

SECTION 01300 - SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

- 1.1 DESCRIPTION
A. Work includes all submittals only as follows unless otherwise noted in the Contract Documents, and revisions and resubmissions necessary to establish compliance with the specified requirements.
1. Refer to Submittals to the Owner's Representative for a complete list of submittals.
a. Concrete Mix Design
b. Reinforcing Steel
c. Structural Steel
d. Electrical Equipment - disconnects, panels, fuses, etc.
e. Miscellaneous Steel
f. Aluminum Doors and Windows
g. Hardware
h. Roofing
i. HVAC Equipment and Ductwork
j. Hollow Metal Frames, doors and hardware
k. Other equipment and materials
B. Owner's Representative. The Owner may designate a Representative to work on his behalf throughout the construction process. The General Contractor shall verify that the representative shall be for purposes of these specifications.

- 1.2 QUALITY ASSURANCE
A. Coordination of submittals:
1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the location for its installation is in accordance with the specifications.
3. By affixing the Contractor's signature to each submittal, clearly that this coordination has been performed.

- 1.3 NO OTHER SUBMITTALS WILL BE REVIEWED BY THE OWNER'S REPRESENTATIVE UNLESS THE CONTRACTOR IS REQUESTING A SPECIFICATION AS DESCRIBED IN THESE SPECIFICATIONS.
A. Coordination of submittals:
1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the location for its installation is in accordance with the specifications.
3. By affixing the Contractor's signature to each submittal, clearly that this coordination has been performed.

- 1.4 SUBMITTALS
A. Provide Submittal Log to the Owner's Representative for review within the first 30 calendar days of Contract award at all submittal dates.
B. Make minimum of Shop Drawings, samples, substitution requests, and other items in accordance with the provisions of the Section and the Owner's Representative.

PART 2 - PRODUCTS

- 2.1 SHOP DRAWINGS
A. Scope and measurements: Make Shop Drawings according to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
B. Types of goods required:
1. Submit Shop Drawings in the form of one size transparency of each sheet plus two blueprints or blackline prints of each sheet.
2. Blueprints only will not be accepted.
C. If revised items the Owner's Representative will be shown on the shop transparency and a separate sheet for review, for securing necessary approvals, for possible rework and resubmission, and for clearing orders and securing delivery.
D. In scheduling allow at least ten working days for review by the Owner's Representative following the receipt of the submittal.

- 2.2 MANUFACTURER'S LITERATURE
A. Where contents of submittal literature from manufacturer include data not pertinent to the submittal, clearly show which portions of the literature are pertinent to the submittal.
B. Submit the minimum number of copies which are required to be returned, plus two copies which will be retained by the Owner's Representative.

PART 3 - EXECUTION

- 3.1 IDENTIFICATION OF SUBMITTALS
A. Consecutively number all submittals.
1. When material is resubmitted for any reason, transmit under the same file number and transmit with a new identification number.
2. On resubmissions, cite the original submittal number for reference.
3. Accurately check submittals with a letter of transmittal showing all information required for identification and checking.
C. On all the first pages of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was submitted.
D. Maintain an accurate submittal log at all times for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Owner's Representative for his review upon request.

- 3.2 GROUPING OF SUBMITTALS
A. Use alternate submittals, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
B. Parallel submittals shall be submitted at the same time.
C. The Contractor may be held liable for delays so occasioned.

- 3.3 TIMING OF SUBMITTALS
A. Make submittals for review in advance of scheduled dates for installation to provide time following for review, for securing necessary approvals, for possible rework and resubmission, and for clearing orders and securing delivery.
B. In scheduling allow at least ten working days for review by the Owner's Representative following the receipt of the submittal.

- 3.4 OWNER'S REPRESENTATIVE'S REVIEW
A. Review all the Owner's Representative does not release the Contractor from responsibility for errors, which may exist in the submittal data.
B. Resubmissions.
1. Manufacturers required by the Owner's Representative.
2. If the Contractor conveys any request necessary to a change, he shall notify the Owner's Representative first.
3. Make only those revisions directed or approved by the Owner's Representative.

