

First inspection –Between 61st day to 90th day from the date of commencement of work as per work order

S.no	Points to be checked	Remarks
	<u>Issues related to the Contractor</u>	
	Mob Adv	
1	Has Mob Adv been taken by Contractor (Yes /no)	
2	If , Yes Amount of Mob Adv (In lacs)	
3	Date of release of Mob Adv	
4	Amount of monthly installment of Mob Adv (In lacs)	
5	Date of start of recovery of Mob Adv	
6	Total Amount of BGs against Mob Adv	
	Deployment of Staff and Manpower at site by Contractor	
7	Project Manager of the contractor , qualification and experience	
8	Nos of Engineers (Degree holder)	
9	Nos of Engineers (Diploma holder)	
10	Nos of site supervisors	
11	Total nos of labour deployed at site	
12	Deficiency of ibid staff and comments	
	Project Planning and completion schedule	
13	Has CPM been prepared for the project	

14	Has CPM been prepared for the project with resource allocation	
15	Is resource allocation adequate to ensure completion of project in time	
16	What are the plans placed in position for deployment of labour and procurement of resources	
17	Date of completion of Phase -I (Sample DUs)	
18	Has total nos of slabs been calculated and slab casting schedule prepared	
19	Average nos of slab to be casted per month and being casted per month till completion of Structure work	
20	Has total quantity of steel required for the project worked out	
21	Has steel procurement plan been worked out	
22	Date of completion of Phase -II and subsequent phases of the work	
23	Are there any contradictions in design and specification. If yes elaborate	
	T&P	
24	Has contractor established Ready Mix Concrete Plant (Yes /no)	
25	If Yes, capacity of RMC Plant	
26	If No, Reasons for non establishment and likely date of commissioning of RMC Plant	
27	Has the plant been calibrated	
28	Nos of transit mixtures available at site	
29	Nos of concrete pumps available at site	
30	Has contractor established site lab as per CA specifications (Yes /no)	

31	If, No reasons for non establishment of site lab , action taken by PM and likely date of commissioning of site lab	
32	Has all the lab equipment calibrated	
33	Is T&P deployed at site adequate (Yes/No)	
34	If No , please specify and mention action taken by PM	
35	Qty of shuttering material available at site in sqft	
36	Is Shuttering material as per CA specifications	
37	Is the quantity of Shuttering material available at site adequate to progress the structure work as per the desired progress rate (Yes or No)	
38	If No , How much more shuttering material is required to be brought at site to make up the short fall	
	Sample approval of products	
39	Have samples for sand and aggregate been approved by the PM (Yes/No)	
40	If yes , have adequate nos of suppliers been identified and material available as per desired quantity	
41	If no , please specify the reasons	
42	Have vendors for cement been finalized as per approved makes of CA (Yes/No)	
43	If , Yes mention the brand names and also mention if PPC or OPC	

44	If no , please specify the reasons	
45	Are there any problems related to the supply of cement directly from the manufacturer (Yes/No)	
46	If no , please specify the reasons	
47	Have venders for steel been finalized as per approved makes of CA (Yes/No)	
48	If no , please specify the reasons	
49	Have the samples for PCC blocks / bricks been approved by PM	
50	Random samples from the site tested and comments	
51	Check the bricks for efflorescence	
52	Have the water sources been approved and tested for quality	
53	Is the same water being used , comments	
	Design Mix	
54	Have necessary tests as per IS specification been carried out for sand and aggregate prior to the approval of samples	
55	Has sample of water being used at RMC plant for concrete production been tested from the approved lab and is fit for uses in concrete production	
56	Has design mix for the approved samples of cement , sand and aggregate been finalized from approved agency	
57	If Yes , check minimum cement content .It should not be less than the minimum cement content as specified in the CA	

