

**DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (HQ/QAC)
VIKAS SADAN, INA, NEW DELHI**

F.79(1)/1050/CE(QAC)/Pt.II/DDA/ 45

Dated 03.2.21

CIRCULAR NO. 226

Sub : Policy for Improving Quality Assurance in DDA Works.

Consequent upon approval of Vice Chairman DDA, a Policy outlining existing provisions and measures for improving Quality & Working of QAC in DDA is enclosed for information and necessary action by all concerned.

Encl: (i) Policy of Improving Quality Assurance


(Er. S.S. Garg)
CE(HQ/QAC)

Copy to:

- (i) OSD to VC, DDA
- (ii) EM, DDA
- (iii) FM, DDA
- (iv) PC(Hort.), DDA
- (v) Chief Vigilance Officer, DDA
- (vi) Chief Accounts Officer, DDA
- (vii) All Chief Engineers, They are requested to endorse this circular up to the level of JEs.
- (viii) Commissioner (Personnel & Trg.), DDA for training of newly recruited AEEs & JEs.
- (ix) Director (Works)/DDA
- (x) Director(Hort.)North West & South East. They are requested to circulate it to all DD(Hort.) under their Directorate.
- (xi) Director(System) with the request to post this circular on the website of DDA.
- (xii) SE(Training), DDA for training of newly recruited AEEs & JEs.
- (xiii) SE(QAC), DDA
- (xiv) EE(QAC)-I to VI, EE(Elect.)/QAC & DD(Hort.)/QAC/DDA.


EE(HQ/QAC)

SUB : POLICY OF IMPROVING QUALITY ASSURANCE IN DDA WORKS

1. Background

DDA in Delhi has a multi-faceted role which includes development of land, constructing roads & flyovers, making houses, developing parks and green areas, sports centers, amusement parks, shopping and office complexes etc.

The construction work is mainly executed through the system of the contracts and for major works EPC mode of contract is now adopted as per Govt. policy. The system of works execution and Quality Assurance in DDA follows the procedures and systems of CPWD Works Manual, in general. The day to day activities of process control, sampling, testing and execution are supervised by the field units comprising of JE, AE & EE. Second level inspection and supervision to ensure the quality in works is done at the level of SE and CE- In charge of the works. Third level quality assurance in works is being done through inspection by Quality Assurance Cell (QAC) under CE(HQ & QAC) or by Third Party Quality Assurance (TPQA) as per policy in vogue.

ISO 9001-2008 certification has been obtained by the QA Cell on 11.03.2010 and has been revalidated subsequently upto 29.03.2022.

2. General:

The process of QA in works requires that appropriate steps are taken at various stages. Provisions have to be kept in the contract documents and Guidelines in the CPWD Works Manual as well as General Specifications for Civil Works/E&M works issued by CPWD have to be followed for ensuring quality in works. Some of the important provisions are listed as below:

2.1 Contract Provisions:

(i) Provision is kept in the contract document itself for the contractor to prepare, submit & follow a QA plan.

(ii) Approved Materials & Manufacturers :

List of approved materials & manufacturers for different materials to be used for civil/sanitary & water supply / E&M works is specified in the NIT/ contract in order to ensure quality as well as level playing field for bidders. Samples of materials to be used in work are got tested from NABL approved labs. Samples conforming to relevant IS Codes/Specifications are approved for use in work by Engineer-In-Charge in the Material Approval Register maintained at site.

(iii) Testing of Materials :

Contract conditions are provided for the site of work to have a field laboratory with testing equipment as specified in the contract depending on nature and size of work. Also, testing of materials as per prescribed frequency is got done through approved outside laboratories as per details given below & record of the same is kept in the Testing Register.

1	Test for which no facilities available in DDA labs	(i)75% of the tests to be got conducted in Govt. labs (ii)25% in other labs approved by DDA
2	Tests for which facilities are available in QAC/Zonal Lab	(i)75% tests in field/zonal lab (ii)15% in QC lab of DDA (iii)10% in other labs Preferably in Govt. lab like PWD/CPWD
3	Where field test only could suffice.	(i)100% at site/zonal labs however random samples can/shall be collected and sent to QC lab for testing for confirmatory test at the Discretion of SE

(iv) Conditions for RCC work :

The cement concrete mix design is to be got done by the contractor through IIT/NIT/Testing labs specified in the contract. In case of RMC, Ready Mix Concrete as per approved design mix shall be arranged by the contractor from reputed Ready Mix Concrete producing plants. Samples of cement concrete cubes are taken for testing compressive strength as per IS code procedure and testing is done accordingly as per above provisions.

(v) Road work :

The Job Mix Formula for BM,DBM,BC shall be got approved from approved labs of CRRI, NCCBM, NIT, IIT etc. The BM,DBM, BC shall be arranged by the contractor from approved plants only.

(vi) No. and Qualification of Engineers to be deputed at site by the contractor is specified in the contract to ensure the quality of works.

2.2 Documentation

Material approval register is maintained at site and materials brought at site are approved by Engineer in-Charge before allowing in the works. A proper record of tests conducted is maintained in Master Register. The frequency of tests and type of tests to be carried out as per CPWD specifications.

2.3 QAC Unit

In Quality Assurance Cell, at present the team headed by Chief Engineer comprises of one SE and six EEs(Civil) assisted by an AE and JE each for the purpose of the conducting inspection of civil works of the different zones. One EE(Electrical) assisted by AEs is responsible to check the electrical works of all zones. One DD assisted by AD(Hort.) is responsible for ensuring the quality of Horticulture works.

