - c.2 Guardhouse
  - c.3 Landscaping
  - c.4 Sewerage/Drainage system
  - c.5 Water system
- d. Canteen
- e. Equipment sheds
- f. Warehouse
- g. Hydromet station
- h. WMT's station
- i. Multi-purpose pavements
- j. Intrasite roads

### II-6. OTHER WORKS

- a. Subsurface exploration & investigation



### III. PACKAGING AND SCHEDULING OF LOCAL CONTRACT

#### III-1. REQUIREMENTS

All proposed works to be bidden under the category of Local Minor Contract shall be included in an Approved Current Year Program of Work with available allocation, or part of a master Work Program approved for implementation. The Regional Irrigation Office/Project Management office concerned shall be responsible in the preparation of a masterlist of work schedules that are programmed to be bidden and implemented. Quantity take-offs shall be estimated from approved plans of all kinds of structures including its appurtenant facilities, if any; profiles and cross-sections of canals, roadways, drainages and waterways, and other related earthmoving works; to come up with a realistic computation to preclude unwanted variation of quantities that may arise during construction. Work pay items shall be specified in the bill of quantities of the contract documents that constitute a work schedule or package for completion of work activity of irrigation facilities.

Right-of way (ROW) shall be acquired before the NTP is issued to the contractor.

#### III-2. WORK SCHEDULE

Packaging and scheduling of Local Minor Contract proposed for bidding shall cover all work activities of Irrigation facilities defined under the scope of work. Details are contained in the Masterlist of Work Schedules/Packages of Contract Works in the approved Program of Work.

#### III-3. COMPOSITION OF WORK SCHEDULE/PACKAGE

##### 1. Authorized Amount:

The total amount of any one (1) contract work schedule/package shall not exceed P10 Million. Each work schedule/package shall be estimated within a range of about 75% to 80% of the P10 Million, where the difference of about 20% to 25% shall be left to cover possible additive variation costs, such that the aggregate contract amount will not exceed the P10 Million limit. If it is assured that the additive variation is nil, the contract amount could be estimated nearest to the P10 Million limit. In case of a work schedule/package has an estimated total bid amount of P10 Million, it may be bidden out but any variation costs during the implementation stage shall be subject to availability of funds and done by administration.

In order to preclude the occurrence of additive variation costs in Local Minor Contract works, the discretion of the Field Office as to the above prescribed total contract amount shall be prudently exercised.

##### 2. Contents:

Each work schedule/package shall have complete and specific description of the works to be done. Details shall include, among others, the following:

##### 2.1 Title/Description of Work Activity

## 2.2 Stationing or extent of contract limits

## 2.3 Bill of Quantities

2.3.1 All work pay items to be done

2.3.2 Bid Quantities

2.3.3 Unit Bid Cost

2.3.4 Total Bid Contract Amount

## III-4. CONDITIONS/LIMITATIONS

1. A work schedule/package shall be defined by specific station limits (that start and ends at particular structure or/identifiable points). This involves:

1.1 Diversion Works

1.2 Canal, laterals, terminal facilities

1.3 Service/Access Roads

1.4 Drainage and waterways

1.5 Horizontal structures (Siphon, Flumes-from inlet station to outlet station)

1.6 Bridges, Drainage Culverts (specific station)

1.7 Project Facilities

There shall be no multiple packaging within one specific station limit along a canal (except for major single structure and road surfacing materials where each could be packaged as one work schedule).

2. A work schedule/package shall contain all work items to be done within a particular station limit to complete a portion of the whole work activity. This applies to:

2.1 All work items on concreting and earthmoving works for diversion works, irrigation canal facilities, terminal facilities, access/service roads except for surfacing materials which could be a separate work schedule, drainage works, project facilities, and other related works.

This is intended to prevent two (2) contractors working with one particular station limit. (One work schedule, one contractor)

3. Major works/structures which are distinct to each other shall be package as one work schedule per structure, as follows:

3.1 Diversion dam and appurtenant structures/facilities

3.2 Siphons

3.3 Bridges

3.4 Flume structures

3.5 Project facilities (Bldgs, Fence, etc)

There shall be no splitting of sections or portions of one distinct structure in order to preclude two (2) contractors working on one (1) particular structure.

#### **IV. INSTRUCTIONS TO BIDDERS: THESE PROVISIONS REFER TO PRE-INSTRUCTION ACTIVITIES FROM ADVERTISEMENT TO NOTICE TO PROCEED**

##### **IV-1. WHO MAY BE ALLOWED TO BID**

1. The following may become contractors for Local Minor Contracts:

- a. Individuals who are Filipino citizens, acting as a single proprietorship.
- b. Partnership or corporation duly organized under the laws of the Philippines, at least seventy five percent (75%) of the capital stock of which belongs to Filipino citizens.

##### **IV-2. ORGANIZATION OF THE PBAC**

The Regional/Project Office (field office) shall organize its PBAC, the members of which shall be approved by the NIA Board thru the Administrator.

##### **IV-3. INVITATION TO PREQUALIFY AND TO BID**

For civil works contract costing TEN MILLION PESOS (P10,000,000.00) and below, advertisement at least once within a week in a newspaper of local circulation which has been regularly published for at least six (6) months before the date of issuance of the notices or announcements within the region where the project is situated, or through posting of notices in the premises of municipal/provincial offices, or through other forms of media such as radio and television, provided that based on the field office short list of contractors or referral with the Central Office there should be at least four contractors indigenous to the region duly classified and registered to undertake such civil works.

##### **IV-4. ISSUANCE OF QUALIFICATION STATEMENTS/FORMS**

The PBAC shall provide prospective bidders with the notice of Prequalification to contain, among others, the information to guide them in evaluating their capabilities carefully and to decide if it can meet the technical, commercial and contractual conditions, and if so, proceed to prepare their bids and participate in the bidding of a specific project.

The NIA standard Pre-C Forms for Local Minor Contracts is shown as Annex A, hereof.

All prequalification documents shall be under oath signifying their correctness and authenticity. These shall be accompanied by a letter authorizing the Regional Irrigation Manager/Project Manager/Operations Manager or their duly authorized representatives to verify any or all of the documents submitted.

##### **IV-5. CLASSIFICATION AND REGISTRATION OF CONTRACTORS**

Contractors shall be limited to those qualified registered, or classified by the PCAB under CIAP.

All prequalification documents shall be under oath signifying their correctness and authenticity. These shall be accompanied by a letter authorizing the Regional Irrigation Manager/Project Manager/Operations Manager or their duly authorized representatives to verify any or all of the documents submitted.

#### IV-5. CLASSIFICATION AND REGISTRATION OF CONTRACTORS

Contractors shall be limited to those qualified registered, or prequalified by the PCAB under CIAP.

#### IV-6. PREQUALIFICATION OF CONTRACTORS

1. A bidder must be found to be pre-qualified to undertake the contemplated project under contract based on his prequalification statements as evaluated by the PBAC.
2. Notwithstanding the prequalification of a contractor, the Field Office reserves the right to review his prequalification statements and other relevant information before the approval of the contract. Should such review uncover any misrepresentation made in the prequalification statements, or any change in the situation of the contractor to downgrade the substance of his prequalification statements, the Field Office shall disqualify him from obtaining a bid or from obtaining any award or contract.
3. In the evaluation of the Pre-C statement, the PBAC shall review, among other things, the technical capability of the contractor to carry out the subject contract as gauged by the extent and quality of his relevant experience and performance and track record, the suitability of his available relevant construction equipment, and the adequacy of his proposed project organization and personnel. Up-to-date information on these aspects shall be considered.
4. To determine the financial capacity of the contractor, the PBAC shall require him/it to submit a statement from a bank or financing institution authorized/licensed by the Central Bank of the Philippines that the Bank/financing institution commits to provide the contractor, if awarded the contract, a credit line in an amount specified by the Field Office which is equal to the average operating expenses of the project for two (2) months or ten percent (10%) of the approximate total project cost, whichever is less, or a cash deposit certificate in the amount specified in the foregoing. Said cash deposit certificate shall be released only when the cost of the remaining works is 10% of the total project cost or when the contract time remaining is less than two months before completion as certified by the National Irrigation Administration and the issuance of statement of work accomplished.
5. After undertaking the above processes, the PBAC shall mark the prequalification documents "Prequalified", together with the classification of the contractor, or "Predisqualified" as the case may be, countersigned by the Chairman, for review and approval of the Administrator or his duly authorized representative. Accordingly, the PBAC shall duly inform the prospective bidders who have been prequalified within seven (7) calendar days after

approval. Applicants predisqualified should likewise be informed stating therein the grounds for their predisqualification. Those predisqualified are given seven (7) calendar days upon receipt of the notice within which to appeal for reconsideration.

6. The proposed key personnel (duly qualified project manager and project engineer) must have managed or supervised at least a project of similar nature as to type and cost (escalated).
7. The PBAC shall also check the bidder's performance in his on-going government and private projects. If there is a reported negative slippage of 15% and above, unsatisfactory quality of work and/or performance of his obligations under his contracts in any of these projects, the PBAC shall verify the cause(s) of such reported negative slippage, unsatisfactory quality of work and/or performance of said obligations, and if these are found due to his fault or, negligence, the bidder shall be disqualified from the subject project.

#### IV-7. ISSUANCE OF PLANS, SPECIFICATIONS, PROPOSAL BOOK FORM(S) AND DRAFT CONTRACT

1. The PBAC shall issue the plans, specifications, proposal book form (s) for the project to be bid to contractor-applicants prequalified under Pre-C prequalification under the relevant classification, upon payment of the corresponding price thereof to the field office twenty (20) days before the date of bidding.

#### IV-8. INTERPRETATION OF BID/TENDER DOCUMENTS AND OTHER SUPPLEMENTAL NOTICES

1. If a prospective bidder is in doubt as to the meaning of any part of the bid documents, he may submit a written request for clarification from the field office allowing sufficient time for a reply to reach him before submission of his bid. Any substantive interpretation given will be issued in the form of Supplemental Notice, furnishing copies thereof to all prospective bidders.
2. The field office may also issue Supplemental Notices to all prospective bidders at least seven (7) calendar days prior to the date of opening of bids for purposes of clarification or modification of the bid documents. Receipt of all Supplemental Notices shall be duly acknowledged by each prospective bidder prior to the submission of bids and compliance therewith shall be indicated on the bid form. Oral interpretation of the bid documents shall not be binding.
3. Pre-bid conference(s) may be conducted at the discretion of the field office or upon written request by any or all of the prospective bidders subject to the approval of the field office. At least one (1) pre-bid conference is sufficient. Said pre-bid conference(s) shall be held at the place and time to be designated by the Regional Irrigation Manager (RIM)/Project Manager (PM)/Operations Manager (OM) concerned which shall not be later than seven (7) calendar days prior to the opening of bids.

#### IV-9. PROSPECTIVE BIDDER'S RESPONSIBILITY

1. The prospective bidder shall be responsible for taking steps in carefully examining all the bid documents and to acknowledge all conditions, local or otherwise, affecting the carrying out of the contract works, and to arrive at an estimate of the facilities available and needed for the project. Failure to do so shall be at the prospective bidder's risk.
2. It shall be the sole responsibility of the prospective bidder to determine and to satisfy himself by such means as he considers necessary or desirable on all matters pertaining to the project, including the location and the nature of the work; climatic conditions; the nature and condition of the terrain; geological conditions at the site; transportation and communication facilities; the requirement and the availability of materials, labor, water, electric power and roads; and execution of the work. The prospective bidder, by submitting his bid, acknowledges that he had inspected the site and determined the general characteristics of the project and the condition indicated above. An affidavit of such inspection from the prospective bidders shall, therefore, be submitted.
3. The field office shall not be responsible for erroneous interpretations or conclusions by the prospective bidder of data furnished by the former.
4. Prior to the submission of bids, the prospective bidders are considered to have become familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect or apply to the operation and activities of contractors. However, in cases where the cost of the awarded contract is affected by any applicable new laws, decrees, ordinances, regulations and other acts of government promulgated after the date of bidding for publicly-bid and sealed-bid contracts of date of contract for negotiated contracts, a contract price adjustment shall be made or appropriate relief shall be applied on a no loss no gain basis provided such is not covered by the provisions on price escalation.

#### IV-10. BID/TENDER AND AWARD

##### IV-10.1 PREPARATION OF BIDS, BID BONDS, AND PREQUALIFICATION STATEMENT

1. Bids shall be prepared on the proposal book form(s) in accordance with the Instructions to Bidders.
2. The original copy of the bid shall be accompanied by a bid security in Philippine Pesos, an amount of not less than two-and one-half percent (2-1/2%) of the total bid price in cash, certified check, manager's check, or bank draft/guarantee against any reputable bank acceptable to the Agency or letter of credit issued by a commercial bank or surety bond, callable on demand issued by a surety or insurance company duly accredited by the Office of the Insurance Commissioner or any combination thereof as may be required by the Field Office, payable to the Field Office as guarantee that the successful bidder shall, within fourteen (14) calendar days from receipt of the Notice of

4. Bidders shall, as part of their bid:

- a. submit a written power of attorney authorizing the signatory of the bid offer to bind the bidder; and
- b. update any information submitted with their applications for prequalification, which has changed and continue to meet the criteria set out in the prequalification documents.

IV-10.2 AWARDING OF CONTRACT

1. Prior to expiration of the period of the bid validity prescribed by the field office, the RIM/PM/OM concerned will notify the successful bidder by letter that its bid has been accepted. The letter shall specify the sum which the field office will pay the Contractor in consideration of the execution and completion of the works and the correction of any defects thereof by the latter as prescribed by the contract.
2. The notification of award will announce the execution of the contract.
3. For locally funded projects, no award of contract shall be made to a Bidder whose bid price is higher than the Allowable Government Estimate (AGE) or the Approved Agency Estimate (AAE), whichever is higher, or lower than seventy percent (70%) of the AGE. For purposes of these rules, the AGE shall be equal to one half of the sum of the AAE and the average of all responsive bids. For purposes of determining the average of all responsive bids, those higher than one hundred twenty percent (120%) of the AAE or lower than sixty percent (60%) thereof shall not be considered. No negotiation shall be allowed to bring down the bid to the level of the AAE/AGE. For foreign assisted projects, award of contract shall be in accordance with the Procurement Guidelines of the lending institutions.
4. In the event that any of the following conditions should occur, the bidding shall be declared a failure and the field office shall undertake a review of the AAE and the tender/bid and other related documents such as Instructions to bidders, plans and technical specifications, standards and completion schedule, etc.
  - a. When no bids are received
  - b. When all bids received are higher than one hundred twenty percent (120%) of the AAE or lower than sixty percent (60%) of the AAE.
  - c. Failure to award the contract within the limits prescribed under paragraph 3 above.
  - d. When the lowest evaluated bid exceeds the amount of Ten Million Pesos (P10 M).

If found necessary, the AAE, including other related tender documents, shall be reviewed and the project shall be advertised anew for bidding subject to the approval of the RIM/PM/OM concerned. Such review and/or revisions however, including the approval by the RIM/PM/OM concerned of the necessary modifications, if any, shall be made not later than twenty (20) calendar days from the date of opening of bids.

4. In the event that any of the following conditions should occur, the bidding shall be declared a failure and the field office shall undertake a review of the AAE and the tender/bid and other related documents such as Instructions to bidders, plans and technical specifications, standards and completion schedule, etc.
  - a. When no bids are received
  - b. When all bids received are higher than one, hundred twenty percent (120%) of the AAE or lower than sixty percent (60%) of the AAE.
  - c. Failure to award the contract within the limits prescribed under paragraph 3 above.
  - d. When the lowest evaluated bid exceeds the amount of Ten Million Pesos (P10 M).

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5. All bidders who have been previously prequalified for the project shall automatically be considered prequalified for the rebidding of the project.
6. The field office however, shall reserve the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of contract without thereby incurring any liability to the effected bidder or bidders; to declare a failure of bidding if there is, among others, reason to suspect as evident collusion among contractors resulting in no competition; to waive any required formality in the bids received; and to disregard any bid which is obviously unbalanced; particularly in the major items. For purposes of these rules, an unbalanced bid shall be that bid containing one or more pay items that are thirty percent (30%) higher than the unit AGE in respect to major items whereas other pay items are priced lower than the unit AGE, major items being defined as pay items representing at least twenty percent (20%) of the AAE or the first two items having the highest percentage of the AAE or those indicated/specified in the Instructions to Bidders.
7. Unbalanced bids as defined above may be considered for award provided that the excess of the item bid price for the subject major item over one hundred thirty percent (130%) of the unit AGE is paid upon eighty percent (80%) completion of the entire project and full completion of the subject major item.
8. The right is also reserved to reject the bid of any bidder who (a) has previously failed to satisfactorily perform or complete any construction contract undertaken by him or (b) was prequalified on the basis of suppressed or false information.