58	If there are more than one approved brands of cement , Are there corresponding design mix for each approved brand	
59	If there are more than one approved sources of sand and aggregate , Are there corresponding design mix for each sample of sand and aggregate	
Site Lab and Testing of Material		
60	Is all material , brought at site (Sand , Bricks , Aggregate etc) being tested at site lab and record being maintained	
61	Is testing of each lot of cement being brought at site being carried out from approved agency as per IS specification and record being maintained	
62	Have testing of each lot of steel being brought at site being carried out from approved agency as per IS specification and record being maintained	
<u>Work at site</u>		
63	Has survey for the site been completed and signed by all and copies sent to all concerned	
64	Are there any major differences in the site survey submitted by consultant and the contractor	
65	Has layout for all sites been finalized (Yes /No)	
66	If No , at how many site layout yet to be finalized and reasons for non finalization of layout	
67	Are site office , storage shed , stacking arrangement for steel ready at site	
68	Are there adequate arrangement for storage and stacking of Cement	

69	What are the arrangement for water and electricity at site	
70	Has labour camp established at site /out side site	
	<u>Issues related to the DEPMC</u>	
	Deployment of Manpower	
71	Is RE and nos of Engineers deployed at Site by DEPMC as per DEPMC contract (Yes or No)	
72	Specify nos of engineers auth and actually deployed at site	
73	Has DEPMC supplied office equipment at site as per DEPMC CA provisions	
	Documentation	
74	Have all MBs duly stamped by CDA been received and maintained by DEPMC	
75	Is Stage Passing register being maintained and updated	
76	Is Sample approval register being maintained and updated	
77	Have all Add-Back DOs been prepared and placed	
78	Action taken by DEPMC on contradictions in design and specification	
79	Have all documents been maintained as per CA provisions	

	<u>Issues related to the Stn Authorities/ MES</u>	
80	Has the PMG nominated for the project work by station authorities	
81	Is the regular interaction taking place with Stn Cdr and PMG	
82	Has all sites been handed over to the contractor(Yes/No)	
83	If No , specify nos of affected sites and DUs and action taken by Project Manager	
84	Has tree cutting been completed at all sites (wire Yes /No)	
85	If No , specify nos of affected sites and DUs and action taken by Project Manager/ Stn Cdr	
86	Has demolition of old buildings/structures been completed at all sites (Yes/ No)	
87	If No , specify nos of affected sites and DUs and action taken by Project Manager	
88	Nos of sites where shifting of water supply pipe lines has not been completed by MES	
89	Nos of sites where shifting of over head electric / under ground lines has not been completed by MES	
90	Has site for dumping ground and quarry site been approved by station authorities	
91	Is there any problem regarding issue of security passes to DEPMC or Contractor and labour	

<u>Misc Issues (Not Covered earlier)</u>		
92	Is ATT chemical being procured from approved suppliers and of approved make	
93	Has ATT being carried out by approved pest control agency as per CA provisions	
94	Is proper record (Block wise) of ATT being maintained at site	
95	Is Photographic record of the work being maintained	

Second and subsequent six monthly Inspection till six months prior to Expected date of completion checklist Part-I

S.no	Points to be checked	Remarks
1	Review on points checked during previous inspection	
2	Specify action taken by the PM , Consultant and contractor on last inspection points.(All previous inspection reports to be seen and commented upon)	
	<u>Issues Related to Contractor</u>	
	<u>Progress of work</u>	
3	Desired progress of work at the time of inspection as per CPM	
4	Physical progress of the work	
5	At how many sites(out of total sites) work is in progress	

6	If no work is in progress, state nos of sites where no work in progress with reasons	
7	Major mile stones achieved till date	
	(a) Total nos of footings planned at various sites as per CPM	
	(b) Total nos of footings casted at various sites	
	(c) Total nos of slabs planned at various sites as per CPM	
	(d) Total no of slab casted at various sites	
	(e) Total Nos of DUs completed in all respects	
	(f) Nos of DUs already handed over and likely to be handed over in next six months	
8	Progress of work	
	(a) Ph - I Desired Progress	
	(b) Ph - I Physical Progress	
	(c) Ph - II Desired Progress	
	(d) Ph - II Physical Progress	
	(e) Ph - III Desired Progress	

