



GREATER PEORIA MASS TRANSIT DISTRICT
PEORIA, IL.

**PROJECT MANUAL
VOLUME 1**

Issued for Phase B Steel Package Re-Bid

**For
GPMTD CITYLINK NEW MAINTENANCE FACILITY & RENOVATIONS**

Architect Project No. 20-1001



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Chicago, IL. 60642
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GREATER PEORIA MASS TRANSIT DISTRICT

CITYLINK BUS GARAGE – NEW MAINT. FACILITY & RENOVATION

ISSUED FOR STEEL PACKAGE RE-BID

SEPTEMBER 28, 2021

The following listed documents comprise the Project Manual for the project listed above. Where numerical sequence of sections is interrupted, such interruptions are intentional.

The complete Project Manual for this Project consists of this entire Volume, which must not be separated for any reason. The Architect and Owner disclaim any responsibility for any assumptions made by a Contractor or Subcontractor who does not receive a complete Project Manual, including all sections listed in the table of contents.

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SECTION 000200 – NOTICE TO BIDDERS

Notice is hereby given that only hard copy of bids will be accepted. All bids are to be submitted on the Bid Form, signed/sealed/notarized, and accompanied by a 5% Bid Bond. All bids to be delivered in an opaque envelope to the following address prior to 2pm on October 19th, 2021:

For: **Greater Peoria Mass Transit District
Phase B,C,D Structural Steel RE-BID**
2105 NE Jefferson St
Peoria, IL 61603

Delivered to: Greater Peoria Mass Transit District
Attn: Jamie Arbogast
2105 NE Jefferson St
Peoria, IL 61603

Until: **October 19th, 2021 @ 2:00 pm**

Bid Opening: Bids will be opened and reviewed publicly.

Phase B, C, & D – Administration Building and Maintenance Garage

This is a three-story Administration Building with an attached Maintenance Garage. The total project square footage is approximate 59,000sf. The Administration Building contains concrete foundations, a steel super structure, metal panel cladding, storefront and curtainwall. The interiors include locker rooms, simulator rooms, training rooms, general office and conference rooms. The Maintenance Garage is comprised of concrete foundations and a precast superstructure. There are 5 ea. maintenance lanes, a bridge crane, a skywalk, mezzanine space, storage, and MEPF spaces.

Work Categories:

5.1 Structural Steel Fabrication & Erection – RE-BID

This is a Construction Manager at Risk project. All contractors on this project are considered subcontractors to River City Construction, L.L.C (RCC). RCC will award separate contracts for all bid packages involved in the project. The project will be managed and coordinated by RCC.

Construction shall be in full accordance with the Construction Documents created by Muller & Muller, Ltd and their sub-consultants Project No.: 20-1005 Issue for Bid 09.28.21

A Pre-Bid Meeting will be held at the Greater Peoria Mass Transit District (2105 NE Jefferson St, Peoria IL 61603) on October 5th, 2021 at 2:00 p.m.

IN PERSON IS PREFERRED BUT PLEASE CONTACT BETH SCHUPP AT BSCHUPP@RCCLLC.COM IF YOU NEED A TEAMS INVITE.

Request for Information/Clarifications:

All RFIs/Clarifications are due to River City Construction no later than October 12th, 2021, at 2:00 pm.

An addendum with all RFIs and Clarifications answered will be issued by **October 14th, 2021.** All RFIs

Peoria – CityLink New Maintenance Facility & Renovation Phase B, C, & D – STRUCTURAL STEEL RE-BID should be sent to Beth Schupp at bschupp@rccllc.com and grodriguez@rccllc.com

Scope review meetings will be set up with apparent low bidders to review in further detail.

A preconstruction conference will be held after the award of successful bidders, date and time to be determined. Attendance by successful bidders is required to review the scope of the Project.

The successful bidders will be required to furnish a performance and payment bond equal to one hundred percent (100%) of their contract amount prior to execution of contracts and should be included in the base bid. Such bond shall be provided within ten (10) days of the award of the Contract by the successful bidders. Bid Bond is required at time of bid.

If bidding on multiple bid packages, please submit a bid form for each work category. Bidders are allowed to submit combination bids of multiple bid packages. The Owner reserves the right to accept or reject any bid and to waive any irregularities in bidding. All bids may be held for a period not to exceed **90 days** before awarding contracts. See 00 22 13 Supplementary Instructions to Bidders for more information.

SECTION 001000 – INSTRUCTIONS TO BIDDERS

To be considered, bids must be submitted in accordance with these Instructions to Bidders.

PART 1 – GENERAL

General Information Notes

- A. Definitions set forth in the Contract between Greater Peoria Mass Transit Citylink and Construction Manager at Risk are applicable to these Instructions to Bidders. A copy of this document can be obtained from the Construction Manager for reference.
- B. Communications for the administration of the Contract shall be as set forth in the General Conditions and, in general, shall be through the Construction Manager.
- C. All bidders will be given access to the electronic PDF versions of all contract documents, via SmartBid solicitation. All reproductions for bidding purposes are at the bidder's expense.
- D. All addenda will be issued to the Bidders of Record via SmartBid from the Construction Manager. It is the Bidder's responsibility to ensure that the appropriate email contact is on file with the Construction Manager. Should addenda file sizes exceed the Bidder's email capacity, Bidder shall obtain addenda items directly from the Construction Manager's office. Bidder is solely responsible for ensuring they have received all addenda and associated files.
- E. This is a construction management at risk project. THERE IS NO GENERAL CONTRACTOR. All Contractors on this Project are considered Subcontractors to the Construction Manager at Risk. The Construction Manager will award separate Contracts for all Work Categories involved in the Project. The Project will be managed and coordinated by the Construction Manager.
- F. The Architect of record is Muller & Muller, Ltd.

1.01 DOCUMENTS

- A. When requesting bidding documents, bidder is solely responsible for determining the extent of the bidding documents that they will require to fully bid/perform their scope of work. Failure to review all applicable bidding documents shall in no way relieve the bidder from bidding/performing the scope of work required for their respective bid package.
- B. Failure to Execute Contract Documents: In the event the bidder withdraws the bid or fails to execute a satisfactory Contract and furnish a satisfactory Contract Performance Bond and Payment Bond with a surety company in accordance with Article (1.18) of these Instructions to Bidders within 10 days after a contract has been awarded to such a bidder by the Construction Manager, said Construction Manager, with the Owner's approval, may declare such bid bond forfeited to the Owner for extra costs incurred by reason of delay of the project and obtaining acceptable prices from another bidder.

1.02 EXAMINATION AND REPRESENTATION

- A. Before submitting a bid, each Bidder should carefully examine the Documents and the construction site and fully inform themselves with the limitations and conditions related to the Work included in their bid and shall include in their Bid a sum to cover the cost of such items. Bidders will not be given extra payments for conditions, which could have been determined by examining the site and the documents.
- B. It is the purpose and intent of the Contract Documents that a fully complete job be accomplished. It shall be each Bidder's responsibility to include costs necessary to provide labor and materials for that portion of the Work bid upon, including incidentals, whether or not specifically required in the Specifications and Drawings.
- C. Each Bidder by making their bid represents that they have read and understand the bidding documents.
- D. Each Bidder by making their Bid represents that they have visited the site and familiarized themselves with the local conditions under which the Work shall be performed.
- E. Each Bidder shall be responsible for being completely familiar with the work of other bid package(s), which require interface of Work with the bid package(s) on which the Bidder is bidding.
- F. No allowance shall be subsequently made on behalf of a Bidder by reason of an error or oversight on its part resulting from its failure to so examine the Construction Documents for the other trades.
- G. Each Bidder understands that past acceptance of products does not assure acceptance on this Project. Products not specifically specified require requests for approval prior to bid due date.
- H. Safety Program. Each Subcontractor is responsible for the safety and security of employees and Work areas under their control and will, therefore, provide a written safety and HAZCOM program to River City Construction for jobsite file.

1.03 QUALIFICATIONS OF BIDDERS

- A. The Owner shall have the right to take such other steps as he deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish the Owner such data for this purpose as the Owner may request.

The Owner has requested that the following documentation be submitted WITHIN the sealed Bid.

- 1. Buy America**
- 2. Compliance w/Federal Lobbying Regulations**
- 3. Certification Regarding Debarment & Suspension**
- 4. Affidavit of Non-Collusion**
- 5. Indemnity and Insurance Requirements**

6. DBE Letter of Intent
7. DBE Affidavit
8. DBE Unavailable Certificate
9. Certificate of Compliance with Prevailing Wage
10. Prompt Payment Affidavit

The Owner reserves the right to accept or reject any bid and to waive irregularities in bidding.

1.04 CLARIFICATION OF BIDDERS' QUESTIONS

- A. Questions for this Project shall be IN WRITING and directed to the Construction Manager: **River City Construction, LLC., Attention Beth Schupp & Gabe Rodriguez**, email: bschupp@rccllc.com and grodriguez@rccllc.com, phone: (309) 694-3120.

- B. Each Bidder is responsible for calling to the attention of the Architect ambiguities, inconsistencies, discrepancies, errors, or omissions, which occur in the Contract Documents for their part of the Work. Failure to request clarification will result in the Bidder being responsible to overcome such conditions without additions to their bid.
- C. Prospective Bidders in doubt as to the true meaning of a part of the Drawings, Specifications, or other Contract Documents shall submit to the CM and/or Engineer, **no later than October 12th, 2021,** a written request for interpretation and clarification. Neither River City Construction nor the Architect is responsible for any explanations or interpretations of such documents which anyone presumes to make, other than by Addenda.
- D. Bidders are instructed to request interpretations and the issuing of Addenda if the Contract Documents call for materials, equipment, or methods which adversely affect the cost or quality of the Project, or are unavailable.

1.05 APPROVAL BEFORE BIDDING

- A. If a Subcontractor preparing bids for submission on the Work is in doubt as to the acceptability of a manufacturer's material or equipment, under the requirements as set forth in the Specifications, they shall require that representatives of the proposed manufacturer or supplier contact the Engineer and request a ruling on the acceptability of the material or equipment in question. The contact should be made within the time herein required before the date scheduled for the closing of bids, so that an Addendum can be issued to clarify the situation.
- B. It is not possible to set the time allowance for the resolution of every problem; however, the time allowed shall not be less than 5 days before bid opening. Each party requesting a ruling under this Article shall be responsible for the proper evaluation of the time involved and shall submit his request in ample time, as determined by the Engineer, to process it.
- C. Prior to receipt of bids, the Engineer will consider proposals for substitution of materials, equipment, and methods only when such proposals are submitted in writing within the time period stated before the date and time set for receipt of bids, and are accompanied by full and complete technical data and other information required by the Engineer to evaluate the proposed substitution.
- D. Requests for product approval shall be submitted to the Construction Manager at Risk who will forward to the Architect for approval prior to the last day for questions for approval prior to the bid date and time. **Attention Beth Schupp, email: bschupp@rccllc.com, phone: (309) 694-3120.**

1.06 ADDENDA

- A. Additional information required by the Bidders, revisions in the Work, changes or additions, discrepancies in the Bidding Documents, or clarifications will be in the form of addenda written

by the Architect and issued by the Construction Manager to Bidders of Record as of the date of such addenda.

- B. The Owner reserves the right to issue addenda changing, altering, or supplementing the Contract Documents prior to the time set for receiving bids.
- C. A copy of the addenda will be made available to each Bidder of Record. Bidders who will submit a bid to the Owner with the intent of entering into a Contract with the Construction Manager are considered “Bidders of Record”. Copies of addenda will be available for inspection wherever Contract Documents are on file for that purpose.
- D. Bidders are responsible for acquiring each issued addenda in time to incorporate them into their proposal.
- E. In the event the issuance of addenda to Bidders is delayed, for reasons not the fault of the Bidders, the Owner may be requested to allow a reasonable extension of time for the opening of bids, to permit inclusion of such addenda.
- F. Each Bidder shall enumerate in their Bid each addendum they have received.
- G. If a Bidder fails to indicate receipt of each addendum through the last addendum, issued by the Engineer and Construction Manager, on its Bid Form, the Bidder shall confirm during scope review session that:
 - 1. The Bidder received the addendum, such as where the addendum added another item to be bid upon and the Bidder submitted a bid on that item; or
 - 2. Indicate the addendum involves only a matter of form or is one which has either no effect or has merely a trivial or negligible effect, as determined by the Construction Manager, on price, quantity, quality, or delivery of the item bid upon.

Failure to include either item above will be reason to deem the bid non-responsive.

1.07 ALTERNATIVES

- A. See Bid Form for Alternate #1.

1.08 UNIT PRICES

- A. Unit prices have been requested and are included on the bid form. Unit prices shall remain firm for the duration of the project.
- B. Unit prices shall be inclusive of all material, labor, equipment, bonds, overhead, profit, etc., and no further charge except the unit price(s) shall be made when submitting a change order request. The Owner reserves the right to utilize alternative pricing methods to pay for such systems.

1.09 ALLOWANCES

- A. Allowances are outlined on each Work Category.