9. In the event of refusal or failure of any complying bidder eligible for award to enter into contract within the stipulated time, the field office shall impose the appropriate sanctions provided in Section IB 10.4 and shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid security, and any such other remedy the field office may take under the contract and the field office may resort to awarding the contract in the next ranked bidder.
10. In the event of refusal, inability or failure of the lowest complying bidder eligible for award to make good his bid by entering into contract and to post his performance security within the time provided therefor, the second lowest complying bidder eligible for award shall be considered for award at his bid price provided that his bid shall not exceed the limits prescribed under Section IB 10.2 hereof. This rule shall likewise, apply to the third lowest complying bidder eligible for award in case the second lowest complying bidder eligible for award shall refuse. Otherwise, the project shall be advertised anew for bidding.
11. Normally within thirty (30) calendar days from the date of evaluation of bids shall have been completed, a decision on the results of the bid evaluation should be made. If the decision is to award the contract, the Notice of Award should be issued normally within seven (7) calendar days from the date decision to award is made. The successful bidder or his duly authorized representative should execute the contract with the field office normally within fifteen (15) calendar days from receipt of the Notice of Award.
12. To guarantee the faithful performance of the contractor under the contract, he shall post upon the signing of the contract a performance security in the form of cash, manager's check, cashier's checks, bank draft/guarantee, letter of credit issued by a reputable bank, surety bond, callable on demand, issued by the Government Service Insurance System or by surety or insurance companies duly accredited by the Office of the Insurance Commissioner, or a combination thereof, in accordance with the following schedule.
  - a. Cash, manager's check, cashier's check, irrevocable letter of credit, bank draft - five percent (5%) of the total contract price.
  - b. Bank guarantee - ten percent (10%) of the total contract price.
  - c. Surety Bond - thirty percent (30%) of the total contract price.
13. The performance security shall be posted in favor of the field office and shall guarantee the payment of the amount of the security as penalty in the event it is established that the contractor is in default in his obligation thereunder.
14. In the execution of the performance security, the following conditions shall be complied with:
  - a. It shall be executed in accordance with the form prescribed therefor.
  - b. It shall be at least co-terminus with the final completion of the project.

- c. The following provisions shall form part of the performance security. The right to institute action on the penal bond pursuant to Act No. 3688 of any individual firm, partnership, corporation and association supplying the contractor with labor and material for the prosecution of the work is hereby acknowledged and confirmed.
15. Subject to the conditions of the contract, the performance security may be released by the field office after the issuance of the certificate of completion of the project, provided that there are no claims for labor and materials filed against the contractor or the surety company.
  16. Should any surety bond for the performance of this contract become unacceptable to the field office, the contractor shall promptly furnish such replacement security as may be required from time to time up to the sum equal to the amount of the original surety.
  17. The contractor shall post an additional performance security to cover any cumulative increase of more than ten percent (10%) over the original value of the contract as a result of adjustments in unit prices, and/or change orders, extra work orders and supplemental agreements. The contractor shall cause the extension of the validity of the performance security to cover approved contract time extensions.
  18. In case of a reduction in the contract value and for partial works completed by the contractor and accepted by the field office and which, in the latter's judgement, shall not affect the structural integrity of the entire project, the field office shall allow a proportional reduction in the original performance security, provided that any such reduction is more than ten percent (10%) and that the aggregate of such reduction is more than fifty percent (50%) of the original performance security.

#### IV-10.3 DISCLAIMER

1. The field office assumes no obligation whatsoever to compensate or indemnify the bidders for any expenses or loss that they may incur in the preparation of their bid nor does the Government guarantee that an award will be made.

#### IV-10.4 ADMINISTRATIVE SANCTIONS

1. The following administrative sanctions shall be imposed for offenses/violations committed by contractors during the prequalification, bidding and award:
  - a. Suspension for one (1) year for the first offense, disqualification for two (2) years for the second offense and perpetual disqualification for succeeding offenses on any of the following:
    1. Misrepresentation or concealment of any material fact or information in the sworn prequalification statements and/or bids, including but not limited to:
      - 1.1 Falsification of public documents
      - 1.2 Submission of borrowed license (license lending)

2. Submission of bids and/or detailed estimates that are identical to each other or to the Approved Agency Estimates (AAE) which manifestly indicate rigging or collusion.
  3. Other acts of the contractors which directly or indirectly tend to defeat the purpose of public bidding.
- b. Suspension for six (6) months for first disqualification for one (1) year for second offense, disqualification for two (2) years for third offense and perpetual disqualification for succeeding offense:
- (1) Non-submission of bids by prequalified contractors
- c. Forfeiture of bid security for first offense, and suspension of one (1) year for second offense, and perpetual disqualification for succeeding offense on any of the following:
- (1) Unjustified failure or unreasonable refusal of the winning bidder to accept or signify his conformity to the notice of award (NOA).
  - (2) Non-submission by the proposed awardee within the prescribed time of the performance security, and other requirements necessary for contract preparation, i.e. contractors all risk (CAR) insurance, affidavit of no pending case, non-payment of tax, construction schedule, cash flow and other requirements necessary for the formulation of the contract.
  - (3) Unjustified refusal or failure of the proposed awardee to enter or sign the prepared contract within the time required by the NIA.

#### IV-11. APPROVAL OF AWARDS AND CONTRACTS

1. The RIM/PM/OM concerned or his duly authorized representatives shall approve awards and contracts that are funded and/or implemented by the field office within the limits of their respective authorities.
2. In no case shall award of contracts be made beyond the bid security validity period as specified in the Instructions to Bidders. "In no case shall the contractor be compelled to accept the award beyond said validity period."

##### IV.11.1 DOCUMENTS COMPRISING THE CONTRACT

1. The following documents shall form part of the contract:
  - a. Contract Agreement
  - b. Conditions of Contract
  - c. Drawings/Plans
  - d. Specifications
  - e. Invitation to Bid
  - f. Instructions to Bidders
  - g. Addends

- h. Bid Form including the following Annexes:
  - 1) Authority of the Signing Official
  - 2) Bid Prices in the Bill of Quantities
  - 3) Detailed Estimates
  - 4) Construction Schedule and S-Curve
  - 5) Construction Methods
  - 6) Project Organizational Chart
  - 7) Manpower Schedule
  - 8) Equipment Utilization Schedule and duly executed Contract of Lease of all equipment and machineries which shall be intended for use exclusively for the project, if any
  - 9) Cash flow by quarter and Payments Schedule
  - 10) Affidavit of Site Inspection
    - i. Performance Security
    - j. Prequalification Statements
    - k. Credit line issued by an authorized bank in an amount equal to the average operating expenses of the project for two (2) months or ten percent (10%) of the total project cost, whichever is less.
    - l. Notice of Award of Contract and Contractor's "Conforme" thereto
    - m. Other Contract Documents that may be required by the field office.

#### IV-11.2 SUPPORTING DOCUMENTS

- 1. To facilitate the approval of the contract, the following supporting documents shall be submitted:
  - a. Duly approved Program of Work and Cost Estimates
  - b. Certificate of Availability of Funds
  - c. Approved Agency Estimate (AAE) and Allowable Government Estimate (AGE)
  - d. Abstract of Bids
  - e. Resolution of the PBAC or the PBAC recommending Award
  - f. Approval of Award by Approving Authority
  - g. Concurrence of Lending Institution in case of Foreign-Assisted Projects
  - h. Other pertinent documents as may be reasonably required by existing laws.

#### IV-11.3 APPROVAL OF CONTRACT

- 1. Contracts should normally be approved/disapproved by the RIM/PM/OM concerned in accordance with existing laws, rules and regulations within fifteen (15) calendar days from the date the successful bidder or his duly authorized representative shall have executed the contract with the field office and submitted all documentary requirements to perfect the contract, particularly the performance security.

#### IV-12 ISSUANCE OF NOTICE TO PROCEED

- 1. The field office should issue the Notice to Proceed (NTP) to the successful bidder normally not later than seven (7) calendar days from the date of approval of the contract by the RIM/PM/OM concerned.

## V. IMPLEMENTATION AND ADMINISTRATION OF LOCAL MINOR CONTRACTS

These provisions and/or guidelines refers to activities and/or contractual requirements during the implementation and administration of Local Minor Contracts, that is after contract award, formalization of the Contract and Issuance by NIA and receipt by the Contractor of the Notice to Proceed (NTP) until full completion and issuance by the NIA to the Contractor of the Certificate of Final Completion and Acceptance (CFCA), of the completed and accepted contract works.

### V-1. PRE-CONSTRUCTION CONFERENCE

Immediately after the award is finally issued to the contractor, the NIA and the Contractor shall hold a pre- construction conference to discuss, among others, the following.

- a) NIA's Contractual Requirements.
- b) Schedule of the Joint Stake Out Survey
- c) Issuance of "Good for Construction" ("GFC") Plans and Drawings (DSD to stamp "GFC" for plans reviewed by that Department)
- d) Status of Construction Rights-of-Way (ROW) and the Peace and Order and Other Related Local Conditions in the Project Area
- e) Review and Confirmation on the Proposed Scheme of Contract Implementation as Submitted by the Contractor During the Bidding;
- f) Material's Testing and Quality Control for the Contract Works.
- g) NIA's Periodic Contractual Requirements.
- h) Periodic Coordination and Consultation Meetings and Minutes of Discussion.
- i) Written Communications Between the NIA and Contractor.
- j) Progress Billing Formats and Supporting Documents.
- k) Progress and Statistical Reports.

### V-2. Contractual Requirements:

The following contractual requirements shall be prepared and submitted by the Contractor within fifteen (15) calendar days from receipt of the NTP for review, evaluation and approval by NIA, to wit:

<u>PARTICULAR</u>	<u>APPROVING OFFICIAL</u>
a) Contract Implementation Program in PERT/CPM and BAR Chart Forms	RIM/PM
b) Equipment and Manpower Resources Allocations	RIM/PM
c) Financial Cash Flow	RIM/PM
d) Organizational Chart with Bio-Data and Approved Appointments of Key Officers and Staff Personnel	RIM/PM
e) Location and, Site Development Plans;	

and Plans and Drawings of the Proposed  
NIA's and Contractor's Field Offices,  
Contractor's Quarters and Construction  
and Service Facilities

Implementing  
Unit

- f) Document on Site Acquisition of the  
Contractor's Field Office and Tem-  
porary Facilities (For Notation Only)

Implementing  
Unit

The aforementioned requirements shall be submitted by the Contractor in one  
(1) original and four (4) copies with the following distribution upon approval by NIA, to  
wit:

- a) Original and One (1) Copy  
b) One (1) copy  
c) One (1) copy  
d) One (1) copy

Implementing Unit  
RO/PMO  
Contractor  
COA

The approved Contract Implementation Program, Equipment and Manpower  
Resources Allocations, Financial Cash Flow and Organizational Chart shall be the  
primary basis for NIA's evaluation of the contractual performance of the Contractor. In  
cases wherein the NIA has approved and issued contract time  
extension/suspension/additional contract time, variation orders and crash programs, the  
Contract Implementation Program, Equipment and Manpower Resources Allocations  
and Financial Cash Flow shall be revised/updated by the Contractor for approval by  
NIA. Likewise, the Contractor's performance bond, contractor's all risk insurance  
coverage and other security instruments shall be revalidated/updated to conform with  
the approved changes under the contract.

#### V-3. Joint Stake Out Survey

As scheduled during the pre-construction conference, the NIA's Implementing  
Unit and Contractor shall conduct the required joint stake out survey of the contract  
works to be implemented. Based on NIA's established bench marks and reference  
elevations, the Contractor shall proceed with the stake out survey, upon testing by the  
NIA's Implementing Unit of the Contractor's surveying instruments. Upon completion of  
the stake out survey, field survey data shall be checked and noted by the NIA's  
Implementing Unit, after which, plotting of traverse, profile and cross-section shall be  
made by the Contractor for subsequent review and approval by the concerned  
RIM/PM. Upon approval of the joint stake out survey, the field survey data shall then be  
turned over to the NIA's Implementing Unit which shall form part and parcel of the  
Contract.

Any deviation between the "As Bid" and "Joint Stake Out" surveys, shall  
immediately be verified and evaluated for possible issuance of a variation order.

#### V-4. Advance Payment:

- a) The concerned RIM/PM shall, upon a written request of the Contractor which  
shall be submitted as a contract document, make an advance payment to the  
Contractor in an amount equal to fifteen percent (15%) of the original total

contract amount, to be made in lump sum or at the most two (2) installments according to the schedule specified in the Contract Documents.

- b) The advance payment shall be made only upon the submission to and acceptance by the concerned RIM/PM of an irrevocable standby letter of credit of equivalent value from a commercial bank or a guarantee payment bond, callable on demand, issued by a surety or insurance company duly licensed by the Office of the Insurance Commissioner and confirmed by the implementing unit.
- c) The advance payment shall be repaid by the Contractor by deducting twenty percent (20%) from his periodic progress payments, with the first repayment to be made when the contract value of the work executed and materials delivered shall equal or have exceeded twenty percent (20%) of the original total contract amount and further refunds shall be done thereafter at monthly intervals. The first work accomplishment equivalent to twenty percent (20%) of the original total contract amount shall not be subject to the twenty percent (20%) deduction.
- d) The Contractor may reduce his standby letter of credit or guarantee instrument by the amounts refunded by the Monthly Certificates in the advance payment.

#### V-5. Progress Payment:

- a) Once a month or for an accomplishment of at least P=500,000.00, the Contractor may submit a request for payment of work accomplished. Such request shall be verified and certified by the NIA's Implementing Unit. Except as otherwise stipulated in the Contract Documents, materials and equipment delivered at the site but not completely put in place shall not be considered for payment.
- b) The concerned RIM/PM shall have the right to deduct from the Contractor's progress billing such amounts as may be necessary to cover third party liabilities, as well as uncorrected defects in the contract works.

#### V-6. Retention Money:

- a) Progress payments are subject to retention of ten percent (10%) referred to as the "retention money". Such retention shall be based on the total amount due to the Contractor prior to any deduction and shall be retained from every progress payment until fifty percent (50%) of the value of works, as determined by the NIA's Implementing Unit, are completed. If, after fifty percent (50%) completion, the work is satisfactorily done and on schedule, no additional retention shall be made; otherwise, the ten percent (10%) retention shall be imposed.
- b) The total "retention money" shall be due for release upon final acceptance of the contract works. The Contractor may, however, request for the substitution of the retention money for each progress billing with surety bonds callable on demand in the amounts equivalent to the retention money substituted for and acceptable to the concerned RIM/PM, provided that implementation of the

contract works is on schedule and is satisfactorily undertaken. Otherwise, the ten percent (10%) retention shall be made. Said surety bonds to be posted in favor of the NIA shall be valid and in effect until the issuance by the concerned RIM/PM of the Certificate of Final Completion and Acceptance of the contract works and posting by the Contractor of the required ten percent (10%) Guarantee/Warranty Bond on the completed contract works.

#### V-7. Liquidated Damages

- a) Where the Contractor refuses or fails to satisfactorily complete the contract works within the specified contract time, plus any time extension duly granted and is thereby in default under the contract, the Contractor shall pay the NIA for liquidated damages, and not by way of penalty, in an amount to be determined in accordance with the following formula for each calendar day of delay, until the work is completed and accepted or taken over by the NIA.

$$LD = 0.75 \times CP/CT$$

WHERE:

LD - Amount of liquidated damages for each calendar day of delay

CP - Total contract amount minus the value of completed portions of the contract certified by the NIA's Implementing Unit as usable as of the expiration of the contract time, in pesos.

CT - Contract time plus any time extension duly granted to the Contractor, in calendar days.

- b) To be entitled to such liquidated damages, the NIA does not have to prove that it has incurred actual damages. Such amount shall be deducted from any money due or which may become due the Contractor under the contract and/or collect such liquidated damages from the retention money or other securities posted by the Contractor whichever is convenient to the NIA.
- c) If the delay in the completion of the contract work exceed a time duration equivalent to twenty percent (20%) of the specified contract time plus any time extension duly granted to the Contractor, the NIA may forfeit the Contractor's performance security and takeover the prosecution of the contract works or award the same to a qualified Contractor through negotiated contract.
- d) In no case, however, shall the total sum of liquidated damages exceed fifteen percent (15%) of the total contract amount, in which event the contract shall automatically be taken over by the NIA or award the same to a qualified Contractor through negotiation and the erring Contractor's performance security shall be forfeited. The amount of the forfeited performance security shall be aside from the amount of the liquidated damages that the Contractor shall pay the NIA under the provisions of this clause.



- e) For terminated contracts where negotiation shall be undertaken, the procedures prescribed under Section 1B10.4.2, By Negotiated Contract or Simplified Public Bidding, of P.D. No. 1594, as amended, dated July 12, 1995 shall be adopted.

#### V-8. EXTENSION OF CONTRACT TIME

- a) Should the amount of additional work of any kind or other special circumstances of any kind whatsoever occur such as to fairly entitle the Contractor to an extension of contract time, the NIA shall determine the duration of such extension; provided that the NIA is not bound to take into account any claim for an extension of time unless the Contractor has, prior to the expiration of the contract time and within thirty (30) calendar days after such work has been commenced or after the circumstances leading to such claim have arisen, delivered to the NIA notices in order that it could have investigated them at that time. Failure to provide such notice shall constitute a waiver by the Contractor of any claim. Upon receipt of full and detailed particulars, the NIA shall examine the facts and extent of the delay and shall extend the contract time for completing the contract work when, in the NIA's opinion, the findings of facts justify an extension.
- b) No extension of contract time shall be granted the Contractor due to 1) ordinary unfavorable weather conditions 2) inexcusable failure or negligence of Contractor to provide the required equipment, supplies or materials, or 3) other causes for which the NIA is not directly responsible.
- c) Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT/CPM network in the Contract Implementation Program approved by the concerned RIM/PM.
- d) No extension of contract time shall be granted when the reason given to support the request for extension was already considered in the determination of the original contract duration during the conduct of detailed engineering and/or in the preparation of the Contract Documents.
- e) Extension of contract time shall be granted for rainy/unworkable days considered unfavorable for the prosecution of the works at the site, based on the actual conditions obtained at the site, and as reported in the Daily Inspector's Report (DIR) and Weather Chart, in excess of the number of rainy/unworkable days pre-determined by the NIA in accordance with the pertinent provisions in the Local Conditions of the Contract Documents and/or for equivalent period of delay due to major calamities such as exceptionally destructive typhoons, floods and earthquakes, and epidemics, and for causes such as non-delivery on time of materials, working drawings or written information to be furnished by the NIA, non-acquisition of permit to enter private properties within the right-of-way resulting in complete paralization of construction activities, and other meritorious causes as determined by the authorized/designated Project Engineer of the Implementing Unit and approved by the RIM/PM. Shortage of construction material, general labor strikes, and peace and order problems that disrupt construction operations through no fault of the Contractor may be considered as additional grounds for

extension of contract time provided they are publicly felt and certified by appropriate government agencies such as DTI, DOLE, DILG, and DND, among others. Provided, further, that the written consent of bondsmen must be attached to any request of the Contractor for extension of contract time and submitted to the NIA for consideration and that the validity of the performance security including other security instruments shall be correspondingly extended.