	(f) Ph - III Physical Progress	
	(e) Ph - IV Desired Progress	
	(f) Ph - IV Physical Progress	
9	Has road work commenced at site (only up to WBM stage)	
	<u>Resource deployment by Contractor</u>	
10	Nos of site-engrs working at site	
	(a) Degree holders	
	(b) Diploma holders	
11	Are nos of engrs deployed by the contractor adequate for the supervision of work	
12	If no, specify desired nos of Engrs to be deployed at site and action taken by PM to notify contractor	
13	Is deployment of labour/teams (Structure work, Brick work, Plaster work , Plumbing , Conducting , Tiling etc) at various sites as per resource deployment plan to complete the project in time	
14	If No, how much more labour of what all trades needs to be deployed by the contractor to accelerate the work and what action has been taken by PM to notify contractor	

15	Is there any problem in procurement of any type of material at site	
16	If yes, specify type of material and specific problem	
17	How much qty of cement has been procured and consumed at site (Check from the cement vouchers and cement consumption record maintained at site)	
18	How much qty of steel has been procured and consumed at site (Verify from the steel vouchers and steel consumption record)	
	(a) 8 mm	
	(b) 10 mm	
	(c) 12 mm	
	(d) 16 mm	
	(e) 18 mm	
	(f) 20 mm	
19	Is cement, steel and other material is being procured from approved vendors/supplies and samples being kept at site	
20	If No , specify violations and action taken by the PM	
21	Is testing of steel and cement being carried out as per CA provisions	

22	Have samples for building finishes/other building material been approved as per progress of the work?	
23	If yes, Has contractor made any procurement plan and likely date of availability of the material at site	
24	If No, reasons for delay and action taken by the Project Manager/DEPMC	
	<u>Quality of work</u>	
25	Are there adequate checks and balance being instituted by PM, DEPMC and contractor as per CA provision and IS codes, to ensure execution of quality work at site.	
26	If No, point out violations and recommend rectifications measures.	
	<u>Site Lab, RMC plant and testing of material</u>	
27	Are all testing equipment at site lab calibrated from authorized agency	
28	Are sand, aggregate, bricks etc being tested at site lab and record being maintained	
29	Are sample cubes being casted as per quantity of concrete produced on daily basis as specified in IS Code	
30	Are sample cubes being tested as per the periodicity and record being maintained	
31	Is strength of sample cubes , as per design mix	
32	Are there any sample cubes which have failed during testing	

33	If yes, Is nos of failed cubes within the permissible limits as specified in IS code	
34	If No, action taken by contractor, DEPMC & PM	
35	Is there a valid Calibration Certificate for the RMC plant	
36	Is there a record being maintained at the RMC plant of daily concrete production and cement consumption	
	<u>State of T & P</u>	
37	Is state of T & P deployed at by the contractor adequate	
38	If no, specify short falls	
39	Specify total quantity of shuttering material (In Sq ft) available at site	
40	Is available shuttering material adequate to achieve desired slab casting schedule	
41	If no, how much more quantity to be brought in by the contractor	
42	Are there any hold ups in the work due to less mobilization of T & P	
	<u>Labour Issues</u>	
43	Are adequate amenities being provided in the labour camp as per CA provisions.	

44	Are regular payments as per minimum wages being released by the contractor to labour	
45	If no, specify action taken by PM	
	<u>Issues related to DEPMC</u>	
46	Is nos of RE, Civil Engineers, Electrical Engineers and the equipment deployed by consultant as per DEPMC contact. If no, Action taken by PM	
47	State of Deviation Orders by Accepting Officer	
	(a) Approved in principle	
	(b) Initiated and ordered on the contractor	
	(c) Issued in the proper form	
	(d) Yet to be issued in the proper form, and anticipated dates/time frame.	
48	Are MBs being maintained as per progress of the work	
49	Are all documents being maintained as per CA provision, in specific to the following documents	
	(a) Work Dairy	
	(b) Material Procurement Register	
	(c) Stage Passing Register	

	(d) Site Order Book	
	(e) Record of Cement Consumption	
	(f) Stock Register of Steel	
	(g) Sample Approval Register	
	(h) Monthly Progress Report being filed separately and kept on record	
	(j)List of all amendments to the drg and separate folder of all drawings maintained , updated as per provisions of DEPMC contract	
50	If work is progressing at slow pace, Are slow progress notices being issued to the contractor on regular basis	
	<u>Fund flow & RAR</u>	
51	How many installments of mob Adv have been recovered from contractor	
52	Is recovery of mob advance as per schedule or if not specify.	
53	Is RAR being processed at regular interval	
54	Are there any problem in processing of RAR by Stn Authorities or CDA specify	