1.10 ARCHITECT’S AND CONSTRUCTION MANAGER’S COOPERATION DURING BIDDING PERIOD

- A. Each Bidder needs all communication to be ran through the Construction Manager at Risk.
- B. The Architect and Construction Manager will cooperate fully in connection with requests, and will provide information required, providing the Architect’s and Construction Manager’s ethical responsibilities are not encroached upon. This will include, upon request, providing information in order to clarify basic intentions of the Specifications; and other assistance as may be helpful in the preparation of a proper, competitive bid.
- C. It is the general policy of the Architect and Construction Manager to be as helpful as possible to Bidders, insofar as is consistent with fair and open competition.

1.11 BIDDING PROCEDURES

- A. Each bid shall be submitted on the Bid Form with **ALL Owner required documents** and sealed in an envelope clearly marked as containing a bid, indicating **the Project Name, the Bidder’s name, the Work Category number and definition (scope)**, the date and time of the bid opening, Owner’s address, and address to where bid is delivered on the envelope. **If Bidder is submitting bids for multiple Work Categories, separate envelopes must accompany each Bid for each Work Category.**

Example:

**Greater Peoria Mass Transit Bid Package #3.1 Building & Retaining Wall Concrete
ABC Contracting**

- B. Bidders are allowed to submit combination bids with multiple work categories. Bidder shall submit individual bids for each category as noted in 1.11 A. If a bidder submits a combination bid with a discounted lump sum bid write in Combo with all work categories included for the work Category number.

Example:

**Greater Peoria Mass Transit Bid Package #3.2 Building & Retaining Wall Concrete
ABC Contracting
Combo: 21.1 Fire Protection/22.1 Plumbing/ 23.1 Mechanical/HVAC**

- C. Any substantial change, alteration or addition in the wording of the Bid Form may cause a bid to be rejected as not responsive for award of a Contract.
- D. Unless the Bidder withdraws the bid as provided in Article 1.13 hereof, the Bidder will be required to comply with all requirements of the Contract Documents, regardless of whether the Bidder had actual knowledge of requirements and regardless of any statement or omission made by the Bidder which might indicate a contrary intention.

- E. Bids shall be executed upon the Bid Form provided, and relevant blank spaces in the form shall be written in ink and not in pencil. The signature shall be in longhand and the completed form shall be without interlineations, alteration, or erasure. Each Bidder is required to bid every item called for, including alternate and unit costs.
- F. The Bidder shall show all bid amounts in both words and figures. In case of a conflict between the words and figures, the amount shown in words shall govern, where such words are not ambiguous. When the Bidder's intention and the meaning of the words are clear, omissions or misspelling of words will not render the words ambiguous.
- G. Any alteration or erasure of items inserted on the Bid Form shall be initialed by the Bidder.
- H. A bid is non-responsive if it has not been deposited at the designated location prior to the time and date for receipt of bids indicated in the Notice to Bidders, or prior to extension thereof issued to the Bidders.
- I. Telecommunicated bids will not be considered.
- J. Bids which are not signed by the individuals making them shall have attached thereto a Power of Attorney evidencing authority to sign the bid in the name of the person for whom it is signed. Bids, which are signed for a partnership, shall be signed by the partners, or by an attorney-in-fact. If signed by an attorney-in-fact, there shall be attached to the bid a Power of Attorney evidencing authority to sign the bid, executed by the partners.
- K. Bids which are signed for a corporation shall have the authorized officer of the corporation manually written below the corporate name, following the word "By". If such a bid is signed by an official other than the president of the corporation, a certified copy of a resolution by the Board of Directors evidencing the authority of such official to sign the bid shall be attached to it. The bid shall also bear the attesting signature of the president of the corporation.
- L. Each Bidder shall enumerate in his bid the addenda they have incorporated into their bid.
- M. It is the Bidder's responsibility to include in their bid costs necessary for a completed and finished project for items of Work bid upon.
- N. SUBMIT ONE (1) COPY OF THE BID with other requested supplemental material, along with all Owner requested documents outlined in section 1.01, attached; properly and completely executed.**
- O. When an alternate is listed on the bid Form, the Bidder shall fill in the applicable blank with an increased or decreased bid amount. The Owner reserves the right to accept or reject any or all bids on alternates, in whole or in part, and in any order.
- P. If no change in the bid amount is required, indicate "No Change".

- Q. If an alternate affecting the Subcontractor's scope of work is accepted and the Bidder entered a blank entry or an entry of "No Bid", "N/A", or similar entry, Bidder must confirm that the scope of work change will NOT result in any change in cost to the overall Lump Sum bid.
- R. If an alternate is not selected, an alternate entry as listed in paragraph 1.11-P will not, by itself, render a bid non-responsive.
- S. Proposals for Work shall not include the Illinois Sales Tax for materials to be incorporated into this Project. Owner will provide necessary tax exemption forms. Items which do not become property of the Owner and are not incorporated into the real estate are taxable. Refer any questions about taxability of specific items to the Illinois Department of Revenue.
- T. Out-of-State Bidders, which are corporations, shall submit their Certificate of Authority to transact business in the State of Illinois with their bid.
- U. Failure to Execute Contract Documents: In the event the bidder withdraws the bid or fails to execute a satisfactory Contract and furnish a satisfactory Contract Performance Bond and Payment Bond with a surety company in accordance with Article (1.18) of these Instructions to Bidders within 10 days after a contract has been awarded to such a bidder by the Construction Manager, said Construction Manager, with the Owner's approval, may declare such bid bond forfeited to the Owner for extra costs incurred by reason of delay of the project and obtaining acceptable prices from another bidder.

1.13 MODIFICATION OR WITHDRAWAL OF BID PROPOSAL

- A. A Bidder may withdraw their bid prior to the scheduled time for the receipt of bids. If a postponement of the time for receiving bids is made, the new time established therein shall be the time within the meaning of this Article.
- B. Bids may be modified prior to bid opening time.
- C. After commencement of the opening of Bids, no Bidder may recall their bid.

1.14 OPENING OF BIDS

- A. The Notice to Bidders indicates the time and place fixed for opening of bids.
- B. Bids received prior to the time of opening will be securely kept, unopened. The officer whose duty it is to open them will decide when the specified time has arrived, and no Bid received thereafter will be considered responsive.
- C. No responsibility will be attached to an officer for the premature opening of a bid not properly addressed and identified.

- D. The amounts involved in alternates will be read or disclosed as part of the requirements of this Article. Voluntary alternates will be reviewed by Design Team.
- E. The Owner reserves the right to delay the time for opening of bids when, in his judgment, it is desirable or necessary.

1.15 DISQUALIFICATION

- A. The Owner reserves the right to reject each and every Bid, to waive formalities or informalities in bidding.
- B. The Owner reserves the right to accept or reject alternates regardless of their order or sequence.
- C. Bidders may be required to be prequalified to bid certain scopes of work for this Project. Any Bid received from a Contractor who has NOT been prequalified will be considered non-responsive and will be disqualified. Bid will NOT be opened and will be returned to Bidder.
- D. The right is reserved to reject a Bid where an investigation of the available evidence of information does not satisfy the Owner that the Bidder is responsible to perform the terms of the Contract Documents.
- E. Only “bona fide” bids in a definite stated amount, without special clauses governing price of labor and material increases, will be considered. The Contract shall not include what is commonly known as the “Escalator Clause”.
- F. **Bids which contain qualifications or conditions that are contrary to the intent of the Contract Documents, and which are inserted in the bid for the purpose of limiting or otherwise qualifying the responsibility of the Bidder, outside of the intent of the Contract Documents, will be determined to be non-responsive.**
- G. Failure to submit the requested information with the bid shall be grounds for rejecting the bid.
- H. The Bidder acknowledges the right of the Owner to reject bids and to waive informalities or irregularities in bids received. In addition, the Bidder recognizes the right of the Owner to reject a bid if the Bidder failed to submit the data required by the bidding Documents or if the bid is incomplete or irregular.

1.16 DETERMINATION OF LOWEST RESPONSIBLE BID

- A. Subject to the right of the Owner to reject each and every bid, the Construction Manager will award the Contract for the Work to the Bidder submitting the best qualified bid, in accordance with the selection criteria, as deemed by the Owner. In determining which bid is the best qualified bid, the Owner may take into consideration not only the amount of the bid but also:
 - 1. *The Bidder’s prequalification status. If Bidder is not prequalified, Bid will be considered non-responsive.*

2. Whether the Bidder has submitted a bid that conforms in all material respects to the specifications.
 3. Whether the Bidder has submitted a bid that complies specifically with the Notice to Bidders and the Instructions to Bidders.
 4. Whether the Bidder has complied with all applicable statutes.
 5. Whether the Bidder has provided all information as requested on the Bid Form and all supplemental documentation is included.
- B. The failure to submit requested information on a timely basis may result in the determination that the Bidder is not responsive.
- C. In addition to the above items, the Owner will consider awarding Work if the target dates of the Guideline Schedule and completion of Work can be met within the specified number of consecutive calendar days.

1.18 BONDS (BID BOND AND PAYMENT AND PERFORMANCE BOND)

- A. Performance and payment bond costs are required and should comply with this section 1.18. See Owner section 002500 for additional information on requirements.
- B. A 5% Bid Bond is required at the time of bidding. Bid Bond shall be submitted on AIA Document 310 or a cashier's check in the amount of 5% of the bid is acceptable.
- C. The successful Bidder awarded the Contract on this Project and prior to the execution of the Form of Agreement (the standard River City Construction Subcontract Agreement), shall provide a Performance Bond and Payment Bond, covering the faithful performance of the Contract and the payment of obligations arising there under in a penal sum equal to 100 percent of the amount of the Contract sum. Said bonds shall remain in effect for 12 months after date established, at start of one-year correction period. Premiums shall be included and paid for by the Contractor.
- D. Payment & Performance Bonds shall be submitted on AIA Document A312.
- E. The Bidder shall deliver the required bonds to the Construction Manager no later than the date of execution of the Contract.
- F. The Bidder shall require the attorney-in-fact that executes the required bonds on behalf of the Surety to affix thereto a certified and current copy of his Owner of Attorney indicating the monetary limit of such power.
- G. Surety Company shall comply with the following:
1. Insurance and Surety Companies shall be deemed qualified and acceptable to the Construction Manager in connection with Contractor bonding and insurance requirements under said Contracts only if such companies have a policy holders rating of "A+", "A", of "A-", a financial category not less than Class VII as shown on Best's Key Rating Guide, latest edition; provided, however, that the bond is furnished by one of the

aforesaid qualified Sureties who is also listed in the Department of the Treasury Circular 570, Volume 41, No. 123 Part V (Federal Register) and is licensed in the State of Illinois and the penal sum of the bond does not extend the underwriting limitation set for the in the subject Circular, unless the excess, if any, is reinsured with the approval of the Owner.

2. Bonds shall be executed and be in force on the date of the execution of the Agreement.
3. The bonds shall be made out for not less than 100 percent of the entire amounts due under the Agreement, and shall make provisions to cover additional amounts which may be authorized as provided for under changes in the work; and authorized as extensions of time by either making provisions for such additional items in the text of the bond or by the issuance of an amendment or rider to provide for such additional coverage.

1.19 EXECUTION OF THE CONTRACT

- A. Subsequent to the award, and within ten (10) days after the prescribed Contract (the standard River City Construction Subcontract Agreement) is presented for his signature, the Awardee shall execute and deliver them to the Construction Manager, in such number of counterparts as the Construction Manager may require.
- B. The failure of the Awardee to execute such Contract and to supply the required bonds when the Contract is presented for signature or within such extended period as the Construction Manager may grant, based upon reasons determined adequate by the Construction Manager, shall constitute default; and the Construction Manager, with the Owner's consent, may either award the Contract to the next responsible Bidder or re-advertise for bids.

1.20 TIME OF COMMENCEMENT AND COMPLETION

- A. The Subcontractor shall commence Work after effective date of contract execution and notification by Construction Manager, and shall complete the Work within the time limitations established in the Contract and these instructions to Bidders.
- B. Successful Bidders must achieve Milestone dates, Substantial Completion, and Final Completion by the specified dates in accordance with the Completion and Milestone schedule.
- C. Substantial completion and Owner's use shall be achieved as defined in the Completion dates schedule. Dates are to be used as guidelines for bidding purposes and are subject to revision as required by the Owner to meet the Milestone dates.

1.21 CONSTRUCTION SCHEDULE

- A. In collaboration with the various subcontractors, Construction Manager will develop a single network plan which integrates all the activities of Subcontractors and suppliers, and which meets the time requirements of the Project. The sequence of all such work activities shall be determined by the Construction Manager.

- B. The Subcontractor shall, within five (5) days after the Preconstruction Conference, assemble and provide all necessary information and data concerning his activities and the activities of his subcontractors, vendors and suppliers, including durations, lead times, planned submission dates of required Shop Drawings, Product Data and Samples.
- C. Weekly progress meetings will be held at the job site. Field supervisors and/or Project Managers from each Subcontractor working “on site” shall attend all such meetings.
- D. Construction Manager reserves the right to assist the Subcontractor in the expediting of his material and equipment deliveries without assuming the responsibility for said deliveries. Upon request, the Subcontractor shall furnish copies of his equipment and material purchase orders complete with scheduled shipping and receiving dates to Construction Manager.
- E. Whenever it becomes apparent that any activity completion date may not be met, the Subcontractor shall take some or all of the following actions at no additional cost to the Owner or Construction Manager:
 - a. Increase construction manpower in such quantities as will substantially eliminate the backlog of work and put the Project back on schedule.
 - b. Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of construction equipment, or any combination of the foregoing which will substantially eliminate the backlog of work and put the Project back on schedule.
 - c. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities and put the Project back on schedule.
 - d. If the Subcontractor fails to take any of the above actions within twenty-four (24) hours of receiving written notice, River City Construction shall take action to attempt to put the Project back on schedule, and deduct the cost of such actions from the moneys due or to become due to the Subcontractor.