#### V-9. SUSPENSION OF WORK

- a) The concerned RIM/PM or its duly authorized/designated representative shall have the authority to suspend the contract work wholly or partly by written order for such period as may be deemed necessary, due to force majeure or any fortuitous events or for failure on the part of the Contractor to correct bad conditions which are unsafe for workers or for the general public to carry out valid orders given by the NIA or to perform any provisions of the contract, or due to adjustment of working and "GFC" plans and drawings to suit actual field conditions as found necessary during construction. The Contractor shall immediately comply with such order to suspend the work wholly or partly.
- b) The Contractor or its duly authorized/designated representative shall have the right to suspend on going operation on any or all works/activities along the critical path of activities after fifteen (15) calendar days from date of receipt of written notice from the Contractor to the NIA's authorized/designated Project Engineer/Regional Irrigation Manager/Project Manager, as the case may be due to the following:
  1. There exist right-of-way problems which prohibit the Contractor from performing work in accordance with the approved construction schedule.
  2. Requisite working and "GFC" plans and drawings which must be NIA-furnished are not issued to the Contractor precluding any work called for by such plans.
  3. Peace and order conditions make it extremely dangerous, if not impossible, to work. However, this condition must be certified in writing by the Philippine National Police (PNP) station which has jurisdiction over the affected area and confirmed by the Department of Interior and Local Government (DILG) regional director.
  4. There is failure on the part of the NIA to deliver NIA-furnished materials and equipment as stipulated in the contract.
  5. Delay in the payment of Contractor's claim for progress billing and/or price escalation beyond forty-five (45) calendar days from the time the Contractor's claim has been certified to by the NIA's authorized/designated Project Engineer that the documents are complete unless there are justifiable reasons thereof which shall be communicated in writing to the Contractor.

- c) In case of total suspension, or suspension of activities along the critical path, which is not due to any fault of the Contractor, the elapsed time between the effective order of suspending operation and the order to resume work shall be allowed the Contractor by adjusting the contract time accordingly.

#### V-10. VARIATION ORDERS (CHANGE ORDER/EXTRA WORK ORDER)

As much as possible, the approval and issuance of variation orders in the implementation of local minor contracts shall be avoided in strict consideration of the "Certification" in the approved Program of Work by the RIM/PM concerned, that the various items of the contract works have been thoroughly estimated, reviewed and established; construction ROW have been fully acquired; sub-surface conditions have been investigated; and design and corresponding "Bid" plans and drawings have been reviewed and approved.

In extreme cases however, variation orders shall be limited to a maximum of fifteen percent (15%) of the awarded/original total contract amount and adopting the following procedures and/or guidelines.

- a) The increase/decrease in contract quantities and costs or the reclassification of items of works which is usually due to change of plans, design or alignment to suit actual field conditions, or as a result of great disparity between the "Bid" plans and drawings used for purposes of bidding and the "As Staked Out" or "GFC" plans and drawings prepared and issued after the joint survey was conducted by the Contractor and the NIA's Implementing Unit.
- b) A Change Order may be issued by the NIA's designated/authorized Project Engineer after the same has been approved by the RIM/PM concerned and under the following conditions:
  - 1. Where there is an increase and/or a reduction in the quantity and cost of an original item of work as bidded and awarded due to change of plans or design, realignment to suit actual field conditions, deletion of item of works or sections of the contract works and as a result of firming up the contract quantities and costs.
  - 2. Where there is a reclassification of an existing item of work like earth excavation to solid rock excavation, due to latent conditions which were not known at the time of the bidding.
- c) An Extra Work Order may be issued by the NIA's designated/authorized Project Engineer after the same has been approved by the RIM/PM concerned and under the following conditions:
  - 1. Where there are additional works needed and necessary for the completion, improvement or protection of the project which were not included as items of work in the original contract.
  - 2. Where there are unknown physical conditions at the site of unusual nature differing materially from those ordinarily encountered and generally

recognized as inherent in the work or character provided for in the contract.

3. Where there are duly approved construction drawings or any instruction issued by the RIM/PM during the term of the contract which involve extra cost.

d) As an absolute rule, Change Orders or Extra Work Orders shall be issued only for additional/deletion of works necessary for the completion of the project and, therefore, shall be within the limits stated above and the general scope of the contract as bidden and awarded.

e) Change Orders or Extra Work Orders may be issued on a contract upon the approval by the RIM/PM concerned, provided that the cumulative amounts of such Change Orders and Extra Work Orders does not exceed the maximum limit of fifteen percent (15%) of the original total contract amount.

f) Any Variation Order (Change Order or Extra Work Order) shall be subject to the escalation formula used to adjust the original contract price less the cost of mobilization. In claiming for any Variation Order, the Contractor shall, within seven (7) calendar days after such work has been commenced or after the circumstances leading to such condition(s) for an extra cost, and within twenty eight (28) calendar days deliver a written communication giving full and detailed particulars of any extra cost in order that it may be investigated at that time. Failure to provide either of such notices in the time stipulated shall constitute a waiver by the Contractor for any claim. The preparation and submission of Change Orders or Extra Work Orders, are as follows:

1. If the Project Engineer believes that a Change Order or Extra Work Order should be issued, he shall prepare the proposed Order accompanied with the notices submitted by the Contractor, the plans therefor, his computation as to the quantities of the additional works involved per item indicating the specific stations where such works are needed, the date of his inspections and investigations thereon, and the Daily Inspector's Report or log book thereof, and detailed estimate of the unit cost of such items of work, together with his justifications for the need of such Change Order or Extra Work Order and shall submit the same to the RIM/PM concerned.

2. The RIM/PM concerned, upon receipt of the proposed Change Order or Extra Work Order, shall immediately instruct the technical staff of the RO/PO to conduct an on-the-spot investigation to verify the need for the work to be prosecuted. A report of such verification shall be submitted directly to RIM/PM concerned.

3. The RIM/PM concerned after being satisfied that such Change Order or Extra Work Order is justified and necessary, shall review the estimated quantities and costs and subsequently approved the Change Order or Extra Work Order.

#### V-11. EXTRA WORK COSTING

- a) The concerned RIM/PM may, at any time by written order and without notice to the Sureties, direct the Contractor to perform extra work necessary to and within the General Scope of the Contract. The Contractor shall promptly proceed with the extra work involving an increase of not more than fifteen percent (15%) of the original total contract amount and the Contractor shall be paid on the basis of the unit prices indicated in the original contract amount for work items similar to those in the original contract. If the contract does not contain any rate applicable to the additional or extra work, then suitable prices shall be agreed upon by the NIA and the Contractor under any of the following methods:
  1. By applicable unit prices contained in the original contract for similar items of work.
  2. By suitable unit prices mutually established and agreed upon by and between the NIA and Contractor for new items of works.
  3. By cost-plus percentage basis where the cost represents the expenses incurred, exclusive of profit and contractor's tax, while the plus represents a certain percentage of the cost which shall not exceed fifteen percent (15%). The Contractor shall be reimbursed for all actual necessary costs, as determined by:
    - 1) his direct labor costs;
    - 2) all materials used in the extra work;
    - 3) all supplies, fuel lubricants, power and other incidentals;
    - 4) reasonable base equipment rental for use of his construction equipment; and
    - 5) applicable current rental rates for use of construction equipment not owned by the contractor.
- b) If the parties are unable to agree on any of the modes of payment specified in the foregoing Section C1- 11.a).1 and C1-11.a)2, the extra work shall be done on a cost-plus percentage basis as described in Section C1-11.a).3, above.
- c) The cost of the extra work done shall be submitted at the intervals to be determined by the NIA's Implementing Unit in satisfactory form which shall be approved or adjusted at once by the NIA. Request for payment by the Contractor for any extra work shall be accompanied by a statement, with the approved supporting forms, giving a detailed accounting and record of amount for which he claims payment. Said request for payment shall be included with the Contractor's statement for progress payment.

#### V-12. CONDITIONS UNDER WHICH CONTRACTOR IS TO START WORK UNDER VARIATION ORDERS AND RECEIVE PAYMENTS

- a) Under no circumstances shall a Contractor proceed to commence work under any Change Order or Extra Work Order unless it has been duly approved for

implementation by the concerned RIM/PM. Exceptions to the preceding rule is as follows:

The concerned RIM/PM may, subject to the availability of funds, authorize the immediate start of work under any Change Order or Extra Work Order under any or all of the following conditions:

- 1) In the event of an emergency where the prosecution of the work is urgent to avoid detriment to public service, or damage to life and/or property; and/or
- 2) When time is of the essence; provided, however, that such approval is valid on work done up to the point where the cumulative increase in value of work on the project which has not yet been duly fully approved does not exceed five percent (5%) of the original total contract amount; provided, further, that immediately after the start of work, the corresponding Change Order/Extra Work Order shall be prepared and submitted for approval in accordance with the above rules herein set. Payments for works satisfactorily accomplished on any Change Order/Extra Work Order may be made only after approval of the same by the RIM/PM concerned.

### **V-13. CONTRACT PRICE ESCALATION**

#### **V-13.1 GUIDELINES ON CONTRACT PRICE ESCALATION**

- a) These guidelines for the computation and payment of contract price escalations shall apply to all local minor contracts entered into by the concerned RIM/PM after the date of effectivity of this Manual.
- b) The respective NIA's Implementing Units shall determine all price escalation in accordance with these guidelines.
- c) Escalation of prices for local minor contracts shall be made periodically, using the parametric formula as described below, to compensate for fluctuation of prices of construction supplies and materials, equipment and labor which would bring about during the period under consideration, an increase or decrease of more than five percent (5%) of the original contract unit price of items of work.
- d) Price escalation shall be reckoned from the month of bidding of the particular local minor contract, and shall be granted for every progress billing.
- e) In case the project is behind schedule by more than five percent (5%) from the approved PERT/CPM network on the date when computation of price escalation is scheduled, computation on such portion of the work that should have been, but was not actually, accomplished within the period (in accordance with the PERT/CPM network) shall be reckoned on the basis of the escalation rate applicable during the period which it should have been accomplished. Payment of the computed amount shall not be made until the project activities for the period under consideration as covered by such amount are completed. This shall not in any way affect the final date of completion.

- f) Payments for price escalation of work accomplished within the period shall be based on actual escalation amount computed in accordance with appropriate indices provided for in the formulae under this clause or as expressly stipulated in the contract.
- g) In case of projects where advance payment for mobilization purposes and/or purchases of supplies and materials is made, it is only fair to the NIA that price escalation shall not be made on the items of work or components thereof to which such advance payments are applied, since these monies are received by the Contractor in advance and may be used for the payment of expenditures in connection with the prosecution of the project.

Hence, in calculating price escalation for contracts entered into after the effectivity of these guidelines, no price escalation shall be made for:

1. That portion of work accomplished during the period corresponding to a value equal to the amount of recoupment of advance payment. For example, if during the 6-month-period under consideration, ten percent (10%) of the amount payable to the contract was recouped to recover advance payment, ten percent (10%) likewise of the price escalation calculated to be otherwise payable shall be deducted from the price escalation.
2. That amount of materials for which advance payment is made. Usually such advance payment when made is equal to seventy-five percent (75%) of the cost of material purchased therefrom. Since the funds were logically used by the Contractor to purchase materials which he otherwise would not be able to purchase at the same price, it is not fair to the NIA that he should both profit from making such advance purchases and at the same time enjoy interest free use of such funds. In those cases where the Contractor enjoys such advance payments, an interest charge of one and one-fourth percent (1-1/4%) per month on the outstanding balance, shall be imputed from the time he receives the advance payment, and the equivalent amount deducted from the next succeeding price escalation payment in lieu of deducting the portion of price escalation corresponding to such materials. No payment of imputed interest charge under this paragraph shall be collected in excess of price escalation payment for the period.

#### V-13.2 FLUCTUATION FACTOR

- a) The fluctuation Factor, K, is the coefficient representing the increase or decrease of the unit price as a result of price fluctuation. The value of the K varies for each item of work and is represented by the following:

$$K = a + b (X1/Xo) + c (Y1/Yo) + d(Z1/Zo) + \dots n (N1/No)$$

Where:

- a - is a 0.15 fixed coefficient representing Contractor's profit, and other non-adjustable items.

- b, c, d, ... n - are the coefficients representing the proportionate value of each pay item to the total.  $b + c + d + \dots + n = 0.85$ .
- $X_i, Y_i, Z_i, \dots N_i$  - are the current price indices representing costs of labor, materials and other contract items after bidding and every month thereafter.
- $X_o, Y_o, Z_o, \dots N_o$  - are the price indices representing costs of labor, materials and other contract items at the date of the bidding.

The sum of  $a + b + x + \dots n$  must be equal to 1 (100%)

b) The fluctuation factor and its application in the parametric formula shall include among others, any or combination of the following:

1. Common earthwork fluctuation factor for clearing and grubbing, subgrade preparation, common excavation, common borrow, embankment construction, common fill or backfill and select borrow.

$$K1 = 0.15 + 0.05 (L_i/L_o) + 0.60 (E_i/E_o) + 0.20 (F_i/F_o)$$

2. Rock excavation fluctuation factor

$$K2 = 0.15 + 0.08 (L_i/L_o) + 0.27 (Z_i/Z_o) + 0.12 (F_i/F_o) + 0.38 (E_i/E_o)$$

3. Structural excavation fluctuation factor

$$K3 = 0.15 + 0.08 (L_i/L_o) + 0.19 (F_i/F_o) + 0.58 (E_i/E_o)$$

4. Structural backfill fluctuation factor

$$K4 = 0.15 + 0.15 (L_i/L_o) + 0.17 (F_i/F_o) + 0.53 (E_i/E_o)$$

5. Daywork fluctuation factor for equipment

$$K5 = 0.15 + 0.05 (L_i/L_o) + 0.20 (F_i/F_o) + 0.60 (E_i/E_o)$$

6. Daywork fluctuation factor for labor

$$K6 = 0.15 + 0.85 (L_i/L_o)$$

7. Graded subbase or base course fluctuation factor using screened or processed aggregate, granular materials, crushed adobe or the like.

$$K7 = 0.15 + 0.02 (L_i/L_o) + 0.62 (B_i/B_o) + 0.05 (F_i/F_o) + 0.16 (E_i/E_o)$$

8. Asphaltic materials fluctuation factor for prime or tack coat

$$K8 = 0.15 + 0.01 (L_i/L_o) + 0.82 (A_i/A_o) + 0.01 (F_i/F_o) + 0.01 (E_i/E_o)$$



9. Asphaltic concrete fluctuation factor for bituminous wearing or surface course

$$K9 = 0.15 + 0.01 (Li/Lo) + 0.62 (Ai/Ao) + 0.12 (Bi/Bo) + 0.03 (Fi/Fo)$$

10. Portland cement concrete pavement (PCCP) fluctuation factor

$$K10 = 0.15 + 0.02 (Li/Lo) + 0.47 (Ci/Co) + 0.21 (Bi/Bo) + 0.02 (Di/Do) + 0.03(Fi/Fo) + 0.10 (Ei/Eo)$$

11. Concrete fluctuation factor for curb, gutter and sidewalk

$$K11 = 0.15 + 0.06 (Li/Lo) + 0.36 (Ci/Co) + 0.16 (Bi/Bo) + 0.03 (Di/Do) + 0.06(Fi/Fo) + 0.18(Ei/Eo)$$

12. Reinforced concrete structures fluctuation factor for bridge, culvert, retaining wall, bulkhead, piles, precast, parapet wall, railing, footing, columns, supporting slab and beam

$$K12 = 0.15 + 0.03 (Li/Lo) + 0.28 (Ci/Co) + 0.13 (Bi/Bo) + 0.03 (Di/Do) + 0.25(Ri/Ro) + 0.03 (Fi/Fo) + 0.10 (Ei/Eo)$$

13. Reinforced concrete structures fluctuation factor for headwall, catchbasin, manhole, drop inlet concrete post.

$$K13 = 0.15 + 0.21 (Li/Lo) + 0.25 (Ci/Co) + 0.09(Di/Do) + 0.19 (Ri/Ro) + 0.09 (Bi/Bo) + 0.02(Fi/Fo) + 0.06 (Ei/Eo)$$

14. Reinforced concrete pipe (RCP) or culvert pipe(RCCP) fluctuation factor

$$K14 = 0.15 + 0.05 (Li/Lo) + 0.61 (Qi/Qo) + 0.02(Ci/Co) + 0.01 (Bi/Bo) + 0.04 (Fi/Fo) + 0.12(Ei/Eo)$$

15. Non-reinforced concrete pipes fluctuation factor

$$K15 = 0.15 + 0.13 (Li/Lo) + 0.69 (Qi/Qo) + 0.02Ci/Co) + 0.01 (Bi/Bo)$$

16. Concrete for structure Class A or B fluctuation factor

$$K16 = 0.15 + 0.03 (Li/Lo) + 0.41 (Ci/Co) + 0.19(Bi/Bo) + 0.09 (Di/Do) + 0.04(Fi/Fo) + 0.09(Ei/Eo)$$