55	Are adequate budgetary allocation available to meet the project anticipated expenditure in the Fin Year	
56	If project is not progressing as per schedule specify reasons for delay under the following category with specific duration	
	(a) Attributed to Stn Authorities	
	(b) Attributed to DEPMC	
	(c) Attributed to Contractor	
	(d) Unforeseen conditions beyond control of any one	
57	If project is not progressing as per CPM, Has CPM been modified /updated regularly	
58	Nos of Extensions accorded till date, (Specify duration & affected Ph - I of the project for each extension)	
	Station matters	
59	Is record of visit of PMG being maintained by Project Manager	
60	Are there any major points from PMG which are beyond the preview of Project Manager and sought DG's intervention.	
61	Visit of senior officer at site form the last inspection and any major point from visiting officers?	

62	Any other station related issue attributed to the delay of the project (Tree cutting, shifting of elect line/ water pipelines etc)	
External Services		
63	Is Work of external services progressing as per progress of MAP work	
64	Are there any other problems	
<u>Sample approval and Material procurement</u>		
65	Check for sample approval of various types of tiles, Has samples including quality and colour been approved by PM / PMG / Stn Commander and record being maintained	
66	Sample approval plumbing items and material procurement plan	
67	Sample approval for sanitary items and material procurement plan	
68	Sample approval for electric items and material procurement plan	
69	Has adequate quantity of tiles being procured by the contractor to commence and sustain the tiling work	
70	Has samples for Kota stone , Granite , Marble been approved and material brought at site	

71	Has sample for street light poles been finalized and adequate material procured	
72	Has sample for out door distribution boards been finalized and material procured	
73	Has sample for street light fittings been finalized and material procured	
74	Has sample for ATT approved	
75	Is executing agency for ATT been finalized as per CA specifications	
76	Has sample for water tanks approved and material brought at site	
77	Has sample for solar water heaters approved and material brought at site	
78	Sample approval for major items , not initiated by Contractor , which are required to progress the work and intimated PM , DEPMC and contractor	
	Preparation to progress the work during monsoons	
79	Has any work schedule been prepared by PM , DEPMC and contractor to smoothly progress the work during monsoons	
80	What type of work is planned to progress the work during monsoons	
	<u>Other Misc Issues not covered</u>	

Second and subsequent six monthly Inspection till six months prior to Expected date of completion checklist

Part-II

Following points must be checked at all sites. During sample checks, care must be taken to ensure that all types of blocks at all sites are adequately covered

	Type of check	Site-no	Type of Bldg	Bldg no	Remarks
	<u>Back filling , Compaction and ATT</u>				
	Check that surplus excavated earth leveled and netly dressed at the disposal place				
1	Is proper backfilling and compaction being carried out				
2	What all tools / machines are available at site to ensure proper compaction				
3	Is ATT being carried out as specified in CA and record of ATT being maintained by DEPMC				
4	Is plaque showing date of guarantee of ATT being displayed at site				
	<u>Formwork and Structure work</u>				

5	Check formwork used is confirming to CA specifications				
6	Check stripping time of formwork , it should not be less than 7 days for slab and 14 days for the beam. Add additional time for PPC and weather conditions.				
7	Check that cover is being provided as specified				
8	Check thickness of binding wire , it should not be less than 0.90mm and every bar to be tied in two directions				
9	Are all columns in plumb				
10	If no,specify % of columns which are not in plumb and action taken by DEPMC and PM				
11	Is there any honeycombing noticed in the structure				
12	If yes , specify places and action taken by the PM				
13	Check if proper size of beams and columns as per drg being maintained				
14	Check if proper lift of columns is being maintained				
15	Check if hacking at all concrete work where ever required is being carried out after casting				