1.21 PREVAILING WAGE RATES

- A. Each Bidder is required to make provisions in their bid for complying with the requirements of the Illinois Division of Labor Standards. Prevailing wage is required on this project and each subcontractor will be responsible for submitting to the State of Illinois website. Completion certification emails each month will be required to be submitted with pay applications.

1.22 LIST OF MAJOR SUBCONTRACTORS, SUPPLIERS, AND MANUFACTURERS

- A. All prospective Bidders shall submit a listing of major subcontractors and manufacturers with their bid.
- B. After submission of this list by the Bidder, and after approval by the Owner, Construction Manager, and Architect, it shall not be changed unless written approval of change is authorized by the Owner, Construction Manager, and Architect.

- C. American Products – See Buy America requirements in the 002100 section along with section 002500 Federal & State Clauses.

1.23 OUT-OF-STATE CONTRACTORS

- A. Proof of payment by Illinois out-of-state Contractors of Illinois taxes shall be submitted before final payment will be approved. Out-of-State contractors should be authorized to do business in the State of Illinois.

1.24 PERMITS & COMPLIANCE WITH RULES/REGULATIONS

- A. Subcontractor shall include in their Bid the amount necessary to obtain required permits for their scope of work. The Construction Manager / Owner will obtain the Building Permit. In addition, Subcontractor shall include in the Bid the cost for all permits, inspection fees, utility connections, curb opening fees and similar charges imposed by government and quasi-governmental entities with jurisdiction, as may be required for all work to be performed for this Project.
- B. Low Responsive Bidders to whom each Work Category is awarded shall perform the Work in compliance with all codes, laws, ordinances, rules, regulations, and orders of any public authority or utility company having jurisdiction. Subcontractor assumes full responsibility for non-compliance to published regulations.

1.25 PAYMENT

- A. Owner will make ninety percent (90%) partial payment as the work progresses and is found satisfactory by Owner's Representative. Contractor may submit to the Owner through the Construction Manager, not more than once a month, a partial payment invoice, using the form designated, setting forth the value, based on the prices in this Proposal, of labor, materials and supplies furnished and incorporated in the work to the satisfaction of Owner's Representative and of materials suitably stored on the site at the date of such submission. Ten percent (10%) of the value of the work completed will be retained by the Owner until Substantial Completion and acceptance by the Owner.
- B. Within five (5) days after the Preconstruction Conference, the Subcontractor shall submit to Construction Manager a copy of their Schedule of Values on a standard AIA form. River City Construction and Subcontractor shall review and edit said schedule for possible additions or deletions. This schedule, once edited and approved by River City Construction, shall be used as the basis for the Subcontractor's Applications for Payment. If River City Construction does not receive a Schedule of Values from the Subcontractor within five (5) days after the Preconstruction Conference, River City Construction shall complete the Schedule of Values for the Subcontractor and said Schedule of Values shall become the basis for Subcontractor payment.

- C. Applications for payment will be submitted by the Construction Manager to the Owner on the 1st day of every month for approval by the Owner at their regularly scheduled meetings. Subcontractors shall submit applications for payment to Construction Manager no later than the 15th day of each month. Failure of a Subcontractor to submit their pay application before the 15th day of each month will result in their pay application being held until the following month's pay application to the Owner.
- D. During the term of the Contract, or as long as work continues, whichever is longer, and on a monthly basis, the Contractor shall submit by mail a Certified Payroll to River City Construction. The certified payroll must be included with the monthly pay application. Certified payroll shall consist of the following documents: a list of all laborers, mechanics, and other workers employed by them to perform the work hereunder. The records shall include the following information for each worker: name, address, telephone number, social security number, work classification(s), the hourly wages paid in each pay period, the number of hours worked each day, and the starting and ending times of work each day.
- E. Certified payroll shall be accompanied by a statement signed and sworn to by the Contractor which avers that: (1) such records are true and accurate; (2) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required; (3) the Contractor is aware that filing a certified payroll that he knows to be false is a Class B Misdemeanor. **Illinois Division of Labor Standards, Annual Wage Order – Peoria County, Illinois. AWO at time of bid solicitation shall be bound per contract.**
- F. Partial lien waivers from prior pay applications shall accompany subsequent pay requests, starting with the second pay application. Upon final payment request, a final lien waiver shall be submitted with the final pay application.

1.26 QUALITY MANAGEMENT

- A. Each Subcontractor shall participate in the Quality Management Program as directed by River City Construction and shall be responsible for maintaining an acceptable level of quality for its work.
- B. After award of the Subcontract and prior to start of its work, River City Construction will schedule a meeting with the Subcontractors. The purpose of the meeting is to introduce the Quality Management Program and to determine its implementation process.
- C. The Subcontractor shall monitor the quality of work as it progresses and will report, in writing, to River City Construction. The acceptable level of quality will be determined by the Owner, Engineer, River City Construction, the Independent Testing Laboratory, the Contract Documents, and by sample construction. All work not meeting the acceptable level of quality will be corrected at the Subcontractor's expense.

END OF SECTION 001000

SECTION 002000 – INFORMATION AVAILABLE TO BIDDERS

A. Information listed below is not part of the Contract Documents and does not relieve Bidders from doing investigative work to determine the accuracy of the information provided.

1. Site Logistics Plan

B. Information listed below will be part of the Contract Documents.

1. 002100 Buy America
2. 002200 Disadvantaged Business Enterprise Participation
3. 002213 Supplementary Instructions to Bidders
4. 002300 State of Illinois Sexual Harassment Training
5. 002400 Federal & State Clauses
6. 012300 Alternates

END OF SECTION 002000

SECTION 002100 – BUY AMERICA

Buy America

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

END OF SECTION 00 21 00

SECTION 002200 – DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Disadvantaged Business Enterprise (DBE) Participation

1. This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. The national goal for participation of Disadvantaged Business Enterprises (DBE) is 12%. The agency's overall goal for DBE participation is 12%. A separate contract goal for DBE participation has not been established for this procurement.
2. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the GPMTD deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).
3. Bidders/Proposers are required to document sufficient DBE participation to meet these goals or, alternatively, document adequate good faith efforts to do so, as provided for in 49 CFR 26.53. Award of this contract is conditioned on submission of the following concurrent with and accompanying an initial bid:
 - a. The names and addresses of DBE firms that will participate in this contract;
 - b. A description of the work each DBE will perform;
 - c. The dollar amount of the participation of each DBE firm participating;
 - d. Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
 - e. Written confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment; and
 - f. If the contract goal is not met, evidence of good faith efforts to do so.

Proposers must present the information required above as a matter of responsiveness with initial bids (see 49 CFR 26.53(3)).

The successful bidder/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.
4. The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the GPMTD. In addition, is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to this contract is satisfactorily completed.
5. The contractor must promptly notify the GPMTD, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the GPMTD.

END OF SECTION 00 22 00

SECTION 002300 – STATE OF ILLINOIS MANDATORY SEXUAL HARASSMENT TRAINING

State of Illinois Mandatory Sexual Harassment Training

Every employer in the State of Illinois is required to provide employees with sexual harassment prevention training that complies with section 2-109 of the Illinois Human Rights Act (“IHRA”).

www.Illinois.gov/DHR/Training

END OF SECTION 00 23 00

STATE OF ILLINOIS AND FEDERAL THIRD-PARTY CLAUSES

1 Financial Assistance

This contract is subject to financial assistance contracts between the GPMTD and the United States Department of Transportation.

2 Interest of Members of in Congress

No member of or delegate to the Illinois General Assembly shall be admitted to any share or part of this contract or to any benefit arising therefrom.

3 Prohibited Interests

No member, or officer, or employee of the GPMTD or a local public body with financial interest or control in this contract during his tenure or for one year thereafter shall have any interest, direct or indirect, in this contract or the proceeds thereof.

4 Contract Changes

Any proposed change in this contract shall be submitted to the GPMTD for its prior written approval.

5 Subcontracts

The contractor shall not enter into any sub-contracts or agreements, or start any work by the work forces of the contractor or use any materials from the stores, of the contractor, with respect to this contract, without the prior concurrence of the Illinois Department of Transportation. All such subcontracts, agreements, and force work and materials shall be handled as prescribed for third-party contracts, agreements and force-account work by the IDOT manual for Public Transportation Capital Improvement Grants. All request for concurrence shall be submitted to the GPMTD for approval prior to submittal to IDOT.

6 Vendor Registration with Illinois Department of Human Rights

Vendor must provide proof of Registration with the Illinois Department of Human Rights.

7 Assignment

Assignment of any portion of the work by Subcontract must be approved in advance by the GPMTD.

8 Retention of Records

The contractor shall maintain records to show actual time devoted and cost incurred for a minimum of three (3) years after the completion of the contract.

9 Ownership of Records

The GPMTD shall retain ownership of all plans, specifications, and related documents.

10 Audit and Inspection of Records

The contractor shall permit the authorized representatives to the GPMTD and the State of Illinois to inspect and audit all data and records of the contractor relating to his performance under the contract.

11 Government (IL) Inspection

Representatives of the State of Illinois shall have the right to inspect all project works. The County of Peoria shall have the right to inspect the materials before accepting them. Acceptance of delivery of the aforementioned items shall not release the bidder from liability for faulty workmanship or materials even after final payment has been made for the services. The County of Peoria reserves the right and shall be at liberty to inspect all materials and workmanship at any time during the construction process, and shall have the right to reject all materials and workmanship which do not conform with the specifications; provided, however, that the County of Peoria is not required to make such inspection and no inspection, so made shall relieve the bidder from any obligation to furnish materials and workmanship strictly in accordance with the specifications.

12 Prime Contractor Participation

When appropriate, normally construction and service-related contracts, the selected Contractor will be designated the prime contractor and shall normally perform, with his own staff, work equivalent to at least fifty percent (50%) of the total amount of work for the Project. Only non-equipment and materials pay items of a contract will be used in computing the total amount of work conducted by the prime contractor at the work site. The participation percentage of a prime contractor is normally negotiable until finalized in an awarded contract.

13 Warranty of Construction

A warranty of construction will normally be provided for construction projects. Construction warranties will normally be for a minimum period of one (1) calendar year, unless otherwise noted in the contract award, from the date of each Project completion, as evidenced by the date of final acceptance of the work. At a minimum, the Contractor warrants that work performed under any contract conforms to the contract requirements and is free of any defect of equipment, material, or workmanship performed by the Contractor or any of its subcontractors or suppliers. The Buyers shall be entitled to all warranties as provided by law.

Under this warranty condition, the Contractor shall remedy at its own expense any such failure to conform, or any such defect. Nothing in the above intends or implies that this warranty provision shall apply to work which has been abused or neglected by the Buyer.

The Contractor shall not limit or exclude any implied warranties, and any attempt to do so shall render a contract voidable at the option of the Buyer. The Contractor warrants that the goods and equipment furnished will conform to the specifications, drawings, plans, descriptions or requirements noted in the solicitation or submittal packages, and any subsequent contract or agreement, as amended.

The Contractor warrants that any construction services, work, or materials purchased by the Buyer will conform to the standards promulgated by the U.S. Department of Labor, under the Occupational Safety and Health Act (OSHA) of 1970.

Construction warranties may be covered in further detail by the Construction Specifications of a given solicitation package.

14 No Obligation by the Federal Government

1. The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the

express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

2. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

15 Program Fraud and False or Fraudulent Statements or Related Acts

1. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.
2. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.
3. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

16 Access to Records and Reports

The following access to records requirements apply to this Contract:

1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 C. F. R. 18.36(i), the Contractor agrees to provide the Purchaser, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C. F. R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.
2. Where the Purchaser is a State and is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 C.F.R. 633.17, Contractor agrees to provide the Purchaser, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at \$100,000.

3. Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, Contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.
4. Where any Purchaser which is the FTA Recipient or a sub-grantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the Contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.
5. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
6. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).
7. FTA does not require the inclusion of these requirements in subcontracts.

17 Changes to Federal Requirements

Federal Changes - Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the [Master Agreement](#) between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

18 Termination Provisions

1. **Termination for Convenience (General Provision)** The GPMTD may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs on work performed up to the time of termination. GPMTD will not be responsible for lost profits or contract closeout cost, if this contract is terminated for convenience. The Contractor shall promptly submit its termination claim to GPMTD to be paid the Contractor. If the Contractor has any property in its possession belonging to the GPMTD, the Contractor will account for the same, and dispose of it in the manner the GPMTD directs.
2. **Termination for Default [Breach or Cause] (General Provision)** If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the GPMTD may terminate this contract for default. Termination shall be affected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.
If it is later determined by the GPMTD that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the

Contractor, the GPMTD, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

3. **Opportunity to Cure (General Provision)** The GPMTD in its sole discretion may, in the case of a termination for breach or default, allow the Contractor 10 business days in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions.