17. Grouted riprap or stone masonry fluctuation factor

$$K17 = 0.15 + 0.18 (Li/Lo) + 0.27 (Ci/Co) + 0.13(Bi/Bo) + 0.07 (Fi/Fo) + 0.20 (Ei/Eo)$$

18. Concrete masonry (CHB) fluctuation factor

$$K18 = 0.15 + 0.33 (Li/Lo) + 0.30 (Qi/Qo) + 0.13(Ci/Co) + 0.04 (Bi/Bo) + 0.01(Fi/Fo) + 0.04(Ei/Eo)$$

19. Reinforcing steel bars fluctuation factor

$$K19 = 0.15 + 0.06 (Li/Lo) + 0.67 (Ri/Ro) + 0.04 (Fi/Fo) + 0.08 (Ei/Eo)$$

20. Structural steel works fluctuation factor

$$K20 = 0.15 + 0.03 (Li/Lo) + 0.71 (Si/So) + 0.03 (Fi/Fo) + 0.08 (Ei/Eo)$$

21. Demolition of concrete structure fluctuation factor

$$K21 = 0.15 + 0.07 (Li/Lo) + 0.20 (Fi/Fo) + 0.58(Ei/Eo)$$

22. Demolition of PCCP strip fluctuation factor

$$K22 = 0.15 + 0.09 (Li/Lo) + 0.19 (Fi/Fo) + 0.57(Ei/Eo)$$

23. Demolition AC pavement strip fluctuation factor

$$K29 = 0.15 + 0.05 (Li/Lo) + 0.20 (Fi/Fo) + 0.60(Ei/Eo)$$

24. Painting fluctuation factor using labor only

$$K25 = 0.15 + 19 (Li/Lo) + 0.66 (Ni/No)$$

26. Wood structure fluctuation factor for falsework, temporary wood bridge, wood guardrail

$$K26 = 0.15 + 0.06 (Li/Lo) + 0.63 (Di/Do) + 0.04 (Fi/Fo) + 0.12 (Ei/Eo)$$

27. Carpentry works fluctuation factor

$$K27 = 0.15 + 0.06 (Li/Lo) + 0.63 (Di/Do) + 0.04 (Fi/Fo) + 0.12 (Ei/Eo)$$

27. Carpentry works fluctuation factor

$$K27 = 0.15 + 0.15 (Li/Lo) + 0.62 (Di/Do) + 0.02 (Fi/Fo) + 0.06 (Ei/Eo)$$

28. Cast and/or galvanized iron pipes fluctuation factor

$$K28 = 0.15 + 0.02 (Li/Lo) + 0.78 (li/lo) + 0.01 (Fi/Fo) + 0.04 Ei/Eo$$

29. Steel pipes fluctuation factor

$$K29 = 0.15 + 0.03 (Li/Lo) + 0.69 (Ii/Io) + 0.03 (Fi/Fo) + 0.10 (Ei/Eo)$$

30. Asbestos cement pipes fluctuation factor

$$K90 = 0.15 + 0.02 (Li/Lo) + 0.77 (Ki/Ko) + 0.02 (Fi/Fo) + 0.04 (Ei/Eo)$$

31. PVC pipes fluctuation factor

$$K31 = 0.15 + 0.07 (Li/Lo) + 0.69 (Ji/Jo) + 0.02 (Fi/Fo) + 0.07 (Ei/Eo)$$

32. Gate valves and fire hydrants fluctuation factor

$$K32 = 0.15 + 0.04 (Li/Lo) + 0.77 (Ii/Io) + 0.01 (Fi/Fo) + 0.03 (Ei/Eo)$$

33. Check valves fluctuation factor

$$K33 = 0.15 + 0.09 (Li/Lo) + 0.79 (Pi/Po) + 0.01 (Fi/Fo) + 0.02 (Ei/Eo)$$

34. Water service connection fluctuation factor

$$K34 = 0.15 + 0.10 (Li/Lo) + 0.40 (Pi/Po) + 0.35 (Ji/Jo)$$

35. Plumbing fixtures fluctuation factor

$$K35 = 0.15 + 0.08 (Li/Lo) + 0.77 (Pi/Po)$$

36. Plain and corrugated G. I. sheets fluctuation factor

$$K36 = 0.15 + 0.09 (Li/Lo) + 0.76 (Wi/Wo)$$

37. Cement plaster fluctuation factor

$$K37 = 0.15 + 0.38 (Li/Lo) + 0.37 (Ci/Co) + 0.10 (Bi/Bo)$$

38. Marble floor finish fluctuation factor

$$K38 = 0.15 + 0.07 (Li/Lo) + 0.03 (Ci/Co) + 0.01 (Bi/Bo) + 0.65 (Ki/Xo) + 0.03 (Fi/Fo) + 0.06 (Ei/Eo)$$

39. Glazed and ceramic tiles fluctuation factor

$$K39 = 0.15 + 0.12 (Li/Lo) + 0.66 (Xi/Xo) + 0.05 (Ci/Co) + 0.02 (Bi/Bo)$$

40. Window frames and grills fluctuation factor

$$K40 = 0.15 + 0.09 (Li/Lo) + 0.53 (Si/So) + 0.06 (Fi/Fo) + 0.17 (Ei/Eo)$$

41. Glazing fluctuation factor

$$K41 = 0.15 + 0.09 (Li/Lo) + 0.82 (Gi/Go)$$

42. Electrical rough-in fluctuation factor

$$K42 = 0.15 + 0.16 (Li/Lo) + 0.69 (Vi/Vo)$$

43. Lighting fixtures & devices fluctuation factor

$$K49 = 0.15 + 0.13 (Li/Lo) + 0.72 (Ui/Uo)$$

44. PVC waterstop (9") fluctuation factor

$$K44 = 0.15 + 0.09 (Li/Lo) + 0.82 (Ji/Jo)$$

45. Electrical wood pole fluctuation factor

$$K45 = 0.15 + 0.01 (Li/Lo) + 0.79 (Di/Do) + 0.03 (Fi/Fo) + 0.08 (Ei/Eo)$$

46. Wood crossarm fluctuation factor

$$K46 = 0.15 + 0.11 (Li/Lo) + 0.74 (Di/Do)$$

47. Lightning arrester (3,000v to 15,000v) fluctuation factor

$$K47 = 0.15 + 0.09 (Li/Lo) = 0.76 (Ti/To)$$

48. Transformers (10KVA to 50KVA) fluctuation factor

$$K48 = 0.15 + 0.01 (Li/Lo) = 0.81 (Ti/To) + 0.01 (Fi/Fo) + 0.02 (Ei/Eo)$$

49. Bare copper wire fluctuation factor

$$K49 = 0.15 + 0.04 (Li/Lo) + 0.79 (Ti/To) + 0.01 (Fi/Fo) + 0.01 (Ei/Eo)$$

50. Bare aluminum wire fluctuation factor

$$K50 = 0.15 + 0.13 (Li/Lo) + 0.69 (Ti/To) + 0.01 (Fi/Fo) + 0.02 (Ei/Eo)$$

51. Dredging fluctuation factor

$$K51 = 0.15 + 0.06 (Li/Lo) + 0.20 (Fi/Fo) + 0.50 (Ei/Eo)$$

52. General construction fluctuation factor (for others not covered by any or combination of the above 51 fluctuation factors)

$$K52 = 0.15 + 0.85 (Mi/Mo)$$

Where:

Mi - current general construction price Index figure  
Mo - base general construction price index figure  
Li - Current labor index figure  
Lo - base labor index figure  
Ei - current equipment index figure  
Eo - base equipment index figure  
Ai - current asphaltic material, price index figure  
Ao - Base asphaltic material price index figure  
Bi - current aggregates material price index figure  
Bo - base aggregates material price Index figure  
Ci - Current cement material price Index figure  
Co - base cement material price Index figure  
Di - current lumber material price index figure  
Do - base lumber material price index figure  
Fi - current automotive fuel price index figure  
Fo - base automotive fuel price index figure  
Gi - current glass and glazing material price Index figure  
Go - base glass and glazing material price index figure  
Hi - current hardware material price Index figure  
Ho - base hardware material price index figure  
Li - current galvanized and/or cast Iron pipe (Plumbing) material price index figure  
lo - base galvanized and/or cast Iron pile (Plumbing) material price index figure  
Ji - current polyvinyl chloride pipe (Plumbing) material price index figure  
Jo - base polyvinyl chlorldie pipe (Plumbing) material price Index figure  
Ki - current asbestos cement pipe (Plumbing) material price index figure  
Ko - base asbestos cement pipe (Plumbing) material price Index figure  
Ni - current paint material price index figure  
No - base paint material price index figure  
Pi - current plumbing fixture material price index figure  
Po - base plumbing fixture material price index figure  
Qi - Current concrete products material price index figure  
Qo - base concrete products material price index figure  
Ri - current reinforcing steel material price index figure  
Ro - base reinforcing steel material price index figure  
Si - current structural steel material price index figure  
So - base structural steel material price Index figure  
Ti - current exterior electrical material price index figure  
To - base exterior electrical material price index figure  
Ui - current electrical fixtures/devices material price Index figure  
Uo - base electrical fixtures/devices material price index figure  
Vi - current electrical (rough-in) material price index figure  
Vo - base electrical (rough-in) material price index figure

Wi - current metal products material price index figure  
Wo - base metal products material price index figure  
Xi - current tile work material price index figure  
Xo - base tile work material price index figure  
Zi - current blasting material price index figure  
Zo - base blasting material price index figure

- c) The NIA is authorized to update these formulas provided that such updated formulas shall be spelled out clearly in the contract documents, and provided further that the value of the constant "a" in the factors representing the Contractor's profit and other items as indicated in the contract shall be fixed at 0.15.

- d) The following Price Indices shall be used:

General construction price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Labor cost index as published by the Department of Labor and Employment.

Equipment index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Asphaltic material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Aggregates material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Cement material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Lumber material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Automotive fuel price as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Glass and glazing material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Hardware material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Galvanized and/or cast iron pipe (Plumbing) material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Polyvinyl chloride pipe (Plumbing) material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Asbestos cement pipe (Plumbing) material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Paint material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Plumbing fixture material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Concrete products material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Reinforcing steel material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Exterior electrical material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Electrical (rough-in) material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Electrical fixtures/devices material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Metal product material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

Tile work material price index as published by the National Statistics Office (NSO) or other appropriate/authorized government agency.

In the absence of any price index for a specified adjustable item, the nearest related price index shall be used.

- e) Price escalation shall be calculated for every whole month and the average fluctuation factor for the month under consideration shall be used. In case the initial month of the contract duration is less than full month, the average fluctuation factor for that entire month shall be used; in case the last month of the contract duration is less than one half of a full month, the fluctuation factor for the preceding month shall be used and in case it is more than one half of a full month, the fluctuation factor for that month shall be used. The applicable fluctuation factor shall then be applied to the original contract unit price of the corresponding work item and the formula would be as follows:

Where  $K \geq 1.05$ ,  $P = P_o (K - 0.05)$

Where  $0.95 \leq K < 1.05$ ,  $P = P_o$

Where  $K < 0.95$ ,  $P = P_o (K + 0.05)$

Where:

- P - is the escalated bid/unit price
- P<sub>o</sub> - is the original bid/unit price
- K - is the fluctuation factor

f) For the foreign currency component of contract prices, price escalations shall be computed using the parametric formulae in Section CI 19.2-5 where:

- P - is the escalated unit price of foreign currency component or escalated amount of foreign currency component
- P<sub>o</sub> - is the original unit price of foreign currency component or original amount of foreign currency component.
- K - is the fluctuation factor computed using the price indices in the foreign country source of the specified adjustable item or the nearest related price index.

In case of the absence of the specific price index the payable price escalation shall be converted to local currency at the time of the accomplishment of the work.

g) In the computation of price escalation for the first partial progress payment, the applicable fluctuation (K) factor to be adopted shall be the average of the values of the specific fluctuation factors from the date of the issuance of Notice to Proceed to the first partial billing, wherein the base price indices are those at the month of bidding for contracts subjected to competitive bidding.

#### **V-14. Firming Up of Contract Quantities and Costs**

- a) Upon completion of the joint stake-out survey and subsequent full and complete issuance to the Contractor of the "Good for Construction" (GFC) plans and drawings, the NIA's Implementing Unit together with the Contractor shall jointly establish the firmed up quantities and costs of the contract works. The general procedures in firming up the total contract amount area as follows:
  - 1. Based on the approved and issued "GFC" plans and drawings, profiles and cross-section, the Contractor shall establish the firmed-up quantity and cost per item of the contract works with detailed computations duly signed by the Contractor's Project Manager. The established quantity and cost per item of work shall then be summarized in a tabulated form using an appropriate format together with the original quantity and cost per item of work as awarded the Contractor. Any variation and/or overrun/underrun of quantity and cost per item of work as awarded the Contractor. Any variation and/or overrun/underrun of quantity and cost per item of work shall be fully justified, citing among others, the causes and/or reasons for such variation. The established difference between the original and the firmed up total contract amounts shall be covered by a variation.



2. The firmed up quantities and costs of the contract works, together with all the supporting documents which shall include among other's, the approved and issued "GFC" plans and drawings, profiles and cross-sections; detailed computations of the quantity and cost per item of works duly signed by the Contractor's Project Manager; Contractor's request for variation order, if any; and other documents, shall then be submitted to the NIA's Implementing Unit for the required review and evaluation.
  3. The NIA's Implementing Unit shall immediately conduct the required review and evaluation of the submitted proposed firmed up quantities and costs of the contract works. Any findings and/or observations of the NIA's Implementing Unit shall be discussed with the Contractor's Project Manager for its subsequent concurrence, after which the proposed firmed up quantities and costs of the contract works with variation order, if any, shall be finalized and forwarded to the concerned RIM/PM for further review and evaluation and subsequent approval.
- b) Upon substantial completion of the contract works, including all variations orders, if any, at ninety five percent (95%) overall physical accomplishment as evaluated by NIA and upon approval by the NIA's Implementing Unit of the "As Built" plans and drawings, profiles and cross-sections of the contract works, the NIA's Implementing Unit together with the Contractor shall jointly establish the final firmed up quantities and costs of the contract works. The general procedure in firming up the final total contract amount are as follows:
1. Based on the "As Built" plans and drawings, profiles and cross-sections of the substantially completed contract works as prepared and submitted by the Contractor and approved by the NIA's Implementing Unit, the Contractor shall establish the final firmed-up quantity and cost per item of the contract works with detailed computations duly signed by the Contractor's Project Manager. The established quantity and cost per item of work shall then be summarized in a tabulated form using an appropriate format together the original and approved firmed up quantity and cost per item of work. Any variation and/or overrun/underrun of quantity and cost per item of work as compared to the approved firmed up, shall be fully justified, citing among others, the causes and/or reasons for such variation. The established difference between the firmed up and the final firmed up total contract amounts shall be covered by a variation order.
  2. The final firmed up quantities and costs of the contract works, together with all the supporting documents, which shall include, among others, the approved "As Built" plans and drawings, profiles and cross-sections; detailed computations of the quantity and cost per item of work, duly signed by the Contractor's Project Manager, Contractor's request for variation orders, if any; and other documents, shall then be submitted to the NIA's Implementing Unit for the required review and evaluation.
  3. The NIA's Implementing Unit shall immediately conduct the required review and evaluation of the submitted proposed final firmed-up quantities and costs of the contract works. Any findings and/or observations of the NIA's Implementing Unit shall be discussed with Contractor's Project Manager for

its subsequent concurrence, after which the proposed final firmed-up quantities and costs of the contract works with variation order, if any, shall be finalized and forwarded to the concerned RIM/PM for further review and evaluation and subsequent approval.

#### **V-15. "As Built" Plans and Drawings**

- a) As required the Contractor shall prepare for approval by the NIA's Implementing Unit, "As Built" plans and drawings, profiles and cross-sections of completed and accepted local minor contracts. It shall be prepared in one (1) original and three (3) copies with the following distribution upon approval by the implementing Unit, to wit:

1. Original Set of "As Built" Plans - - - RO/PMO
2. One (1) Set Copy of "As Built" Plans - - NIA's IU
3. One (1) Set Copy of "As Built" Plans - - COA
4. One (1) Set Copy of "As Built" Plans - - Contractor

Upon full completion and acceptance by NIA of the contract works, the Implementing Unit shall turnover to the Systems Management Office its one (1) set copy of the "As Built" plans and drawings, profiles and cross-sections.

- b) For contract works and/or portions thereof constructed/implemented, completed and accepted by NIA in accordance with the approved and issued original "GFC" plans and drawings, profiles and cross-sections, the "As Built" plans and drawings need not anymore be prepared by the Contractor but instead the original "GFC" plans and drawings shall be stamped with "As Built" With No Changes" and approved by the Implementing Unit, with distribution of copies as set forth in "a)" above.
- c) The "As Built" and "As Built With No Changes" plans and drawings, profiles and cross-sections shall be the basis for the preparation and firming up of the final contract quantities and costs of the completed and accepted local minor contracts.

#### **V-16. Contract Completion**

Once the implementation of the Local Minor Contract reaches and overall physical accomplishment of ninety five (95%) based on the firmed up total contract amount, as evaluated by the NIA's Implementing Unit, the remaining contract time may be suspended and the Implementing Unit upon the request of the Contractor may create a Pre-Final Inspection and Acceptance Committee to conduct preliminary inspection and submit a punch-list to the Contractor in preparation for the final inspection and acceptance of the contract works. The punch-list shall contain, among others, the remaining contract works, work deficiencies and/or defects for the required/necessary corrections and/or rectifications, and the specific duration/time to fully complete the contract works considering the approved remaining contract time as of the date of contract suspension. This, however, shall not preclude the NIA's claim for liquidated damages.

