



**QUALITY ASSURANCE
QUALITY CONTROL PLAN**

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1.0. GENERAL

1.1 QUALITY COMMITMENT

- 1.1.1- It is the stated policy of ALDOBASH Co. For General Contracting & Trade to incorporating the principles and practices of quality assurance in all the Engineer's endeavors, With regard to construction work for the Project Demonstration Facility Plan
- 1.1.2- That all work performed by the Project Organization shall meet the contractual quality requirements.
- 1.1.3- For this purpose, ALDOBASH Co. For General Contracting & Trade is applying a Quality Assurance Programme, which is documented in this Quality Assurance & Quality Control Plan.
- 1.1.4- The Quality Assurance requirements will be made known and implemented by all the Engineer's personnel performing activities affecting quality.
- 1.1.5- The responsibility and authority for implementing and maintaining the Quality Assurance Programme is assigned to the Quality Assurance / Quality Control engineer. He has the necessary independence, the authority and responsibility to:
 - i- Implement the QA Programme
 - ii- Maintain the QA Programme
 - iii- Determine the problems within the QA System
 - iv- Organize and perform corrective action for non-conformity and to improve the quality standard.

1.2 QUALITY POLICY AND OBJECTIVES

- 1.2.1- Quality policy.
Quality Objective.

2.0. INTRODUCTION

This manual contains a brief outline of quality system to be implemented into the project. Quality policy and objectives, which is a supreme core, value that the ALDOBASH advocate. It is stated that the quality is a prime concern in all aspect of activity to be done complying with the requirement, project contract and specification. It contains a work methodology and procedure, which is applicable with the specific work. This manual also provides an appropriate reference to all design, procurement, fabrication and construction activities and identifies quality related matter.

2.1. SCOPE OF WORK

- 2.1.1- In accordance with the requirements of the contract, the scope of this Quality Plan includes Material
 - Selection and Procurement, Fabrication, Construction, Installation, Testing, Inspection and Commissioning activities as specified, associated with the Project– Demonstration Facility Plan.
- 2.1.2- The various sections of the Quality Assurance & Quality Control Plan define the particular activities, which must be applied to control areas of work within the applicable contract

documents, specifications and work instructions.

3.0. PURPOSE

3.1. The purpose of preparing and implementing this Quality Assurance & Quality Control Plan is as follows:

- a- To document the Contract Operating System to ensure and demonstrate that the services provided under the control of ALDOBASH Co. For General Contracting & Trade conform to the specified requirements of the contract.
- b- To demonstrate that ALDOBASH Co. For General Contracting & Trade has specified the Contract objectives and policy, has established a system of procedures, has defined related duties and has established the means to evaluate objectively the results of the implementations of the defined operating system.

3.2. The Quality Assurance & Quality Control Plan is designed to give guidance to those who have the responsibility of performing the specified tasks.

4.0. DESCRIPTION OF PROJECT QUALITY SYSTEM

With regard to construction work for the Project– Demonstration Facility Plan. That all work performed by the Project Organization shall meet the contractual quality requirements. The PQP details the systems and controls that CONTRACTOR has put in place so that the quality of the project will meet the requirements specified in the project contract detail and documents. CONTRACTOR provides definition and overall management of the quality approach to be followed by its engineering staff as well as the Engineers / Employers. The quality procedure implementation will be ensured through an integrated system of quality assurance and quality control performed by the project team under the preliminary responsibility of CONTRACTOR QA/QC personnel: -CONTRACTOR QA/QC personnel are responsible for the day-to-day coordination and implementation of quality assurance and quality control measures in the field.

4.1. QUALITY STANDARDS

The project will follow guidelines as per ISO 9001:2008 standards. Accordingly, a Project Quality Plan or Quality Documentation is prepared with the following:

a- Quality Manual

The Quality manual consists of a brief introduction of the Organization, authorities; Responsibilities, Management Review, Quality Policy, Quality Objectives, what standards are followed and what omissions are made and a brief description of criteria are mentioned.

b- Procedures

The detailed process for the project and ITP explaining who, what, where, when and how things will be inspected / reviewed and results-maintained.

c- Method Instructions

The detailed descriptions of every process in the procedure is explained

d- Formats

The formats proposed to be used in the project have been issued by Engineer and any further formats requirement shall be intimated to Engineer and with the permission of Engineer it will be implemented.

