

CONSTRUCTION ACTIVITY QUALITY PLAN

ABC Construction Corporation

WBS item : CHB wall Updated : June 2017
WBS Code : M-1046 Project : NP – 011 - 2017
Construction Activity : CHB laying
Reference : Standard Specification for Masonry Works

- A. Materials, Labor, Equipment (Inputs) – **indicate reference standards, vital characteristics and metrics**
1. CHB 200 x 400 x 150/100
 - a) 2 or 3-core steam-cured modular blocks
 - b) Load-bearing type – 800 psi compressive strength
 - c) Non – load-bearing type – 400 psi compressive strength
 2. Cement – type I conforming to PNS 07
 3. Sand – conforming to PNS 18 type 1
 4. Reinforcing bar – corrugated structural grade **(anything to add?)**
 5. Tie wire – Ga. # 16, ordinary
 6. Mason
 - a) standard HRD requirements
 - b) passed “measurement” test
 - c) reference letter from construction company last worked, which should not be more than 3 months before date of application
 - d) minimum wage – Php 750.00 per day, to be increased upon recommendation of project-in-charge after 2 weeks of actual project engagement.
 7. Laborer
 - a) standard HRD requirements
 - b) reference letter from construction company last worked, which should not be more than 3 months before date of application
 - c) minimum wage – Php 500.00 per day, to be increased upon recommendation of project-in-charge after 2 weeks of actual project engagement.
 8. Masonry tools
 - a) Tools shall be supplied by employer, at no cost to worker.
 - b) All tools shall be bought new for every new project, or must be in a clean “used” condition before start of activity.
- B. Inspection/Documentation - **indicate verification activity, frequency of verification, responsible and accountable party, documentation activity**
1. CHB 200 x 400 x 150/100 - responsible person: warehouseman-on-duty / accountable: Purchaser II
 - a) Before purchasing, samples shall be submitted for approval. Initial purchase order must be attached with photocopy of approved RFA.

- b) CHB blocks shall be stacked only to a height of 20 levels, “lying down”, on an even surface (to avoid breakage).
 - c) CHB blocks shall be stacked only on a concrete surface; if on earth, should be protected with used-plywood covering.
 - d) Store in a dry enclosed space.
 - 2. Cement - responsible person: warehouseman-on-duty / accountable: Purchaser II
 - a) Cement bag shall be inspected for bag markings indicating “PNS” conformance
 - b) Cement bag shall be unbroken.
 - c) Store in a dry enclosed space.
 - 3. Sand - responsible person: warehouseman-on-duty / accountable: Purchaser III
 - a) Measure volume delivered. Document on Delivery Receipt.
 - b) Check sand for presence of any foreign material. Reject stock if from visual appearance, the delivered stock is “contaminated” by 1% by volume.
 - c) Store in a dry space (open or enclosed; if open, place a tarpaulin to cover mound).
 - 4. Reinforcing bar - responsible person: warehouseman-on-duty / accountable: Purchaser II
 - a) Measure bar diameter using caliper. Check all bars. No bar should have a diameter 2mm below the indicated diameter.
 - b) Measure bar length using measuring tape. Check 20 to 25% of bars delivered. Reject stock if more than 25% of delivered bars are less than indicated length.
 - c) Store in a dry space (open or enclosed; if open, place a tarpaulin to cover mound).
 - 5. Tie wire - responsible person: project-in-charge / accountable: project-in-charge
 - a) Measure weight of wire roll using portable spring scale.
 - 6. Mason - responsible person: HR assistant / accountable: HR Officer II
 - 7. Laborer - responsible person: HR assistant / accountable: HR Officer II
 - 8. Masonry tools - responsible person: warehouseman-on-duty & project-in-charge / accountable: Project Engineer I
- C. Suppliers
- 1. CHB 200 x 400 x 150/100 – “Jackbilt Concrete Blocks Co., Inc.” (as per reference specifications)
 - 2. Cement – DEF Construction Supply, Ltd. (company-accredited)
 - 3. Sand – DEF Construction Supply, Ltd. (company-accredited)
 - 4. Reinforcing bar – Pag-Asa Steel Corp. (company-accredited)
 - 5. Tie wire – any hardware
 - 6. Masonry tools – Federal Builders (company-accredited)
- D. Inspection/Documentation
- 1. CHB 200 x 400 x 150/100 – responsible person: warehouseman-on-duty / accountable person: Purchaser II. Check approved supplier.
 - 2. Cement - responsible person: warehouseman-on-duty / accountable person: Purchaser II. Check approved supplier.
 - 3. Sand - responsible person: warehouseman-on-duty / accountable person: Purchaser II. Check approved supplier.
 - 4. Reinforcing bar - responsible person: warehouseman-on-duty / accountable person: Purchaser II. Check approved supplier.
 - 5. Tie wire – responsible person: project-in-charge / accountable person: project-in-charge.
 - 6. Masonry tools (new) – responsible person: warehouseman-on-duty / accountable person: Purchaser II. Check approved supplier.