## **V-17. Certificate of Final Completion and Acceptance**

- a) Upon full completion of the remaining contract works, including the required corrections and rectifications of deficiencies/defects, if any, based on the pre-final inspection report, the Implementing Unit shall request the concerned RIM/PM for final inspection and acceptance of the completed contract works.
- b) The concerned RIM/PM shall immediately dispatch into the project area its Committee on Final Inspection and Acceptance for the required final inspection of the completed contract works. The findings and observations of the Committee which shall be covered by a Resolution on Final Inspection and Acceptance shall be subject to the approval by the concerned RIM/PM.
- c) Upon approval of the Resolution on Final Inspection and Acceptance by the concerned RIM/PM, the Certificate on Final Completion and Acceptance of the completed contract works shall then be issued to the Contractor by the concerned RIM/PM.

## **VI. QUALITY CONTROL AND ASSURANCE**

### **VI-1 General Frame of the Quality Control**

#### **VI-1.1. General**

A general sequence of the major frame of the quality control is illustrated in Figure I.

Among the quality control items as shown in Fig. 1, items No. 1 through 3 are conducted during the construction period and item No. 4 is conducted during the defect liability or initial operation period.

Item No. 1 and No. 2 are carried out by the combination of field tests/checks and laboratory tests. However in most cases of Local Minor Contract Works a conduct of such tests would be hardly possible in timely manner due to lack of testing equipment and facilities near/around project sites. Even in such case, at least the tests for the soil and concrete materials/works should be carried out for securing the minimum requirement for the desired quality of works because those materials and works are the most important and major components for the construction of irrigation facilities.

#### **VI-1.2 Materials Quality Check**

The term materials as used in this manual means the basic materials for construction of the irrigation facilities such as soil, fine aggregate, coarse aggregate, cement, etc. These materials have to satisfy the requirements specified in the Technical Specifications. Materials control is extremely important in securing the durability of constructed facilities. For instance earthfill material with a low shearing capacity would easily induce the canal slope sliding after running of water, or poor concrete materials like a serpentine for the concrete aggregate would result to poor quality of concrete structure.

A close examination and selection of construction materials is recommended before the commencement of works and, during construction, in a periodical manner.

#### VI-1.3 Construction Works Check

Through quality control during construction operations, the stability and durability of the constructed facilities will be assured for the specified level. For example, a check of concrete quality by the compressive strength test, of field mixing manner of concrete, of usage of vibrator for concrete placement and of water content of earthfill material belong to this quality control category.

Quality control activities under this category consists of the following major components:

- (1) Laboratory Tests;
- (2) Site Supervision; and
- (3) Dimension Check

Item No. (3) "Dimension Check" can be further categorized into two methods:

- (1) Control by Direct Measurement; and
- (2) Control by Photograph

Through the laboratory tests, a basic quality of construction works can be assured at an acceptable level. Construction manner and its quality should be kept acceptable through site supervision in the field. Dimension check should be undertaken in a timely manner for dimension and elevation from the design by means of the direct measurement method and/or photograph.

In case the checking and/or test results failed to satisfy the required criteria, the work shall be corrected. For concrete that fails to meet strength requirements, reduction in unit costs as specified in the contract documents shall be resorted to.

In the construction of irrigation facilities, the following Works should be strictly controlled during construction period:

- i) earthfilling/embankment works;
- ii) concrete placement works; and
- iii) masonry works.

#### VI-1.4 Constructed Facility Quality Check

Quality check work means the quality control to be conducted for constructed facilities in order to check the final quality of works for the respective facilities as they function as originally designed. This work is divided into two categories, that is i) Dimension Check and ii) Quality Check.

#### VI-1.4.1 Dimension Check

Dimension Check is conducted for the purpose of determining the size of structure and canal to secure the designed dimensions. Since each structure/canal is designed to attain functional stability and durability, a strict control for said dimensions is indispensable.

For example, an insufficiency of thickness of retaining wall may induce an overturn of the wall; an insufficiency of canal embankment width may induce leakage of water or cause difficulty in O & M vehicle passage.

#### VI-1.4.2 Final Quality Check

The facilities should be checked for their final quality after completion of construction as to whether or not they could function as designed. The typical checking works are: on the function of respective structures, execution of finishing works, leakage test/check for canals and structures and so on. The final quality check should be conducted for all the structures and canals immediately after completion of construction. In addition, and if the situation warrants, a test run should be conducted at the end of the construction works for final confirmation. No completion certificate shall be issued to the contractor unless all pertinent test had been made to the satisfaction of NIA.

#### VI-1.5 Test Run (Per Special Condition of Contract Document)

In the construction of irrigation facilities, defects could not be discovered immediately despite the conduct of quality control works due to a large number of canal structures scattered in the command area. These defects could be found out through a trial operation to be applied on case to case basis during initial operation period. This being the final quality check of the constructed facilities, a careful re-check should be made during this period. After improvement and/or repair of all the defects found during these trial operation period, the project office may relieve the contractor from responsibility for the works, subject to posting of a one-year guarantee bond.

### VI-2 Execution Plan For Quality Control

#### VI-2.1 General

This title provides a basic idea on the organization and mechanism for the execution of quality control work in the various scheme sites. Taking into account the limited number of available supervisory staff in each scheme, there is a need to establish an effective and efficient organization and system for quality control work. The following subjects are discussed herein:

- organization
- number of staff
- timing for staff input

## VI-2.2 Organization

It is recommended that the organization of quality control work be composed of three major working teams: I) Field Supervisory Team; II) Laboratory Test Team; and III) Survey/Measurement Team. A good quality control work can be realized through a well-balanced combination of these three teams.

The above recommended organization and the main duties of the teams are illustrated in Figure 2.

## VI-2.3 Staffing

The following indicate the number of supervisors to be assigned to the work sites to satisfy a standard requirement of quality control:

### (Earthworks)

- for embankment works site : 1 supervisor for 1 or 2 adjacent work sites;
- borrow pit works : 1 supervisor for 1 or 2 adjacent borrow pit sites;
- for excavation works site : 1 supervisor for 3 to 4 adjacent work sites;

### (Structure Works)

- for ordinal works : 1 supervisor for 3 - 4 adjacent work sites except for the works which require an intensive quality control such as concrete placement work, piling work, etc.;
- for intensive control works; 1 supervisor for 1 work site;

### (Field/Laboratory Testing Work)

- number of staff ; 1 team with at least 1 expert or junior expert and 2 - 3 supporting staffs;
- number of team ; subject to number of working sites; at least required 2 teams consisting of 1 team for earthworks and 1 team for concrete works;

### (Survey Work)

- number of staff : 1 team with at least 1 surveyor and 2-3 supporting staffs.
- number of team : subject to number of working sites, at least 2 teams, consisting of 1 team for canal check and 1 team for structural check.

## **VI-3 Quality Control for Construction Works**

### **VI-3.1 General**

This title presents an explanation of the key points for quality control of construction works. Embankment works, concrete works and wet stone masonry works are the most important works in the construction of irrigation facilities. Therefore, a detailed explanation should be made.

On the embankment works, emphasis is made on material preparation works at borrow pit and earthfilling work at embankment work site. As for concrete works, the emphasis is material, pre-placement work, mixing work, placement work and post-placement work. For canal and structural works, emphasis is made on sample field checking forms for inspecting the final quality of constructed facilities. In addition, checking forms are made integral parts of this manual for embankment works, concrete works and masonry works.

### **VI-3.2 Earthworks**

#### **VI-3.2.1 Embankment Works**

##### **(1) Embankment Material**

##### **(A) Minimum Requirement as Embankment/Earthfill Material**

The minimum requirements for soil as embankment/earthfill work materials are as follows:

- easy to handle for construction: low cost
- having a large shearing capacity : stability of embankment slope
- having low permeability : low conveyance loss
- having a small compressibility : less possibility for cracking

##### **(B) Recommendable Soil Material for Embankment/Earthfill Works**

The recommendable soil materials for embankment/earthfill works are:

(most suitable):

well graded sand or gravel mixed with clay as bonding material

(2nd suitable):

sand mixed with clay having low plasticity, or mixed with silt

The unsuitable soil materials for earthfill works are:

- soil having high water absorption and/or having high compressibility
- soil containing much humus and/or organic matter

#### (C) Required Tests and Evaluation Criteria

It is recommended that the following physical tests be conducted in order to check the appropriateness of soil material for embankment/earthfill works. The main purposes of these tests are: i) to classify the soil type and ii) to clarify the optimum moisture content for compaction. The evaluation criteria of soil shown in Table 1 can be used for checking the appropriateness of soil as embankment/earthfill materials

- specific gravity test
- grading analysis
- moisture content test
- liquid limit test (LL)
- plastic limit test (PL)
- compaction test

#### (D) Trial Embankment

A method for trial embankment should follow the actual construction method applied in the works site in accordance with the following manner:

- a size of trial embankment yard is (width 3m) x (length 5m) x height 0.30 m.) for one compactor for trial embankment;
- an appropriate compaction equipment which will be utilized in the actual construction works shall be used;
- moisture content, density of compacted soil and cone index should be measured for respective compactor passage time of 0, 1, 2, 3, 5, 10, 15 and
- the most suitable compaction manner should be employed for the actual construction works based on the above test results.

#### (2) Embankment Works

The embankment works consist of two major work components: i) material preparation works at the borrow pit and ii) earthfill works at the embankment site. Each component further consists of several work items as illustrated in Figure 3.

##### (A) Equipment Works

##### (A-1) Material Excavation and Stockpiling at Borrow Pit

##### 1. Stripping of Top Soil

- All obstacles such as sod, debris, organic soil and puddle shall be removed by bulldozer, etc.



- Stripped soil shall be properly disposed to the spoil bank
- Depth of stripping shall be carefully checked (0.20m - 0.50m)

## 2. Excavation of Soil Material at Borrow Pit

- If excavation material consists of more than 2 kinds of the different type of soil, those materials shall be stocked separately.
- Usability of materials shall be checked referring to the previous laboratory test results or construction record. If the characteristics are unclear, the laboratory test shall be conducted.
- The natural moisture content of soil shall be checked.

## 3. Stockpiling and Moisture Adjustment

- Moisture content shall be adjusted so as to be in the specified range ( $\pm 5\%$  of the optimum moisture content) before hauling material to embankment site.
- Surface of stockpile shall be compacted by the bulldozer, etc. to avoid infiltration of rain into the material and/or loss of moisture of the material.

## (A-2) Material Embankment

### 1. Stripping of Top Soil

- All obstacles such as sod, debris, organic soil and puddle shall be removed by the bulldozer, etc.
- Stripped soil shall be properly disposed to the spoil bank.
- Depth of stripping shall be carefully checked (0.20m - 0.50m)

### 2. Treatment of Foundation

- Foundation is too dry, water shall be sprayed.
- Foundation is too wet, drying or stripping shall be made for the part.
- Foundation surface shall be disturbed for securing a sufficient contact with embankment material.

### 3. Spreading Embankment Material

- The foundation or the last layer's treatment shall be conducted before spreading embankment material as the following manner:
  - i) foundation/last layer is too dry: spraying water.
  - ii) foundation/last layer is too wet: drying last layer.

- The last layer's surface shall be disturbed
- Spreading thickness for compaction shall be 30 cm
- Spreading width shall be 10-30cm wider than the designed one.

#### 4. Compaction of Embankment Material

- Passage time of the compactor is more than 5 times (to be confirmed by the trial embankment). This passage time shall be carefully checked by the supervisor.
- Before rain and at the end of everyday work, 5% slope shall be provided to the embankment surface.
- Extra embankment of about 10-20 cm or 5-10% of total height shall be provided on the last layer for considering future settlement.

#### (A-3) In-situ Density Test

##### 1. In-situ Density Test

- In-situ density test shall be performed to confirm compaction degree of the compacted materials by the density at the embankment site.
- In-situ density test shall be performed by the sand replacement method. If the other method is employed calibration of both methods shall be made.

##### 2. Evaluation of the Compaction

- Specified range of the compaction degree of the compacted embankment is more than 90% of the maximum dry density.
- If the test results do not satisfy the specified range:
  - i) A further compaction shall be made until the compaction degree exceeds 90%.
  - ii) If the compaction degree is much lower than the specified range, the compaction method such as spreading thickness and passage times shall be changed.
- If the test results satisfy the specified range, the next layer may be embanked.

##### 3. Minimum Requirements for the Embankment Works

In order to secure the minimum quality of the embankment works, the supervisor should check the following matters even in the very minor embankment works:

- Material shall be in accordance with the Technical Specifications;
- Moisture content of the soil by means of the moisture content test or check of condition of the compacted material; and

- Spreading thickness of the material and passage time of the compactor shall be carefully checked by the supervisor.

### VI-3.3 Concrete Works

#### VI-3.3.1 Concrete Materials

There are five kinds of materials for concrete, i.e., cement, coarse aggregate, fine aggregate, water and sometimes admixtures. In case ordinal Portland cement is used for the construction works, a specific test for the cement is not required. Since the quality of concrete is affected by the characteristics and quality of coarse and fine aggregate, laboratory tests for the aggregates are recommended. The minimum requirement for these concrete materials are described as follows:

##### (A) Minimum Requirement

###### (A.a) water

- free from impurities such as oil, salts, organic matter, etc.

###### (A.b) fine and coarse aggregate

- well graded;
- free from impurities such as clay, silt, organic matter, trash, etc.,
- having appropriate specific gravity; and
- having sufficient durability.

##### (B) Recommendable Aggregates for Concrete

The following types of stone are preferred as concrete aggregates:

- granite
- andesite
- basalt
- hard sandstone
- hard limestone
- gneiss

##### (C) Required Tests for the Aggregates

The following physical tests for the concrete aggregates and their evaluation criteria is recommended:

###### (C.a) Fine aggregate

- specific gravity test (specified range: 2.50-2.65, material which has a small specific gravity is not suitable)

- grading analysis (fineness modules: 2.3-3.1)

- soundness of aggregate (maximum loss weight due to soundness test using sulfate of natrium: less than 10%)

(C.b) Coarse aggregate

- specific gravity test (specified range: 2.55-2.65, material which has a small specific gravity is not suitable)

- grading analysis (fineness modules: 6-8)

- soundness of aggregate (maximum loss weight due to soundness test using sulfate of natrium: less than 12%)

(D) Storage of Materials

(D.a) Cement

- cement which was stored for more than 3 months shall not be used;

- cement bags shall be stored in the well ventilated warehouse having more than 30cm floor height from the ground;

- cement bags shall be stored not so as to contact with the walls;

- cement bags shall not be stocked more than 1.5m or 13 bags; and

- cement bags shall be well arranged so as to easily recognize its purchased date.

(D.b) Aggregates

- aggregate shall be stored separately according to kind.

(B) Concrete Test

- The slump tests shall be conducted for the 2nd mixing batch and if such result does not satisfy the specified range of the slump height, a volume of water shall be adjusted until satisfying specified range of the slump height, a volume of water shall be adjusted until satisfying specified range. The specified range of the slump is as follows:

Type of Concrete	Specified Slump (cm)
A (K-225)	10+/- 2.5 cm
B (K-175)	8+/- 2.5 cm
C (K-125)	5+/- 2.5 cm
D (K-100)	10+/- 1.0 cm

### (C) Concrete Placement Work

- The concrete shall be placed immediately after mixing.
- A use of inclined chute shall be avoided as much as possible.
- The maximum falling height is 1.5m at maximum.
- The concrete shall not be moved to horizontal direction
- The concrete shall be placed to the backward but not to the forward.
- A thickness of one layer for vibrating compaction of concrete is around 25-30 cm.
- The vibrator shall be penetrated into the previous layer by 15 cm.
- The vibrating at one position shall not over 15 sec.
- A backup vibrator shall be prepared on site.
- The maximum interval time of concrete placement at the construction joint shall be 2 hours and the surface of the previous concrete shall be free from laitance.
- If the above interval is more than 2 hours, the cement mortar with a slump height of about 15cm shall be put on the construction joint with a thickness of about 15mm and the new concrete shall be immediately placed on it. In this case also the surface of the construction joint shall be cleaned before placement of concrete.

### (D) Post Placement Work

- The placed concrete shall be cured by means of the Moist Curing and/or equivalent method for at least 36 hours after placement of concrete.
- The form shall not be removed at least for 4 days for side support and 7 days for bottom support after a concrete placement.

