**Report Date:** 21 Aug 2014

# Summary Report for Individual Task
# 052-12W-2116
# Construct a Concrete Footing Form
# Status: Approved

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**Condition:** Given a mission to construct concrete footing forms, building layout, batter boards,excavated site with prepared sub grade, foundation plans, complete Bill Of Materials (BOM), carpenter's squad tool kit, mason and concrete finishers tool kit, hard hat, safety glasses, hearing protection, work boots, work gloves and appropriate doctrine. This task should not be trained in MOPP 4.

**Standard:** Construct a concrete footing form that is level, plumb, and square. Install reinforcing steel IAW the foundation plans. Perform all job operations without injury or damage to personnel, materials and equipment.

**Special Condition:** Depending on the size and complexity of the project itself, this task may require the technical support of a construction surveyor, Technical Engineer Specialist, to establish accuracy and control in reference to dimensions appearing on prepared plans. Additional considerations include the use of earth as an acceptable material in subsurface construction. Generally restricted to footings and foundations, if the soil is stable enough to retain the desired concrete shape it may be used as a mold for concrete footings.

**Safety Risk:** Low

**MOPP 4:** Never

**Task Statements**

**Cue:** Soldier receives a mission to a construct a concrete footing form.

## DANGER

None

## WARNING

None

## CAUTION

None

**Remarks:** None

**Notes:** None

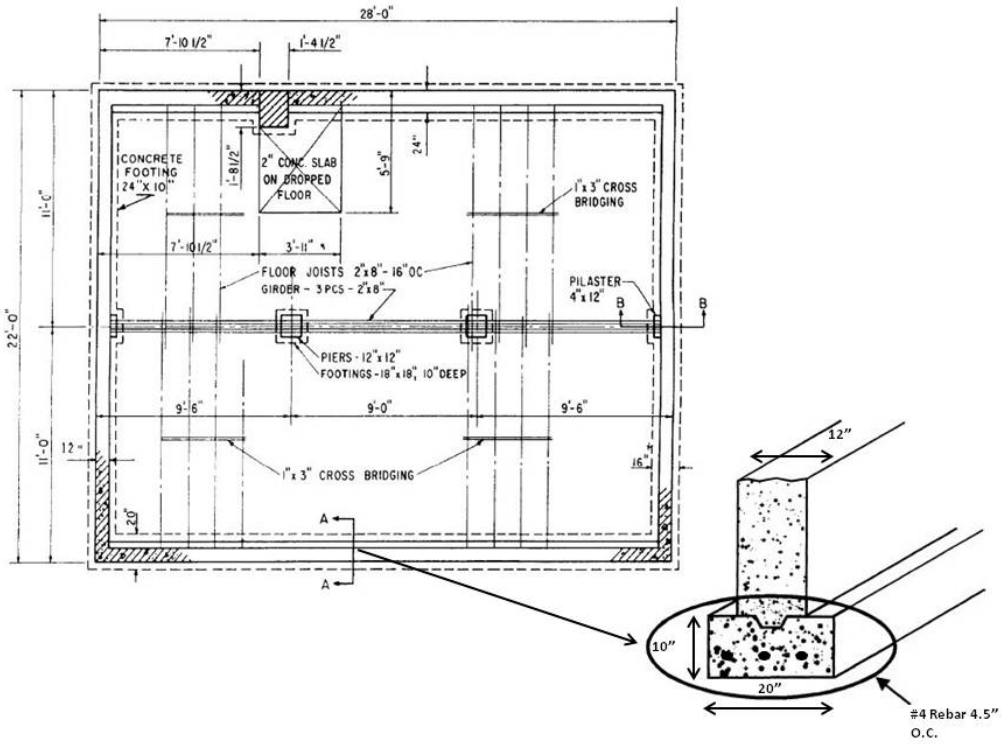
**Performance Steps**

1. Review the foundation plans.

    a. Identify the overall length, width, and location of the foundation.

    b. Identify footing specifications to include depth, width and elevation.

    c. Identify the requirements for reinforcing steel.