Quality induction to all employees at staff level will be given on the above details once they are deployed to the project and before they commence their actual work at site. Their job responsibilities will be handed out to them for better clarity of their work understanding. Work procedures, method instructions and the approved formats will be handed over to each person as per their work allocation and requirement for them to follow at site and comply with the QMS. Tool Box Talks for every activity and Mock up for finishing activity shall be conducted for all site execution staff / workers to understand the work procedure, approved materials and workmanship requirements as per the QMS. The Quality Manager shall be responsible for the compliance of the above system at site. Internal audits will be conducted at every 6 months intervals and records of the audit will be maintained at Head Office Quality Department.

4.2. QUALITY TOOLS & INTER RELATIONSHIP WITH SITE EXECUTION STAFF

| Sl No | Quality Tool | User | Responsible person to report |
|-------|--------------|---|------------------------------|
| 1 | Formats | Project Engineer / Construction Manager / QC Engineer | Project Manager |
| 2 | Check list | Project Engineer / QC Engineer | Project Manager |
| 3 | Check list | Foreman / Site Engineer / QC Engineer | Project Manager |
| 4 | Check list | Foreman / Site Engineer / QC Engineer | Project Manager |
| 5 | Check list | QC Engineer | Project Manager |

The following Quality Tools shall be used in the project. This also shows the inter relationship of site execution staff with QC activities at site Implemented.

5.0. DEFINITIONS AND REFERENCES

5.1. DEFINITIONS:

| | | |
|-----|-------------------|--|
| 1. | CLIENT | -BOC |
| 2. | PROJECT MANGEMENT | -Parson |
| 3. | CONSULTANT | -CH2MHill |
| 4. | CONTRACTOR | -PARSONS-TISS-AJ |
| 5. | PQP | – PROJECT QUALITY PLAN |
| 6. | QA | – QUALITY ASSURANCE |
| 7. | QC | – QUALITY CONTROL |
| 8. | ISO | – INTERNATIONAL ORGANIZATION FOR STANDARDIZATION |
| 9. | ITP | – INSPECTION TEST PLAN |
| 10. | IR | – INSPECTION REQUEST |
| 11. | NCR | – NON-CONFORMANCE REPORT. |
| 12. | QMS | – QUALITY MANAGEMENT SYSTEM |

5.2. REFERENCES: ▯

- 5.2.1- Quality Management requirements.
- 5.2.2- Contract Specification and Drawings

6.0. ORGANIZATION CHART

Organization chart shall be submitted for Engineer's approval through Separate Transmittal.

7.0. MAJOR FUNCTIONS / RESPONSIBILITIES FOR QUALITY SYSTEM IMPLEMENTATION

7.1. MANAGEMENT REVIEW & RESPONSIBILITY

Formal Management Reviews of the Quality Management System are performed by the Engineer Asst. General Manager (AGM)/MR – QA, every six months intervals to ensure continuing suitability and effectiveness in satisfying the requirements as spec...

7.2. QUALITY SYSTEM

The Quality System for a project should be documented through this specific. project quality plan

Structure of the project quality system documentation the project quality system documentation is structured in the following order of precedence: Project QA/QC Plan Project Quality Assurance and Quality Control Procedures

Project work instructions such as method statements and Inspection Test Plan (ITP)
Project forms which when completed become project quality records

7.3. PROJECT QUALITY PLANNING

General quality planning is carried out as part of management review. Project specific quality planning is also undertaken and revolves around the provision of adequately trained personnel, special process requirements, material and subcontract procurement, and works programming and required quality records.

- a- The Engineer reviews the contractual requirements in detail at the time of tendering, upon award of contract and at regular intervals thereafter.
- b- Subsequent to the award of a contract, a contract handover meeting will be

convened.

- c- Where the need arises for amendment with time/cost to a contract, such amendments will be processed.

7.4. CONTRACT REVIEW

Any Technical clarifications pertaining to drawings, scope of work, contractual requirements if any shall be addressed by “Technical Query”, “Request for Clarification of ambiguity and discrepancy” or a “Request for Information (RFI)” in accordance with the Project Quality Procedure. Records of review meetings and exchange of all correspondence that pertain to contractual requirements shall be archived as an evidence of contract review. the Project Manager & Head Office Contracts team shall be responsible for reviewing all Contract Records.

7.5. DESIGN CONTROL

ALDOBASH scope includes only design management activities.

7.6. DOCUMENT AND DATA CONTROL

To establish and maintain procedures for the control of all documents related to the Quality Management System.

