

**Capital Area Transportation Authority
CATA Transportation Center (CTC)
Lighting Upgrades
Lansing, Michigan**

**PROJECT MANUAL
CATA Request for Proposal 2015-R08
DLZ Project No. 0941.6302.00**



October 3, 2014

Prepared By:
DLZ MICHIGAN, INC.
1425 Keystone Ave
Lansing, MI 48911
(517) 393-6800 FAX (517) 272-7390

TITLE PAGE 00001

Table of Contents

COVER

TABLE OF CONTENTS

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

00700 GENERAL CONDITIONS

00800 SUPPLEMENTARY CONDITIONS

00820 GENERAL REQUIREMENTS

DIVISION 01 - GENERAL REQUIREMENTS

01250 CONTRACT MODIFICATION PROCEDURES

01290 PAYMENT PROCEDURES

01310 PROJECT MANAGEMENT AND COORDINATION

01320 CONSTRUCTION PROGRESS DOCUMENTATION

01322 PHOTOGRAPHIC DOCUMENTATION

01330 SUBMITTAL PROCEDURES

01500 TEMPORARY FACILITIES AND CONTROLS

01700 EXECUTION REQUIREMENTS

01770 CLOSEOUT PROCEDURES

01781 PROJECT RECORD DOCUMENTS

01782 OPERATIONS AND MAINTENANCE DATA

SECTION 00700 - GENERAL CONDITIONS

1.1 REQUIREMENTS

- A. General conditions shall be AIA Document A201, 2007 Edition, entitled, "General Conditions of the Contract for Construction" and is incorporated herein as fully as if herein set forth.
- B. A copy of this form is available at the office of the Architect/Engineer.

END OF SECTION 00700

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 00800 - SUPPLEMENTARY CONDITIONS

REQUIREMENTS:

Where any article of General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these Supplemental General Conditions, the unaltered portions of the General Conditions shall remain in effect.

SUPPLEMENTARY CONDITIONS:

ARTICLE 1 - GENERAL PROVISIONS

1.2.4 Add the following paragraph:

In the event of any inconsistency between the Agreement and the General Conditions of the Contract for Construction, the terms of the Agreement shall govern. In the event of conflicts, discrepancies or inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the Architect's interpretation of the documents shall prevail; in every case, the more expensive item or method specified or shown shall be figured over any less expensive one. Written dimensions shall be used rather than determined by scale or rule.

1.2.5 Add the following paragraph:

Material and equipment incorporated into the project, which by their nature, are governed by OSHA regulations, shall conform to said OSHA regulations, for both manufacture and installation. If, during the progress of the work, it is discovered that installation does not conform to said OSHA regulations, the Contractor shall take such steps as necessary to comply, at no additional cost to the Owner or Architect.

ARTICLE 2 - OWNER

2.2.5 Delete in its entirety and substitute the following:

Contractors shall purchase and/or reproduce sets of Bidding Documents (Project Manuals and Drawings) at their own expense.

ARTICLE 3 - CONTRACTOR

3.4.4 Add the following paragraph:

Asbestos-Free Product Installation

1. It is hereby understood and agreed that no product and/or material containing

asbestos including chrysolite, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos and any combination of these materials that have been chemically treated and/or altered shall be installed or introduced into the Work by the Contractor or his employees, agents, Subcontractors, or other individuals or entities over whom the Contractor has control. The Contractor shall be required to sign a certification statement ensuring that all products or materials installed or introduced into the Work will be asbestos-free.

2. The Contractor shall also be required to furnish certified statements from the manufacturers of supplied materials used during construction verifying their products to be asbestos-free in accordance with the requirements of clause 3.4.4.1.
3. The Contractor shall complete and submit to the Owner a certification evidencing asbestos-free product installation prior to issuance of the final Certificate for Payment, in a form acceptable to the Owner and Architect.

3.12.7 Delete Paragraph 3.12.7 in its entirety and insert the following paragraph in its place:

No portion of the work requiring submission of a Shop Drawing, Product Data or Samples shall be commenced until the submittal has been reviewed by the Architect as provided in Subparagraph 4.2.7. All such portions of the work shall be in accordance with submittals that have been reviewed by the Architect/Engineer.

3.12.8 Delete Paragraph 3.12.8 in its entirety and insert the following paragraph in its place:

The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's review of Shop Drawings, Product Data or Samples under Subparagraph 4.2.7, unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's review thereof.

ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

4.1.2 Delete the word "Contractor" from Section 4.1.2.

4.1.3 Delete the words "agreement wherein the Contractor has no reasonable objection and" from Section 4.1.3.

4.3.10 Delete Section 4.3.10.

4.5.4 Add the following paragraph:

The Owner reserved the right to require that any mediation hearing be held in the

general area where the Owner's principal place of business is located. The Owner and Contractor further agree to include similar mediation provisions in all agreements with subcontractors, sub-consultants, suppliers, or fabricators so retained, thereby providing for non-binding mediation as the primary method for dispute resolution between the parties to those agreements. In the event the Owner is involved in a dispute which is not subject to mediation involving a person or entity not a party to the Agreement, the mediation provisions applicable to this Agreement shall be deemed inapplicable in the event the Owner, in its discretion, determines the Contractor should become a party to that dispute by joinder or otherwise.

4.6.4 Delete all but the last sentence of Section 4.6.4.

4.6.7 Add the following paragraph:

The Owner reserves the right to require that any arbitration hearing be held in the general area where the Owner's principal place of business is located. The Owner and Contractor further agree to include similar arbitration provisions in all agreements with subcontractors, sub-consultants, suppliers, or fabricators so retained, thereby providing for arbitration as the primary method for dispute resolution between the parties to those agreements. In the event the Owner is involved in a dispute which is not subject to arbitration involving a person or entity not a party to the Agreement, the arbitration provisions applicable to this Agreement shall be deemed inapplicable in the event the Owner, in its discretion, determines the Contractor should become a party to that dispute by joinder or otherwise.

ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1.4 Delete Section 6.1.4.

ARTICLE 7 - CHANGES IN THE WORK

7.3.6 In the first sentence, delete the words "a reasonable allowance for overhead and profit" and add "an allowance for overhead and profit in accordance with Clauses 7.3.10.1 through 7.3.10.6 below".

7.3.10 Add the following Subparagraph 7.3.10:

In Subparagraph 7.3.6, the allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule. Overhead shall include Bonds, Insurance, Fringe Benefits and other similar items. No other mark-ups shall be allowed. Quotations from Subcontractors shall be attached.

.1 For the contractor, for work performed by the Contractor's own forces, 10 percent of the cost of labor payroll and material cost.

- .2 For the Contractor, for work performed by the Contractor's Subcontractor, 5 percent of the amount due the Subcontractor.
- .3 For each Subcontractor's or Subcontractor involved, for work performed by that Subcontractor's or Sub-Subcontractor's own forces, 10 percent of the cost.
- .4 For each Subcontractor, for work performed by the Subcontractor's Sub-subcontractors, 5 percent of the amount due the Sub-subcontractor.
- .5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.6.
- .6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs, including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over \$500 be approved without such itemization.

ARTICLE 9 - PAYMENT AND COMPLETION

9.3 APPLICATION FOR PAYMENT

9.3.1 Add the following sentence to Subparagraph 9.3.1:

The form of Application for Payment shall be notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

9.3.1 Add the following Clauses 9.3.1.3 and 9.3.1.4 to 9.3.1:

9.3.1.3 Until the work is 50 percent complete, the Owner will pay 90 percent of the amount due the Contractor on account of progress payments. At the time the work is 50 percent complete and thereafter, if the manner of completion of the work and its progress are and remain satisfactory to the Architect, and in the absence of other good and sufficient reasons, the Architect will, on presentation by the Contractor of Consent of Surety for each Application, authorize any remaining partial payments to be paid in full.

9.3.1.4 The full Contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the Architect (or if the Surety withholds its consent), or for other good and sufficient reasons.

9.3.4 Add the following new subparagraph 9.3.4:

Waiver of Lien: The Contractor must provide Partial Waivers of Lien from himself and from all subcontractors and suppliers with each Application for Payment. The Contractor must further provide final Waivers of Lien from himself and from all subcontractors and suppliers before final payment will be made. The waivers for suppliers and subcontractors shall cover disbursements made from the previous payment request. Lien forms may be obtained from any local office supply business.

9.3.5 Add the following new subparagraph 9.3.5:

Contractor requests for discontinuance of retainage or for final payment shall be accompanied by a properly executed copy of the "Consent of Surety". The Contractor shall cooperate with Architect, Owner and Surety in establishing the correctness of his requests. Such requests shall be made in ample time, as all necessary approvals must be secured before requests can be honored.

9.4 CERTIFICATES FOR PAYMENT

9.4.3 Add the following subparagraph 9.4.3:

ESCROW ACCOUNT FOR RETAINAGE, applicable to contracts in the amounts of \$100,000 or more, will be established in accordance with Michigan Statutes.