Typical foundation plan
052-12W-2116-1

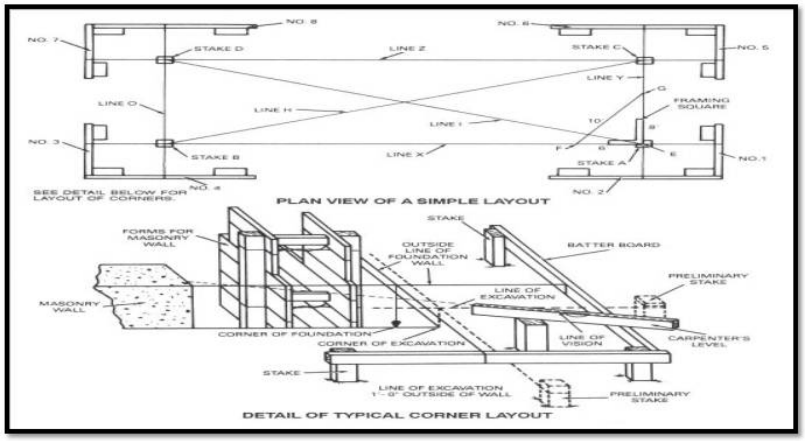
2. Verify BOM.

    a. Verify all required materials for the forms are available.

    b. Verify all wooden components are specific in size and length and free from splits, knots, and severe warping.

    c. Verify the required size, quantity, and classification of reinforcing steel is available.

    d. Verify additional items such as bolsters, spacers, vapor barriers and form oil are available.




Typical building layout with batter boards.
052-12W-2116-2

3. Verify critical measurements.

a. Verify foundation lines are square.
Note: Squaring lines can be achieved by using the 6-8-10 or diagonal method(s).

b. Verify the acutual distance and lengths between the foundation lines are accurate to the dimensions from the foundation plans.

c. Verify batter boards and foundation lines are level and at the required elevation.

4. Assemble the footing form.

a. Select the form sides from 2 inch lumber whose width equals the footing depth.

b. Construct both interior and exterior form sides to the exact lengths and dimensions specified in the foundation plans.

c. Set the form sides in alignment with the foundation lines.

d. Drive stakes into the ground flush against the outer form sides.

e. Keeping the form plumb, raise the form sides to the required elevation and fasten them to the stakes.

f. Install diagonal braces at a 30 degree angle to adjoining horizontal members(when required).

g. Install spreaders and fastened them to the top of the forms to ensure the proper foundation width (when required).

## WARNING

Soldiers constructing forms that require reinforcing steel are at risk of being impaled on unprotected, exposed rebar. Rebar caps must be placed on all standing or horizontally protruding rebar and metal steel stakes. Additionally, the potential for eye hazards as a result of cutting steel and pinched or cut fingers require the wear of gloves and proper Personal Protective Equipment (PPE). Watch for protruding nails which are the principal cause of accidents on form work. Other safety considerations include raising large form panels in heavy gusts of wind and bracing all shoring securely to prevent collapse of form work (when required).

5. Set reinforcing steel and spacers.

a. Bend, splice and overlap reinforcing steel IAW requirements listed in the foundation plans .

b. Place welded wire mesh fabric IAW requirements listed in the foundation plans (when plans specifically call for this material).

c. Place precast spacers or highchairs at the exact distances, locations and heights IAW concrete cover requirements listed in the foundation plans.

Note: Some specifications state that no metal be left in concrete within a certain distance of the surface. Generally, the minimum clearance between parallel bars in beams, footings, walls, and floor slabs is not less than 1 1/3 times the largest size aggregate particle in the concrete, but in no case less than 1 inch.

d. Connect reinforcment bars, wire mesh, and spacers using the proper gage tie wire.

6. Confirm critcal measurments of the formwork.

a. Verify forms are square by using the 6-8-10 or diagonal methods.

b. Verify proper elevation by measuring the depth down from the string line.

c. Verify forms are level, plumb and at proper distance between forms as well as the reinforcing steel.

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** Score the Soldier a Go if all steps are passed (P). Score the Soldier a NO-GO if any step is failed (F). If the soldier fails any step ensure the Soldier knows how to performs it correctly.