16	If not what action has been taken by the PM				
17	Check if RCC cupboards are being casted in one peace or in parts				
18	If casted in two or more parts , is due care being taken at joints to avoid leakage and seepage at later stage				
19	Are lintel bends being casted monolithic with the columns				
20	If no , is reinforcement being left at the joints				
21	Is over lapping of reinforcement , as specified in DRG				
22	If no what action has been taken by DEPMC and PM				
23	Are opening are being left in columns and beams , where ever required as per Drg for fitment of sewage disposal pipes				
24	Is due care is being taken while casting the sunken portion of the slab				
25	Has pounding test been carried out for the completed portion of the sunken portion				
26	Carry out sample pounding test minimum one per site / type of block				

27	What actions are being taken to plug the leakage and seepage noticed during pounding test				
28	Is proper record of pounding test and rectification actions to plug leakage and seepage during testing being maintained				
29	Is proper slop as specified in drg being maintained while casting the roof slab				
30	Is water proofing treatment being carried out on roof slab as per specifications. Carry out pounding test				
31	Are you satisfied with the curing arrangements for concrete work at site				
32	If no , What all additional steps need to be taken by PM				
33	Is the minimum FFL height being maintained from the top of road surface as specified in the drg				
34	Is quality of shuttering material satisfactory				
	Other misc structural issues if any				
	<u>Fixing of Door frames and Windows</u>				
35	Has work for fixing of door frame commenced at site				

36	Check door frames as fixed on site are as per approved sample or not				
37	If no , what action has been taken by the PM and DEPMC				
38	Check specification of door frames as specified in the CA/ Drg				
39	Has sample for windows been approved				
40	Is window frames and other accessories as per CA specifications				
41	If no what action has been taken by DEPMC and PM				
	<u>Brick work</u>				
42	Has brick work commenced at site where ever structure work been completed				
43	Is adequate curing being done at site				
44	Are joints properly broken in the brick missionary				
45	Is proper thickness of mortar being maintained				
46	Is reinforcement bar being provided in the single brick walls as specified in the Drg				

47	Where pointing , plastering or other finish is indicated , the joints should be squarely raked out to depth not less than 10mm for plastering and 15mm for pointing.				
48	No part of the walling during its construction should rise more than one meter at a time above the general construction level to avoid unequal settlement of mortar due to load				
49	Is overall quality of brickwork satisfactory				
50	If no , what all improvements are suggested to the PM				
51	Is any efflorescence being noticed on brick work				
	<u>Plumbing work</u>				
52	Has plumbing work commenced at site				
53	Is progress of plumbing work satisfactory for over all completion of the work				
54	Are all joints being tested for leakage and corrective actions being taken by DEPMC and PM , and record being maintained				
55	Check material incorporated for plumbing work at site is as per approved sample				
56	If no , what all actions have been initiated by the PM				

57	Is due care being taken not to break the structural members for plumbing work , and are adequate openings being left at the time of casting it self				
	<u>Conduiting work</u>				
58	Has conduiting work commenced				
59	If yes, is progress of the work satisfactory				
60	If no , what all actions have been recommended to the PM				
61	Check type of conduits approved for the work for compliance as specified in CA				
	<u>Plastering work</u>				
62	Has internal plastering work commenced at site				
63	If yes , Is thickness of the plaster as specified in CA				
64	Is proper curing being done on the plaster work				
65	Has plastering work being carried out after completion of all plumbing and conduiting work in the block/DU				
	<u>Flooring and Floor finishes</u>				
66	Is proper slope where ever required being maintained in the floor slabs at the time of casting				
67	Is size of tile joints with in the permissible limit				
68	Is proper slope being maintained in toilet and kitchen floors				

69	Is edges of the Marble/Granite slab where ever provided being chamfered				
	<u>Sewage and sanitary work</u>				
70	Are man holes being provided in adequate nos as per drg at specified distance from the bldg				
71	Are all joints of sewage fittings being sealed as per specifications				
72	Is adequate physical gap is being maintained between water pipe lines and sewage lines				
	<u>Footpath and Road Work</u>				
73	Has WBM completed				
74	Is compacted thickness of various layers of WBM as per CA specifications				
75	Is proper camber/ Slope being maintained while laying the WBM				
76	Are crossing ducts being provided in the WBM for laying of water pipe lines , sewage lines and crossing of electric cables				
	<u>Layout of Drains</u>				
77	Has layout of drains been finalized				
78	Is due care being taken to ensure proper flow of water toward the existing large drains to avoid stagnation of water at site				