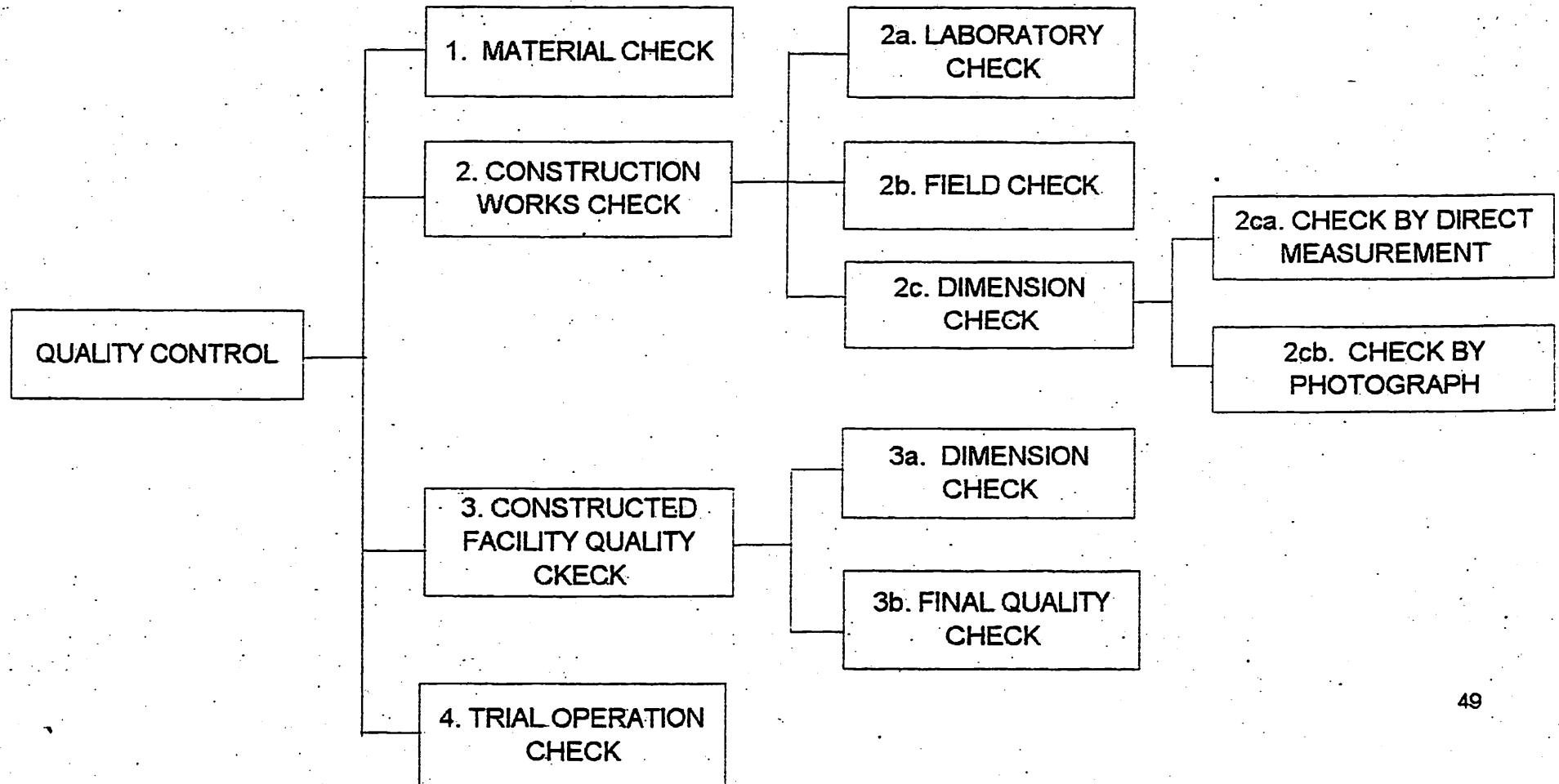
### (E) Minimum Requirement for the Quality Control of Concrete Works

In order to secure the minimum quality of the concrete works, the supervisor should pay a careful attention to the following checking points even in the very minor works;

- check of the reinforcement bar placement before placing concrete;
- check of dimensions and elevations, especially of elevations of the form work, before placement of concrete;
- careful check of proportion of concrete materials during the mixing work of concrete by weight or volume;
- check of the concrete slump;

- check of the preparation of at least 2 sets of vibrator; and
- check of moistening of forms or provision of wet sheet during the curing period and removal time of forms.

## GENERAL FRAME OF THE QUALITY CONTROL



## ORGANIZATION

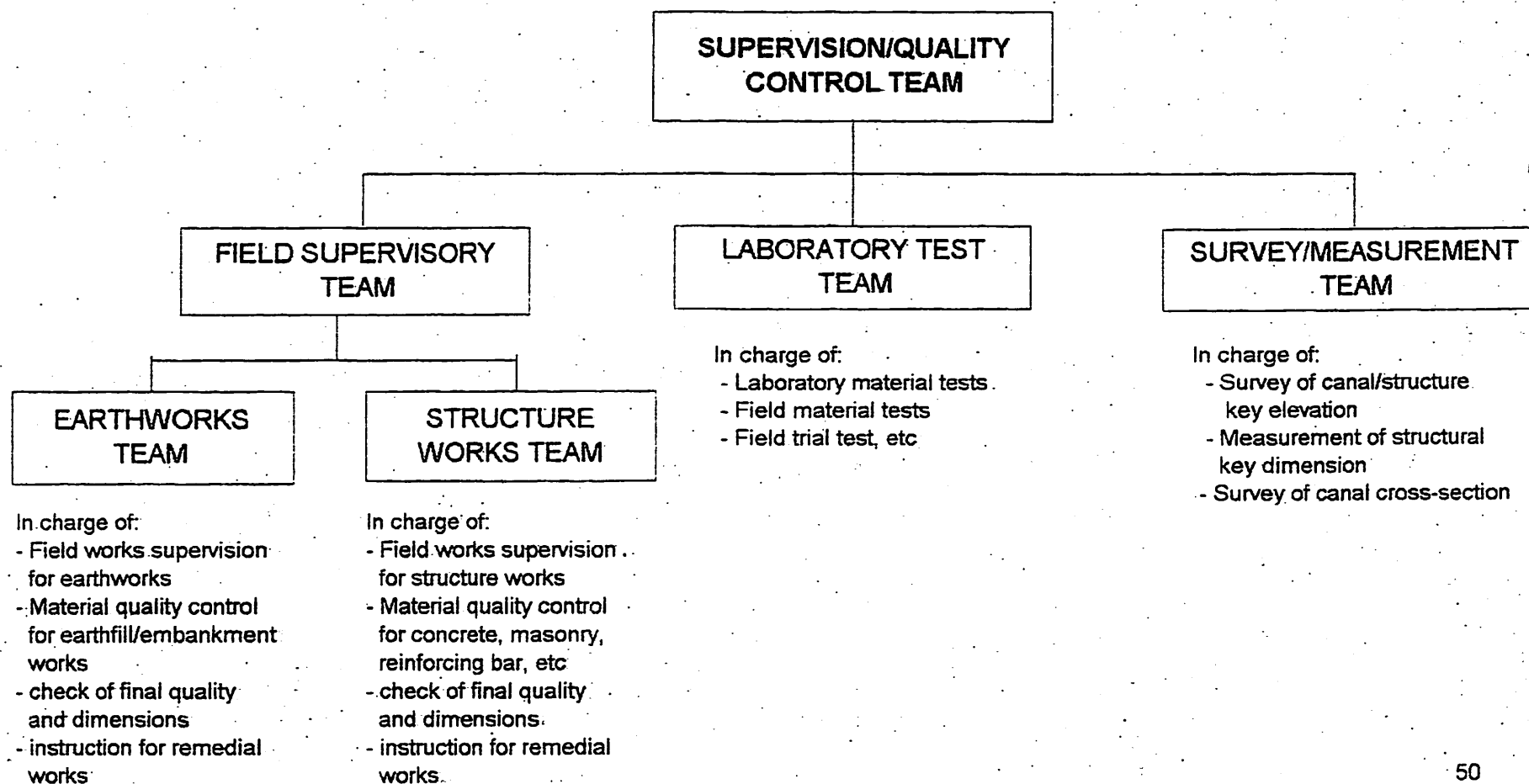
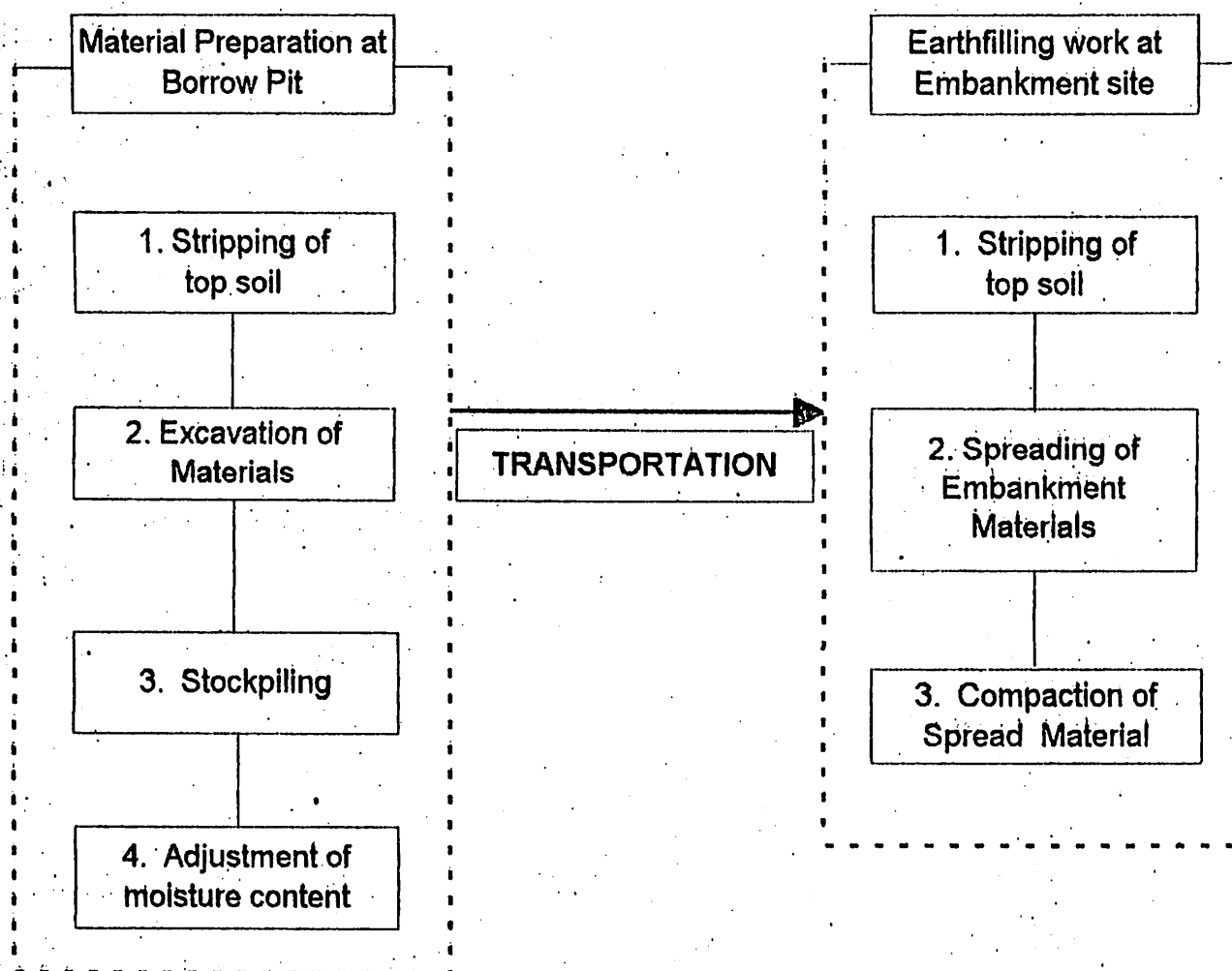




FIGURE 3

## EMBANKMENT WORKS



## TEAM OBLIGATION

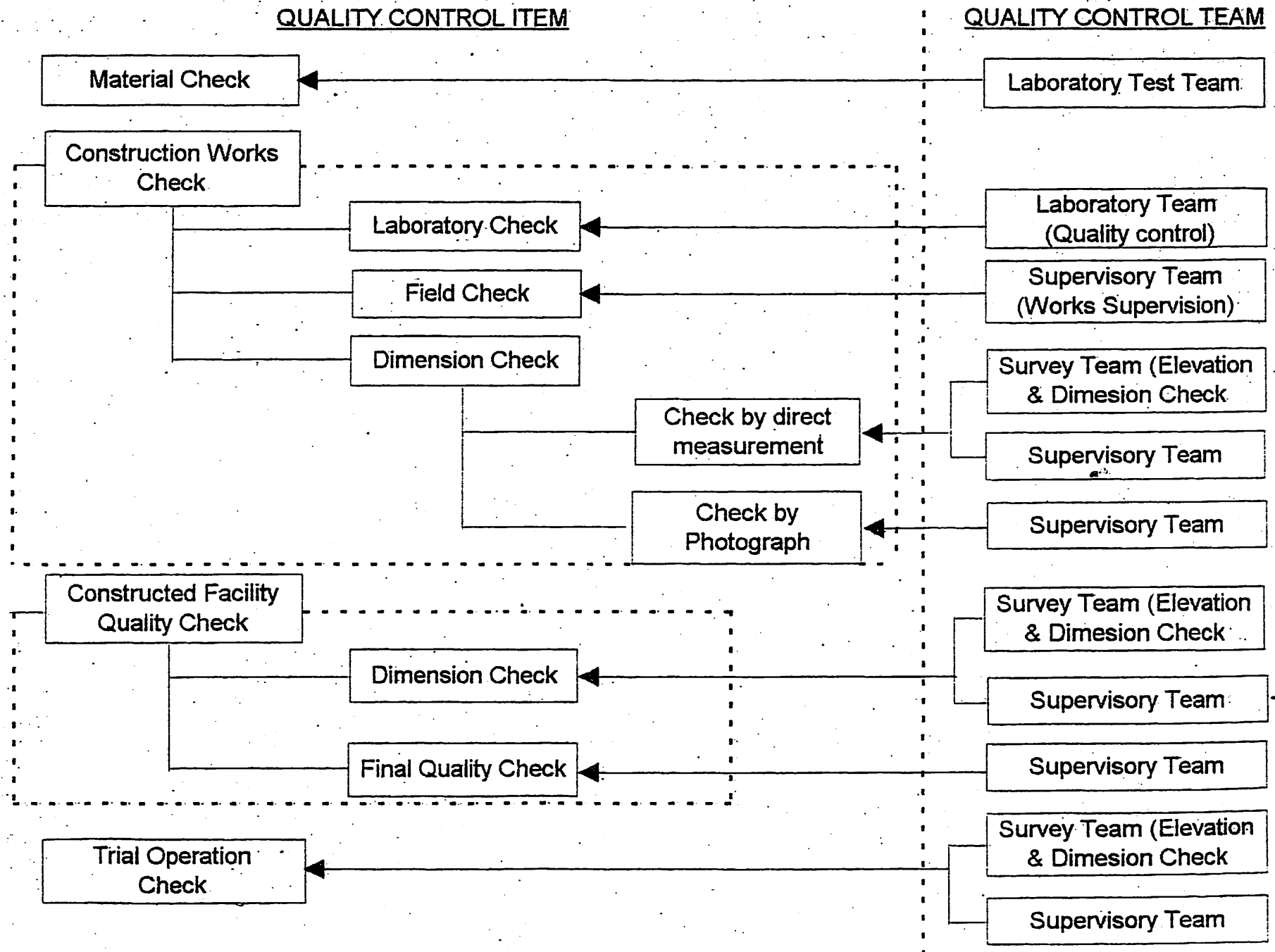


TABLE 1

## CRITERIA FOR EVALUATION OF EMBANKMENT/EARTHFILL MATERIAL

CLASSIFICATION OF SOILS ACCORDING TO STANDARD SOIL CLASSIFICATION	KIND OF MATERIAL	APPROPRIATENESS FOR EARTHFILL MATERIAL <sup>1/</sup>
-	ROCKS	-
-	BOULDERS	-
GW, GP	GRAVELS	6
GW, GC	SILTY/CLAYEY GRAVELS	1
SW, SP	SANDS	5
SM, SC	SILTY/CLAYEY SAND	2
ML, CL, OL	CLAYEY SOILS	3
MH, CH, OH	CLAYS	4
PT	ORGANIC SOILS	7

<sup>1/</sup> Lower number means more appropriate material.

Republic of the Philippines  
NATIONAL IRRIGATION ADMINISTRATION  
Diliman, Quezon City, Metro Manila

PRE C FORM

FOR CONTRACT NO. \_\_\_\_\_

CONTRACTOR'S CONFIDENTIAL PRE-QUALIFICATION STATEMENT  
( LOCAL MINOR CONTRACT )

Submitted by : \_\_\_\_\_  
Address : \_\_\_\_\_  
Telephone No. : \_\_\_\_\_  
Date of Issue : \_\_\_\_\_  
Official Receipt No. : \_\_\_\_\_  
Deadline of Submission : \_\_\_\_\_

JULY 1996

## INVITATION FOR PREQUALIFICATION

- 1.1 Prequalification is open to Domestic Contractors who are registered and classified by the CONSTRUCTION INDUSTRY AUTHORITY OF THE PHILIPPINES/PHILIPPINE CONTRACTORS ACCREDITATION BOARD for projects subject to Domestic Biddings.
- 1.2 The contractor-applicant's contracting capability shall be evaluated on the basis of his legal, financial and technical capacities to undertake contract works with the government.
- 1.3 To be technically prequalified, the contractor-applicant must possess the minimum qualifications for the following to an extent sufficient in the judgement of the government for him to satisfactorily prosecute contract works with the government and meet all obligations that may be incurred should he be awarded a contract:
  - a. Firm's competence and experience in managing projects.
  - b. Competence and experience of key personnel.
  - c. Owned equipment.
- 1.4 Contractor requiring prequalification information should forward their questions to :

The Chairman.  
Attn.: The Secretary/Technical Secretariat  
Prequalifications, Bids and Awards Committee  
National Irrigation Administration  
RIO/PMO Concerned

\_\_\_\_\_  
(Address)

- 1.5 All applications should be prepared in English in accordance with the NIA prescribed forms and submitted in duplicate to the Committee on Prequalifications, Bids and Awards.
- 1.6 Documents submitted by prospective bidders/tenderers or contractors in connection with the prequalification will be considered confidential and shall not be returned.
- 1.7 Original copy of all documents required shall be presented for authentication.