If Contractor fails to remedy to GPMTD's satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within ten (10) days after receipt by Contractor of written notice from GPMTD setting forth the nature of said breach or default, GPMTD shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude GPMTD from also pursuing all available remedies against Contractor and its sureties for said breach or default.

4. **Waiver of Remedies for any Breach** In the event that GPMTD elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by GPMTD shall not limit GPMTD's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

5. **Termination for Default (Construction)** If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, the GPMTD may terminate this contract for default. The GPMTD shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, the Recipient may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Recipient resulting from the Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Recipient in completing the work.

The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause if-

- A. the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of the Recipient, acts of another Contractor in the performance of a contract with the Recipient, epidemics, quarantine restrictions, strikes, freight embargoes; and
- B. the contractor, within [10] days from the beginning of any delay, notifies the GPMTD in writing of the causes of delay. If in the judgment of the GPMTD, the delay is excusable, the time for completing the work shall be extended. The judgment of the GPMTD shall be final and conclusive on the parties, but subject to appeal under the Disputes clauses.

If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Recipient.

19 Civil Rights Requirements

The following requirements apply to the underlying contract:

1. **Nondiscrimination** - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees

to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

2. *Equal Employment Opportunity* - The following equal employment opportunity requirements apply to the underlying contract:
 - a. *Race, Color, Creed, National Origin, Sex* - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 *et seq.*, (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 - b. *Age* - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 - c. *Disabilities* - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
3. The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary, to identify the affected parties.

20 DOL EEO (Construction)

Equal Employment Opportunity Requirements for Construction Activities. Comply, when undertaking "construction" as recognized by the U.S. Department of Labor (U.S. DOL), with:

- (a) U.S. DOL regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. chapter 60, and
- (b) Executive Order No. 11246, "Equal Employment Opportunity in Federal Employment," September 24, 1965, 42 U.S.C. § 2000e note (30 Fed. Reg. 12319, 12935), as amended by any later Executive Order that amends or supersedes it, referenced in 42 U.S.C. § 2000e note.

21 Disadvantaged Business Enterprise (DBE) Participation

1. This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. The national goal for participation of Disadvantaged Business Enterprises (DBE)

is 9%. The agency's overall goal for DBE participation is 9%. A separate contract goal for DBE participation has not been established for this procurement.

2. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the GPMTD deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).
3. Bidders/Proposers are required to document sufficient DBE participation to meet these goals or, alternatively, document adequate good faith efforts to do so, as provided for in 49 CFR 26.53. Award of this contract is conditioned on submission of the following concurrent with and accompanying an initial bid:
 - a. The names and addresses of DBE firms that will participate in this contract;
 - b. A description of the work each DBE will perform;
 - c. The dollar amount of the participation of each DBE firm participating;
 - d. Written documentation of the bidder/offeree's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
 - e. Written confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment; and
 - f. If the contract goal is not met, evidence of good faith efforts to do so.Proposers must present the information required above as a matter of responsiveness with initial bids (see 49 CFR 26.53(3)).

The successful bidder/offeree will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

4. The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the GPMTD. In addition, is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to this contract is satisfactorily completed.
5. The contractor must promptly notify the GPMTD, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the GPMTD.

22 Incorporation of FTA Terms

Incorporation of Federal Transit Administration (FTA) Terms - The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in [FTA Circular 4220.1E](#) are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any (name of grantee) requests which would cause (name of grantee) to be in violation of the FTA terms and conditions.

23 Suspension and Debarment

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

24 Buy America

For contractors who apply for a bid for an award of \$150,000 or more. The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

25 Disputes, Breaches, Defaults, or Other Litigation

For contractors who apply for a bid for an award of \$250,000 or more. Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of GPMTD's General Manager. This decision shall be final and conclusive unless within five (5) days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the General Manager. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the General Manager shall be binding upon the Contractor and the Contractor shall abide by the decision.

Performance During Dispute - Unless otherwise directed by GPMTD, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

Remedies - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the GPMTD and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the GPMTD is located.

Rights and Remedies - The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights

and remedies otherwise imposed or available by law. No action or failure to act by the GPMTD or the Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

26 Disclosure of Lobbying Activities

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

27 Clean Air

For contractors who apply for a bid for an award of \$150,000 or more. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

28 Clean Water

For contractors who apply for a bid for an award of \$150,000 or more. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

29 Cargo Preference

Cargo Preference - Use of United States-Flag Vessels - The contractor agrees: a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a

subcontractor's bill-of-lading.) c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

30 Fly America

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and sub-recipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

31 Davis-Bacon and Copeland Anti-Kickback Acts

(1) **Minimum wages** - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

1. Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and
2. The classification is utilized in the area by the construction industry; and

3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
4. With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
2. The classification is utilized in the area by the construction industry; and
3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the

contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(2) **Withholding** - The Greater Peoria Mass Transit District shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the [*insert name of grantee*] may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) **Payrolls and basic records** - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the GPMTD for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents

(Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

1. That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete;
2. (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
3. (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees - (i) *Apprentices* - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program.

If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) *Trainees* - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) *Equal employment opportunity* - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements** - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment** - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements** - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards** - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its

subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility** - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

32 Contract work Hours and Safety Standards

For contractors who apply for a bid for an award of \$100,000 or more. The records to be maintained under this clause shall be made available by the Contractor or Sub-contractor for inspection, copying, or transcription by authorized representatives of the FTA, US Department of Transportation, or the Department of Labor, and the Contractor or Sub-contractor will permit such representatives to interview employees during working hours on the job.

1. **Overtime requirements** - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages** - In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
3. **Withholding for unpaid wages and liquidated damages** - The (write in the name of the grantee) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
4. **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

33 Performance and Payment Bonds (Construction)

The contractor shall furnish a performance bond in an amount equal to 100% of his or her contracted price.

The Contractor shall be required to obtain performance and payment bonds as follows:

a) Performance bonds

The penal amount of performance bonds shall be 100 percent (100%) of the original contract price. The GPMTD may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The GPMTD may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

b) Payment bonds

The penal amount of the payment bonds shall equal Fifty percent (50%) of the contract price if the contract price is not more than \$1 million.

33.1 Bid Bond Requirements (Construction)

The contractor shall furnish a performance bond in an amount equal to Five percent (5%) of his or her contract price.

a) Bid Security

A Bid Bond must be issued by a fully qualified surety company acceptable to the GPMTD and listed as a company currently authorized under 31 CFR, Part 223 as possessing a Certificate of Authority as described thereunder.

b) Rights Reserved

In submitting this Bid, it is understood and agreed by the bidder that the right is reserved by GPMTD to reject any and all bids, or part of any bid, and it is agreed that the Bid may not be withdrawn for a period of [ninety (90)] days subsequent to the opening of bids, without the written consent of GPMTD. It is also understood and agreed that if the undersigned bidder should withdraw any part or all of his bid within [ninety (90)] days after the bid opening without the written consent of GPMTD, shall refuse or be unable to enter into this Contract, as provided above, or refuse or be unable to furnish adequate and acceptable Performance Bonds and Labor and Material Payments Bonds, as provided above, or refuse or be unable to furnish adequate and acceptable insurance, as provided above, he shall forfeit his bid security to the extent of GPMTD damages occasioned by such withdrawal, or refusal, or inability to enter into an agreement, or provide adequate security therefor.

It is further understood and agreed that to the extent the defaulting bidder's Bid Bond, Certified Check, Cashier's Check, Treasurer's Check, and/or Official Bank Check (excluding any income generated thereby which has been retained by GPMTD as provided in the Instructions to Bidders shall prove inadequate to fully recompense GPMTD for the damages occasioned by default, then the undersigned bidder agrees to indemnify GPMTD and pay over to GPMTD the difference between the bid security and GPMTD's total damages, so as to make GPMTD whole.

The undersigned understands that any material alteration of any of the above or any of the material contained on this form, other than that requested, will render the bid unresponsive.

34 Seismic Safety Requirements

The Contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The Contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

35 Energy Conservation

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

36 Recycled Products

Recovered Materials - The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

37 Access Requirements for Persons with Disabilities

The Recipient agrees to comply with the provisions of 49 U.S.C. § 5301(d), which sets forth the Federal policy that elderly persons and persons with disabilities have the same right as other persons to use transit service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement transportation accessibility rights for elderly persons and persons with disabilities. The Recipient also agrees to comply with all applicable requirements of the following Federal laws and any subsequent amendments thereto: section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicap; the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires accessible facilities and services to be made available to persons with disabilities; and the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to persons with disabilities.

Buy America

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date: _____

Signature: _____

Company Name: _____

Title: _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date: _____

Signature: _____

Company Name: _____

Title: _____

Compliance with Federal Lobbying Regulations

The undersigned certifies to the best of his/her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

By: _____
Official

____ Signature of Company
Date

Official's Title

Certification Regarding Debarment and Suspension

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the GPMTD. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the GPMTD, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Authorized Official: _____

Signature: _____

Date: _____

Where the Contractor is unable to certify to any of the statements in this certification, such Contractor shall attach an explanation to this proposal.

The Contractor, certifies or affirms the truthfulness and accuracy of the contents of the statement submitted on or with this certification and understands that the provisions of 31 U.S.C. Sections 3801 ET Seq. are applicable thereto.

Authorized Official: _____

Signature: _____

Date: _____

Affidavit of Non-Collusion

I hereby swear (or affirm) under the penalty for perjury:

1. That I am the proposer (if the proposer is an individual), a partner in the proposal (if the proposer is a partnership), or an officer or employee of the proposing corporation having authority to sign on its behalf (if the proposer is a corporation);
2. That the attached proposal has been arrived at by the proposer independently and have been submitted without collusion and without any agreement, understanding, or planned common course of action with any other vendor or materials, supplies, equipment, or service described in the Request for Proposals, designed to limit independent proposals or competition;
3. That the contents of this bid proposal has not been communicated by the proposer or its employees or agents to any person not an employee or agent of the proposer or its surety on any bond furnished with the proposal, and will not be communicated to any such person prior to the official opening of the proposal; and
4. That I have fully informed myself regarding the accuracy of the statements made in the affidavit.

Signed: _____

Company Name: _____

Subscribed and sworn to before me this _____ day of _____, 20_____

Notary Public: _____

My Commission expires _____, 20_____

Proposer's Federal Employer Identification Number: _____
(Number used on Employer's Quarterly Federal Tax Return)

Indemnity and Insurance Requirements

1. These are the Indemnity and Insurance Requirements for Contractors providing services or supplies to Greater Peoria Mass Transit District (GPMTD). By agreeing to perform the work or submitting a proposal, you verify that you comply with and agree to be bound by these requirements. If any additional Contract documents are executed, the actual Indemnity language and Insurance Requirements may include additional provisions as deemed appropriate by GPMTD.

2. You should check with your Insurance advisors to verify compliance and determine if additional coverage or limits may be needed to adequately insure your obligations under this agreement. These are the minimum required and do not in any way represent or imply that such coverage is sufficient to adequately cover the Contractor's liability under this agreement. The full coverage and limits afforded under Contractor's policies of Insurance shall be available to GPMTD and these Insurance Requirements shall not in any way act to reduce coverage that is broader or includes higher limits than those required. The Insurance obligations under this agreement shall be: 1—all the Insurance coverage and limits carried by or available to the Contractor; or 2—the minimum Insurance requirements shown in this agreement, whichever is greater. Any insurance proceeds in excess of the specified minimum limits and coverage required, which are applicable to a given loss, shall be available to GPMTD.

3. Contractor shall furnish the GPMTD with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to GPMTD before work begins. GPMTD reserves the right to require full-certified copies of all Insurance coverage and endorsements.

I. INDEMNIFICATION

To the fullest extent permitted by law, Contractor agrees to indemnify, and hold harmless, and upon request, defend GPMTD, its officers, directors, Board Members, employees, agents, representatives, volunteers, subsidiaries, successors, and assigns ("Indemnitees"), from any claim, liability, damage, expense, suit or demand (including, without limitation, reasonable attorneys' fees and court costs) for any losses, damages, injuries, or death to any persons including Contractor's employees or any Subcontractor's employees, or for damage or loss to any third-party property, arising out of or in any manner related to, based upon, or in connection with any operations, performance, breach, course or scope of Work, act, omissions, or presence upon, use, or other encountering of any property, facilities, personnel, vehicles, equipment, or operation of GPMTD by or involving GPMTD, Contractor or any of their employees, agents, representatives, facilities, vehicles, materials, equipment, or Subcontractors (regardless of tier) or anyone directly or indirectly employed by any of them, in any connection with the Work performed by or on behalf of Contractor, regardless of whether the Contractor is a party to any lawsuit. In that regard, this obligation to indemnify includes, without limitation, claims against GPMTD for GPMTD's own negligence or fault.

II. INSURANCE

All insurance required except for worker's compensation shall be endorsed to add Greater Peoria Mass Transit District, its officials, Board members, employees, agents and volunteers to be added to all liabilities policies as additional insureds. The contractor's insurer will provide at least 30 days written notice of cancellation.

I have read and understand the above requirements and agree to be bound by them for any work performed for the GPMTD.