79	Is adequate nos of culverts being planned / being constructed at site to ensure proper flow of rain water				
	<u>Disposal of debris and excavated soil</u>				
80	Are construction debris being disposed off in the designated area				
81	Is surplus excavated soil being disposed off in the designated areas				
	Misc Issues not covered earlier				
	Check quality of final finishes (Painting , Distemper etc)				

Inspection 6 months prior to completion of work

S.no	Points to be checked	Remarks
	Review on points checked during previous inspection	
	<u>Quality of Work</u>	
1	Is work being executed as per CA provision	
2	If there are defects noticed during execution, what all rectification actions have been under taken by the contractor	
3	Is user (PMG) satisfied with the rectification action under taken by the contractor.	
	<u>Progress of External services work</u>	
4	Is progress of external services work (External Electrification, Water supply, Sewage, Arboriculture , Furniture etc) is satisfactory	
5	Is expected date of completion of external services work matching with the expected date of completion of MAP work	
6	Do you anticipate any problem at the time of handing taking of buildings/DUs due to non completion of external services work.	
	<u>Station Issues</u>	
7	Have all points raised by PMG during the execution of the work been implemented at site or suitably replied with	
8	Have Stn Auth ordered a BOO for handing/ taking over of the DUs.	

9	Any problem envisaged from station authorities during handing taking over of DUs.	
10	Has all measurements of work entered in the MB and signed by all concerned	
11	Has preparatory work such as building inventory etc started by DEPMC & Contractor	
12	Has contractor and DEPMC worked out a plan for establishment of maintenance cell after completion of the work, for defect liability period	
13	Has payment being made to the contractor regularly	
14	Has all material procured by the contractor and paid as material laying at site accounted for	
15	Confirm that all claims raised by the contractor have been sorted out and matter requiring decisions by Accepting officer have referred to him. If not, state briefly action raised by contractor, Indicate clearly with whom the said action rest	
17	Quality checks and compliance of contract conditions	
	(a) Are there any remarks on non-compliance in site order book	
	(b) Check if any work/material or part is rejected and whether contractor has complied with rectification or not	
	(c) Any remark on leakage, seepage/sewage line complied or not.	
18	Misc issues which needs to be taken care off for timely completion and handing over of Dus	

Inspection 3 months prior to completion of work

S.no	Points to be checked	Remarks
	Review on points checked during previous inspection	
	<u>Quality of Work</u>	
1	Is work being executed as per CA provision	
2	If there are defects noticed during execution, what all rectification action under taken by the contractor	
3	Is user (PMG) satisfied with the rectification action under taken by the contractor.	
	<u>Progress of External services work</u>	
4	Is progress of external services work (External Electrification, Water supply, Sewage, Arboriculture , Furniture etc) is satisfactory	
5	Is expected date of completion of external services work matching with the expected date of completion of MAP work	
6	Do you anticipate any problem at the time of handing taking of buildings/DUs due to non completion of external services work.	
	Station Issues	
7	Have all points raised by PMG during the execution of the work been implemented at site or suitably replied with	

8	Have Stn ordered a BOO for handing/ taking over of the DUs.	
9	Any problem envisaged from station authorities during handing taking over of DUs.	
10	Has all measurements of work entered in the MB and signed by all concerned	
11	Has preparatory work such as building inventory etc started by DEPMC & Contractor	
12	Has contractor and DEPMC worked out a plan for establishment of maintenance cell after completion of the work, for defect liability period	
13	Has payment being made to the contractor regularly	
14	Has all material procured by the contractor and paid as material laying at site accounted for	
15	Confirm that all claims raised by the contractor have been sorted out and matter requiring decisions by Accepting officer have referred to him. If not state briefly action raised by contractor, Indicate clearly with whom the said action rest	
17	Quality checks and compliance of contract conditions	
	(a) Are there any remarks on non-compliance in site order book	
	(b) Check if any work/material or part is rejected and whether contractor has complied with rectification or not	
	(c) Any remark on leakage, seepage/sewage line complied or not.	