The procedures ensure that:

All quality documents are reviewed and approved prior to issue. The related issues of appropriate documents are available at locations where operations essential to the effective functioning of the quality system is performed.

All changes to documents are in writing, are reviewed and approved prior to issue and are distributed to all holders of controlled copies. Documents are re-issued after a practicable number of changes. These procedures include the following documents: Request for Information register. Material submittal and approval Shop drawing submittal and approval

As-Built Drawing submittals and approval Correspondence registers The Document Controller shall ensure that all the above except correspondence registers are controlled. The Project Secretary shall ensure that all the correspondence letters are controlled.

7.7. PURCHASING AND ISSUE OF MATERIALS

MATERIAL MANAGEMENT & CONTROL OF MATERIAL APPROVAL

No material other than consumables shall be used for construction without prior approval from the Engineer Record of approved suppliers and subcontractors will be maintained. All materials selected for use shall be submitted under cover of a

‘Material Submittal’ in accordance with the Project Procedure. Wherever required, samples shall be submitted with the material submittal.

SUBCONTRACTOR APPROVAL

All subcontractors intend to be used for this project shall be approved by the Engineer

in accordance with the contract conditions. All subcontractors should submit them prequalification documents to CONTRACTOR, which shall be forwarded to the Engineer after review by CONTRACTOR for approval under an appropriate transmittal format. After approval, a copy of the Engineer approval shall be sent to the Subcontractor for their records. A continuously updated Supplier / Subcontractor approval list shall be maintained and shall be distributed to all concerned parties.

PURCHASING, VERIFICATION& CONTROL OF MATERIALS

The following procedure will be applicable for this project:

The Project Manager (PM) shall ensure all material take-offs are completed, their quantity and delivery

requirements are established and a minimum inventory identified for each item.

The Construction Manager (CM) shall ensure that the above information is submitted to the Project Manager and

regular reviews are conducted to accommodate changes in quantity or otherwise.

PM&CM shall also review actual consumption with that estimated and ensure material requisitions are given on

time as per the Purchasing.

The Storekeeper shall ensure that all approved material requisitions are promptly sent to the

CONTRACTOR’s Purchasing Department and they shall follow up and ensure timely deliveries.

MATERIAL ISSUE

All material shall be issued on submission of a ‘Site Material Requisition’, which shall be approved by the CM / Site Engineers.

The storekeeper shall verify against requirements and issue the same. Entries shall be made in the Stock Card, and Store Issue Voucher (SIV). All material issue cards shall be filed date wise.

The storekeeper shall ensure all materials for issue have a valid shelf life. In case of expiry, this shall be brought to the notice of the Project Manager / Construction Manager well advance and actions taken accordingly.

The storekeeper shall control all inventories of consumables.

7.8. CONTROL OF CUSTOMER SUPPLIED MATERIAL

Where CONTRACTOR receives materials from the Client, a system will be established to ensure full control. The material receiving system will be completed in

a manner as if the Engineer purchased the material. The function will be the responsibility of the designated Material Controller or Storekeeper who will register all goods received on a Stores Receipt Voucher and the QA / QC Engineer to make sure that the material is as per project requirement, approved by the Engineer and in good quality. The non-confirmed items shall be intimated to the Consultant/Client accordingly.

7.9. PRODUCT IDENTIFICATION AND TRACEABILITY

All the materials supply and component are identified by the use of card, tags and or markings this identification is maintained throughout the works. Materials that are stored in the warehouse or in store is clearly identified with the product name Along with the Approval of material from

CONTRACTOR shall follow FIFO arrangement (first in – first out) to ensure that no material expirations will due and spoiled due to long period of exposure.

7.10. PROCESS CONTROL

Process Control is established by way of identifying and planning those operations or tasks, which can directly affect quality.

The system ensures that these processes are carried out under controlled conditions.

A maintenance program is applied to production process in order to sustain process capability.

Detailed procedures, and check list are prepared to cover the entire project construction activity to ensure work is executed to contract requirements and specification.

7.11. INSPECTION AND TESTING

The Quality Control inspection, verification, and acceptance testing plans set out the QC inspections and testing for implementation of each technical specification applicable to the CONTRACTOR scope of work as per the approved Inspection and Test Plan (ITP). The Testing will cover the type, test standard, frequency, control requirements, and assigned responsibility for inspections and tests. CONTRACTOR shall nominate a third-party testing agency to carry-out the entire testing and verification requirement for the project.