Authorized Signature: _____ Date: _____

Printed name: _____

DBE Good Faith Effort
(For information only – not to be returned)

1. The GPMTD has established a twelve percent (12.0%) goal for Disadvantaged Business Enterprise (DBE) participation for this contract. Therefore, a proposer must, in order to be responsible and responsive, make a good-faith effort to meet the goal. The proposer can meet this requirement in either of two (2) ways. First, the proposer can meet or exceed the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if the proposer doesn't meet the goal, the proposer can document its good-faith efforts to meet the goal. This means that the proposer must show that it took all necessary and reasonable steps to achieve the DBE goal, or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
2. The GPMTD will use the good-faith efforts mechanism as required by 49 CFR part 26. It is up to the GPMTD to make a fair and reasonable judgment whether a proposer that did not meet the goal made adequate good-faith efforts. The GPMTD will consider the quality, quantity, and intensity of the different kinds of efforts that the proposer made. The efforts employed by the proposer should be those that one could reasonably expect a proposer to take, if the proposer were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good-faith efforts to meet the DBE contract requirements. As emphasized by the Department of Transportation, GPMTD's determination concerning the sufficiency of the firm's good-faith efforts is a judgment call; meeting quantitative formulas is not required.
3. The GPMTD will not require that a proposer meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the proposer shows that an adequate good-faith was made. The rule specifically prohibits the GPMTD from ignoring bona fide good-faith efforts.
4. The following is a list of types of actions that the GPMTD will consider as part of the proposer's good-faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - a. Soliciting through all reasonable and available means (e.g. attendance at pre-proposal meetings, advertising, and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The proposer must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The proposer must determine with certainty whether or not a DBE is certified.
 - b. The DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - c. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - d. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

Good-Faith Effort (Continued)

- e. Negotiating in good-faith with interested DBEs. It is the proposer's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

A proposer using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities, as well as contract goals, into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a proposer's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the proposer of the responsibility to make good-faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs, if the price difference is excessive or unreasonable.

- f. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups, organizations, or associations, and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of proposals from DBEs in the Contractor's efforts to meet the project goal.
- g. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance, as required by the recipient or contractor.
- h. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- i. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and Local minority/women business assistance offices; and other organizations, as allowed on a case-by-case basis, to provide assistance in the recruitment and placement of DBEs.

DBE Letter of Intent

To: _____
(Name of Proposer)

The undersigned intends to perform work in connection with the above project as a DBE (circle one):

Individual _____ Corporation _____ Partnership _____ Joint Venture _____

The Disadvantaged Business Enterprise status of the undersigned is confirmed:

1. On the reference list of Disadvantaged Business Enterprises dated _____; or
2. On the attached Disadvantaged Business Enterprise Identification Statement.

The undersigned is prepared to perform the following work in connection with the above project (Specify in detail particular work items or parts thereof to be performed):

The DBE contractor will perform this work at the following price: _____

You have projected the following commencement date for such work, and the undersigned is projecting completion of such work as follows:

Items	Projected Commencement Date	Projected Completion Date
_____	_____	_____
_____	_____	_____

The above work will not be sublet to a non-Disadvantaged Business Enterprise at any tier. The undersigned will enter into a formal agreement for the above work with you, conditioned upon your execution of a contract with GPMTD.

Name of Disadvantaged Business Enterprise: _____

By: _____

Title: _____

Date: _____

DBE Affidavit

State of _____

Date: _____

County: _____

The undersigned, being duly sworn, deposes and says that he/she is the (sole owner, partner, president, treasurer, or other duly authorized official of a corporation) of

(Name of Official)

(Name of DBE)

and certifies that since the date of its certification through the IL UCP, the certification has not been revoked nor has it expired nor has there been any change in the minority status of

(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this _____ day _____, 20_____

(Notary Public)

NOTE: The proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE Unavailable Certification

I, _____, the _____
(Name) (Title)

of _____ certify that on _____
(Proposer/Prime Contractor) (Date)

I contacted the following Disadvantaged Business Enterprise to obtain a proposal to perform the following work item(s):

<u>DBE Organization</u>	<u>Work Items Sought</u>	<u>Form of Proposal Sought (i.e., materials, materials & labor, labor only, etc.)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

To the best of my knowledge and belief, said Disadvantaged Business Enterprise was unavailable for work on this project, or unable to prepare a proposal, for the following reason(s):

Signature: _____ Date: _____

_____ was offered an opportunity on _____
(Name of Disadvantaged Business Enterprise) (Date)

by _____ to submit a proposal to perform the above identified work.
(Proposer)

The above statement is a true and accurate account of why I did not submit a proposal on this project.

Signed: _____
(Disadvantaged Business Enterprise Official)

Title: _____

Date: _____

Certificate of Compliance with Prevailing Wages

The Vendor shall agree to comply with the GPMTD Prevailing Wage requirements by signing and dating the following:

PREVAILING WAGES

The State of Illinois has enacted the "Prevailing Wage Act" 820 ILCS 130 *et seq.*

To the extent and as required by the "Prevailing Wage Act", the general prevailing rate of wages in this locality for laborers, mechanics and the workers engaged in construction of public works coming under the jurisdiction of the GPMTD is hereby ascertained to be the same as the prevailing rate of wages for construction work in Peoria County area as determined by the Department of Labor of the State of Illinois as of July of the current year.

Nothing herein contained shall be construed to apply said general prevailing rate of wages as herein ascertained to any work or employment except public works construction and landscaping construction of the GPMTD to the extent required by the aforesaid Act.

The Contractor shall promptly submit certified payrolls as required by the Illinois Prevailing Wage Act. An electronic database is provided by the Department of Labor to submit Certified Payroll within a Certified Transcript of Payroll Portal created and managed by the Department of Labor.

By signature below, the Bidder/Proposer, _____, agrees to comply with Prevailing Wage Requirements.

Signature of Bidder's Authorized Official

Print - Name and Title of Bidder's Authorized Official

Date

Prompt Payment Affidavit

Complete either (A) or (B), as applicable

(A) The undersigned affirms, to the best of his/her knowledge and belief, that:

- (1) The undersigned understands and agrees that the Contractor is required to pay all Subcontractors for all work that any Subcontractor has satisfactorily completed no later than thirty (30) days after the Contractor has received payment from GPMTD for that work.
- (2) The undersigned understands and agrees that the Contractor is required to pay retainage amounts, if any, to a Subcontractor no later than thirty (30) days after the GPMTD has released retainage to the Contractor for that portion of the work.
- (3) The undersigned understands and agrees that any delay in or postponement of payment to any Subcontractor by the Contractor requires the Contractor to demonstrate good cause and to receive prior written approval by GPMTD's General Manager or his/her authorized representative.
- (4) The undersigned understands and agrees that the GPMTD will not pay the Contractor for Services performed or Deliverables submitted unless and until the Contractor certifies that the Subcontractors have been promptly paid for the work or services they have performed under all previous payment requests, as evidenced by the filing with the GPMTD the Contractor's sworn statement that the Contractor has complied with the prompt payment requirements.

The undersigned solemnly declares and affirms under penalty of perjury that the above and foregoing are true and correct, and that he/she is authorized on behalf of the Contractor to sign this affidavit.

Signature

Company Name

Official's Name and Title

Date

(B) The undersigned solemnly declares and affirms under penalty of perjury that no Subcontractors will be used in the performance of the work or services and, as such, the statutory prompt payment requirements are inapplicable. The undersigned further declares that he/she is authorized on behalf of the Contractor to sign this affidavit.

Signature

Company Name

Officials Name

Date

SECTION 003100 – BID FORM

Bids Due: **October 19th, 2021 @ 2pm**

Bid Opening: **Greater Peoria Mass Transit District – New Maintenance Facility & Renovation Phase B, C, D – Structural Steel – RE-BID**

2105 NE Jefferson St, Peoria IL 61603

Delivery: (1) hard copy of **BID FORM** in sealed envelope to Greater Peoria Mass Transit District Office (Mailed or Hand Delivered)

Instructions: Sealed envelope shall have the name of project, name of company, workcategory number and definition of scope on outside of envelope.

Deliver/Mailed Address: **Greater Peoria Mass Transit District
Attn: Jamie Arbogast
2105 NE Jefferson St
Peoria, IL 61603**

Contractor Information: **Name of Company:** _____

License No.: _____

DUNN's #: _____

Point of Contact: _____

Phone: _____

Address: _____

LUMP SUM BID FOR: GREATER PEORIA MASS TRANSIT DISTRICT – NEW MAINTENANCE FACILITY & RENOVATION PHASE B, C, & D – STRUCTURAL STEEL – RE-BID

1. The Undersigned, having received and examined the bidding documents titled, “**Greater Peoria Mass Transit District CityLink New Operations & Maintenance Facility**” and having visited the site and examined the conditions affecting the Work, we hereby propose and agree to furnish all labor, materials, equipment, appliances, and services, and to perform operations necessary to complete the Work as required by said Contract Documents, for the Work identified below.

2. **LUMP SUM BASE BID:**

Pursuant to notices given, the undersigned offers to furnish labor, equipment, and materials necessary to complete the construction work in accordance with contract documents prepared by Muller & Muller, Ltd as follows:

Work Category (Number, Description): _____

Addenda/Clarifications Received: _____

Base Bid Amount: _____

_____ DOLLARS (\$ _____)

3. **Alternates:**

Alternate #1: If the City does not require any permitting fees, please provide a credit for the amount you included in your bid. _____

_____ DOLLARS (\$ _____)

4. **Unit Cost:**

Labor Rates:

<u>Description</u>	<u>ST</u>	<u>OT</u>	<u>DT</u>
_____	\$ _____	\$ _____	\$ _____
_____	\$ _____	\$ _____	\$ _____
_____	\$ _____	\$ _____	\$ _____
_____	\$ _____	\$ _____	\$ _____

Substitutions / Voluntary Alternates:

The Undersigned agrees to furnish material in strict accordance with the Bidding Documents.

The Undersigned further proposes to substitute the following alternate materials, equipment or methods of construction for the indicated changes in contract amount in accordance with the Instructions to Bidders. Product data and description of proposed substitutions are attached.

<u>Description</u>	<u>Add</u>	<u>Deduct</u>
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____

5. The Undersigned agrees to furnish a listing of major subcontractors and manufacturers with their Bid. After submission of this list by the Bidder, and after approval by the Owner, Construction Manager, and Engineer, it shall not be changed unless written approval of change is authorized by the Owner, Construction Manager, and Engineer.
6. **Final Completion of Work:** If the Undersigned receives written notification of acceptance of this Proposal within sixty (60) days after the Bid Opening Date, the Undersigned agrees to execute a Contract for the Work described and complete the completion dates in the project schedule.
7. The surety company writing the bonds shall be subject to approval by the Construction Manager. If the Construction Manager does not approve the surety company, for good and sufficient reason, then the Subcontractor shall furnish bonds with another surety company acceptable to the Construction Manager.
8. The Undersigned understands and agrees to comply with and be bound by the Instructions to Bidders issued for this Work.
9. The Undersigned acknowledges the following:
 - a. Receipt of complete set of documents and understands the meaning of their content and shall willingly comply with the guidelines set forth in those documents.
 - b. **Receipt of Addenda numbers**_____.
 - c. Costs and premiums for Payment and Performance bond insurance, all permits and fees are included in the bid amount.
 - d. Bid shall remain in force for a period of **Ninety (90)** consecutive calendar days from the due date, and Bids may be accepted or rejected during this period. Bids not accepted within said ninety (90) consecutive days shall be deemed rejected.
 - e. Complete scope of work for the Work Category submitting bid for, including all labor, material, equipment, etc. required to perform the work as such.
 - f. Special provisions as set forth in the scopes are included in the scope of work of the Bid.
 - g. Coordination between your work and the work of other contractors, including review of other contractor's Work Scopes, Drawings, and Specifications.

IDENTIFICATION OF BIDDER & SIGNATURE:

(Circle One) **CORPORATION** **PARTNERSHIP** **INDIVIDUAL**

Name: _____

Signature (must be an officer other than Secretary): _____

Business Address: _____

Phone Number: _____

President: _____

Vice President: _____

SEAL:

SECTION 008200 – SCHEDULE OF INSURANCE COVERAGES REQUIRED

PART 1 – SUBCONTRACT INSURANCE REQUIREMENTS

Standard Subcontract Insurance Requirements	
Coverage Type	Limits
Workers' Compensation	Statutory Limits for each respective State
Employer's Liability	\$1,000,000 each accident \$1,000,000 policy limit \$1,000,000 each person
Auto Liability (Includes autos owned, hired, or non- owned)	\$1,000,000 combined single limit
General Liability	\$1,000,000 per occurrence \$2,000,000 Aggregate \$2,000,000 Completed Operations
Excess/Umbrella Liability	\$1,000,000 per occurrence \$1,000,000 aggregate

Liability limits can be satisfied with a combination of underlying and/or excess or umbrella coverage. Please note, the above limits are the minimum acceptable to River City Construction but may need to be changed depending upon the specific requirements of the project owner.

River City Construction, LLC, and others as required by the project owner, must be named as an additional insured under the liability coverage on a primary and non-contributory basis. Evidence of the above coverages must be supplied to River City Construction within 10 days of being issued a subcontract.