18	Nos of DUs takeover by station authorities	
19	Any major points / observations made by the station authorities during handing taking over of the DUs	
20	Action taken by the PM and contractor for rectification on the observations made by the station authorities	
	Misc issues Not covered earlier	

Inspection on cancellation of Contactor, at time of preparation of BOO

S.no	Points to be checked	Remarks
	Review on points checked during previous inspection	
	Issues with Stn Authorities	
1	Has Stn HQ detailed a BOO to access the quantum of work executed at site/ contractor T&P and material.	
2	Have adequate security measures been instituted by the station authorities for the safe guard of various material/T&P lying at site	
3	Tentative time frame for completion of BOO.	
	DEPMC	
4	Is adequate staff available with DEPMC for completion of BOO	

5	Has material scattered on the sites being consolidated	
6	Has exposed part of steel in structure and steel stacked at Sites being covered with cement slurry	
7	Have all documents pertaining to the contract, being kept at a safe place.	
8	Is rep of Contractor available for the joint measurement of work & BOO	
9	Have work executed under various sections of the CA been entered in the MBs and signed by all concern	
10	Has photographic record of all bldgs/wks , mtrl , machinery etc been kept on record	
	Misc Issues needs to be implemented for timely completion of BOO and security of material lying at site	

21379/SPe P&S/195/MAP

14 Nov 2014

Team `A`

Team `B`

DG Sectt

PERFORMANCE EVALUATION AND MONITORING OF DGMAP WORK

INTRODUCTION

1. MAP was conceived to construct deficient Married Accommodation for all three services with simplified work procedures and lean organization. Three tiered quality audit monitoring system is being followed. The system is as under:-

(a) Tier 1 (Stn level)

- (i) PM MAP with deployed team of engineers of consultant as main stake folder.
- (ii) PMG with GE as member
- (iii) Inspection by Station Commander

(b) Tier 2 (External Audit)

- (i) Quality assurance cell under ADGTE in advisory role.
- (ii) CVC Inspection

(c) Tier 3 (Independent checks)

- (i) Vis of reps of DG MAP at fixed intervals
- (ii) Vis of E-in-C / Fmn Cdrs / Comd CES / /DG / DDG.

2. MAP wks procedure 2009 clearly stipulates the quality assurance mechanism. PM and station commander are supposed to monitor quality of work on day to day basis. In addition, quality check of work is proposed to be carried out internally by the officers appointed by DGMAP at fixed interval, so that DGMAP is updated on quality consciousness of ground engineers at various sites and rectification of defects. It is imperative to evolve a system to establish a procedure to institute periodical checks for MAP works. Periodical checks will help in obtaining a firsthand feed back of the project of all important project monitoring mechanism fields. The aim of instituting 'Periodical checks' is to obtain feedback in the following fields:-

- (a) Correct utilization of mobilization advance by the contractor
- (b) Availability of supervisory staff at site
 - (i) Through DEPMC
 - (ii) Through contractor
- (c) Management of important documents
 - (i) Contract agreement and amendments
 - (ii) Contract drawings and amendments
 - (iii) Monthly progress report
 - (iv) Various important reports
 - (v) Photographic record of various activities at site
 - (vi) Policy letters
- (d) Finalization of Site Layout and initial hindrances
 - (i) Tree cutting
 - (ii) Demolition of Buildings
 - (iii) Any changes recommended by Stn authorities
 - (iv) Any other problem associated with the availability of Site
- (e) State of T & P of Contractor
 - (i) Ready Mix Concrete plant (RMC)
 - (ii) Nos of Transit mixtures/ concrete transportation arrangement
 - (iii) Concrete laying arrangement (Nos of concrete pumps/ Tower hoist/ Tower crane etc)
 - (iv) Nos of shuttering sets available
 - (v) State of other miscellaneous T & P
- (f) Site arrangement
 - (i) Arrangement for electricity and water at site
 - (ii) Approaches to the site
 - (iii) Safety/security arrangement at site
- (g) Site Lab
 - (i) Availability of testing equipment as per CA provision
 - (ii) Batching and testing of concrete as per IS provisions
 - (iii) Correct marking and testing of concrete cubes
 - (iv) Testing of every batch of material received. (Cement, aggregate, bricks, sand. etc)
- (h) Cement Procurement, storage & accounting
 - (i) Approved make/brand of cement
 - (ii) Design mix for every approved make of cement
 - (iii) No mixing of OPC/PPC cement in structure work
 - (iv) Correct storage of cement
 - (v) Correct accounting and documentation of cement consumption
 - (vi) Testing of every batch of cement as per IS