E. Workmanship (Process)

1. Levelness and plumbness are critical to laying. These shall be checked continuously by the masonry team, and spot-checked by immediate supervisor (Project Engineer I, or Project Engineer II in case of sub-contractors).
2. Check all jointing (check for mortar voids) with door frames, window frames, anchors, pipes, ducts and conduits. These shall be checked continuously by the masonry team, and spot-checked by immediate supervisor (Project Engineer I, or Project Engineer II in case of sub-contractors).
3. Non – load-bearing walls must be anchored to the construction above but with sufficient space for possible deflection. These shall be checked by immediate supervisor.
4. Mortar mixing
 - a) It is to be carried out using approved containers and an engine-run mixer.
 - b) Care must be taken that water is not added too rapidly.
 - c) Mortar pans, boxes and drums shall be clean of dried mortar.
 - d) Mortar with cement already starting to set, will not be used.
 - e) Mortar mix is 1:3, cement to sand.
5. Mortar jointing
 - a) Mortar joints shall be inspected to be between 10-12mm in thickness.
 - b) Flushness or roundness of joints shall be inspected in accordance with project specifications.
 - c) Vertical joints shall be plumb within a tolerance of 12mm.
6. Standard CHB laying
 - a) The first course of CHB units shall be laid on a full bed of mortar.
 - b) The entire top surface of the inner and outer face shell shall be filled with mortar.
 - c) Adjoining mortar for the next level shall be to a width of 25mm.
 - d) Mortar shall be filled that it will be forced out of the joints as the units are placed in position.
 - e) The minimum clear distance between masonry and vertical reinforcement shall not be less than 12mm.
 - f) Splices shall be formed by lapping bars not less than 20 bar diameters and tie wire used to tie together.
7. Safety rules: These shall be continuously checked by immediate supervisor and Safety Officer I.
 - a) Check for unsecured scaffoldings.
 - b) All scaffolding shall be complete in frame and accessories, shall have a secure base, and laterally tied if possible if the frame is more than three levels.
 - c) Only wooden planks shall be used as working platform and must be of such width that workers and mortar tools and mortar pan are sufficiently positioned on the platform.
 - d) There should be no CHB blocks on the platform. Workers must be securely tied to the scaffolding frame with safety belt.

F. Inspection/Documentation

1. Levelness shall not be tolerated at more than 5%. Plumbness shall not be tolerated at more than 10%. Responsible person: immediate supervisor / Accountable person: project-in-charge. **What do you do when the tolerances are not met?**

2. Mortar voids can be checked visually, and that no instance should a sizeable void be observed. All mortar voids if checked, shall be immediately rectified. Responsible person: immediate supervisor / Accountable person: project-in-charge.
3. Each masonry team, with names of team members recorded, will be tested for “mortar mixing” before starting any actual construction activity. They shall be evaluated by their immediate supervisor, and approved to work by the project-in-charge. Responsible person: immediate supervisor / Accountable person: project-in-charge.
4. Mortar jointing shall be spot-checked by QC Officer I. Responsible person: QC Officer I / Accountable person: project-in-charge.
5. Each masonry team, with names of team members recorded, will be evaluated for “CHB laying” during the first week of actual construction activity. They shall be evaluated by their immediate supervisor, and approved to continue work by the project-in-charge. Responsible person: immediate supervisor / Accountable person: project-in-charge.
6. Safety on scaffoldings during CHB laying work shall be done by Safety Officer I. Responsible person: Safety Officer I / Accountable person: project-in-charge.

G. Deliverable (Outputs)

Deliverables to be turned over for acceptance and payment claims shall be evaluated by QC Officer I. The amount of the subject deliverables must be indicated in the QC report, with the location in the project clearly indicated. The primary criteria are as follows:

- a) Levelness less than 5%;
- b) Plumbness less than 10%;
- c) Absence of visible voids.
- d) Acceptable visual appearance of joints.

H. Inspection/Documentation

1. The QC report must indicate the result of the inspection:
 - a) Defects identified if any.
 - b) Schedule in which to correct defects if any.
 - c) **If we analyze why these defects occurred in the first place, will this result in a review of this Quality Plan?**
2. If the subject deliverables are already satisfactory and acceptable to QC Officer I, then the QC report indicating acceptance shall be submitted to the project-in-charge, and forwarded to the concerned parties for payment if any.

End of document

Last updated: 2017.06.10