9.6 PROGRESS PAYMENTS

9.6.2.1 Add the following subparagraphs 9.6.2.1 & 9.6.2.2:

The Contractor, within ten (10) days of the receipt of any payment by the Owner, shall pay all Subcontractors with whom the Contractor has contracted, their share of the payment the Contractor received based upon the service performed by the Subcontractor. The Contractor shall also require each Subcontractor to make similar payment to his Sub-subcontractors. The Contractor shall furnish upon request a sworn statement or certification at the time of payment to him that the Subcontractor has received his share of the previous payment to the Contractor.

9.6.2.2 Pay applications will be due to the Owner for payment before the second Thursday of each month.

9.11 Add the following Paragraph 9.11 to Article 9:

OWNER COST INCURRED DUE TO INCOMPLETE WORK

9.11.1 Add the following subparagraph 9.11.1:

The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner all sums incurred and attributable to the work not being completed within the number of days stated on the bid form, including extensions of time properly granted and within 60 days after substantial completion.

ARTICLE 10 – PROTECTION OF PERSONS AND PROPERTY

10.2.1 Add the following Paragraph 10.2.1.4:

Interior surfaces, fixtures and equipment as a result of water damage and physical damage.

10.2.8 Add the following Paragraph 10.2.8:

If the Contractor or any Subcontractor chooses to use any systems, equipment, facilities, or services which have been incorporated into the Project as a permanent part thereof by any other, the Contractor shall assume full responsibility for damage caused to said systems, equipment, facilities or services, and have damages repaired as required, so that in no case will the performance of the used systems, equipment, facilities or services be diminished from the specified criteria as a result of such use.

ARTICLE 11 - INSURANCE AND BONDS

11.1 CONTRACTORS LIABILITY INSURANCE

11.1.1.1 Delete the semicolon at the end of Clause 11.1.1.1 and add: including private entities work at the site and exempt from the coverage on account of number of employees or occupation, which entities shall maintain voluntary compensation at the same limits specified for mandatory coverage for the duration of the project;

11.1.1.2 Delete the semicolon at the end of Clause 11.1.1.2 and add: or persons or entities excluded by statute from the requirements of Clause 11.1.1.1, but required by the Contract Documents to provide the insurance required by the Clause;

11.1.1.8 Add the following at the end of clause 11.1.1.8:

Liability Insurance shall include all major divisions of coverage and be a comprehensive basis including:

1. Premises Operations (including X, C and U coverage's as applicable).
2. Independent Contractors' Protective.
3. Products and Completed Operations.

4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual, including specified provision for Contractor's obligation under Paragraph 3.18.
6. Owned, non-owned and hired motor vehicles.
7. Broad Form Property Damage, including Completed Operations.

11.1.1.9 Add the following paragraph 11.1.1.9:

If the General Liability coverage's are provided by a Commercial General Liability Policy on a current basis, the policy date or Retroactive Date shall pre-date the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverage's required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

Add the following Clause 11.1.2.1 to 11.1.2: Refer to CATA's Terms and Conditions.

END OF SECTION 00800

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 00820 - GENERAL REQUIREMENTS

PART 1: GENERAL

1.1 PROTECTION:

- A. The Contractor shall at all times during the performance of the job, keep the premises and adjoining properties free from accumulations of waste material and rubbish. At the completion of the work, he shall remove from the premises all rubbish and implements and leave the project in an acceptable condition, to be checked by the Capital Area Transportation Authority (CATA) representative.

All debris resulting from demolition and/or construction is to be hauled away and disposed of by the Contractor at his expense.

- B. The Contractor shall place necessary barriers and/or protection around or under all work areas where his operations involve risk of injury to any person.
- C. The Contractor will also protect areas and items to remain from damage in the process of the job. In the event that damage does occur to any property or equipment, or the Owner's work in process, notification must be made within two (2) working days of the incidents to CATA representative.
- D. During the progress of the job, if waste material and rubbish are found or damage resulting from the Contractor's operations is found, or the Contractor does not comply with the requirements by keeping the premises free of accumulations and correct the damage, it shall be the CATA'S prerogative to hire personnel to do so, and the cost of this work will be deducted from the total contract.
- E. Anyone guilty of willful destruction or unlawful removal of CATA property, will be dismissed from the job, by the Contractor, and is subject to prosecution by law.
- F. Any lawns damaged by the Contractor's vehicles will be restored to its original condition at the Contractor's expense. Any damage to other city property will likewise be restored.