EXCERPTS FROM THE REVISED PENAL CODE

ART. 171 - FALSIFICATION BY PUBLIC OFFICER, EMPLOYEE OR NOTARY OR ECCLESIASTICAL MINISTER- The penalty of prision mayor and a fine not to exceed P5,000.00 shall be imposed upon any public officer, employee, or notary, who, taking advantage of his official position shall falsify a document by committing any of the following acts:

1. Counterfeiting or imitating any handwritting, signature or rubric;
2. Causing it to appear that persons have participated in any act or proceeding when they did not in fact so participate;
3. Attributing to persons who have participated in an act or proceeding statements other than those in fact made by them;
4. Making untruthful statements in a narration of facts;
5. Altering true dates;
6. Making any alteration or intercalation in a genuine document which changes its meaning;
7. Issuing in an authenticated form a document purporting to be a copy of an original document when no such original exists, or including in such copy a statement contradictory to, or different from, that of the genuine original; or
8. Intercalating any instrument or note relative to the issuance thereof in a protocol, registry, or official book.

ART. 172 - FALSIFICATION BY PRIVATE INDIVIDUALS AND USE OF FALSIFIED DOCUMENTS - The penalty of prision correccional in its medium and maximum periods and a fine of not more than P5,000.00 shall be imposed upon:

1. Any private individual who shall commit any of the falsifications enumerated in the next preceding article in any public or official document or letter of exchange or any other kind of commercial document; and

con't

EXCERPTS FROM THE REVISED PENAL CODE

2. Any person who, to the damage of a third party, or with the intent to cause such damage, shall in any private document commit any of the acts of falsification enumerated in the next preceding article.

Any person who shall knowingly introduce in evidence in any judicial proceeding or to the damage of another or who, with the intent to cause such damage, shall use any of the false documents embraced in the next preceding article or in any of the foregoing subdivisions of this article, shall be punished by the penalty next lower in degree.

ART. 183 - FALSE TESTIMONY IN OTHER CASES AND PERJURY IN SOLEMN AFFIRMATION - The penalty of arresto mayor in its maximum period to prision correccional in its minimum period shall be imposed upon any person who, knowingly making untruthful statements and not being included in the provisions of the next preceding articles, shall testify under oath, or make an affidavit, upon any material matter before a competent person authorized to administer an oath in cases in which the law so requires.

Any person who, in case of a solemn affirmation made in lieu of an oath, shall commit any of the falsehoods mentioned in this and the three preceding articles of this section, shall suffer the respective penalties provided therein.

REPUBLIC OF THE PHILIPPINES)

A F F I D A V I T  
OF CONTRACTOR-APPLICANT

I, \_\_\_\_\_, of legal age, and residing at  
(Name of Affiant)  
\_\_\_\_\_, after having been duly  
(Address)  
sworn according to law, deposes and states that:

1. I am the \_\_\_\_\_ of the  
(Official Capacity)  
\_\_\_\_\_, a corporation/  
firm/joint venture duly organized under the laws of the  
Philippines.
2. As \_\_\_\_\_, I am familiar with  
(Official Capacity)  
the books of said corporation/firm/joint venture.
3. Personally, and as \_\_\_\_\_ for and in  
(Official Capacity)  
behalf of the Corporation/Firm/Joint Venture, I am  
hereby certifying that:
  - a) All statements made in the Contractor's Confidential  
Prequalification Statement and in the required  
attachment are true and correct;
  - b) This Confidential Statement is made for the express  
purpose of pre-qualifying the Corporation/Firm/Joint  
Venture/Consortia/Partners as a responsible bidder by  
the National Irrigation Administration for its  
contracts;
  - c) Any public official, engineer, architect, surety  
company, bank, depository or any other person, firm  
or corporation herein named is hereby requested and  
authorized to supply the National Irrigation  
Administration and its agents any information they  
may find necessary to verify any item in this  
statement or regarding his competence and general  
reputation;



- d) The undersigned is duly authorized by the Corporation/Firm/Joint Venture/Consortia/Partners to make these representation, and to sign this statement; and,
- e) The provisions of the Revised Penal Code particularly Article 171, 172 and 183, among others, shall be applicable in case of false representations in the statements.
4. In compliance with the requirements for Pre C, I hereby submit the following documents in behalf of the corporation/firm/joint venture/consortia/partners:
- ✓ a) Certified true copy of Contractors License and Certificate of Renewal of same for the current year, EXHIBIT-1.
  - ✓ b) Copy of certificate of registration and classification issued by the Philippine Constructors Accreditation Board; EXHIBIT-2.
  - c) Certified true copy of Certificate on the Registration of Business name from the Department of Trade and Industry or the Securities and Exchange Commission, EXHIBIT-3.
  - d) Certified true copy of Articles of Incorporation and By-Laws, EXHIBIT-4.
  - e) Certified true copy of Value-Added Tax (VAT) Registration Certificate, (B.I.R. Form No. 2550-2) and the latest Value Added Tax Return (B.I.R. Form No. 2550) which is duly machine validated, EXHIBIT-5.
  - f) Certification authorizing NIA to verify the authenticity and correctness of prequalification documents, EXHIBIT-6.
  - g) Certified copy of the duly attested board resolution authorizing the Corporation's representative to sign prequalification document, bid and contract, EXHIBIT-7.
  - h) Credit Line Commitment or Cash Deposit Certificate, EXHIBIT-8.
  - ✓ i) General Information on the company, EXHIBIT-9.

- j) List of stockholders of the company, EXHIBIT-10 (for corporation).
- k) List of members of the Board of Directors, EXHIBIT-11 (for corporation).
- l) List of Officers of the Corporation, EXHIBIT-12 (for corporation).
- m) The proposed organization chart for this particular project, EXHIBIT-13.
- n) List of key personnel employed or to be employed in the project with complete qualification and experience data sheet, EXHIBIT-14.
- o) Professional Tax Receipt and Professional License of key personnel employed or to be employed in the project, EXHIBIT-15.
- p) Photocopies of contract/proposed contract of employment of duly qualified key personnel employed/to be employed for this project, EXHIBIT-16.
- q) Duly accomplished experience questionnaire form, EXHIBIT-17.
- r) List of all relevant completed construction projects, in the last three years, government and private. These shall include the nature and value of the project, original and actual project schedule, the location of the project and the name and address of the owner supported by certification of completion and/or owner's acceptance, EXHIBIT-18.
- s) Detailed list of all on-going contracts, government and private as well as awarded and/or approved contracts not yet started. These shall include the nature and values of the project, percentage of time elapsed, percentage of physical accomplishment, scheduled date of completion, location of the project, the name and address of the owner. It shall be supported by the owner's acceptance, notices of award and notices to proceed issued by the owner, EXHIBIT-19.
- t) List of estimated construction equipment required for this contract, EXHIBIT-20.

- u) List of relevant equipment owned and those pledged exclusively for the project supported by Proof of ownership, i.e., deed of sales or invoices with complete address of vendor or official receipt issued by the vendor, certificate of registration with current official receipt of LTO, EXHIBIT-21.
- v) List of relevant equipment contracted to be leased or purchased and those pledged to be used exclusively for the project supported by certified copies of contracts of lease and/or Affidavit of Pledge/s and Pro-forma Invoice, if to be purchased, EXHIBIT-22.
- w) Proof of Ownership of the minimum material testing equipment required as per Department Order No. 80 series of 1990. In case the equipment is contracted to be leased, the lessor should be an accredited laboratory from the Bureau of Research and Standards (BRS) or Department of Science and Technology (DOST), EXHIBIT-23.

It is understood that incomplete documents submitted shall be a ground for disqualification for this subject project.

\_\_\_\_\_  
Affiant

SUBSCRIBED AND SWORN to before me this \_\_\_\_ day of \_\_\_\_\_ 19, \_\_, at \_\_\_\_\_, Philippines, affiant exhibited to me his Community Tax Certificate No. \_\_\_\_\_, issued on \_\_\_\_\_, 199\_\_ at \_\_\_\_\_.

Doc. No. \_\_\_\_\_  
Page No. \_\_\_\_\_  
Book No. \_\_\_\_\_

\_\_\_\_\_  
NOTARY PUBLIC  
Until December 31, 19\_\_  
PTR No. \_\_\_\_\_ Date \_\_\_\_\_  
Issued at \_\_\_\_\_  
TIN \_\_\_\_\_

A. LEGAL REQUIREMENTS (Original copies to be presented for authentication)	MARK DOCUMENTS AS FOLLOWS:
1. Certified true copy of Contractor's License and Certificate of renewal of same for the current year	Exhibit 1
2. Certificate of registration and classification issued by the Phil. Contractors Accreditation Board	Exhibit 2
3. Certified true copy of Certificate on the Registration of Business name from the Department of Trade and Industries or the Securities and Exchange Commission	Exhibit 3
4. Certified true copy of Articles of Incorporation and By-Laws.	Exhibit 4
5. Certified true copy of Value-Added Tax Registration Certificate (B.I.R. Form No. 2550-2) and the latest Value Added Tax Return (B.I.R. Form No. 2550) which is duly machine validated.	Exhibit 5
6. Certification authorizing NIA to verify the authenticity and correctness of Prequalification Documents	Exhibit 6
7. Certified copy of the duly attested board resolution authorizing the Corporation's representative to sign prequalification documents, bid and contract	Exhibit 7

\* Applicants should use NIA prescribed forms.

B. FINANCIAL REQUIREMENTS (Original copies to be submitted)	
1. Credit Line Commitment or Cash Deposit Certificate	Exhibit 8
C. TECHNICAL REQUIREMENTS	
I. Organization	
1. General Information on the company	Exhibit 9
2. List of stockholders and/or others financially interested in your organization owning 5% or more stock or other interest (for corporation)	Exhibit 10
3. Chairman and members of the Board of Directors (for corporation)	Exhibit 11
4. Officers of the Corporation, i.e., President, Vice-President, General Manager, etc. (for corporation)	Exhibit 12
5. Proposed Organizational Chart for this particular project.	Exhibit 13
6. List of key personnel employed or to be employed in the project with complete qualification and expe- rience data sheet	Exhibit 14

\* Applicants should use NIA prescribed forms

7. Professional Tax Receipt and Professional License of key personnel employed or to be employed in the project.	Exhibit 15
8. Contract/proposed contract of employment of duly qualified key personnel employed/to be employed for this project.	Exhibit 16
II. EXPERIENCE RECORD	
1. Experience Questionnaire form	Exhibit 17
2. List of all relevant completed construction projects in the last three years; government and private. These shall include the nature and value of the project, original and actual project schedule, the location of the project and the name and address of the owner supported by certification of completion and/or owner's acceptance.	Exhibit 18
3. Detailed list of all on-going projects, government and private as well as awarded and/or approved contracts not yet started. These shall include the nature and values of the project, percentage of time elapsed, percentage of physical accomplishment, scheduled date of completion, location of the project, the name and address of the owner. It shall be supported by the owner's acceptance, notices of award and notices to proceed issued by the owner.	Exhibit 19

\* Applicants should use NIA prescribed forms.

III. EQUIPMENT	
1. List of Estimated Construction Equipment required for this contract	Exhibit 20
2. List of relevant equipment owned and those pledged exclusively for the project supported by Proof of ownership, i.e. deed of sales or invoices with complete address of vendors or official receipt issued by the vendor, certificate of registration with LTO.	Exhibit 21
3. List of relevant equipment contracted to be leased or purchased and those pledged to be used exclusively for the project supported by certified copies of contract of lease/s and/or affidavit of pledge/s and pro-forma invoice, if to be purchased.	Exhibit 22
4. Proof of Ownership of the minimum material testing equipment required as per Department Order No. 80 series of 1990. In case the equipment is contracted to be leased, the lessor should be an accredited laboratory from the Bureau of Research and Standard (BRS) or Department of Science and Technology (DOST).	Exhibit 23

\* Applicants should use NIA prescribed forms.

EXHIBIT 1

Certified True Copy of Contractors License  
and certificate of renewal of same  
for the current year

(Please present original copy for authentication)



EXHIBIT 2

Copy of Certificate of Registration and  
Classification duly issued by the Philippine  
Contractors Accreditation Board  
(Please present original copy for authentication)

EXHIBIT 3

Certified true copy of Certificate  
on the Registration of Business name from the  
Department of Trade and Industry or Securities  
and Exchange Commission

EXHIBIT 4

Certified true copy of Articles  
of Incorporation and By-Laws

## EXHIBIT 5

Certified true copy of Value-Added  
Tax (VAT) Registration Certificate  
(B.I.R. Form No. 2550-2) and the latest  
Value Added Tax Return (B.I.R. Form No.  
2550) which is duly machine validated.

EXHIBIT 6

Certification authorizing NIA to verify  
the authenticity and correctness of pre-  
qualification documents

(Use attached standard form)

The RIM/PM Concerned

(Address)

Sir :

This is to authorize NIA to verify the authenticity and correctness of the prequalification confidential statement submitted.

In the event, any of the herein documents is found spurious or misrepresented, it is understood that same will be a ground of our predisqualification for this particular contract and likewise, the NIA will have the option to disqualify us to participate in its future biddings.

Very truly yours,

\_\_\_\_\_  
signature

\_\_\_\_\_  
President/General Manager/Owner,

\_\_\_\_\_  
Name of firm

Certified copy of duly attested board  
resolution authorizing the corporation's  
representative to sign prequalification  
documents, bid and contract

## EXHIBIT 8

\_\_\_\_\_

Credit Line Commitment or Cash  
Deposit Certificate in the minimum  
Amount of P \_\_\_\_\_, and  
same should be machine validated.

(Copy attached NIA Prescribed Form, other  
form is not acceptable)



## BANK LETTERHEAD

=====

CREDIT LINE COMMITMENT

\_\_\_\_\_

Date

National Irrigation Administration  
RIO/PMO Concerned

\_\_\_\_\_  
(Address)

CONTRACT TITLE : \_\_\_\_\_

CONTRACTOR : \_\_\_\_\_

This is to certify that \_\_\_\_\_ (name of bank),  
with business address at \_\_\_\_\_ (address of bank),  
commits to provide \_\_\_\_\_ (name of firm), if awarded  
the above-mentioned contract, a credit line in the amount of  
PESOS : \_\_\_\_\_ (P \_\_\_\_\_),  
which shall be exclusively used to finance the above-mentioned  
contract.

The credit line shall be available within fifteen  
(15) days after receipt by the contractor of the Notice of Award  
which shall be maintained until the project is completed.

This certification is being issued in favor of the  
said contractor in connection with the prequalification  
requirements of the National Irrigation Administration for the  
above-mentioned contract. We are aware that any false statement  
issued by us makes us liable for perjury.

\_\_\_\_\_  
(Name and Signature of Bank Manager)

CONCURRED BY :

\_\_\_\_\_  
(Name and Signature of Firm Owner)

\_\_\_\_\_  
(Name and Address of Firm)

SUBSCRIBED AND SWORN TO BEFORE ME THIS \_\_\_\_\_ DAY  
OF \_\_\_\_\_, 199\_, AT \_\_\_\_\_ AFFIANT HAVING  
EXHIBITED TO ME HIS COMMUNITY TAX CERTIFICATE NO. \_\_\_\_\_  
ISSUED AT \_\_\_\_\_ ON \_\_\_\_\_, 199\_.

\_\_\_\_\_  
NOTARY PUBLIC

UNTIL DEC. 31, 199\_  
PTR \_\_\_\_\_ DATE \_\_\_\_\_  
ISSUED AT \_\_\_\_\_  
TIN \_\_\_\_\_

DOC. NO. \_\_\_\_\_  
PAGE NO. \_\_\_\_\_  
BOOK NO. \_\_\_\_\_

## BANK LETTERHEAD

## CASH DEPOSIT CERTIFICATE

National Irrigation Administration  
RIO/PMO Concerned

\_\_\_\_\_  
(Address)

Subject : \_\_\_\_\_  
\_\_\_\_\_  
(Description and Contract No.)

This is to certify that \_\_\_\_\_ (Name of Contractor)  
\_\_\_\_\_ with business address at \_\_\_\_\_ (address  
of Contractor) \_\_\_\_\_ has a cash deposit with this  
Bank in the amount of PESOS : \_\_\_\_\_  
\_\_\_\_\_, as of \_\_\_\_\_ (date of latest  
outstanding deposit).

Should the aforementioned contractor be awarded the contract, said cash deposit shall be made available for the exclusive purpose of financing the subject contract work. Hence, it is understood that any withdrawal of said deposit will require your approval.

This certification is issued upon the request of \_\_\_\_\_ (Name of Contractor) \_\_\_\_\_ in connection with its application for prequalification with the National Irrigation Administration, for the above contract work.

\_\_\_\_\_  
Name in print and Signature  
of Authorized Bank Official

\_\_\_\_\_  
Designation

GENERAL INFORMATION

1. Name of Firm	
2. Address and Telephone Numbers	
3. Type of Organization and Year Organized	
4. Tax Account Number Tax Payer's Identification Number (TIN)	
5. Objectives and purpose of Firm	

Prepared by \_\_\_\_\_

Name and Signature

Date Prepared : \_\_\_\_\_

Designation

Verified Correct : \_\_\_\_\_

Name and Signature

Designation

## EXHIBIT 10

LIST OF STOCKHOLDERS AND/OR OTHERS FINANCIALLY  
INTERESTED IN YOUR ORGANIZATION OWNING 5 % OR  
MORE OF STOCK OR OTHER INTEREST

NAME	TYPE OF IN- TEREST OR NO. OF SHARES OWNED	VALUE IN PESOS	EXTENT OF CONTROL IN PERCENT

Prepared by : \_\_\_\_\_  
Name and Signature

Date Prepared : \_\_\_\_\_  
Designation

Verified Correct :

\_\_\_\_\_  
Name and Signature

EXHIBIT 11

CHAIRMAN AND MEMBERS OF THE  
BOARD OF DIRECTORS

NAME	DESIGNATION
1.	CHAIRMAN
2.	DIRECTOR
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	CORPORATE SECRETARY

Name of Firm : \_\_\_\_\_

Prepared By : \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Verified Correct By : \_\_\_\_\_

\_\_\_\_\_  
Name and Signature\_\_\_\_\_  
Designation

## EXHIBIT 12

## OFFICERS OF THE CORPORATION

NAME	DESIGNATION

Name of Firm : \_\_\_\_\_

Prepared by : \_\_\_\_\_

Date Prepared : \_\_\_\_\_

Verified Correct By : \_\_\_\_\_

\_\_\_\_\_  
Name and Signature\_\_\_\_\_  
Designation

EXHIBIT 13

Proposed Organization Chart for this  
particular project



EXHIBIT 14

List of Key Personnel employed or to  
be employed in the project with complete  
qualification and experience data sheet

EXHIBIT 15

Professional Tax Receipt and Professional  
License of each key/technical personnel  
employed or to be employed in the project

## EXHIBIT 16

Contract/proposed contract of employment of duly  
qualified technical personnel employed/to be  
for this project.

