

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01455

TESTING AND INSPECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contractor's Quality Control
- B. Quality of the Work
- C. Inspections and Tests by Division of State Architect
- D. Inspections and Tests by Serving Utilities
- E. Inspections and Tests by Manufacturer's Representatives
- F. Inspections by Independent Testing and Inspection Agency
- G. Additional Testing and Inspection

1.2 CONTRACTOR'S QUALITY CONTROL

- A. Contractor's Quality Control: Ensure that products, services, workmanship and Site conditions comply with requirements of Drawings and Specifications by coordinating, supervising, testing, and inspecting the Work and by utilizing only suitably qualified and appropriately audited, licensed or trained, personnel.
- B. Quality Requirements: Work shall be accomplished in accordance with quality requirements of Drawings and Specifications, including, by reference, all codes, laws, rules, regulations, and standards. When no quality basis is prescribed, the quality and testing procedures shall be in accordance with the best-accepted practices of the construction industry for the locale of the Project, for projects of this type, or standards set by engineering or technical societies (e.g., ASTM or ASHRAE), whichever is more stringent.
- C. Quality Control Personnel: Employ and assign knowledgeable and skilled personnel as necessary to perform quality control functions to ensure that the Work is provided as required.

1.3 QUALITY OF THE WORK

- A. Quality of Products: Unless otherwise indicated or specified, all products shall be new, free of defects, and fit for the intended use.
- B. Quality of Installation: All Work shall be produced plumb, level, square and true, or true to indicated angle, and with proper alignment and relationship between the various elements, as shown on or required by Contract Documents.
- C. Protection of Completed Work: Take all measures necessary to preserve completed Work free from damage, deterioration, soiling, and staining, until acceptance by District.
- D. Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Unless more stringent requirements are indicated or specified, comply with manufacturer's instructions and recommendations, reference standards and building code research report requirements in preparing, fabricating, erecting, installing, applying, connecting, and finishing Work.
- E. Deviations from Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Secure District's advanced written consent. Document and explain all deviations from reference standards and building code research report requirements and manufacturer's product installation instructions and recommendations, including acknowledgement by the manufacturer that such deviations are acceptable and appropriate for the Project.
- F. Verification of Quality: Work shall be subject to verification of quality by District in accordance with provisions of the Contract Documents.
 - 1. Cooperate by making Work available for inspection by Division of State Architect Inspector and independent testing and inspection agencies.
 - 2. Such verification may include mill, plant, shop, or field inspection as required.
 - 3. Provide access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.

4. Provide all information and assistance as required, including that by and from subcontractors, fabricators, materials suppliers and manufacturers, for verification of quality by District.
5. Applicable provisions of the Contract Documents shall govern Contract Modifications, if any, resulting from such verification activities.
- G. Observations by District's Consultants: Periodic and occasional observations of Work in progress will be made by District and District's consultants as deemed necessary to review progress of Work and general conformance with design intent.
- H. Limitations on Inspection, Testing and Observation: Neither employment of independent testing and inspection agency nor observations or tests by District and District's consultants shall in any manner relieve Contractor of obligation to perform Work in full conformance to all requirements of Contract Documents.
- I. District's Acceptance and Rejection of Work: District reserves the right to reject all Work not in conformance to the requirements of the Drawings and Specifications, or otherwise defective.
- J. Correction of Defective Work: Defective Work shall be modified, replaced, repaired or redone by the Contractor at no change in Contract Sum or Contract Time.
- K. Acceptance of Defective Work: Acceptance of defective Work, without specific written acknowledgement and approval of District, shall not relieve the Contractor of the obligation to correct such Work.
- L. Contract Adjustment for Defective Work: Should District determine that it is not feasible or in District's interest to require defective Work to be repaired or replaced, an equitable reduction in Contract Sum shall be made by agreement between District and Contractor. If equitable amount cannot be agreed upon, a Construction Change Directive will be issued and the amount in dispute resolved in accordance with applicable provisions of Document 00700 (General Conditions).
- M. Non-Responsibility for Defective Work: District and District's consultants disclaim any and all responsibility for Work produced not in conformance with the Drawings and Specifications.
- N. Responsibility for Defective Work: Contractor shall have full responsibility for all consequences resulting from defective work, including without limitation all delays, disruptions, extra inspection and correction costs by Contractor and District and re-Work, and extra time and costs of all types. Contractor waives excuses for defective work relating to District's prior review of Submittals and/or prior failure to notice defective work in place on inspection.

1.4 INSPECTIONS BY DIVISION OF THE STATE ARCHITECT INSPECTOR OF RECORD

- A. The District will select and pay for a Division of the State Architect (DSA) certified inspector(s) for this project. The Contractor will coordinate their work with required inspections.
- B. Regulatory Requirements for Testing and Inspection: Contractor shall comply with Part 1, Title 24, Section 4-335, California Code of Regulations and shall cooperate with the Inspector and the District in all testing required by the Office of Regulation Services, Division of State Architect. Contractor shall comply with Part 2, Title 24, California Code of Regulations and shall cooperate with Inspector in all inspections, testing and approvals required by the Office of Regulation Services, Division of State Architect. Contractor shall also comply with Uniform Building Code (UBC) requirements and all other requirements of governing authorities having jurisdiction.