END OF SECTION 008200

SECTION 009000 – WORK CATEGORIES

PART 1 – GENERAL

General Information Notes

- A. Definitions and instructions set forth in Section 001000 Instructions to Bidders are applicable to these Work Categories.
- B. Bidders submitting Bids for the Work Categories acknowledge the following:
 - 1. Complete scope of work for the Work Category submitting bid for, including all labor, material, equipment, etc. required to perform the work as such.
 - 2. Special detail provisions as set forth in the scopes are included in the scope of work of the Bid.
 - 3. Receipt of a complete set of documents and understands the meaning of their content and shall willingly comply with the guidelines set forth in those documents.
 - 4. Costs and premiums for Performance Bond and Payment Bond if applicable, insurance, all permits and fees.
 - 5. Coordination between your work and the work of other contractors, including review of other contractor's Work Scopes, Drawings, and Specifications.
 - 6. Complete field verification of existing conditions as required prior to submitting bids and commencing work, and shall make modifications necessary to facilitate the installation of new work.
 - 7. Complete review of the contract documents, including the work of other Work Categories to determine the scope of work required and necessary coordination between each Category.
 - 8. Allowances are to be included in the Base Bid for each Prime Trade Contract Package. Mark-up for OH&P is not permitted in your base bid for the allowances, however, it will be permitted when submitting for reimbursement. Work may not be provided under an allowance without prior consent of the Construction Manager. Furthermore, any costs for work performed without consent will not be considered for reimbursement. All allowances will be separately identified on the Schedule of Values. Unused allowance funds will be credited to the Owner via a deductive change order at the end of the Project.
 - 9. All work shall be completed in accordance with OSHA guidelines and/or Owner Requirements.
 - 10. Upon award, Subcontractor will be required to adhere to all of RCC's safety requirements.
 - 11. Contractor and Owner Reserve the right to issue immediate stop work notice at any time due safety related concerns.

12. Subcontractor must provide RCC superintendent with their safety manual and all SDS sheets prior to starting work on site.
13. Furnish and install all coring of your work unless sleeves are provided and installed.
14. All work outside of the construction limits must be coordinated with RCC so proper procedures are set up and maintained.
15. Subcontractor will be required to attend all weekly coordination meetings with an employee that can make schedule and material decisions.
16. If multiple trips are required for your scope of work, it is understood that you must provide manpower, material, and equipment as required.
17. Your firm shall complete your work in accordance with the project schedule as set forth by River City Construction. Should you fail to meet the schedule, you will undertake any and all efforts to bring the project back on schedule at no additional cost to River City Construction. These efforts will include but are not limited to overtime, additional manpower, additional tools, additional equipment, etc.
18. It is River City Construction, L.L.C.'s policy that all subcontractors performing work on this project are responsible for the clean-up and disposal of all trash and debris created by their work/work force into a dumpster provided by River City Construction.

Work Category: 5.1 Structural Steel Fabrication & Erection

Allowance #1: Bidder shall carry \$2,500 allowance for **MATERIAL TESTING** to be used at the discretion of the Construction Manager. Construction Manager will issue a deductive change order at the end of the project for any costs associated with the unused

Allowance #2: Bidder shall carry \$20,000 allowance for **FIELD MODIFICATIONS** to be used at the discretion of the Construction Manager. Construction Manager will issue a deductive change order at the end of the project for any costs associated with the unused

GENERAL CONDITIONS

1. Division 0 – Complete
2. Division 1 – Complete, including but not limited to the following:
 - All field verification of dimensions and/or site conditions associated with your work
 - Safety Barriers & Safety Equipment
 - Insurance
 - General cleaning and final cleaning
 - Disposal of all debris generated by your work
 - Legal disposition of materials offsite as necessary including all fees
 - Onsite material storage – coordinate location with CM
 - Jobsite trailers/tool trailers – coordinate location with CM
 - Layout & grades for your work
 - (Anchor bolts supplied by this contractor to be installed by the concrete contractor)
 - Warranty work/punch list
 - Hauling, unloading, and hoisting of materials/equipment
 - All equipment & miscellaneous tools
 - Record documents
 - Permits & Inspections
 - Project Barricades & Traffic Control
 - Winter Protection
 - Utility Locates
 - Cleaning of public streets
 - Clean up of materials and placement into dumpster
 - All Shop and field testing if required.
3. Contractor shall complete their portion of work in accordance with the project schedule as set forth by River City Construction. Should contractor fail to meet this schedule, contractor will undertake any and all efforts to bring the project back on schedule at no additional cost to River City Construction or the Owner. These efforts will include but are not limited to overtime, additional manpower, additional tools, additional equipment, etc.

SPECIFICATION SECTIONS

- Peoria – CityLink New Maintenance Facility & Renovation Phase B, C, & D – STRUCTURAL STEEL RE-BID
- Division 0 – Procurement & Contracting Requirements – Complete
 - Division 1 – General Requirements – Complete
 - Division 5 – Metals - Complete
 - Specification Section 05 12 00 Structural Steel Framing
 - Specification Section 05 21 00 Steel Joist Framing
 - Specification Section 05 31 00 Steel Decking
 - Specification Section 05 50 00 Metal Fabrications
 - Specification Section 05 51 13 Metal Pan Stairs
 - Specification Section 05 52 13 Pipe & Tube Railings

SUBMITTAL SCHEDULE

- Complete submittal package for 5.1 Steel Framing, including all product data, shop drawings, samples, etc. shall be received by the Construction Manager within four (4) weeks of receipt of the Subcontractor Agreement.
- Established time frames and dates will be strictly adhered to. Bidder acknowledges receipt of these dates and confirms ability to meet these dates by submitting their bid for this WorkCategory.

MILESTONES SCHEDULE

- Bid Package Award: November 15th, 2021
- **Target Steel Delivery: August 2022**
- Project Completion: April 12, 2023

SCOPE OF WORK

- Complete steel framing package, including all stairs, railing, and all miscellaneous building steel, per the contract documents, including fabrication and steel erection.
- All layout for this work is the responsibility of this contractor.
- Coordinate anchor bolt layout and installation with concrete contractor. This contractor to supply complete installation drawings.
- All anchor bolts, shim plates, and embedded concrete items are furnished by this contractor / installed by others.
 - NOTE: This contractor is required to work with the metal building contractor on coordinating anchor bolts.
- All work associated with grouting structural steel column base plates, and beams per the contract documents.
- This contractor is to furnish all lintels per contract documents.
 - NOTE: Lintels will be installed and grouted by the masonry contractor.
- Furnish and install stairs and steel support for roof screen.
- Furnish and install all beams, columns, and leveling plates.
- Furnish and install metal joists.
- Furnish and install all miscellaneous metal required for mechanical openings, roof hatch, skylights etc.
- Furnish and install all diagonal wall bracing, gussets, etc.
- Furnish and install (8) hose reel supports per detail 11 on S-405.
- Furnish and install all interior bollards and guard rails to be installed by others. (Quantity of 65)
- Furnish and install tube railing as per the contract documents.
- Design, furnish, install, and remove perimeter fall protection for the administration building, pedestrian, bridge,

Peoria – CityLink New Maintenance Facility & Renovation Phase B, C, & D – STRUCTURAL STEEL RE-BID and mezzanine.

- Furnish and install metal decking.
- Furnish and install all shear studs, as required.
- Provide labor and material to complete all moment connections per the contract documents.
- Furnish and install all beam connection plates, clips, angles, and anchors, for surface mount into concrete or CMU etc.
- Furnish and install all window steel and supports.
- Furnish and install all roof opening framing.
- Furnish and install all support framing angles/hangers
- Furnish and install all shelf & curb angles.
- Furnish and install all shelf angle hangers/gussets
- Furnish and install all access ladders, roof ladders and cross over stair, elevator pit ladders, etc.
- Furnish and install all canopy and support steel.
 - This also includes South building canopy.
- Per Note 109 on S002 furnish and install all perlin support steel as shown on the drawings.
- Furnish all exterior bollards to be installed by site concrete contractor. (Quantity of 100)
- Furnish and install hoist beam for elevator.
 - Note: coordinate with elevator contractor for final size and location.
- Provide any touch up paint required for your package.
- All roof plates and roof deck sill angles.
- All embedded plates and angles, submit structural calculations meeting all specified structural Performance design requirements signed and sealed by the Illinois licensed structural engineer retained by respective contractor.
- All grating support steel.
- All top of CMU closure and clip angles.
- This scope of work included any and all escalations as required to complete the work for the duration of the contract.
- All pour stops, including strap anchors and metal closure plates as needed.
- All bolts and fasteners for material furnished under this package.
- All anchors and expansion anchors for material furnished under this package.
- All items shall be hand cleaned and painted with one coat of primer unless otherwise noted per the specifications. Galvanize all items noted per the contract documents.
- All structural steel is to be cleaned and ground smooth.
- All steel assemblies are to be shop fabricated to the fullest extent possible
- All random holes/openings need to be covered and protected at all times per OSHA standards.
- All moment connections shall be shop welded and field bolted unless otherwise noted.
- All metal decking attachment screws or power actuated fasteners are to be furnished and installed by this contractor.
- This contractor is responsible to review all referenced architectural drawings and details and include any required steel in this bid package.
- This scope of work is responsible for all items included in the set of drawings dated 09.28.21.
- This contractor is responsible to furnish fully approved steel erection shop drawings, along with signed

Peoria – CityLink New Maintenance Facility & Renovation Phase B, C, & D – STRUCTURAL STEEL RE-BID and sealed connection drawings per the contract documents.

MISCELLANEOUS

- This contractor's final approved steel erection shop drawings shall be sent out to erector and CM prior to starting work to assist in resolving any problems or concerns prior to any work taking place.
- It is this contractor's responsibility to coordinate material deliveries and installation sequence with River City Construction's onsite superintendent. Expedite all equipment submittal time frames and deliveries to meet project schedule. Out of sequence work or overtime required due to late deliveries is the responsibility of this contractor.
- It is this contractor's responsibility to provide the proper tools, ladders, equipment, etc. to install your portion of work. This includes all safety equipment consistent with OSHA standards.
- It is this contractor's responsibility to provide any small tools used in conjunction with your work.
- It is this contractor's responsibility to provide labor and equipment to unload and hoist the material deliveries to predetermined staging areas and to within working proximity. Coordinate staging locations with onsite River City Construction superintendent.
- Removal of excess material from the site is this contractor's responsibility.
- It is this contractor's responsibility for any costs associated with damage resulting from this contractor of the Owner's property.
- Trailer storage onsite will be very limited. Any and all staging trailers will need to be coordinated within the site by the CM and will need to be able to be moved with minimal notice due to the logistics of the overall site.
- Area for storage, stockpiling, and sorting of material and equipment at site is very limited. Storage shall be permitted onsite, only to the extents approved in advance by the CM, or the storage shall be offsite. Stored materials that obstruct the progress of any work shall be promptly removed or relocated by contractor without reimbursement.
- This project is tax exempt. All taxes should be excluded from the base bid, alternates, and unit prices. A tax-exempt certificate will be issued with the awarded Contract.

SUBCONTRACT FOR BUILDING CONSTRUCTION

ARTICLE 1 AGREEMENT

This Agreement made on Month & Day, 2021 and effective Month & Day, 2021, by and between River City Construction, L.L.C. hereinafter called the "Contractor" and «FirmName» hereinafter called the "Subcontractor", to perform part of the Work on the following project.

PROJECT: Greater Peoria Mass Transit – New Operations & Maintenance Facility: Phase B,C, & D

OWNER: Greater Peoria Mass Transit Citylink
2105 NE Jefferson Street
Peoria, IL 61603

ARCHITECT: Muller & Muller, Ltd.
700 N. Sangamon Street
Chicago, IL 60642

CONTRACTOR: River City Construction, L.L.C.
101 Hoffer Lane
East Peoria, IL 61611

SUBCONTRACTOR: «FirmName»
«FirmAddress»
«FirmCity», «FirmState» «FirmZip»

CONTRACT PRICE: «TotalSubcontract»

JOB NUMBER: 212220

VENDOR NUMBER: «VendorNumber»

SUBCONTRACT NUMBER: «SL»

Notice to the parties shall be given at the above address.

ARTICLE 2 SCOPE OF WORK

2.1 SUBCONTRACTOR'S WORK. The Contractor employs the Subcontractor as an independent contractor, to perform the work described in Article 16, and as set forth in this Agreement. The Subcontractor shall perform such work (hereinafter called the "Subcontractor's Work") under the general direction of the Contractor and in accordance with this Agreement and the Contract Documents.

2.2 CONTRACT DOCUMENTS. The "Contract Documents", which are binding on the Subcontractor, are as set forth in Article 16.5. Upon the Subcontractor's request, the Contractor shall furnish Subcontractor a copy of all or any part of these documents.

ARTICLE 3 SCHEDULE OF WORK

3.1 TIME IS OF ESSENCE. Time is of the essence for both parties, and they mutually agree to see to the performance of their respective work and the work of their subcontractors so that the entire project may be complete in accordance with the Contract Documents and the Schedule of Work, as herein described. The Contractor shall prepare the Schedule of Work and may revise such schedule, in its sole discretion, as the work progresses.

3.2 DUTY TO BE BOUND. Both the Contractor and the Subcontractor shall be bound by the Schedule of Work. The Subcontractor shall provide the Contractor with any requested scheduling information for the Subcontractor's Work. The Schedule of Work and all subsequent changes therein shall be submitted to the Subcontractor in advance of the required performance. Should the progress of the work or of the project be delayed by any fault, neglect, or failure to act of Subcontractor so as to cause any additional cost, expense, liability or damage to Contractor or Owner, Subcontractor agrees to compensate Contractor or Owner for and indemnify them against all costs, expenses,

damages and liability, including attorney fees and expenses.