Following materials tests shall be carried out by independent testing laboratory.

MATERIAL TESTING BY INDEPENDANT LABORATORY **SOIL TESTING**

1. Determination of Moisture Content
2. Atterberg limits (Liquid limit, Plastic limit, Plasticity index)
3. Determination of in – Situ Density by sand replacement method
4. Determination of particle size distribution (Wet sieving method)
5. Determination of Dry density – Moisture Content relationship (Modified Proctor)

6. Determination of California Bearing Ratio (CBR)
7. Chemical Analysis

AGGREGATE TESTING

1. Determination of Particle size Distribution (Wet & Dry sieving Method)
2. Organic Impurities, Clay & friable Particles in fine Aggregate.
3. Flakiness index & Elongation index of coarse aggregate.
4. Water absorption
5. Soundness test
6. Los Angeles abrasion test.

CONCRETE TESTING

1. Characteristic Compressive strength – crushing of cubes.
2. Sampling and Monitoring of fresh concrete
3. Bleeding & Air Content.
4. Durability criteria

WATER TESTING

1. Total dissolved Solids (TDS)
2. Chemical Analysis of water.

STEEL TESTING

1. Mechanical Testing (Tensile, Bending, Re-Bending etc.)
2. Chemical Analysis of Steel.

WATERPROOFING MEMBRANE

1. Penetration test
2. Tensile strength

The samples shown above or indicative detailed test requirements and the other testing of materials with frequency shall be submitted for Engineers approval through Separate Submittal for Approval.

CONTRACTOR implements three phase of inspection process; Preparatory Inspection, Initial Inspection, Follow-up Inspection. Contractor QC Engineer shall inspect all materials in conformance with the Contract Specification. If the Material found satisfactory, verification Request (Compiling all related documents such as Material Approval details and delivery notes of the materialists.) shall be raised to the Engineer and obtain approval. Unsatisfactory material shall be stored temporarily in an isolated area and marked “REJECTED”

MATERIAL". Such rejection by QC Engineers shall be intimated to ENGINEER officially. Upon ENGINEER's inspection on such material and necessary recordings, it shall be removed from site immediately.

During installation & Commissioning, Suppliers / Vendors representatives for selected critical equipment's will attend the site to assist for installation and commissioning. Necessary training / manuals will also be provided by them to operation staff. Contractor will comply with the relevant requirements of pre commissioning, testing & commissioning in the particular electro mechanical specification.

The Project Manager along with Construction Manager shall ensure all final inspection and testing are carried out as

outlined in the Inspection & Test Plan. The Punch list of all outstanding and defective works provided by ENGINEER will be attended to and closed out within agreed time table with ENGINEER.

After completion of all functional check on each element of work / Equipment, pre commissioning checks shall be done to ensure compliances and proper functioning of all system. Final testing and commissioning check shall then be done as per agreed time with witnessing from ENGINEER as per mutually agreed schedule.

7.12. CONTROL OF INSPECTION, MEASURING AND TESTING OF EQUIPMENT.

All inspection, measuring and test equipment used by CONTRACTOR and its subcontractors will be appropriate to the inspections or to the tests to be performed.

All items of equipment will be listed and identified.

In order to provide confidence in measurement data, equipment used for surveying shall be in a known state of calibration or repair whenever used.

Equipment shall where practicable be protected from unauthorized adjustment which could invalidate the calibration.

The calibration records of CONTRACTOR's survey equipment shall indicate the type of equipment, identification mark of the equipment, the frequency of calibration and the date of calibration.

A calibration registers for all inspection, measuring and test equipment used in the project will be maintained by site store keeper, Equipment out of calibration shall be identified and forward to central stores by store keeper.

Subcontractors and Vendors all required to conform to this system.

| | |
|--|---------------------|
| Equipment which cannot be adjusted such as a mason's level, measuring tapes, plumb | levels, etc. shall |
| not require calibration but shall be visually checked for damage or deterioration | of markings etc. by |
| the user prior to commencement of work. | |

7.13. INSPECTION AND TEST STATUS

The work or product in which CONTRACTOR Quality Control inspected, verified and accepted may be used or processed further. All the inspected product is always be identified.

7.14. CONTROL OF NON-CONFORMANCE PRODUCTS

All the members of Project Team are responsible to the QA / QC Engineer regarding an NCR. QA / QC Engineer is responsible to issue, identify, record and immediate reporting of any Instances of Non – Conforming work or material. The procedure requires that, apart from immediate disposition, the reasons for product Non-Conformities are analyses to determine corrective action required and also preventive actions are identified to avoid occurrence in the future.