QA Cell has a centralized and well equipped material testing laboratory set up in the Asian Games Village Complex, New Delhi (DDA AGVC LAB) where

essential tests of material are conducted on the samples drawn by the inspecting officers of the cell during their inspections, in addition to those sent to the Lab independently by Field Engineers. Tests, for which facility is not available in DDA AGVC LAB, are got done in approved external empanelled NABL accredited labs.

2.4 Responsibility for Quality Assurance:-

Responsibility for Quality Assurance as per guidelines issued on 27.08.18 with the approval of Work Advisory Board rests with various officers as below:-

- (a) SE concerned is responsible for Quality Assurance of all works costing upto Rs.22.50 lacs. However 20% of the total works in each zone selected on random basis will be inspected by QAC unit.
- (b) For works costing Rs.22.5 lacs to Rs.1.5 Cr. CE concerned shall be responsible for Quality Assurance of all the works. 25-50% of works are to be inspected by QAC unit.
- (c) 100% works having tender value of Rs.1.5 Cr to Rs.10 Cr are to be inspected by QAC unit (maximum two inspections).
- (d) For works above Rs.10 Cr, Third Party Quality Assurance (TPQA) is to be engaged & for road works TPQA is to be engaged for works above Rs.1 Cr.

2.5 Role of QAC unit:-

Quality Assurance team inspects the work selected on random basis and as per guidelines approved by WAB. QAC team covers the following aspects:

- (i) To scrutinize the Administrative Approval & Expenditure Sanction(A/A &E/S) & Technical Sanction.
- (ii) Checks whether the work is executed as per approved drawings and conditions of agreement for that purpose, some of the executed items are measured for their conformity with drawings?
- (iii) Documentation maintained by field staffs for materials/tests is verified.
- (iv) No of field/lab tests conducted/required to be conducted are verified.
- (v) Bill paid to agency is scrutinized for any irregularities.
- (vi) Some of the items executed at site are checked in field for their conformity w.r.t relevant specifications/drawings.
- (vii) Whether NGT guidelines regarding dust control etc. are followed at site?
- (viii) Collects samples of materials representing major items from site in presence of field engineers and contractors. In order to maintain secrecy the samples are sent to Nodal Officer in QAC which is different from inspecting Executive Engineer of QAC. The Nodal Officer gets these samples tested

either from DDA AGVC LAB or from DDA empanelled labs independently.

3.0 Measures for Improving Quality & Working of QAC.

Recently Central Vigilance Commission in context with their inspection of housing projects has directed to improve and further streamline the working of Quality Assurance System in DDA.

Subsequently, a meeting was held in the chamber of EM with all the Chief Engineers of DDA on 29.12.20 where all aspects were deliberated.

The following measures are approved for improving QA System in DDA.

(I) Inspection of Works :

3.1 A consolidated list of works to be prepared by SE(QAC) on the basis of data received from all the zones. The works to be inspected in a month and inspecting officer will henceforth be **decided by Chief Engineer (QAC) with the approval of EM, DDA.**

3.2 If sole inspection is to be done for any work as per guidelines then the work shall be inspected after the **work progresses is more than 50%.**

3.3 **At least 30 to 40 percent of items of work** executed i/c covering all major items to be inspected by QAC team during their inspection.

3.4 In case of multiple inspections, the items to be inspected in other inspection shall be **another 20 to 30% items** as far as possible i/c quality checks and rectification if any done on the items pointed out in earlier inspection.

3.5 As per present practice in DDA, completed works are not being inspected by QAC. It is now decided that **10% of completed works** may be considered for inspection. Completed works are to be inspected within defect liability period or within six months from recorded date of completion whichever is earlier.

3.6 Surprise inspections which were in practice till few years ago will be taken up again. It is decided that **at least 10% of the works** to be inspected are picked up for surprise inspection by CE(QAC) every month, with the prior approval of EM/DDA.

3.7 SE concerned will be responsible for quality of all works where Technical Sanctioning Authority is either EE or SE. CE concerned will be responsible for Quality Assurance of all the works where Technical Sanctioning Authority is CE.

(II) Quality Assurance Lab :

3.8 EE in-charge of AGVC/DDA QAC lab will be rotated biannually with the approval of EM, DDA

3.9 Working of DDA empanelled labs including NABL accreditation to be reviewed annually by approved committee of CEs & SEs to check their performance.

(III) Testing of Materials :

3.10 QAC inspecting team collects various samples from site for testing their quality and suitability as per agreement conditions / specifications. It is decided that **photography duly Geotagged** should be done while collecting samples from site. Videography may also be done if required.

3.11 5% of samples collected by QAC team during inspection of works to be tested and witnessed by SE/QAC in AGVC lab DDA/ external empanelled lab.

(IV) Third Party Quality Assurance (TPQA):

3.12 The CE of each zone shall submit the **compliance of TPQA observations** for projects in his zone on a quarterly basis by the end of January, April, July & October of each year to QAC. These shall be **reviewed by CE(QAC)** and comments put upto EM.

(V) Monitoring of QAC inspection. :

3.13 The compliance of the observations raised by QAC team shall be monitored at **SE(QAC) level and reviewed quarterly by CE(QAC).**

(VI) Training of newly recruited JEs/AEEs

3.15 Training of **newly recruited JEs/AEEs on quality aspects** covering all the relevant & applicable codes, specifications & standards as well as acceptance criteria for various items of works, workmanship, materials etc. to be ensured by Commissioner (Training)/SE(Training)DDA.