1.2 WORK HOURS AND DAYS

- A. After the bid is awarded, the Contractor will contact CATA'S representative to arrange the work schedule and the hours of the day that the workmen may be on-site. The job is to be bid with the understanding that all work will be performed as required to meet the schedule.
- a. **The Contractor has limited access to the site Monday through Friday between the hours of 8:00 am and 5:00 pm. Lighting in bus berths beneath the overhang shall occur one at a time. At no time shall the contractor occupy more than a**

single bus berth. Contractor shall supply all safety equipment to delineate work area.

1.3 DELIVERY AND STORAGE OF MATERIAL

A. Materials must be delivered with manufacturer's and Contractor's label intact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor with no expense to CATA. The Contractor shall be responsible for all receiving, unloading, storing and protecting of all materials.

1.4 UTILITIES

A. Where possible, CATA will make available all necessary utilities. If it is not possible to obtain utilities from CATA, the Contractor will be responsible for obtaining his own utilities.

1.5 EXTRA WORK

A. All work which must be accomplished, but was not included in the lump sum bid, must be authorized by CATA'S representative on a written work order prior to starting the work.

B. The Contractor must document the "Extra" work order request with drawings and/or sketches with dimensions and photographs and a full description of the work with prices.

C. The Contractor will not be paid for any "Extra" work that is not authorized by CATA'S representative.

D. Any work requiring deviation from these Specifications must be authorized in writing by CATA'S representative prior to the starting.

1.6 SAFETY

A. The Contractor will be responsible for reviewing with his people and complying with all safety rules as established by CATA'S representative. The same safety rules that govern CATA employees shall govern the Contractor's employees.

B. The Contractor will also be responsible for complying with all OSHA (Occupational Safety and Health Act) regulations and will include in his bid any costs required for compliance.

C. If welding, burning, and use of other flame or spark producing equipment must be accomplished, authorization must be secured from CATA'S representative before any such work can be started.

- D. Rigging and hoisting equipment must be used in a safe manner, and the condition of such equipment shall meet the approval of the CATA'S representative.
- E. Acetylene, oxygen, and other compressed gas cylinders must be used in an upright position and must be secured in a way that they cannot fall over. All cylinders must be capped at the end of each day.
- F. The Contractor must maintain fire extinguishers in working order at all times.
- G. The Contractor will provide adequate first aid supplies for their employees at all times.

1.7 SUPERVISION

- A. The Contractor will have a competent foreman in charge and on the job site at all times working directly with CATA'S representative. Changing foremen during the project is not permitted except under emergency conditions or as requested by CATA'S representative.
- B. Definition of a Foreman:
 - 1. Working Foreman - Responsible for planning each day's work and direct supervision of the workforce and some labor duties.
 - 2. Non-Working Foreman - Responsible for all duties of a working foreman, except he does not perform any direct work involved in installation. His primary responsibility is to tell workers what to do and to make sure specifications are followed.
- C. The foreman is responsible for maintaining a copy of the specifications and all associated drawings on the job site at all times.

1.8 WORKING AREA FOR CONTRACTOR'S EMPLOYEES

- A. Contractor's vehicles must observe city speed limits and stay on hard surface roads. Permission to drive on lawn area or enter restricted areas must be secured from CATA'S representative.

1.9 PERSONAL CONDUCT

The same rules of personal conduct as govern CATA employees, shall govern Contractor's employees. Included are:

- A. No employee under the influence of alcohol or other drugs will be allowed on the job site.

- B. A shirt, full-length trousers, and appropriate shoes are the minimum clothing requirements.
- C. Possession or consumption of alcoholic beverages or illegal drugs on the job is not allowed. Violators will be dismissed.
- D. Horseplay, wrestling, etc., are prohibited.
- E. Fighting is strictly against the rules. Persons fighting will be dismissed.

1.10 USE OF CATA'S TOOLS AND EQUIPMENT

- A. The Contractor will not use CATA tools or maintenance shop equipment unless specific prior arrangements have been made.

1.11 COMPLIANCE WITH MUNICIPAL, STATE AND FEDERAL LAWS

- A. The Contractor shall comply in full with all municipal, state and federal laws governing all phases of contract work.

1.12 FIELD INSPECTIONS

- A. Regular inspection will be conducted by CATA'S representative. Deficiencies in the workmanship and/or non-compliance to the Specifications will promptly be identified to the Contractor's foreman, and must be corrected immediately by Contractor.