1.5 INSPECTIONS AND TESTS BY SERVING UTILITIES

- A. Cause all tests and inspections required by serving utilities to be made for Work under this Contract. Scheduling conducting and paying for such inspections shall be solely the Contractor's responsibility.

1.6 INSPECTIONS AND TESTS BY MANUFACTURER'S REPRESENTATIVES

- A. Cause all tests and inspections specified to be conducted by materials or systems manufacturers to be made. Additionally, all tests and inspections required by materials or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Contract Sum.

1.7 INSPECTIONS BY INDEPENDENT TESTING AND INSPECTION AGENCY

- A. District will select an independent testing and inspection agency or agencies approved by the Architect/Engineer and the Division of State Architect to conduct tests and inspections in accordance with Part 1, Title 24, Section 4-335, California Code of Regulations and as indicated on Drawings, in Specifications and as required by governing authorities having jurisdiction.

- B. Responsibility for time and costs shall be as indicated in schedule below. All time and costs for Contractor's service related to such tests and inspections shall be included in Contract Time and Contract Sum.
- C. Notify District and Inspector in writing (and, if provided, on inspection request form provided by District) and, if directed by District, testing and inspection agency, when Work is ready for specified tests and inspections. Deliver this written notification at least 72 hours before the requested inspection date.
- D. The Contractor will reimburse the District for all additional charges by testing and inspection agencies and governing authorities having jurisdiction due to the following:
 - 1. Contractor's failure to properly schedule or notify testing and inspection agency or authorities having jurisdiction.
 - 2. Changes in sources, lots, or suppliers of products after original tests or inspections.
 - 3. Changes in means, methods, techniques, sequences, and procedures of construction that necessitate additional testing, inspection, and related services.
 - 4. Changes in mix designs for concrete and mortar after review and acceptance of submitted mix design.
 - 5. Contractor submitted requests to change materials or products, which are accepted, but require testing and/or reinspection beyond original design.
- E. Tests and special inspections to be paid by District may, where required, include the following:
- F. Test and Inspection Reports: After each inspection and test, one copy of report shall be promptly submitted to Division of State Architect, District's Representative, the Contractor and/or any other consultant District designates, Architect/Engineer, Contractor and any agency having jurisdiction (if required by Code).
 - 1. Reports shall clearly identify the following:
 - a. Date issued.
 - b. Project name and number.
 - c. Identification of product and Specifications Section in which Work is specified.
 - d. Name of inspector.
 - e. Date and time of sampling or inspection.
 - f. Location in Project where sampling or inspection was conducted.
 - g. Type of inspection or test.
 - h. Date of test.
 - i. Results of tests.
 - j. Comments concerning conformance with Contract Documents and other requirements.
 - 2. Test reports shall indicate specified or required values and shall include statement whether test results indicate satisfactory performance of products.
 - 3. Samples taken but not tested shall be reported.
 - 4. Test reports shall confirm that methods used for sampling and testing conform to specified test procedures.
 - 5. When requested, testing and inspection agency shall provide interpretations of test results.
- G. Contractor Responsibilities in Inspections and Tests:
 - 1. Unless specified otherwise, notify Inspector, District's Representative, or any other consultant District designates, Architect/Engineer and independent testing and inspection agencies 72 hours in advance of expected time of each test and inspection, and for all other operations requiring inspection and testing services, by submitting Contractor's inspection request in writing (or, if District provides a specific form, on that form).
 - a. When tests or inspections cannot be performed after such notice, reimburse District for testing and inspection agency personnel and travel expenses incurred due to Contractor's negligence.
 - 2. Deliver to laboratory or designated location, adequate samples of materials proposed to be used that require advance testing, together with proposed mix designs.
 - 3. Cooperate with Inspector, District's Representative, or any other consultant District designates, and District's consultants. Provide access to Work areas and off-Site fabrication and assembly locations, including during weekends and after normal Work hours.
 - 4. Provide incidental labor and facilities to provide safe access to Work to be tested and inspected, to obtain and handle samples at the Sites or at source of products to be tested, and to store and cure test samples.
 - 5. Provide, at least 15 Days in advance of first test or inspection of each type, a schedule of tests or inspections indicating types of tests or inspections and their scheduled dates.

1.8 ADDITIONAL TESTING AND INSPECTION

- A. If initial tests or inspections made by the Inspector or District's Representative, or any other consultant District designates reveal that materials do not comply with Title 24, California Code of Regulations or with the Contract Documents, or if District has reasonable doubt that materials do not comply with Title 24, California Code of Regulations or with Contract Documents, additional tests and inspections shall be made as directed.
1. If additional tests and inspections establish that materials comply with Contract Documents, District shall pay all costs for such tests and inspections.
 2. If additional tests and inspections establish that materials do not comply with Contract Documents, all costs of such tests and inspections shall be deducted from Contract Sum.
 3. If Work requiring inspection is covered by follow-on or follow-up Work before it is inspected, uncover Work so proper inspections can be performed. All costs of such tests and inspections shall be deducted from Contract Sum.

END OF SECTION