7.15. CORRECTIVE AND PREVENTIVE ACTION

CONTRACTOR's Quality Engineer shall administer issuance and closing of all CAR's and NCR's.

Internal NCR's & CAR's shall be raised for Work, which does not comply with the project specifications, approved drawings; standards etc.

CONTRACTOR shall prepare a remedial proposal for the non-conforming work.

The proposal shall be issued to ENGINEER for review.

ENGINEER issued NCRs shall be attended in the same way as above.

CONTRACTOR shall issue necessary NCR's to Subcontractor in case if they fail to meet required specification and standards.

The Corrective and Preventive Action process will be applied only to NCR's The Quality Engineer will update the CAR / NCR register on close out. NCRs will be monitored through Weekly NCR summary analysis. The Construction Manager / Project Manager will ensure that the Site Engineers implement the Corrective Action. Quality engineer shall ensure all the internal and ENGINEER NCRs & CARs are properly and separately logged and issued to Construction Manager and concerned discipline engineers. All the NCR and CAR situation shall be rectified in given time and inspection request shall be offered to ENGINEER for approval and record of inspection shall be maintained. He shall ensure that all the NCRs are closed within the agreed target.

The Project Manager will ensure that the Construction Manager implement the preventive action. Also, corrective and preventive actions will be discussed in the Project Review meetings.

7.16. HANDLING, STORAGE, PACKAGING, PRESERVATION & DELIVERY

All materials, goods and products are handled, stored, preserved and delivered in accordance with the requirements of the Project. CONTRACTOR ensures that no materials delivered to site are directly placed in the ground. A proper wooden pallet shall be used and all the materials has been covered properly and suitably against

moist and directly exposed to sun. All chemical and other materials which require controlled temperature are placed in a room provided with air-conditioning.

7.17. QUALITY RECORDS

CONTRACTOR has established a Project Quality Procedure for maintaining and control of necessary suitable detailed records in order to demonstrate that the requirements for quality have been met and that the Management System is working effectively. The records will be provided in English Language, records will include the following:

Approved Project QA/QC Plan
Contract Handover Minutes of Meeting
Project Correspondence (Incoming and Outgoing)

Daily Reports

Contract Drawing and Specification Approved Shop Drawings

Approved Request for Inspection with Checklist and ITPs Material Testing Reports and Concrete Pour Record

Approved As-Built Drawings Approved Material Submittals

Material Inspection Requests (For Material delivered at site) Request for Information Responses

Non-Conformance Reports Sub-Contract

Agreements

Registers/ Log sheets for various elements of QMS. Eng. NCRs/ CARs, ITPs etc.

Local Purchase Orders

Approved Method Statements Approved O & M

Manuals

Project Weekly Reports Project Monthly

Reports

Contract Baseline Schedule Handover/ Completion Certificate Project NOC's

8.0. QUALITY ASSURANCE

8.1. PROJECT MONITORING PROCESSES

The monitoring and control processes shall be planned as below:

The Quality Engineer shall send the following details on a daily basis to the PM.

Daily Concrete pour card

Daily Cube Register

Details Daily Test Report received from Independent laboratory and the status Daily Inspection Reports

Details of Tool Box Talks and Mock ups conducted

Details of internal and ENGINEER issued NCRs and status

Daily material approval status

8.2. PROJECT IN – PROCESSES MONITORING.

Quality of each process shall be ensured through establishing of Inspection Test Plan. CONTRACTOR has developed Measurement score card system to monitor and measure the Quality processes. The check points are

- a. Total material submittal rejected / Total material submitted (Cumulative)
- b. Total Inspection request rejected / Total Inspection requested (Cumulative)
- c. Pending Request for Information (More than 7 Days) (Monthly)
- d. Cost of Work Completion / Cost of work planned (Cumulative)

The Quality Engineer/Technical coordinator/Planning Managers and Project manager are responsible for monitoring the above check points.

9.0. QUALITY CONTROL

9.1. PROJECT DELIVERABLES.

The following but not limited to, deliverables shall be checked for satisfactory quality level.

| Milestone | Deliverables |
|-----------|--|
| Daily | Inspection requests Concrete Pour card Cube register Test Report received from Independent laboratory and the status Logistic Plan |
| Weekly | QA/QC Weekly Report Details of Tool Box talks Conducted Details of Mock ups Conducted |

10.0. Attached file.

11.0. DUTIES & RESPONSIBILITIES OF KEY PERSONNEL

The responsibilities and duties of the project key staff in the form of job descriptions are included in this sub-section of the Project QA/QC Plan.