1.13 LIQUIDATED DAMAGES

- A. If work included under this Contract is not substantially complete and ready for Owner's intended use within 90 calendar days, the Contractor agrees that the Owner may deduct the sum of \$500.00 from the contract price for each consecutive calendar day the Contract remains incomplete beyond the specified time, as payment to the Owner by the Contractor as liquidated damages for the Contractor's failure to complete the Contract work within the specified time.

PART 2 – PRODUCTS

Not Used

Part 3 – EXECUTION

Not Used

END OF SECTION 00820

SECTION 01250 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions".

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 7 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

END OF SECTION 01250

SECTION 01290 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:

- a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
2. Submit draft of AIA Document G703 Continuation Sheets.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
 6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
 8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Progress payments shall be submitted to Architect by the 10th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.

- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Certified Payroll: each Application for Payment must include Certified Payroll documents for all personal performing work on the project.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. Schedule of Values.
 2. Contractor's Construction Schedule (preliminary if not final).
 3. Submittals Schedule (preliminary if not final).
 4. Copies of permits.
 5. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
- I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01290

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
- B. Related Sections include the following:
 - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly demolition of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts

and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Special meetings.

1.4 PROJECT MEETINGS

- A. General: Architect will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Agenda: The Architect will prepare the meeting agenda and distribute the agenda to all invited attendees.
 2. Minutes: The Architect will record significant discussions and agreements achieved and distribute the meeting minutes to everyone concerned, including Owner and Contractor.
- B. Preconstruction Conference: Architect will schedule a preconstruction conference before start of construction, at a time convenient to Owner and Contractor. Conference will be held at Project site. The architect will conduct the meeting to review responsibilities and personnel assignments.
 1. Attendees: Representatives of Owner, Architect, and Contractor.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Critical work sequencing.
 - c. Designation of key personnel and their duties.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for requests for interpretations (RFIs).
 - f. Procedures for testing and inspecting.
 - g. Procedures for processing Applications for Payment.
 - h. Submittal procedures.
 - i. Use of the premises.
 - j. Work restrictions.
 - k. Owner's occupancy requirements.
 - l. Responsibility for temporary facilities and controls.
 - m. Construction waste management and recycling.
 - n. Parking availability.
 - o. Office, work, and storage areas.
 - p. Equipment deliveries and priorities.
 - q. Security.
 - r. Progress cleaning.
 - s. Working hours.

- C. Progress Meetings: Architect will schedule Progress Meetings as determined necessary. Coordinate attendance of a special meeting(s) with the Owner and Architect. Architect will conduct and record meetings as follows:
1. Attendees: Representatives of Owner, Architect and Contractor.
 2. Agenda: Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 3. Reporting: The Architect will distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule for each special meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
 - 2. Submittals Schedule.
 - 3. Special reports.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
 - 2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 3. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
 - 4. Division 1 Section "Photographic Documentation" for submitting construction photographs.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Event: The starting or ending point of an activity.
- C. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- D. Major Area: A story of construction, a separate building, or a similar significant construction element.
- E. Milestone: A key or critical point in time for reference or measurement.

1.4 SUBMITTALS

- A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
 1. Scheduled date for first submittal.
 2. Specification Section number and title.
 3. Submittal category (action or informational).
 4. Name of subcontractor.
 5. Description of the Work covered.
- B. Special Reports: Submit two copies at time of unusual event.

1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 1. Secure time commitments for performing critical elements of the Work from parties involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 - 2. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 3. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule indicating work if each phase, including base bid and alternate, within 30 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01320

SECTION 01322 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUBMITTALS

A. Construction Photographs:

1. Format: High resolution (greater than 1024 by 768 resolution) digital format.
2. Identification: On with each print, the following information:
 - a. Name of Project.
 - b. Date photograph was taken if not date stamped by camera.
 - c. Unique identifier.
3. Digital Images: Submit a complete set of digital images on CD-ROM at the end of the project to the Architect.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
- C. Preconstruction Photographs: Before commencement of demolition, take color, digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
- D. Periodic Construction Photographs: Take photographs daily. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Final Completion Construction Photographs: Take photographs after date of Substantial Completion for submission as Project Record Documents.

END OF SECTION 01322

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
 - 2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
 - 3. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
 - 4. Division 1 Section "Photographic Documentation" for submitting construction photographs.
 - 5. Division 1 Section "Closeout Procedures" for submitting warranties.
 - 6. Divisions 2 through 33 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will **not** be provided by Architect for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate transmittal of submittals so processing will not be delayed because of need to review submittals concurrently for coordination.