SECTION 01410 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

- 1.1 DESCRIPTION
A. Work includes: The Owner is to provide testing and inspecting, complete as described in this Section and elsewhere in the Contract Documents.
B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Instructions and Sections in Division 10 and these Specifications.
2. Documents for testing may be described in various Sections of these Specifications.

- 1.2 QUALITY ASSURANCE
A. Provide the services of a soil engineer and testing laboratory approved by the Owner's Representative.
B. Laboratory shall comply with requirements of ANSI/ASTM E 329 and ANSI/ASTM 3740 and provide specifications for testing.
C. Testing equipment shall be authorized to operate in State in which Project is located.
D. Testing equipment shall be calibrated to ensure accurate results and values in order to ensure that test results are true and valid, and all devices with devices of an accuracy comparable to other NBS Standards or accepted values of national physical constants.

- 1.3 SELECTION AND PAYMENT
A. The Owner will employ and pay for the services of an independent testing laboratory to perform specified testing and inspecting.
B. Employer of testing laboratory shall for no reason exonerate Contractor of obligation to perform work in accordance with requirements of Contract Documents.
C. Payment for testing shall be made by the Contractor.

- 1.4 SPECIFIC TESTS AND INSPECTIONS
A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
B. Tests include, but are not necessarily limited to, those described in detail in Part 3 of this Section.

1.5 REFERENCES

- A. American Society for Testing and Materials (ASTM):
1. ASTM E 29 - Test Method for Unit Weight and Void in Aggregates.
2. ASTM C 31 - Test Methods of Making and Curing Concrete Test Specimens in the Field.
3. ASTM C 39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C 127 - Test Method to Specific Gravity and Absorption of Coarse Aggregates.
5. ASTM C 128 - Test Method for Specific Gravity and Absorption of Fine Aggregate.
6. ASTM C 136 - Test Method for Sieve Analysis of Fine and Coarse Aggregates.
7. ASTM C 138 - Test Method for Unit Weight, Void, and Air Content (Gravimetric) of Concrete.
8. ASTM C 143 - Test Method for Slump of Hydraulic Cement Concrete.
9. ASTM C 172 - Practice for Sampling Freshly Mixed Concrete.
10. ASTM C 231 - Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
11. ASTM C 496 - Test Method for Sampling Testing Strength of Cylindrical Concrete Specimens.
12. ASTM C 666 - Test Method for Laboratory Compaction Characteristics of Bituminous Paving Standard Effort (12,000 Feet) (900 N/mm Squares).
13. ASTM C 1363 - Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Parallel-Plate Compaction.
14. ASTM C 1565 - Test Method for Resistance to Deformation of Bituminous Materials by Means of Rubber Hardness.
15. ASTM C 2157 - Test Method for Density and Unit Weight of Soil by Phasing by Blowing Medium Method.
16. ASTM D 2122 - Test Method for Quantitative Extraction of Oil from Bituminous Paving by Numerical Refractometer Method.
17. ASTM D 2172 - Test Method for Density of Soil and Aggregate in Place by Nuclear Density Gauge Method (Shallow Depth).
18. ASTM D 3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
19. ASTM D 4318 - Test Method for Liquid Limit, Plastic Limit, and Shrinkage Limit of Soils.
20. American National Standards Institute (ANSI):
1. ANSI/ASTM E 3740 - Practice for Use of the Nuclear Density Gauge Method for Determining Moisture Content and Density of Soils in Place in Engineering Design and Construction.
2. ANSI/ASTM E 329 - Practice for Use of the Nuclear Density Gauge Method for Determining Moisture Content and Density of Soils in Place in Engineering Design and Construction.
2.1 OTHER WORK REQUIRING TESTS
A. Refer to individual sections covered under Division 15 and 16 for other work requiring tests by independent testing laboratory.