## EXHIBIT 17

EXPERIENCE QUESTIONNAIRE

1. How many years has your organization been in business as a general contractor under your present business name?  
\_\_\_\_\_
2. As a sub-contractor? \_\_\_\_\_
3. Have you ever failed to complete any work awarded to you?  
\_\_\_\_\_, if so, where, when and why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Has any officer of your organization ever been an officer or partner of some organizations that failed to complete a construction contract? \_\_\_\_\_  
  
if so, state name of individual, other organization and reason for failure \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Has any officer or partner of your organization ever failed to complete a construction contract handled in its own name?  
\_\_\_\_\_ if so, state name of individual or name of owner and reason for failure. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. In what other lines of business are you financially interested? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name of Firm: \_\_\_\_\_  
\_\_\_\_\_Prepared by: \_\_\_\_\_  
\_\_\_\_\_\_\_\_\_\_  
Designation

Date Prepared: \_\_\_\_\_

Verified Correct: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_\_\_\_\_\_  
Designation

[illegible]

CONTRACT NO. \_\_\_\_\_

## EXHIBIT 19.

COMPLETE LIST OF ON-GOING PROJECT(S) AS OF \_\_\_\_\_, 199

1. PROJECT TITLE \_\_\_\_\_
2. OWNER \_\_\_\_\_
3. LOCATION \_\_\_\_\_
4. ORIGINAL AMOUNT OF CONTRACT \_\_\_\_\_
5. ADJUSTED CONTRACT AMOUNT AS OF \_\_\_\_\_
6. DATE OF NTP ISSUED \_\_\_\_\_
7. DATE STARTED \_\_\_\_\_ TARGET COMPLETION DATE \_\_\_\_\_
8. ACCOMPLISHMENT PERCENTAGE: \_\_\_\_\_ AS OF \_\_\_\_\_  
(Please attached Certified True Copy of the latest status)  
(of same issued by the owner)
9. SLIPPAGE PERCENTAGE: \_\_\_\_\_
10. NAME OF RESCINDED PROJECTS, IF ANY: \_\_\_\_\_
11. KEY PERSONNEL COMMITTED:  
A) PROJECT MANAGER: \_\_\_\_\_  
B) PROJECT ENGINEER: \_\_\_\_\_
12. LIST OF EQUIPMENT COMMITTED FOR THE ABOVE PROJECT

DESCRIPTIONSERIAL/CHASSIS NO.



NAME OF FIRM: \_\_\_\_\_

PREPARED BY: \_\_\_\_\_

DATE PREPARED: \_\_\_\_\_

Name &amp; Signature

Designation

Attachments:

Verified Correct by:

- Copy of the Notice of Award
- Copy of Notice to Proceed
- Photocopy of the Contract

Name &amp; Signature

Designation

Use additional sheet if necessary.

"INCOMPLETE INFORMATION IN THIS PAGE IS A GROUND FOR PRE-DISQUALIFICATION"

LIST OF EQUIPMENT REQUIREMENT FOR  
CONTRACT NO. \_\_\_\_\_

	<u>DESCRIPTION</u>	<u>QUANTITY</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____
11.	_____	_____
12.	_____	_____
13.	_____	_____
14.	_____	_____
15.	_____	_____
16.	_____	_____
17.	_____	_____
18.	_____	_____
19.	_____	_____
20.	_____	_____

## EXHIBIT 21

LIST OF RELEVANT EQUIPMENT OWNED AND THOSE PLEDGED  
EXCLUSIVELY FOR THE PROJECT SUPPORTED BY CERTIFICATE OF  
OWNERSHIP/REGISTRATION WITH THE LTO

EQUIPMENT DESCRIPTION	CHASSIS/SERIAL NO.	REMARKS

Name of Firm : \_\_\_\_\_ Prepared By : \_\_\_\_\_

Date Prepared : \_\_\_\_\_ Verified By : \_\_\_\_\_

\_\_\_\_\_  
Name & Signature\_\_\_\_\_  
Designation



## EXHIBIT 22

LIST OF RELEVANT EQUIPMENT CONTRACTED TO BE LEASED  
OR PURCHASED AND THOSE PLEDGED TO BE USED EXCLUSIVELY  
FOR THE PROJECT SUPPORTED BY CERTIFIED COPIES OF  
CONTRACT/S OF LEASE AND/OR AFFIDAVIT OF PLEDGE/S AND  
PRO-FORMA INVOICE, IF TO BE PURCHASED

[illegible]

Name of Firm: \_\_\_\_\_

Prepared by: \_\_\_\_\_  
Name & Signature

Date Prepared: \_\_\_\_\_

Designation

Verified by:

- \* Attach Lease Agreement and Proof of Ownership from the Owner

Name & Signature

Designation

Note: Use extension sheet if necessary.

## EXHIBIT 23

Proof of Ownership of the Minimum Material  
Testing Equipment required as per Department  
Order No. 80 Series of 1990. In case the equipment  
is contracted to be leased, the lessor should be  
an accredited laboratory from the Bureau of  
Research and Standards (BRS) or Department of  
Science and Technology

LIST OF MINIMUM MATERIAL TESTING EQUIPMENT  
REQUIREMENT FOR SMALL CONTRACTORS

ITEM NO.	QUANTITY	DESCRIPTION
1.	1 pc.	Sieve, Std., 200mm diameter opening 75mm ( 3" )
2.	1 pc.	-ditto- 63mm ( 2 1/2" )
3.	1 pc.	-ditto- 50mm ( 2" )
4.	1 pc.	-ditto- 37.5mm ( 1 1/2" )
5.	1 pc.	-ditto- 25.0mm ( 1" )
6.	1 pc.	-ditto- 19.0mm ( 3/4" )
7.	1 pc.	-ditto- 12.5mm ( 1/2" )
8.	1 pc.	-ditto- 9.5mm ( 3/8" )
9.	1 pc.	-ditto- 4.75mm ( No. 4 )
10.	1 pc.	-ditto- 2.36mm ( No. 8 )
11.	1 pc.	-ditto- 2.00mm ( No. 10 )
12.	1 pc.	-ditto- 1.18mm ( No. 16 )
13.	1 pc.	-ditto- 0.600mm ( No. 30 )
14.	1 pc.	-ditto- 0.425mm ( No. 40 )
15.	1 pc.	-ditto- 0.300mm ( No. 50 )
16.	1 pc.	-ditto- 0.150mm ( No. 100 )
17.	1 pc.	-ditto- 0.075mm ( No. 200 )
18.	1 pc.	Pan, brass, 200mm dia. x 50mm deep
19.	1 pc.	Cover, brass, sieve
20.	1 pc.	Brush, fine sieve
21.	1 pc.	Brush, wire, sieve
22.	1 pc.	Mortar and Pestle
23.	1 set	Liquid Limit Test Set, consisting of : 1 - Liquid Limit Device 1 - Mixing dish 1 - Spatula, flexible 1 - Graduated Cylinder, glass, 100ml 24 - Moisture Content can, 60ml, tin
24.	1 pc.	Plate, Plastic Limit
25.	1 pc.	Hammer, Modified Compaction
26.	1 pc.	Mold, Compaction, 152.4mm diameter x 116.4mm height
27.	12 pcs.	Moisture Content can, 225ml, tin
28.	1 set	Field Density Test Set, consisting of : 1 - Sand Density Cone 1 - Jug, Glass or Plastic, 4-L capacity 1 - Density Plate 1 - Straight Edge 1 - Spoon 1 - 25mm Chisel, Steel 1 - 4-L Field can 1 - Mallet, rubber 1 - Scoop, sand
29.	1 unit	Balance, Triple Beam, 311 g cap. 0.01 g sensitivity
30.	1 unit	Balance, Triple Beam, 2610 g cap. 0.1 g sensitivity

con't Minimum Material Testing Equipment  
For Small Contractors

31.	1 unit	Balance, Heavy duty solution, 20 kg cap. 1 g sensitivity
32.	1 set	Auger, Post Hole with two - m extension
33.	1 pc.	Cylinder, Glass, double graduated 500ml cap.
34.	6 pcs.	Bowl, mixing, 250mm dia. x 90mm high
35.	1 pc.	Pan, square, G.I. 600mm x 600mm x 75mm
36.	1 pc.	Spade or Shovel
37.	1 pc.	Pickaxe
38.	1 pc.	Crowbar
39.	6 pcs.	Mold, Steel, cylinder, 150mm x 300mm
40.	6 pcs.	Mold, Steel Beam, 150mm x 150mm x 500mm
41.	1 set.	Slump Cone complete with base and tamping rod and Trowel, triangular or rectangular blade 90mm x 180mm
42.	1 pc.,	Thermometer, Metal, dial type 0-250 C
43.	1 pc.	Concrete Measure 0.014 cu.m. cap. ( 1/2 cu. ft. )
44.	1 pc.	Straight Edge, Steel 300mm long
45.	1 unit	Concrete Mixer, portable

\*\*\*\*\*NOTHING FOLLOWS\*\*\*\*\*

LIST OF MINIMUM MATERIAL TESTING EQUIPMENT  
REQUIREMENT FOR MEDIUM CONTRACTORS

ITEM NO.	QUANTITY	DESCRIPTION
1.	1 pc.	Sieve, Std., 200mm diameter opening 75mm ( 3" )
2.	1 pc.	-ditto- 63mm ( 2 1/2" )
3.	1 pc.	-ditto- 50mm ( 2" )
4.	1 pc.	-ditto- 37.5mm ( 1 1/2" )
5.	1 pc.	-ditto- 25.0mm ( 1" )
6.	1 pc.	-ditto- 19.0mm ( 3/4" )
7.	1 pc.	-ditto- 12.5mm ( 1/2" )
8.	1 pc.	-ditto- 9.5mm ( 3/8" )
9.	1 pc.	-ditto- 4.75mm ( No. 4 )
10.	1 pc.	-ditto- 2.36mm ( No. 8 )
11.	1 pc.	-ditto- 2.00mm ( No. 10 )
12.	1 pc.	-ditto- 1.18mm ( No. 16 )
13.	1 pc.	-ditto- 0.600mm ( No. 30 )
14.	1 pc.	-ditto- 0.425mm ( No. 40 )
15.	1 pc.	-ditto- 0.300mm ( No. 50 )
16.	1 pc.	-ditto- 0.150mm ( No. 100 )
17.	1 pc.	-ditto- 0.075mm ( No. 200 )
18.	1 pc.	Pan, brass, 200mm dia. x 50mm deep
19.	1 pc.	Cover, brass, sieve
20.	1 pc.	Brush, fine sieve
21.	1 pc.	Brush, wire, sieve
22.	1 pc.	Balance, Heavy duty solution 20 kg cap. 1 g sensitivity
23.	1 pc.	Mortar, soil, porcelain, 125mm dia.
24.	1 pc.	Pestle, soil, rubber tip
25.	1 set	Liquid Limit Test Set, consisting of : 1 - Liquid Limit Device 1 - Mixing dish 1 - Spatula, flexible 1 - Graduated Cylinder, glass, 100ml 12 - Moisture Content can, 60ml, tin
26.	1 pc.	Plate, Plastic Limit
27.	1 unit	Balance, Triple Beam, 311 g cap. 0.01 g sensitivity
28.	1 unit	Balance, Triple Beam, 2610 g cap. 0.01 g sensitivity
29.	1 pc.	Hammer, Modified Compaction
30.	1 pc.	Mold, Compaction, 101.6mm diameter x 116.4mm height
31.	12 pcs.	Moisture Content Can, 225ml, tin
32.	1 pc.	Concrete Measure, 0.014 cu.m. cap. ( 1/2 cu.ft. )
33.	1 pc.	Straight Edge, Steel 300mm long

LIST OF MINIMUM MATERIAL TESTING EQUIPMENT  
REQUIREMENT FOR LARGE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1.	1 pc.	Sieve, Std., 200mm diameter opening 75mm ( 3" )
2.	1 pc.	-ditto- 63mm ( 2 1/2" )
3.	1 pc.	-ditto- 50mm ( 2" )
4.	1 pc.	-ditto- 37.5mm ( 1 1/2" )
5.	1 pc.	-ditto- 25.0mm ( 1" )
6.	1 pc.	-ditto- 19.0mm ( 3/4" )
7.	1 pc.	-ditto- 12.5mm ( 1/2" )
8.	1 pc.	-ditto- 9.5mm ( 3/8" )
9.	1 pc.	-ditto- 4.75mm ( No. 4 )
10.	1 pc.	-ditto- 2.36mm ( No. 8 )
11.	1 pc.	-ditto- 2.00mm ( No. 10 )
12.	1 pc.	-ditto- 1.18mm ( No. 16 )
13.	1 pc.	-ditto- 0.600mm ( No. 30 )
14.	1 pc.	-ditto- 0.425mm ( No. 40 )
15.	1 pc.	-ditto- 0.300mm ( No. 50 )
16.	1 pc.	-ditto- 0.150mm ( No. 100 )
17.	1 pc.	-ditto- 0.075mm ( No. 200 )
18.	1 pc.	Pan, brass, 200mm dia. x 50mm deep
19.	1 pc.	Cover, brass, sieve
20.	1 pc.	Brush, fine sieve
21.	1 pc.	Brush, wire, sieve
22.	1 pc.	Balance, Heavy duty solution 20 kg cap. 1 g sensitivity
23.	1 pc.	Mortar, soil, porcelain, 125mm dia.
24.	1 pc.	Pestle, soil, rubber tip
25.	1 set	Liquid Limit Test Set, consisting of : 1 - Liquid Limit Device 1 - Mixing dish 1 - Spatula, flexible 1 - Graduated Cylinder, glass, 100ml 12 - Moisture Content can, 60ml, tin
26.	1 pc.	Plate, Plastic Limit
27.	1 unit	Balance, Triple Beam, 311 g cap. 0.01 g sensitivity
28.	1 unit	Balance, Triple Beam, 2610 g cap. 0.01 g sensitivity
29.	1 pc.	Hammer, Modified Compaction
30.	1 pc.	Mold, Compaction, 101.6mm diameter x 116.4mm height
31.	12 pcs.	Moisture Content Can, 225ml, tin
32.	1 pc.	Concrete Measure, 0.014 cu m. cap. ( 1/2 cu. ft. )
33.	1 pc.	Straight Edge, Steel 300mm long
34.	1 set	CBR Apparatus complete with Accessories ( Mechanical )
35.	1 pc.	Volumetric flask 500ml cap. with stopper

con't Minimum Material Testing Equipment  
For Large Contractors

36.	1 set	Sand Absorption Cone and Tamper
37.	1 set	Specific Gravity Test Set for Coarse Aggregate, consisting of : 1 - Semi-automatic precision balance 5 kg. cap. , 0.01 g sens. 1 - Wire basket
38.	1 unit	Los Angeles Abrasion Machine complete with abrasive steel and #12 sieve
39.	1 set	Field Density Test Set, consisting of : 1 - Sand Density Cone 1 - Jug, Glass or Plastic, 4-L capacity 1 - Density Plate 1 - Straight Edge 1 - Spoon 1 - 25mm Chisel, Steel 1 - 4-L Field can 1 - Mallet, rubber 1 - Scoop, sand
40.	1 set	Auger, Post Hole with two - m extension
41.	1 pc.	Cylinder, Glass, double graduated 500ml cap.
42.	3 pcs.	Bowl, mixing, 250mm dia. x 90mm high
43.	3 pcs.	Pan, square, G.I. 600mm x 600mm x 75mm
44.	1 pc.	Spade or Shovel
45.	1 pc.	Pickaxe
46.	1 pc.	Crowbar
47.	1 unit	Oven, field with temperature control
48.	1 unit	Portable Concrete Mixer
49.	1 set	Slump Test Set, consisting of : 1 - Slump Cone, complete with base and tamping rod 1 - Trowel, triangular or rectangular blade 90mm x 180mm 1 - Scale
50.	12 pcs.	Mold, Steel, cylinder, 150mm x 300mm
51.	12 pcs.	Mold, Steel Beam, 150mm x 150mm x 500mm
52.	1 unit	Compression Machine, portable
53.	1 unit	Concrete Beam Tester, Flexural Machine
54.	1 set	Vertical Capping Set, consisting of : 1 - Vertical Cylinder capper with capping plate, 150mm dia. 1 - Capping compound warmer pot 4 - L cap. 1 - Capping Ladle 1 - Carbon Capping Compound
55.	1 unit	Concrete Core Drilling Machine complete with accessories
56.	1 pc.	Thermometer, Metal, dial type, 0-250 C
57.	1 unit	Extractor, Centrifuge or Reflux 1500 g cap.

Cont Minimum Material Testing Equipment  
For Large Contractors

58.	8 L	Carbon Tetrachloride
59.	1 unit	Marshall Stability Apparatus complete with accessories

\*\*\*\*\*NOTHING FOLLOWS\*\*\*\*\*