11.1. SENIOR PROJECT MANAGER

Reporting to: General Manager -Projects Duties & Responsibilities: The Senior Project Manager is responsible for:

Execution of the project on time, within the approved budget and in accordance with the contract quality requirements for the project.

Recommending the awarding of sub contract work to the sub-contractors after evaluating their capacity and quality of work executed on previous projects. Review the detailed programs for the execution.

Ensure all aspects of the project QA / QC system, Health & Safety system.
Ensuring that suitably qualified personnel required for the project are mobilized on time to carry out specialized tasks.
Reviewing the manpower requirements for the project with the Project Controller and then with the Resource Department.
Completion of all necessary Progress Reports (such as Weekly & Monthly Reports) for the project. Review and approve Project Quality Plan and Project Procedure Prepared QA QC Attending meetings with the Consultant, Client and Sub-Contractors with regard to the progress, Quality and Safety of the project. Reviewing the Procurement Schedule to ensure that all materials arrive on time as per the programme developed.
Review and approve Project Health and Safety Plan prepared by Safety Manager.

Overall responsibility for the procurement of the PROJECT in compliance with the requirement of CONTRACT
Mobilization of staffs and establishment of procurement control system.
Ensure that all Correspondence between Client / Consultant and Contractor are recorded and tracked properly.
Ensure that all letters/ correspondences from Client/ Consultant are replied.
Reviewing the manpower requirements for the project with the Project Controller and then with the Resource Department.
Completion of all necessary Progress Reports (such as Weekly & Monthly Reports) for the project. Review and approve Project Quality Plan and Project Procedure Prepared QA QC Attending meetings with the Consultant, Client and Sub-Contractors with regard to the progress, Quality and Safety of the project. Reviewing the Procurement Schedule to ensure that all materials arrive on time as per the programme developed.
Review and approve Project Health and Safety Plan prepared by Safety Manager.
Overall responsibility for the procurement of the PROJECT in compliance with the requirement of CONTRACT
Mobilization of staffs and establishment of procurement control system.
Ensure that all Correspondence between Client / Consultant and Contractor are recorded and tracked properly.
Ensure that all letters/ correspondences from Client/ Consultant are replied.
All drawing issuing to site to have “CONTROLLED COPY” STAMP and signature of Construction Manager is an essential.
While issuing the new drawings to ensure that old and obsolete drawings are seized and isolated and stamped as “SUPERSEDED”
Maintain controlled copy distribution list.
Obtain technical queries from site execution team in case of any information

required. Discuss with Site construction Manager / Project Manager
Prepare Request for information (RFI) with all relevant documentation. Raise RFI to Client/ Consultant
Maintain tracking sheet for RFI's Update all RFI's in tracking sheet.
Discuss the RFI answer immediately to Project Manager (if Cost / time impact) and get his clearance. If Project Manager clears the RFI, issue the RFI to site execution team and all concerned department (QS/QA-QC/ Drafting, Planning etc.)
Ensure that necessary changes are made on all drawings according to RFI answer. Lead and control the Documentation team. Advice site Quality Engineer to issue internal NCR to the concerned Engineer who possess un approved drawings.

11.2. QUANTITY SURVEYOR (QS)

Reporting to: Project Manager. Duties & Responsibilities: The Quantity Surveyor is responsible for:

Assisting the Project Manager in preparing the project budget. Interim valuations including the final account.

Monitoring site requisitions and cost. Evaluating sub contract variations. Preparation of sub contract agreements Certification of Sub contractors' interim payments
Assisting the Planning Engineer in preparing the cost loading. Monthly cost-value analysis / reconciliation – Cost Control Reports.

Assisting the Planning Engineer in taking off all quantities for each activity specified in the program. Assisting the P.M. in preparing and answering contractual correspondence.

All drawing issuing to site to have “CONTROLLED COPY” STAMP and signature of Construction Manager

is an essential. While issuing the new drawings to ensure that old and obsolete drawings are seized and isolated and stamped as “SUPERSEDED”

Maintain controlled copy distribution list.