1.6 LABORATORY RESPONSIBILITIES

- A. Provide qualified personnel at site after due notice from the Contractor; cooperate with Owner's Representative, Contractor, and appropriate governmental authorities having jurisdiction in performing all tests.
B. Perform specified tests, inspections, sampling, and testing of products in accordance with test, log-up date submittals.
C. Ascertain compliance of materials and work with requirements of Contract Documents.
D. Promptly notify the Representative, appropriate contractors, Contractor, Owner, and authority having jurisdiction of non-compliance of Work, or non-compliance of materials, or non-compliance of work.
E. Provide additional inspections and tests required by Owner's Representative, Owner, Contractor, or authority having jurisdiction.
F. Make duplicate copies of test results, test logs, and test reports available to the Contractor.
G. Make duplicate copies of test results, test logs, and test reports available to the Contractor.
H. Make duplicate copies of test results, test logs, and test reports available to the Contractor.
I. Make duplicate copies of test results, test logs, and test reports available to the Contractor.
J. Make duplicate copies of test results, test logs, and test reports available to the Contractor.

1.7 LABORATORY REPORTS

- A. After each inspection and test, promptly submit two copies of laboratory report to Owner's Representative, one to the Contractor, and one to the City (if required). Include: Date, time of day, Project name, location, name and level of sampling or inspection, weather conditions, name of operator and a complete description of the test, and the results of the test.
B. Provide a copy of the laboratory report to the Contractor.
C. Provide a copy of the laboratory report to the Contractor.
D. Provide a copy of the laboratory report to the Contractor.
E. Provide a copy of the laboratory report to the Contractor.
F. Provide a copy of the laboratory report to the Contractor.
G. Provide a copy of the laboratory report to the Contractor.
H. Provide a copy of the laboratory report to the Contractor.
I. Provide a copy of the laboratory report to the Contractor.
J. Provide a copy of the laboratory report to the Contractor.

1.8 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not approve or accept any portion of the Work.
B. Laboratory may not approve or accept any portion of the Work.
C. Laboratory may not approve or accept any portion of the Work.
D. Laboratory may not approve or accept any portion of the Work.
E. Laboratory may not approve or accept any portion of the Work.
F. Laboratory may not approve or accept any portion of the Work.
G. Laboratory may not approve or accept any portion of the Work.
H. Laboratory may not approve or accept any portion of the Work.
I. Laboratory may not approve or accept any portion of the Work.
J. Laboratory may not approve or accept any portion of the Work.

1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to contractor at designated location appropriate samples of materials proposed to be used which require testing, together with the specified requirements.
B. Coordinate with laboratory personnel, and ensure ready access to Work and to manufacturer's facilities, if applicable.
C. Provide necessary labor and facilities for testing to be tested, to obtain and handle samples at the site or at an alternate location to the Work, in order to facilitate tests and inspections, and for storage and handling of test samples.
D. Notify laboratory of material sources and furnish all determined necessary quantities of representative samples of materials proposed to be used which are required to be tested.
E. Notify Owner's Representative and laboratory 24 hours prior to expected time for operations requiring inspection at an alternate location.
F. Advise laboratory in a timely fashion to complete reporting and testing prior to subsequent work.
G. Retain the Contractor for a minimum of 30 days after completion of testing.
H. Retain the Contractor for a minimum of 30 days after completion of testing.
I. Retain the Contractor for a minimum of 30 days after completion of testing.
J. Retain the Contractor for a minimum of 30 days after completion of testing.

PART 2 - PRODUCTS

2.1 EARTHWORK (SITE GENERAL)

- A. Make necessary soil tests (Allowing Limit Series ASTM D 4318 and ASTM D 698 Standard Proctor) to determine optimum moisture content and density of existing soils. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
B. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
C. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
D. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
E. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
F. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
G. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
H. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
I. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.
J. Perform necessary soil tests (Allowing Limit Series and ASTM D 698 Standard Proctor) for each type of material to be placed.

2.2 PAVING OR SPECIAL SURFACE SUBGRADE PREPARATION

- A. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
B. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
C. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
D. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
E. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
F. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
G. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
H. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
I. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.
J. Perform one subgrade in-place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 1557.

