piles, furnishing and driving additional piles at locations approved by Engineer and modifying concrete or reinforcement steel.

2. In the case of a pile with some deficiency that affects load capacity, the Engineer will calculate the load capacity requirements of that pile, based on its actual "as-driven" location and inclination. If the calculation indicates that the loading on the pile exceeds some reduced allowable loading less than the design load, then the Subcontractor shall perform such remedial work as the Engineer, in his sole discretion, may approve, including but not limited to redriving piles, furnishing and driving additional piles at locations approved by the Engineer and modifying concrete or reinforcement steel.
3. If a pile fails to comply with the requirements of this Section and the Engineer determines that modification to concrete or reinforcement steel, or the driving of additional piles is necessary, the Engineer will perform all required redesign and detailing.
4. Costs for corrective measures will be borne by the Subcontractor unless the deficiencies are the result of obstructions.

3.02 PILE FILLING

A. Concrete Placement

1. Fill all approved piles with concrete.
2. Cover piles not immediately filled with concrete with caps to prevent any material from entering them.
3. Before concreting, each pile shall have water and other materials removed.
4. The Engineer will re-inspect all piles immediately prior to filling with concrete. Fill the piles with concrete in one continuous operation by method which will prevent the segregation of ingredients. Adjust the rate of concrete placement as necessary to prevent void formation.

3.03 FIELD TESTS

A. Inspection

1. Cooperate with the Engineer and furnish services as may be required for inspecting and obtaining data. Typical of these services shall be the measurement of length of piles, painting foot marks on piles and furnishing light for inspecting piles.
2. The Engineer will keep a record of each pile driven. Such record will include the following data:
    a. Date of driving
    b. Pile number
    c. Type and size of pile
    d. Type, number, and location of splices
    e. Length before driving
    f. Length of cut-off
    g. Hammer type and size

h. Hammer speed and stroke.
i. Blows per foot of driven length, and blows per inch for the final driving.
j. The time pile driving is started, interrupted, resumed and stopped.
k. Description of any unusual circumstances affecting the driving of the particular pile
l. Sounded length of each pile
m. Slope of pile
n. Lowest elevation at which light source is fully visible and elevation at which eye contact with light source is lost

3. After all piles for each pile group have been driven, the Engineer will inspect each pile by means of a light source lowered to the bottom. If eye contact with the light source is lost in any pile, that pile will be further tested by the Subcontractor's Qualified Agent with an inclinometer. Prior to placing concrete, the Engineer shall certify that pile is clear and dry. After the piles have been inspected and found satisfactory, concrete may be placed.

B. Pile Load Tests

1. Perform pile load tests in accordance with the code.
2. Submit detailed drawings of the load test set-up and procedures for approval by the Engineer.
3. The Engineer shall be responsible for inspecting the load tests and prepare the necessary reports.
4. The Subcontractor will provide calibrations for the hydraulic ram and gages, and furnish the equipment required to monitor the pile settlement during testing.

END OF SECTION