Obtain technical queries from site execution team in case of any information required. Discuss with Site construction Manager / Project Manager

Prepare Request for information (RFI) with all relevant documentation. Raise RFI to Client/ Consultant

Maintain tracking sheet for RFI's Update all RFI's in tracking sheet.

Discuss the RFI answer immediately to Project Manager (if Cost / time impact) and get his clearance.

If Project Manager clears the RFI, issue the RFI to site execution team and all concerned department (QS/QA-QC/ Drafting, Planning etc.)

Ensure that necessary changes are made on all drawings according to RFI answer. Lead and control the Documentation team. Advice site Quality Engineer to issue

internal NCR to the concerned Engineer who possess un approved drawings.

11.3. QUANTITY SURVEYOR (QS)

Reporting to: Project Manager. Duties & Responsibilities: The Quantity Surveyor is responsible for:

Assisting the Project Manager in preparing the project budget. Interim valuations including the final account.

Monitoring site requisitions and cost. Evaluating sub contract variations.

Preparation of sub contract agreements

Certification of Sub contractors' interim payments

Assisting the Planning Engineer in preparing the cost loading.

Monthly cost-value analysis / reconciliation – Cost Control Reports.

Assisting the Planning Engineer in taking off all quantities for each activity specified in the program.

Assisting the P.M. in preparing and answering contractual correspondence.

To issue copies of approved Method statement, ITP & Checklist to Foreman/Site Engineer/Construction Manager/Project Manager.

Preparing of complete material requirement list based on the project BOQ / Specification/ Drawings/ Shop drawings.

Preparing of Material submittal schedule in coordination with Planning Engineer

Forward the material submittal schedule to purchase department to ensure that all materials are submitted and approved before the actual start of work at site.

Coordinate with Central procurement department and obtain all material submittal on time (Ensure that all materials submitting are complying with specification requirements)

Preparing all material submittals with proper covering sheet and submit to company for approval

Maintain tracking sheet for all submission and comments from Client/ Consultant and keep the following information (Revision of submission, Date of submission, Date of comments, status of approval and comments from client/ consultant)

If material submittals are rejected by Client/ Consultant, resubmit on priority basis.

Prepare complete IFC / Shop Drawing master list.

Prepare IFC/ Shop drawing schedule in coordination with Planning Engineer Lead a team of Draughtsman for the preparation of Shop drawings Update Drawing/ Shop drawing master list on a weekly basis and issue to QA/QC Department and Site team and Document controller.

11.4. QA / QC ENGINEER

Reporting to: PROJECT MANAGER/Corporate Head (QA/QC) Responsible for: Project Quality Assurance & Quality Control Duties & Responsibilities: The QA/QC

Engineer is responsible for:

Preparation of the specific Method Statement, Inspection and test plans, Check-sheets and related procedures.

Implementation of the Quality Assurance Programme for the project. Providing Quality Control site inspection report.

Ensuring that the Preparatory Inspections has been carried out as per project specification and contract documents. (Testing, Identifying Mock up, Physical Examination of materialists.). Inform Engineer minimum 24 hours prior to preparatory inspection.

Carryout Initial inspections as soon as the representative portion of work / construction has been accomplished and ensure that the work complying with acceptable standards of workmanship against approved mock up, identify defect or damages, omission, dimensional checks etc... Inform Engineer minimum 12 hours prior to initial inspection. All initial inspections shall be recorded in QA/QC Reports. Carryout Follow up inspection on a daily basis to ensure continuous compliance with

contract requirements including control testing, all such inspection shall be recorded in QA/QC Reports.

Ensuring that all test reports are verified to meet the contract requirements.

Ensuring all materials delivered to site are inspected and conform to specification requirements and shop drawings

Issue and administer NCR & CAR as necessary including follow up.

Prepare and submit daily QA/QC reports not later than the next working day. The report shall contain a record of all inspections, test for all works accomplished. With status of inspections / test. (Generally, the report shall contain the following – Trades of construction, inspection phase, result of inspection, test reports, material verification report, any instruction received from Engineer, and Safety requirements.)

Maintain all Quality Records in a retrievable manner.

Report to the PM/Management representative any deficiencies in the operation of QA. System.

Completion of final quality documentation in a presentable manner, in accordance with the conditions of contract.

Ensuring that the work is completed as per the Contract Specification and drawings.