2.3 BUILDING SUBGRADE PREPARATION

- A. Make necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
B. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
C. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
D. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
E. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
F. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
G. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
H. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
I. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.
J. Perform necessary soil tests (Allowing Limit Series and ASTM D698 Standard Proctor) for each type of fill to determine optimum moisture content and density of existing soils.

2.4 DRILLED PIERS

- A. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
B. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
C. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
D. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
E. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
F. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
G. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
H. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
I. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.
J. The Contractor shall provide the services of the registered Geotechnical engineer at the location of the site to provide engineering services to determine appropriate bearing material into which the piers are to be drilled.

2.5 CAST-IN-PLACE CONCRETE

- A. At the beginning of the work, the Contractor shall submit proposed concrete mixes for review by the Owner's Representative, structural engineer, consultant, and testing laboratory, and for clearing orders and securing delivery.
B. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
C. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
D. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
E. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
F. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
G. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
H. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
I. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
J. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.

2.6 STRUCTURAL STEEL

- A. Fabricate all steel, and connections between, structural steel members, including welding and tension in high strength bolts, will be accomplished under and subject to the inspection of an independent testing agency. The general Contractor, structure steel fabricator, and erector shall afford full cooperation to the testing agency.
B. Check dimensions and tolerances of steel fabricator.
C. Check dimensions and tolerances of steel fabricator.
D. Check dimensions and tolerances of steel fabricator.
E. Check dimensions and tolerances of steel fabricator.
F. Check dimensions and tolerances of steel fabricator.
G. Check dimensions and tolerances of steel fabricator.
H. Check dimensions and tolerances of steel fabricator.
I. Check dimensions and tolerances of steel fabricator.
J. Check dimensions and tolerances of steel fabricator.

2.7 REINFORCING STEEL AND BARS

- A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
B. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
C. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
D. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
E. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
F. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
G. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
H. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
I. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
J. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.

2.8 CAST-IN-PLACE CONCRETE

- A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
B. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
C. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
D. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
E. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
F. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
G. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
H. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
I. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.
J. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Owner's Representative.

2.9 METAL LATHING

- A. Qualify fabricator: Establish steel fabricator's qualifications and qualifications of personnel, review all proposed shop drawings and specifications for compliance with the Contract Documents, and provide necessary approvals.
B. Check dimensions and tolerances of steel fabricator.
C. Check dimensions and tolerances of steel fabricator.
D. Check dimensions and tolerances of steel fabricator.
E. Check dimensions and tolerances of steel fabricator.
F. Check dimensions and tolerances of steel fabricator.
G. Check dimensions and tolerances of steel fabricator.
H. Check dimensions and tolerances of steel fabricator.
I. Check dimensions and tolerances of steel fabricator.
J. Check dimensions and tolerances of steel fabricator.

2.10 FINISHING

- A. Qualify fabricator: Establish steel fabricator's qualifications and qualifications of personnel, review all proposed shop drawings and specifications for compliance with the Contract Documents, and provide necessary approvals.
B. Check dimensions and tolerances of steel fabricator.
C. Check dimensions and tolerances of steel fabricator.
D. Check dimensions and tolerances of steel fabricator.
E. Check dimensions and tolerances of steel fabricator.
F. Check dimensions and tolerances of steel fabricator.
G. Check dimensions and tolerances of steel fabricator.
H. Check dimensions and tolerances of steel fabricator.
I. Check dimensions and tolerances of steel fabricator.
J. Check dimensions and tolerances of steel fabricator.

2.11 OTHER WORK REQUIRING TESTS

- A. Refer to individual sections covered under Division 15 and 16 for other work requiring tests by independent testing laboratory.

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

- 1.1 COMPLETION OF CONSTRUCTION, TESTS, AND INSPECTIONS
A. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
B. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
C. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
D. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
E. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
F. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
G. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
H. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
I. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.
J. Before completion of construction, tests, and inspections, the Mechanical and Electrical Sub-Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specifications of the manufacturer.

1.2 RECORD DRAWINGS

- A. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
B. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
C. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
D. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
E. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
F. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
G. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
H. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
I. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.
J. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings and the reasons therefor.

