

SECTION 01410

CONSTRUCTION QUALITY CONTROL SERVICES

PART 1 GENERAL

1.01 SUMMARY:

- A. Construction Quality Control Services will be provided by PETCO's Testing/Inspection Agency in a contract for services with PETCO. Additional testing and inspections shall be provided and/or coordinated directly by the Contractor as defined in this Section, and will NOT be under PETCO's Testing/Inspection Agency's scope of work
- B. Both PETCO's and Contractor's Testing/Inspection Agency(s)' Project Engineer(s) shall be a Professional Engineer licensed in NC. All test reports, inspection reports and correspondence shall be certified by the Testing/Inspection Agency's Licensed Professional Engineer.
- C. Both PETCO's and Contractor's Testing/Inspection Agency(s) may reject materials or workmanship which do not meet standards either at the storage plant or at the jobsite, and shall notify the PETCO Project Manager immediately and in writing, of any rejection of materials or workmanship.
- D. The Contractor shall permit both PETCO's and Contractor's Testing/Inspection Agency(s) access to the jobsite at all times, and shall provide supplementary labor and equipment as may be required.

1.02 SPECIAL INSPECTIONS:

- A. Special Inspections may be required by the local jurisdiction. If the Testing/Inspection Agency is so licensed or otherwise approved to provide same, Special Inspections may be provided under the Testing/Inspection Agency's scope of work subject to approval and authorization of the PETCO Project Manager.
- B. The Contractor shall advise the Architect and the PETCO Project Manager in a timely manner if the Contractor is advised of any applicable requirements for Special Inspections.

1.03 CONSTRUCTION QUALITY CONTROL SERVICES PROVIDED BY PETCO'S TESTING/INSPECTION AGENCY:

- A. Grading and Sitework Material Testing and Site Inspections: **NOT USED**
- B. Pile Driving Inspection and Testing: **NOT USED**
- C. Concrete Material Testing and Site Inspections: *(if applicable)*
 - 1. The Testing/Inspection Agency shall provide on-site reinforcing steel inspections and shall verify that reinforcing steel bars are in compliance with the specified standards
 - 2. The Testing/Inspection Agency shall provide on-site and off-site concrete testing and placement inspections.
 - a Site Inspections of footings, piers, walls and other small concrete pours, and concrete slabs on grade.

- 1) The Testing/Inspection Agency shall provide continuous placement inspections on concrete with designed compressive strength greater than 2000 psi.
- 2) The Testing/Inspection Agency shall make slump tests to verify conformance with specified slump throughout the progress of concrete placement, or for at least every 75 cubic yards of concrete placed.
- 3) The Testing/Inspection Agency shall check air content throughout progress of concrete placement, for at least every truckload of air-entrained concrete.
- 4) The Testing/Inspection Agency shall verify that finished concrete surfaces will have the level or slope tolerance required in the drawings.
- 5) Test Reports shall include record of cubic yards of concrete placed, previous concrete yardage placed and total concrete placed to date.
- 6) Test Reports shall report other data which may have a bearing on the quality or strength of concrete, and report if any concrete has been rejected.
- 7) Test Reports shall include Testing/Inspection Agency inspector's name, time of arrival and departure and total hours for day.

b. Concrete test cylinder compression testing.

- 1) The Testing/Inspection Agency shall take samples and make tests in accordance with applicable ASTM standards.
- 2) The Testing/ Inspection Agency shall provide 4 molded concrete test cylinders for each 75 cubic yards or fraction thereof, of each class of concrete for each day's placement.
- 3) The Testing/Inspection Agency shall test 1 cylinder at 7 days, 2 cylinders at 28 days, and retain 1 cylinder for later testing if required.
- 4) Testing Reports shall include compression test reports for each cylinder, the conditions as received from the field, the date cast and date tested, required compression strength, number of days cured in the field and in the laboratory, the concrete pour location where the test material was taken, and other information meeting ASTM C39 standards.
- 5) Testing Reports shall include the amount and admixtures types used at the project site, cylinder fabrication-identification number, design strength, slump, air content, weight of concrete per cubic foot, truck number from which taken and location of placement with yardage of concrete placed at each location, as well as site conditions including time of test, temperature range and weather conditions.

D. Masonry (concrete and other) Material Testing and Site Inspections: *(if applicable)*

1. Masonry Reinforcement Inspection: The Testing/Inspection Agency shall verify the placement of concrete masonry reinforcing in accordance with the contract documents.
2. Masonry Grout and Mortar Inspection and Testing: The Testing/Inspection Agency shall provide tests to determine compliance of grout and mortar with the specification standards. Grout and mortar samples shall be tested on the basis of one test per every 2000 concrete masonry units or part thereof, with a minimum of 5 tests for each material.

E. Structural Steel Material Testing and Site Inspections: *(if applicable)*

1. Testing and Inspection of structural steel which may be provided by the Testing/Inspection Agency, but ONLY at the specific direction of the PETCO Project Manager.

- a. If so authorized by the PETCO Project Manager, the Testing/Inspection Agency shall provide tests to determine compliance of structural steel with the specified requirements.
- b. If so authorized by the PETCO Project Manager, the Testing/Inspection Agency shall procure identified test specimens from the steel fabricator, subject to a 50 mile one-way distance limitation. Distance traveled which exceeds the 50 mile one-way distance limitation shall be paid by PETCO and backcharged to the Contractor.
- c. If testing is so authorized by the PETCO Project Manager and indicates that the test material is not in compliance with the specified requirements, the cost of said testing shall be backcharged to the Contractor.
- d. If testing is so authorized by the PETCO Project Manager and if structural steel is identified by heat and/or melt numbers, and is furnished with mill analysis and test reports, then the Testing/Inspection Agency shall provide not less than one tension and one bend test for each ten tons or fraction thereof.
- e. If testing is so authorized by the PETCO Project Manager and if structural steel is NOT identified by heat and/or melt numbers, then the Testing/Inspection Agency shall provide not less than one tension and one bend test for each five tons or fraction thereof. Additional tests shall be provided at the direction of the PETCO Project Manager.