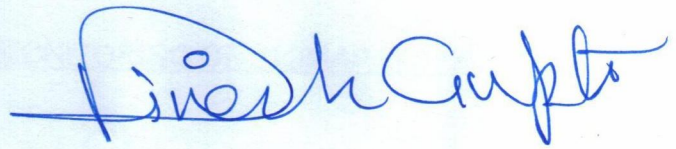
- (j) Steel
 - (i) Approved manufacture of steel
 - (ii) Correct stacking of steel
 - (iii) Accounting of steel
 - (iv) Testing of every lot of steel as per IS provisions
- (k) Stage passing
- (l) Sample approval & procurement of material
- (m) CPM and Allocation of resources
 - (i) Important time lines. To include the following
 - (aa) Completion of sample blocks
 - (ab) Completion schedule of other phases of the work
 - (ii) Material procurement plan
 - (iii) Labor requirement/deployment plan
- (n) State of External services, augmentation of Electric supply load agreement, water supply agreement through local bodies being undertaken by MES.
- (o) Maintenance of Records as per CA provisions.
 - (i) Cement procurement & consumption record
 - (ii) Steel, procurement & consumption record
 - (iii) Stage passing record
 - (iv) MB's
 - (v) Construction account
 - (vi) Site order books
- (p) Preparation, submission and approval of Deviation Orders.
- (q) Reasons for delay and Extension of time
- (r) Fund management.
 - (i) Fund demand, allotment and expenditure pattern
 - (ii) RAR flow – Initiation by contractor -DEPMC – Project Manager – Station Commander-Payment by CDA; time taken at various stages.
- (s) Labor camps and amenities as per CA provisions

- (t) Technical checks of structure as per DGMAP guidelines/CA provisions / IS code
- (u) Quality of various items being procured for incorporation
- (v) Workmanship and quality consciousness

PROPOSED PROCEDURE

3. The periodical inspection shall be carried out as per following stages of the project:-
 - (a) First Inspection – 60 days after the date of commencement of work as per work order, up to 90 days. **(Appx-A)**
 - (b) Second and subsequent inspection at every six month till 6 months prior to the Expected date of completion .**(Appx-B)**
 - (c) Inspection 3 months prior to the completion of the work (85%) **(Appx-C)**
4. In addition to periodicity of the inspections as enumerated in Para '2' above, following inspections will be carried out in the event of termination of contract:-
 - (a) Inspection at the time of preparation of BOO of the cancelled contract.
 - (b) Inspection* at the time of handing over of site, eqpt and mtrl to new contractor
5. The composition of the inspection team shall be as under :-
 - (a) Nodal Officer
 - (b) One officer of the team
6. The inspection team shall help PM in ensuring that work is carried out as per the contract specifications with sound engineering practice and laid down building codes. The emphasis of the inspection shall be on the timely rectification only. Inspection and technical checks shall be based on standard procedures for field tests on material, workman ship and as per relevant IS codes.
7. Team will prepare the report as per Appx attached. Each page shall be signed by the officers detailed for inspection and countersigned by DDG team. Both the officers shall be held accountable for the inspection carried out by them.

8. Two copies of inspection report will be prepared. One copy of the inspection report will be kept centrally by DDG and other will be sent to PM for rectification of defects. Monthly update shall be taken from PMs on rectifications of defects & kept on file.
9. DDGs shall ensure the inspections are carried out as per intervals laid out, Reports prepared, discussed and presented to DG MAP for perusal. A separate register shall be maintained with DDG's with a page dedicated to each project, to monitor the conduct of inspections, timely and effectively.
10. The inspecting officers may include additional misc points as deemed fit.



(Dinesh Gupta)
Col
Dir Tech