1.3 SUBMITTAL INFORMATION

- A. The Contractor shall accumulate during the job progress, the following data, in duplicate, prepared in a neat brochure or packet folder and turned over to the Owner:
1. A list of all materials and equipment used on the project.
2. A list of all materials and equipment used on the project.
3. A list of all materials and equipment used on the project.
4. A list of all materials and equipment used on the project.
5. A list of all materials and equipment used on the project.
6. A list of all materials and equipment used on the project.
7. A list of all materials and equipment used on the project.
8. A list of all materials and equipment used on the project.
9. A list of all materials and equipment used on the project.
10. A list of all materials and equipment used on the project.

1.4 FINAL INSPECTION

- A. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
B. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
C. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
D. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
E. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
F. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
G. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
H. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
I. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.
J. It shall be the duty of the Contractor to personally make a careful inspection of the entire project, assuring himself that the work is complete and ready for final acceptance, before calling for final inspection.

SECTION 01720 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

- 1.1 DESCRIPTION
A. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
B. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
C. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
D. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
E. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
F. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
G. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
H. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
I. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.
J. Work includes: To the contractor and the contractor's subcontractors to provide and provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data required for the Owner and the Owner's Representative.

1.2 SUBMITTALS

- A. Copy with pertinent provisions of Section 01340.
B. Copy with pertinent provisions of Section 01340.
C. Copy with pertinent provisions of Section 01340.
D. Copy with pertinent provisions of Section 01340.
E. Copy with pertinent provisions of Section 01340.
F. Copy with pertinent provisions of Section 01340.
G. Copy with pertinent provisions of Section 01340.
H. Copy with pertinent provisions of Section 01340.
I. Copy with pertinent provisions of Section 01340.
J. Copy with pertinent provisions of Section 01340.

1.3 OPERATING AND MAINTENANCE MANUALS

- A. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
B. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
C. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
D. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
E. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
F. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
G. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
H. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
I. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.
J. Where instruction Manuals are required to be submitted under these Specifications, prepare in accordance with the provisions of the Section.

PART 2 - PRODUCTS

2.1 INSTRUCTION MANUALS

- A. Prepare:
1. Size: 8-1/2" x 11"
2. Paper: White bond, at least 20 weight
3. Text: Neatly written or printed
4. Binding: Spiral binding or other binding acceptable to the Owner's Representative
5. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
6. Language: English
7. Units: Metric and Imperial
8. Illustrations: Clear and legible
9. References: Complete and accurate information regarding the operation and maintenance of the equipment.
10. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
11. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
12. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
13. Language: English
14. Units: Metric and Imperial
15. Illustrations: Clear and legible
16. References: Complete and accurate information regarding the operation and maintenance of the equipment.
17. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
18. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
19. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
20. Language: English
21. Units: Metric and Imperial
22. Illustrations: Clear and legible
23. References: Complete and accurate information regarding the operation and maintenance of the equipment.
24. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
25. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
26. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
27. Language: English
28. Units: Metric and Imperial
29. Illustrations: Clear and legible
30. References: Complete and accurate information regarding the operation and maintenance of the equipment.
31. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
32. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
33. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
34. Language: English
35. Units: Metric and Imperial
36. Illustrations: Clear and legible
37. References: Complete and accurate information regarding the operation and maintenance of the equipment.
38. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
39. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
40. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
41. Language: English
42. Units: Metric and Imperial
43. Illustrations: Clear and legible
44. References: Complete and accurate information regarding the operation and maintenance of the equipment.
45. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
46. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
47. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
48. Language: English
49. Units: Metric and Imperial
50. Illustrations: Clear and legible
51. References: Complete and accurate information regarding the operation and maintenance of the equipment.
52. Distribution: Complete and accurate information regarding the operation and maintenance of the equipment.
53. Format: Complete and accurate information regarding the operation and maintenance of the equipment.
54. Content: Complete and accurate information regarding the operation and maintenance of the equipment.
55. Language: English
56. Units: Metric and Imperial
57. Illustrations: Clear and legible
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