3.3 SCHEDULE CHANGES. Contractor reserves the right to modify the Schedule of Work with respect to the required sequence or duration of the Work or any portion thereof, and Contractor makes no representation that Subcontractor will be able to commence, prosecute, or complete Subcontractor's Work in accordance with the original Schedule of Work or any revision thereto.

3.4 PRIORITY OF WORK. The Contractor shall have the right to decide the time, order and priority in which the various portions of the Work shall be performed and all other matters relative to the timely and orderly conduct of the Subcontractor's Work.

ARTICLE 4 CONTRACT PRICE

The Contractor agrees to pay to the Subcontractor for the satisfactory performance of the Subcontractor's Work the sum of Dollars and 00/100^{ths} («TotalSubcontract») in accordance with Article 5, subject to additions or deductions per Article 6 and to the conditions of Article 16.2.

ARTICLE 5 PAYMENT

5.1 GENERAL PROVISIONS

5.1.1 SCHEDULE OF VALUES. The Subcontractor shall provide a schedule of values satisfactory to the Contractor and the Owner no more than ten (10) days after the date of execution of this Agreement.

5.1.2 ARCHITECT VERIFICATION. Upon reasonable request, the Contractor shall give the Subcontractor written authorization to obtain directly from the Architect the percentage of completion certified for the Subcontractor's Work.

5.1.3 PAYMENT USE VERIFICATION. The Contractor shall have the right at all times to contact the Subcontractor's subcontractors and suppliers to ensure that the same are being paid by the Subcontractor for labor or materials furnished for use in performing the Subcontractor's Work.

5.1.4 PARTIAL LIEN WAIVERS AND AFFIDAVITS. When required by the Contractor, and as a prerequisite for payment, the Subcontractor shall provide, in a form satisfactory to the Owner and the Contractor, partial lien or claim waivers and affidavits from the Subcontractor and its sub-subcontractors and suppliers, for the completed Subcontractor's Work. Such waivers may be made conditional upon payment.

5.1.5 SUBCONTRACTOR PAYMENT FAILURE. In the event the Contractor has reason to believe that labor, material or other obligations incurred in the performance of the Subcontractor's Work are not being paid, the Contractor shall give written notice of such claim or lien to the Subcontractor and may take any steps deemed necessary to ensure that any progress payment shall be utilized to pay such obligations.

If upon receipt of said notice, the Subcontractor does not:

(a) Supply evidence to the satisfaction of the Contractor that the monies owing to the claimant(s) have been paid; or

(b) Post a bond indemnifying the Owner, the Contractor, the Contractor's surety, if any, and the premises from such claim or lien; then the Contractor shall have the right to retain out of any payments due or to become due to the Subcontractor a reasonable amount to protect the Contractor from any and all loss, damage or expense, including attorney's fees and expenses, arising out of or relating to any such claim or lien, until the claim or lien has been satisfied by the Subcontractor.

5.1.6 PAYMENT NOT ACCEPTANCE. Payment to the Subcontractor is specifically agreed not to constitute or imply acceptance by the Contractor or the Owner of any portion of the Subcontractor's Work.

5.2 PROGRESS PAYMENTS

5.2.1 APPLICATION. The Subcontractor's progress payment application for work performed in the preceding payment period shall be submitted to the Contractor per the terms of this Agreement, and specifically Articles 5.1.1, 5.2.2, 5.2.3, and 5.2.4, for approval of the Contractor, and the Contractor shall forward, without delay, the approved value to the Owner for payment. Payment to the Subcontractor will occur within 7 days from the date payment is made to the Contractor by the Owner for that payment application, as long as all requirements have been met.

5.2.2 RETAINAGE/SECURITY. The rate of retainage shall not exceed the percentage retained from the Contractor's payment by the Owner for the Subcontractor's Work.

If the Subcontractor has furnished a bond or security, its work is satisfactory and the Contract Documents provide for reduction of retainage at a specified percentage of completion, the Subcontractor's retainage shall also be reduced when the Subcontractor's Work has attained the same percentage of completion and the Contractor's retainage for the Subcontractor's Work has been so reduced by the Owner.

5.2.3 TIME OF APPLICATION. The times of application shall be as outlined in Attachment "A" of this Agreement.

5.2.4 STORED MATERIALS. Unless otherwise provided in the Contract Documents, and if approved in writing in advance by the Owner, applications for payment may include materials and equipment not incorporated in the Subcontractor's Work but delivered and suitably stored at the site or at some other location agreed upon in writing. Approval of payment application for such stored items on or off the site shall be conditioned upon submission by the Subcontractor of bills of sale and applicable insurance or such other procedures satisfactory to the Owner and Contractor to establish the Owner's title to such materials and equipment or otherwise protect the Owner's and Contractor's interests therein, including transportation to the site or a material bond covering 100% value of the material stored off site.

5.3 FINAL PAYMENT

5.3.1 APPLICATION. Upon acceptance of the Subcontractor's Work by the Owner, the Contractor, and if necessary, the Architect, and upon the Subcontractor furnishing evidence of fulfillment of the Subcontractor's obligations in accordance with the Contract Documents and Article 5.3.2, the Contractor shall forward the Subcontractor's application for final payment without delay.

5.3.2 REQUIREMENTS. Before the Contractor shall be required to forward the Subcontractor's application for final payment to the Owner, the Subcontractor shall submit to the Contractor:

- (a) An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Subcontractor's Work for which the Owner or the Owner's property or the Contractor or the Contractor's surety might in any way be liable, have been paid or otherwise satisfied;
- (b) Consent of surety to final payment, if required;
- (c) Satisfaction of required closeout procedures; and
- (d) Other data if required by the Contractor or Owner, such as warranties, receipts, releases, and waivers of liens to the extent and in such form as may be designated by the Contractor or Owner. Final payment shall constitute a waiver of all claims by the Subcontractor relating to the Subcontractor's Work except those identified in writing as unsettled by the time of the Subcontractor's application for final payment, but shall in no way relieve the Subcontractor of liability for the obligations assumed under Articles 8 and 9 hereof, or for faulty or defective work appearing after final payment.

5.3.3 TIME OF PAYMENT. Provided all conditions herein are met, final payment of the balance due of the contract price shall be made to the Subcontractor within seven (7) days after receipt by the Contractor of final payment from the Owner for such Subcontractor's Work. If the Owner or his designated agent does not issue a Certificate for Payment or the Contractor does not receive payment for any cause, which is not the fault of the Subcontractor, the Contractor shall promptly inform the Subcontractor in writing. The Contractor shall also diligently pursue, with the assistance of the Subcontractor, the prompt release by the Owner of the final payment due for the Subcontractor's work.

5.4 LATE PAYMENT INTEREST. To the extent obtained by the Contractor under the Contract Documents only, progress payments or final payment due and unpaid under this Agreement shall bear interest from the date payment is due at the rate provided in the Contract Documents, or, in the absence thereof, at the legal rate prevailing at the place of the Project.

ARTICLE 6 CHANGES, CLAIMS AND DELAYS

6.1 CHANGES. When the Contractor so directs in writing, the Subcontractor, without nullifying this Agreement, shall make any and all changes in the Work, which are within the general scope of this Agreement.

Adjustments in the contract price or contract time, if any, agreed upon by the parties and resulting from such changes shall be set forth in a Subcontract Change Order pursuant to the Contract Documents.

No such adjustment shall be made for any such changes performed by the Subcontractor that have not been so directed in writing by the Contractor.

6.2 Subcontractor Claims for Adjustments in the Contract Price or Contract Time. The Subcontractor shall give the Contractor written notice of all claims for adjustments of the contract price or the contract time within a reasonable time after the event or condition-giving rise to the claim. The Subcontractor agrees to make all claims for which the Owner is or may be liable in the manner provided in the Contract Documents for like claims by the Contractor upon the Owner. Notwithstanding any other provision of this Agreement or the Contract Documents, Subcontractor waives and releases any claim for an adjustment in the contract price, additional compensation for extra work, changed conditions, damages for delay or other causes, or an extension of the contract time, unless the Subcontractor gives written notice of such claim to the Contractor within sixty (60) days after the first occurrence of the event or condition which gives rise to the claim. Subcontractor further agrees to provide to the Contractor within fourteen (14) days of the Contractor's request, all of the Subcontractor's backup documentation supporting the claims. All unresolved claims, disputes and other matters in question between the Contractor and the Subcontractor shall be resolved in the manner provided in Article 14 herein.

6.3 DELAY. If the progress of the Subcontractor's Work is substantially delayed without the fault or responsibility of the Subcontractor, then the time for the Subcontractor's Work may be extended by Change Order to the extent obtained by the Contractor under the Contract Documents and the Schedule of Work may be revised accordingly by the Contractor.

The Contractor shall not be liable to the Subcontractor for any damages or additional compensation as a consequence of delays caused by any person not a party to this Agreement unless the Contractor has first recovered the same on behalf of the Subcontractor from said person, it being understood and agreed by the Subcontractor that, apart from recovery from said person, the Subcontractor's sole and exclusive remedy for delay shall be an extension in the time for performance of the Subcontractor's Work.

6.4 LIQUIDATED DAMAGES. If the Contract Documents provide for liquidated or other damages for delay beyond the completion date set forth in the Contract Documents, and are so assessed, then the Contractor may assess same against the Subcontractor in proportion to the Subcontractor's share of the responsibility for such delay. If so assessed, the Contractor shall issue a Charge Order deducting from the payments then or thereafter due to Subcontractor the amount of such assessment. If the payments then or thereafter due to Subcontractor are insufficient to satisfy such assessment, Subcontractor shall be liable for the difference and pay the same to the Contractor. However, the amount of such assessment shall not exceed the amount assessed against the Contractor. The Contractor is to notify the Subcontractor in writing that the Subcontractor is directly responsible for a delay. The Subcontractor will be responsible for the liquidated damages if the delay for which the Subcontractor is responsible results in liquidated damages being assessed on the Contractor.

ARTICLE 7

CONTRACTOR'S OBLIGATIONS

7.1 OBLIGATIONS DERIVATIVE. The Contractor binds itself to the Subcontractor under this Agreement in the same manner as the Owner is bound to the Contractor under the Contract Documents.

7.2 AUTHORIZED REPRESENTATIVE. The Contractor shall designate in writing to Subcontractor one or more persons who shall be the Contractor's authorized representative(s) a) on-site and b) off-site. Such authorized representative(s) shall be the only person(s) the Subcontractor shall look to for instructions, orders and/or directions, except in an emergency.

ARTICLE 8

SUBCONTRACTOR'S OBLIGATIONS

8.1 OBLIGATIONS DERIVATIVE. The Subcontractor binds itself to the Contractor under this Agreement in the same manner as the Contractor is bound to the Owner under the Contract Documents.

8.2 RESPONSIBILITIES. The Subcontractor shall furnish all of the labor, materials, equipment, and services, including, but not limited to, competent supervision, shop drawings, samples, tools, and scaffolding as are necessary for proper performance of Subcontractor's Work. The Subcontractor shall (i) provide a list of proposed sub-subcontractors and suppliers to the Contractor prior to the commencement of the Subcontractor's Work, and (ii) be responsible for taking field dimensions, providing tests, ordering of materials and all other actions as required to meet the Schedule of Work.

8.3 TEMPORARY SERVICES. The Subcontractor shall furnish all temporary services and/or facilities necessary to perform its work, except as provided in Article 16. Said Article 16 also identifies those common temporary services (if any), which are to be furnished by this subcontractor.

8.4 COORDINATION. The Subcontractor shall:

- (a) Cooperate with the Contractor and all others whose work may interfere with the Subcontractor's Work;
- (b) Specifically note and immediately advise the Contractor of any such interference with the Subcontractor's Work; and

(c) Participate in the preparation of coordination drawings and work schedules in areas and time periods of congestion.

8.5 AUTHORIZED REPRESENTATIVE. The Subcontractor shall designate in writing to Contractor one or more persons who shall be the authorized Subcontractor's representative(s) a) on-site and b) off-site. Such authorized representative(s) shall be the only person(s) to whom the Contractor shall issue instructions, orders or directions, except in an emergency.

8.6 PROVISION FOR INSPECTION. The Subcontractor shall notify the Contractor when portions of the Subcontractor's Work are ready for inspection. The Subcontractor shall at all times furnish the Contractor and its representative adequate facilities for inspecting materials and Subcontractor's Work at the site or any place where materials or Subcontractor's Work under this Agreement may be in the course of preparation, process, manufacture or treatment.

The Subcontractor shall furnish to the Contractor in such detail and as often as required, full written reports of the progress of the Subcontractor's Work irrespective of the location of such work.

8.7 SAFETY AND CLEANUP. The Subcontractor shall follow the Contractor's clean-up and safety directions, and

(a) At all times keep the building and premises free from debris and unsafe conditions resulting from the Subcontractor's Work; and

If the Subcontractor fails to immediately commence compliance with such safety duties or commence clean-up duties within 24 hours after receipt from the Contractor of written notice of noncompliance, the Contractor may implement such safety or cleanup measures without further notice and deduct the cost thereof from any amounts due or to become due the Subcontractor.