**Evaluation Preparation:** Setup: Provide the soldier with the items listed in the conditions. Brief Soldier: Tell the soldier that he or she is required to complete the performance measures according to the standard set forth in the task

| PERFORMANCE MEASURES | GO | NO-GO | N/A |
|---|---|---|---|
| 1. Reviewed foundation plans. | | | |
| a. Identified the overall length, width, and location of the foundation. | | | |
| b. Identified footing specifications. | | | |
| c. Identified requirements for reinforcing steel. | | | |
| 2. Verified BOM. | | | |
| a. Verified all materials for formwork were available. | | | |
| b. Verified all wooden components were specific in size and length and free from splits, knots, and severe warping. | | | |
| c. Verified the required sizes, quantities and classifications of reinforcing steel were available. | | | |
| d. Verified additional items such as bolsters, spacers, vapor barriers and form oil were available. | | | |
| 3. Verified critical measurements. | | | |
| a. Verified foundation lines were square by using both the 6-8-10 method and diagonal method. | | | |
| b. Verified the acutual distance and lengths between foundation lines were accurate to the dimensions found on the foundation plans. | | | |
| c. Verified batter boards and foundation lines were level and at the required elevation. | | | |
| 4. Assembled the footing forms. | | | |
| a. Selected the form sides from 2 inch lumber equal in width to the required footing depth. | | | |
| b. Constructed both interior and exterior form sides to the exact lengths and dimensions specified in the foundation plans. | | | |
| c. Set form sides in alignment with the foundation lines. | | | |
| d. Drove stakes into the ground flush against the outer form sides. | | | |
| e. Plumbed the form sides; raised the forms to the required elevation and fastened them the stakes. | | | |
| f. Installed diagonal braces to forms (when required). | | | |
| g. Installed spreaders to the top of forms (when required). | | | |
| 5. Set reinforcement material. | | | |
| a. Bent, spliced and overlapped reinforcing steel IAW requirements listed in the foundation plans. | | | |
| b. Placed welded wire mesh fabric (when required by the foundation plans). | | | |
| c. Placed precast spacers or highchairs at the exact distances, locations and heights IAW concrete cover requirements listed in the foundation plans. | | | |
| d. Connected reinforcement bars and wire mesh with tie wire. | | | |
| 6. Confirmed critcal measurments of the finished formwork. | | | |
| a. Verified forms were square by using the 6-8-10 or diagonal method. | | | |
| b. Verified proper elevation by measuring the proper depth down from the string line. | | | |
| c. Verified forms were level, plumb and at proper width between forms and reinforcing steel. | | | |

**Supporting Reference(s):**

| Step Number | Reference ID | Reference Name | Required | Primary |
|---|---|---|---|---|
| | TM 3-34.44 | Concrete and Masonry | No | No |
| | TM 3-34.47 | Carpentry | No | No |

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you

will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

**Prerequisite Individual Tasks :**

| Task Number | Title | Proponent | Status |
|---|---|---|---|
| 052-236-1147 | Perform Maintenance on Carpentry/Masonry Tools | 052 - Engineer (Individual) | Approved |
| 052-236-1183 | Prepare a Materials Take-Off List | 052 - Engineer (Individual) | Approved |
| 052-236-1202 | Interpret Construction Drawings and Prints | 052 - Engineer (Individual) | Approved |
| 052-236-1184 | Identify Building Materials | 052 - Engineer (Individual) | Approved |
| 052-236-1173 | Fabricate Joints and Splices | 052 - Engineer (Individual) | Approved |

**Supporting Individual Tasks :**

| Task Number | Title | Proponent | Status |
|---|---|---|---|
| 052-236-1183 | Prepare a Materials Take-Off List | 052 - Engineer (Individual) | Approved |
| 052-236-1202 | Interpret Construction Drawings and Prints | 052 - Engineer (Individual) | Approved |
| 052-236-1184 | Identify Building Materials | 052 - Engineer (Individual) | Approved |

**Supported Individual Tasks :**

| Task Number | Title | Proponent | Status |
|---|---|---|---|
| 052-236-1168 | Place Concrete | 052 - Engineer (Individual) | Approved |
| 052-236-1202 | Interpret Construction Drawings and Prints | 052 - Engineer (Individual) | Approved |
| 052-236-1184 | Identify Building Materials | 052 - Engineer (Individual) | Approved |
| 052-236-1173 | Fabricate Joints and Splices | 052 - Engineer (Individual) | Approved |

**Supported Collective Tasks :** None

**ICTL Data :**

| ICTL Title | Personnel Type | MOS Data |
|---|---|---|
| | | |
| 12W20, Carpentry Masonry Specialist, Skill Level 2 | Enlisted | MOS: 12W, Skill Level: SL2 |