1.04 TESTING AND INSPECTIONS PROVIDED BY CONTRACTOR'S TESTING/INSPECTION AGENCY:

A. Portland Cement Certificates of Compliance:

- 1. The Contractor shall obtain the Certificates of Compliance from the cement manufacturer which are delivered to the concrete producer.
- 2. The Certificates of Compliance must identify the cement as to production lot, bin, or silo number, dating and routing of shipment, and compliance with the specified standards.
- 3. The Contractor shall promptly provide all Certificates of Compliance and other test results to the Testing/Inspection Agency, and shall provide other specific physical and chemical data if required by the Architect/Engineer.

B. Aggregate Sieve Analysis Test and Specific Gravity Test:

- 1. Provide one aggregate test, unless the character of material changes, material is substituted, or additional aggregate testing is requested by the Architect/Engineer.
- 2. Testing sample from conveyor belts or batching gates at the ready-mix plant shall include a Sieve Analysis Test and Specific Gravity Test to determine product compliance with specified standards and grading.
- 3. The Contractor shall promptly provide all Sieve Analysis Test and Specific Gravity Test results to the Testing/Inspection Agency, and shall provide other specific physical and chemical data if required by the Architect/Engineer.

C. Laboratory Design Mix:

- 1. The Contractor shall provide the Concrete Mix Design, in accordance with ACI 318, Chapter 5, after approval of the aggregate, and whenever the character or source of materials is changed.
- 2. The Contractor shall provide copies of the Concrete Mix Designs for all mixes, as prepared by a Licensed Professional Engineer, to the Testing/Inspection Agency.
- 3. Laboratory Design Mix shall also be submitted to the Architect/Engineer per Section 01340-Submittals.

D. Concrete Test Reports:

1. Concrete Test Reports shall contain concrete supplier, weather, air temperature (range), required strength of concrete, water-cement ratio, weight per cubic yard at the batching plant, source and type of aggregates and cement, and moisture content of aggregate.
2. Concrete Test Reports shall also be submitted to the Architect/Engineer per Section 01340-Submittals.

E. Concrete Core Tests:

1. The Contractor shall provide supplementary concrete core tests when specifically directed by the PETCO Project Manager because of low cylinder test results.
2. The concrete core(s) shall be cut from locations directed by the PETCO Project Manager or Architect/Engineer, per ASTM C42, and prepared and tested per ASTM C39.

F. Metal Deck Fastening Inspection:

1. Prior to the start of metal decking installation, the Contractor shall verify that the materials at the jobsite comply with the specified standards, that the installing subcontractor is qualified and fully informed as to the procedures to be followed.
2. During installation, the Contractor shall verify that materials are installed in strict accordance with the manufacturer's recommendations.
3. Upon completion of the metal decking installation, the Contractor shall retain the services of a Licensed Professional Engineer to obtain certification that the metal deck fastening was provided in accordance with applicable standards.
4. Letter of Certification: The Contractor shall send the Engineer's Letter of Certification to the PETCO Project Manager, and shall include a copy of the letter in the Building Maintenance Manuals per Section 01700-Contract Closeout.

G. Roof Inspection and Testing: *(if applicable)*

1. Prior to the start of roofing installation, the Contractor shall verify that the materials at the jobsite comply with the specified standards, that the installing subcontractor is qualified and fully informed as to the procedures to be followed.
2. During installation, Contractor shall verify that materials are installed in strict accordance with the manufacturer's recommendations.
3. Warranty Inspection: Upon completion of the roofing installation, the Contractor shall contact the roofing manufacturer to provide a warranty inspection.

1.05 ROOFING INSPECTION BY PETCO'S ROOFING INSPECTION AGENCY: *(if applicable)*

- A. In addition to the roofing manufacturer's inspection as a part of the manufacturer's roofing warranty program, PETCO may elect to have an independent Roofing Inspection Agency inspect the in-progress or completed installation of the roofing system.
- B. In the event that the PETCO Project Manager contracts directly with an independent Roofing Inspection Agency for roofing inspection services, the Contractor shall provide complete access to all roofing materials prior to installation, complete access to the area to receive roofing work as a part of the contract for general construction, and complete access to the Contractor and/or subcontractor's field records with respect to all roofing provisions.

1.06 TESTING AND INSPECTION NOT REQUIRED BY PETCO: PETCO does NOT require inspection of or testing of mill tests on cement and steel, or design and inspecting concrete formwork.

1.07 TEST REPORTS FORMAT AND DISTRIBUTION REQUIREMENTS:

- A All Test and Field Reports must include the Project Name, Project Address, Contractor's Name and Date Inspection and/or Testing was provided. All reports shall be typewritten, and shall bear the signature and seal of the Project Testing Laboratory Engineer. The distribution of all report copies shall be noted on ALL reports. The Testing/Inspection Agency shall distribute all Test and Field Reports no later than seven (7) calendar days after providing that portion of the inspection and testing work.
- B Report Distribution: One copy of all Test and Field Reports or Special Inspections shall be sent by the Testing/Inspection Agency directly to the PETCO Project Manager, Project Architect, Project Structural Engineer and the Contractor.

END OF SECTION