- a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
 1. Allow seven (7) days for the review of Requests for Information (RFIs). Allow additional time if multiple RFIs are submitted concurrently.
- E. Identification: Place a permanent label or title block on each submittal for identification.
 1. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Submittal number; in numerical sequence from 001.
 - f. Number and title of appropriate Specification Section.
 - g. Drawing number and detail references, as appropriate.
 - h. Other necessary identification.
 - i. Clarification description.
- F. Submittals Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 1 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 1 Section "Payment Procedures."

1.5 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 1. Number of Copies: Submit four copies of each submittal, unless otherwise indicated. Architect will not return copies.
 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

- B. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."
- C. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."
- D. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- E. Construction Photographs Comply with requirements specified in Division 1 Section "Photographic Documentation."

PART 2 - EXECUTION

2.1 ARCHITECT'S / ACTION

- A. General: Architect will not review submittals that do not bear Contractor's letterhead on an original transmittal and will return them without action. Each submittal must bear Contractor's stamp indicating review. Submittals distributed via electronic file are not acceptable and will receive no response.
- B. Action Submittals: Architect will review each submittal, issue comments or clarifications required, and return it.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Samples: Architect will retain all product samples and will use selected sample as measurement/verification of installed product.
- E. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01330

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Sections include the following:
 - 1. Division 1 Section "Summary" for limitations on utility interruptions and other work restrictions.
 - 2. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
 - 3. Divisions 2 through 33 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.3 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- B. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Division 1 Section "Summary."
- B. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

3.3 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

END OF SECTION 01500

SECTION 01700 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Protection of installed construction.
 - 2. Correction of the Work.
- B. Related Sections include the following:
 - 1. Division 1 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
 - 2. Division 1 Section "Submittal Procedures" for submitting surveys.
 - 3. Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a

detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- E. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- F. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- G. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- H. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.4 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

3.5 CORRECTION OF THE WORK

- A. Restore permanent facilities used during construction to their specified condition.
- B. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

END OF SECTION 01700

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Final cleaning.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Division 1 Section "Photographic Documentation" for submitting Final Completion construction photographs and negatives.
 - 3. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
 - 4. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 5. Divisions 2 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Submit specific workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 4. Prepare and submit Project Record Documents, Final Completion construction digital photographs, and similar final record information.
 - 5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 6. Advise Owner of changeover in utilities.
 - 7. Complete final cleaning requirements.

8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."

2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list in sequential order.

2. Include the following information at the top of each page:

a. Project name.

b. Date.

c. Name of Architect.

d. Name of Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - d. Leave Project clean and ready for occupancy.
- B. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 01781 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Division 1 Section "Execution Requirements" for final property survey.
 - 2. Division 1 Section "Closeout Procedures" for general closeout procedures.
 - 3. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Divisions 2 through 33 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of record Drawings as follows:
 - a. Submit one paper-copy set(s) of marked-up record prints.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding archive photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Work Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 01781

SECTION 01782 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Product maintenance manuals.
 - 5. Systems and equipment maintenance manuals.
- B. Related Requirements:
 - 1. Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Divisions 2 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.
 2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two copies.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. List of documents.
 2. List of systems.
 3. List of equipment.
 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.

- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 - 2. Performance and design criteria if Contractor has delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
 - 1. Product name and model number. Use designations for products indicated on Contract Documents.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
 - 1. Startup procedures.
 - 2. Equipment or system break-in procedures.
 - 3. Routine and normal operating instructions.
 - 4. Regulation and control procedures.
 - 5. Instructions on stopping.
 - 6. Normal shutdown instructions.

7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Product Information: Include the following, as applicable:
 1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures,

maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

- B. **Source Information:** List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. **Manufacturers' Maintenance Documentation:** Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. **Maintenance Procedures:** Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- E. **Maintenance and Service Schedules:** Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. **Scheduled Maintenance and Service:** Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. **Maintenance and Service Record:** Include manufacturers' forms for recording maintenance.
- F. **Spare Parts List and Source Information:** Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. **Maintenance Service Contracts:** Include copies of maintenance agreements with name and telephone number of service agent.
- H. **Warranties and Bonds:** Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of operation and maintenance manuals.
 - 2. Comply with requirements of newly prepared record Drawings in Division 1 Section "Project Record Documents."
- G. Comply with Division 1 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01782