11.5. SAFETY ENGINEER / OFFICER

Reporting to: Safety Manager Responsible for: Project Health, Safety and Environment. Duties & Responsibilities: Safety Engineer/ Officer are responsible for:

Ensuring that safety procedures are fully implemented in accordance with the requirements of the

specific project safety plan in line with the contract conditions. The overall safety

advice, statutory notices and information to all personnel including sub-contractor's personnel throughout the contract duration.

Maintaining standards of site, plant, tools, lifting tackle and harnesses throughout the contract period by the operation of regular site inspections.

Inspection of scaffolding to ensure correct erection prior to use.

Inspection and logging of operating certificates for cranes and other lifting equipment.

Reporting to the Project Manager, Construction Manager and Safety Manager on a day-to-day basis.

Ensuring that the mandatory First-Aid requirements and provisions are provided and maintained and are accessible at all times.

Organize Site Safety training when deemed necessary in conjunction with the Project Manager.

Prepare Corrective Action Reports and issue to the responsible manager. Review of returned Corrective Action Reports from relevant ALDOBASH Engineers, Supervisors or Sub-contractor representative, which have taken after the necessary corrective action.

Conduct tool box talk at regular interval for workmen and supervisory staff.

11.6. PLANNING ENGINEER

Reporting to: Project Manager and Company Planning Manager Responsible for: Project Planning, Scheduling and Updating of Project Program Duties & Responsibilities: Planning Engineer is Responsible for:

Project Master Programme under the direct supervision of the Project Manager and Planning Manager.

Reviewing and revising the master programme when needed. Medium and short term programmes.

Preparing Progress reports (Weekly & Monthly Reports) Resource loading of programme.

Providing labor and equipment histogram.

Preparing Material Procurement Schedule, Material Submittal Schedule, Shop Drawing Submittal Schedule, and updating at regular interval.

Reviewing Daily Reports and checking with Construction Manager.

Prepare Subcontractors/Nominated subcontractors and Suppliers list & schedule.

Prepare Cash Flow chart & monthly Progress report.

Assist the Q.S. / Contract Department in preparing EOT. Claim if any. Monitoring Progress of work.

Preparation of look ahead program.

11.7. LAND SURVEYOR

Reporting to: Construction Manager and Surveyor Manager Responsible for: Site surveying and setting out. Day to day coordination with Project Engineer and Site Engineers Duties & Responsibilities: Land Surveyor is responsible for:
Establishing DM Levels and points,
Locate, Confirm and protect the Plot demarcation points.
Provide Levels & Points for Construction activities as per the approved Drawing.
Provide training to the survey assistant & chainmen to use them more effective at site. Coordinate with QA/QC Engineer for inspection of control point and levels
Verifying and submit all Survey records and other documents (like as-built report, building verticality etc.

11.8. SITE ENGINEER

Reporting to: Construction Manager & Project Engineer Responsible for: Site Supervisors / Foreman/ Site Workers Duties & Responsibilities: Site Engineer is responsible for:
Site Engineer is responsible for a particular assigned site works.
Carrying out the tasks identified by the Project Engineer during the course of work and ensures that the work is carried out in accordance with the project specification.

Responsible to guide Foreman & Skilled workers to complete the work as per scheduled program. Monitor the work of subcontractors. Prepare daily reports, work allocation and submit to Project Engineer.
Ensuring that the work is done in accordance with the company quality management system, safety system, and as per approved method statement

11.9. DOCUMENT CONTROLLER

Reporting to: Project Manager / Technical Coordinator. Duties & Responsibilities: The Document Controller is responsible for:
Controlling all documents in accordance with implemented for documentation system.
Establishing a system to record the receipt, distribution and revisions of the documentation such as drawings, material submittal, RFI, Inspection request etc..., Copy and distribute all controlled documents (Received & identified by the Project Manager.)
Distribute the updated revision of revised documents to all recipients of the previous issue, unless specifically advised otherwise.
Ensure that all superseded documentation is either marked accordingly or destroyed.
Updating all logs and registers of current controlled documents. Establish a proper system of Documents Distribution. All Documents (Inward/ outward) should come to Technical coordinator.

Assign the document distribution as per the requirement and based on the document nature. Ensure that all documents are distributed to all concerned staffs.

Ensure that Document controller is maintaining Inward Register and outward register. Ensure the following documents are kept ready for any inspection from authorities.

- a. Building Permit
- b. Temporary Facility Layout and permission from Client
- c. NOC for Services (Electrical/ Water/ Telephones etc.)
- d. Warranty Certificate for (Dewatering / Waterproofing etc.)