8.8 PROTECTION OF THE WORK. The Subcontractor shall take necessary precautions to properly protect the Subcontractor's Work and the work of others from damage caused by the Subcontractor's operations. Should the Subcontractor cause damage to the work or property of the Owner, the Contractor or others, the Subcontractor shall promptly remedy such damage to the satisfaction of the Contractor, or the Contractor may so remedy and deduct the cost thereof from any amounts due or to become due the Subcontractor.

8.9 PERMITS, FEES AND LICENSES. The Subcontractor shall give adequate notices to authorities pertaining to the Subcontractor's Work and secure and pay for all permits, fees, licenses, assessments, inspections and taxes necessary to complete the Subcontractor's Work in accordance with the Contract Documents.

To the extent obtained by the Contractor under the Contract Documents, the Subcontractor shall be compensated for additional costs resulting from laws, ordinances, rules regulations and taxes enacted after the date of the Agreement.

8.10 1 ASSIGNMENT. The Subcontractor shall not assign this Agreement nor its proceeds, nor subcontract the whole nor any part of the Subcontractor's Work without prior written approval of the Contractor, which shall not be unreasonably withheld.

ARTICLE 9 SUBCONTRACTOR PROVISIONS

9.1 LAYOUT RESPONSIBILITY AND LEVELS. The Contractor shall establish control points of the building and site whereupon the Subcontractor shall lay out and be strictly responsible for the accuracy of the Subcontractor's Work and for any loss or damage to the Contractor or others by reason of the Subcontractor's failure to set out or perform its work correctly. The Subcontractor shall exercise prudence so that actual final conditions and details shall result in perfect alignment of finish surfaces.

9.2 WORKMANSHIP. Every part of the Subcontractor's Work shall be executed in strict accordance with the Contract Documents in the most sound, workmanlike, and substantial manner. All workmanship shall be of the best of its several kinds, and all materials used in the Subcontractor's Work shall be furnished in ample quantities to facilitate the proper and expeditious execution of the work, and shall be new except such materials as may be expressly provided in the Contract Documents to be otherwise.

9.3 MATERIALS FURNISHED BY OTHERS. In the event the scope of the Subcontractor's Work includes installation of materials or equipment furnished by others, it shall be the responsibility of the Subcontractor to examine the items so provided and thereupon handle, store and install the items with such skill and care as to ensure a satisfactory and proper installation. Loss or damages due to acts of the Subcontractor shall be deducted from any amounts due or to become due the Subcontractor.

9.4 SUBSTITUTIONS. No substitutions shall be made in the Subcontractor's Work unless permitted in the Contract Documents and only then upon the Subcontractor first receiving all approvals required under the Contract Documents for substitutions in writing. The Subcontractor shall indemnify the Contractor for any increased costs incurred by the Contractor as a result of such substitutions, whether or not the Subcontractor has obtained approval thereof.

9.5 USE OF CONTRACTOR'S EQUIPMENT. The Subcontractor, its agents, employees, subcontractors or suppliers shall not use the

Contractor's equipment without the express written permission of the Contractor's designated representative.

If the Subcontractor or any of its agents, employees, suppliers or lower tier subcontractors utilize any machinery, equipment, tools, scaffolding, hoists, lifts or similar items owned, leased, or under the control of the Contractor, the Subcontractor shall be liable to the Contractor, and shall indemnify and hold the Contractor harmless, as provided in Article 12 for any loss or damage (including personal injury, death or property damage) which may arise from such use, except where such loss or damage shall be found to have been due solely to the negligence of the Contractor's employees operating such equipment.

9.6 CONTRACT BOND REVIEW. The Contractor's Payment Bond for the Project, if any, may be reviewed and copied by the Subcontractor.

9.7 OWNER ABILITY TO PAY. The Subcontractor shall have the right to receive from the Contractor known information relative to the Owner's financial ability to pay for the work.

9.8 SUBCONTRACTOR BOND. If a Performance and Payment Bond is required of the Subcontractor under Article 16, the Subcontractor shall provide same.

Said bonds shall be in the full amount of this Agreement in a form and by a surety satisfactory to the Contractor.

In the event the Subcontractor shall fail to promptly provide such requested bonds, the Contractor may terminate this Agreement and re-let the work to another Subcontractor and all Contractor costs and expenses incurred thereby shall be paid by the Subcontractor.

9.9 WARRANTY. The Subcontractor warrants its work against all deficiencies and defects in materials and/or workmanship and as called for in the Contract Documents.

The Subcontractor agrees to satisfy such warranty obligations, which appear within the guarantee or warranty period established in the Contract Documents, without cost to the Owner or the Contractor.

If no guarantee or warranty is otherwise required of the Contractor in the Contract Documents, then the Subcontractor shall guarantee or warranty its work as described above for the period of one (1) year from the date(s) of substantial completion of all or a designated portion of the Subcontractor's Work or acceptance or use by the Contractor or Owner of designated equipment, whichever is sooner.

The Subcontractor further agrees to execute any special guarantees or warranties that are required by the Contract Documents for the Subcontractor's Work, prior to final payment.

ARTICLE 10 RECOURSE BY CONTRACTOR

10.1 FAILURE OF PERFORMANCE

10.1.1 NOTICE TO CURE. If the Subcontractor refuses or fails to supply enough properly skilled workers, proper materials, or maintain the Schedule of Work, or it fails to make prompt payment for its workers, sub-subcontractors or suppliers, disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a material breach of a provision of this Agreement, and fails within three (3) working days after receipt of written notice to commence and continue satisfactory correction of such default with diligence and promptness, then the Contractor, without prejudice to any rights or remedies, shall have the right to any or all of the following remedies;

(a) Supply such number of workers and quantity of materials, equipment and other facilities as the Contractor deems necessary for the completion of the Subcontractor's Work, or any part thereof, which the Subcontractor has failed to complete or perform after the aforesaid notice, and charge the cost thereof to the Subcontractor, who shall be liable for the payment of same including reasonable overhead, profit and attorney's fees;

(b) Contract with one or more additional contractors to perform such part of the Subcontractor's Work as the Contractor shall determine will provide the most expeditious completion of the total Work and charge all of the direct and related cost thereof to the Subcontractor;

(c) Withhold payment of any monies due the Subcontractor pending corrective action to the extent required by and to the satisfaction of the Contractor; and/or

(d) Notwithstanding the foregoing, in the event of an emergency affecting the safety of persons or property, the Contractor may immediately proceed as above without notice.

10.1.2 TERMINATION BY CONTRACTOR. If the Subcontractor fails to commence and satisfactorily continue correction of a default within

three (3) working days after receipt by the Contractor of the notice issued under Article 10.1.1, then the Contractor may, in lieu of or in addition to Article 10.1.1, issue a second written notice, by certified mail and regular mail, to the Subcontractor and its surety, if any. Such notice shall state that if the Subcontractor fails to commence and continue correction of a default within ten (10) working days after the Contractor's mailing of the notice, the Contractor may terminate this Agreement and use any materials, implements, equipment, appliances or tools furnished by or belonging to the Subcontractor to complete the Subcontractors' Work. The Contractor also may furnish those materials, equipment and/or employ such workers or subcontractors, as the Contractor deems necessary to maintain the orderly progress of the Work.

All of the costs incurred by the Contractor in so performing the Subcontractor's Work, including reasonable overhead, profit and attorney's fees, shall be deducted from any monies due or to become due the Subcontractor. The Subcontractor shall be liable for the payment of any amount by which such costs and expenses may exceed the unpaid balance of the subcontract price.

10.1.3 USE OF SUBCONTRACTOR'S EQUIPMENT. If the Contractor performs work under this Article or sublets such work to be so performed, the Contractor and/or the persons to whom work has been sublet shall have the right to take and use any materials, implements, equipment, appliances or tools furnished by, belonging or delivered to the Subcontractor and located at the Project.

10.2 BANKRUPTCY. Upon the appointment of a receiver for the Subcontractor or upon the Subcontractor making assignment for the benefit of creditors, the Contractor may immediately terminate this Agreement upon giving written notice, by certified mail and regular mail, to the Subcontractor and its surety, if any. If an order for relief is entered under the bankruptcy code with respect to the Subcontractor or if a petition for bankruptcy is filed by or against the Subcontractor and not dismissed within thirty (30) days, the Contractor may immediately terminate this Agreement by giving written notice, by certified mail and regular mail, to the Subcontractor, its trustee, and its surety.

The Contractor may offset against any sums due or to become due the Subcontractor all costs incurred in pursuing any of the remedies provided hereunder, including, but not limited to, reasonable overhead, profit and attorney's fees.

The Subcontractor shall be liable for the payment of any amount by which such expense may exceed the unpaid balance of the contract price.

10.3 SUSPENSION BY OWNER. Should the Owner suspend the Contract Documents or any part thereof, which includes the Subcontractor's Work, the Contractor shall so notify the Subcontractor in writing, and upon receipt of said notice the Subcontractor shall immediately suspend the Subcontractor's Work.

In the event of such Owner suspension, the Contractor's liability to the Subcontractor is limited to the extent of the Contractor's recovery on the Subcontractor's behalf under the Contract Documents. The Contractor agrees to cooperate with the Subcontractor, at the Subcontractor's expense, in the prosecution of any Subcontractor claim arising out of an Owner suspension.

10.4 TERMINATION BY OWNER. Should the Owner terminate the Contract Documents or any part thereof, which includes the Subcontractor's Work, the Contractor shall so notify the Subcontractor in writing, and upon receipt of said notice, this Agreement shall also be terminated and the Subcontractor shall immediately stop the Subcontractor's Work. In the event of such Owner termination, the Contractor's liability to the Subcontractor is limited to the extent of the Contractor's recovery on the Subcontractor's behalf under the Contract Documents.

The Contractor agrees to cooperate with the Subcontractor, at the Subcontractor's expense, in the prosecution of any Subcontractor claim arising out of the Owner termination.

10.5 TERMINATION FOR CONVENIENCE. The Contractor may order the Subcontractor in writing to suspend, delay, or interrupt all or any part of the Subcontractor's Work for such period of time as may be determined to be appropriate for the convenience of the Contractor. The Subcontractor shall notify the Contractor in writing within seven (7) working days after receipt of the Contractor's order of the effect of such order upon the Subcontractor's Work, and the contract price or contract time shall be adjusted by Subcontract Change Order for any increase in the time or cost of performance of this Agreement caused by such suspension, delay, or interruption.

No claim under this Article shall be allowed for any costs incurred more than seven (7) working days prior to the Subcontractor's notice to the Contractor.

Neither the contract price nor the contract time shall be adjusted under this Article for any suspension, delay or interruption to the extent that performance would have been so suspended, delayed, or interrupted by the fault or negligence of the Subcontractor.

10.6 WRONGFUL EXERCISE. If the Contractor wrongfully exercises any option under this Article, the Contractor shall be liable to the Subcontractor solely for the reasonable value of work performed by the Subcontractor prior to the Contractor's wrongful action, including reasonable overhead and profit, less prior payments made.

10.7 LIENS/NON-PAYMENT OF SUPPLIERS. Notwithstanding any other provision of this Agreement, if any claim is made or lien filed with or against Contractor, its surety, if any, Owner, the project or the premises upon which project is located, by any person claiming that Subcontractor or any subcontractor or other person under it has failed to make payment for any labor, services, materials, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work, or if at any time there shall be evidence of such non-payment or of any claim or lien for which, if established, the Contractor, its surety, or Owner might become liable and which is chargeable to the Subcontractor, Contractor shall have the right to retain from any payment then due or thereafter to become due an amount which Contractor deems sufficient to (1) satisfy, discharge and/or defend against any such claim or lien or any action which may be brought or judgment which may be recovered thereon, (2) make good any such nonpayment or default, and (3) compensate the Contractor and the Owner for and indemnify them against any and all losses, liability, costs and expenses, including legal fees and disbursements, which may be sustained or incurred by either or both of them in connection therewith. Contractor shall have the right to apply and charge against the Subcontractor so much of the amount retained as may be required for the foregoing purposes. If the amount retained is insufficient therefore, Subcontractor shall be liable for the difference and pay the same to the Contractor.

ARTICLE 11 LABOR RELATIONS

Subcontractor agrees to comply with all current labor contracts that Subcontractor is signatory to.

ARTICLE 12 INDEMNIFICATION

12.1 SUBCONTRACTOR'S PERFORMANCE. , Subcontractor shall indemnify and hold harmless the Owner, the Architect, the Contractor (including its affiliates, parents and subsidiaries) and other contractors and subcontractors and all of their agents and employees from and against all claims, damages, loss and expenses, including but not limited to attorney's fees and expenses, arising out of or resulting from the performance of the Subcontractor's Work provided that;

(a) Any such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Subcontractor's Work itself), including the loss of use resulting there from, to the extent caused or alleged to be caused in whole or in any part by any act or omission of the Subcontractor or anyone directly or indirectly employed by the Subcontractor or anyone for whose acts the Subcontractor may be liable, regardless of whether it is caused in part by a party indemnified hereunder.

(b) Such obligation shall not be construed to negate, or abridge, or otherwise reduce any other right or obligation of indemnity, which would otherwise exist as to any party or person, described in this Article 12.

12.2 NO LIMITATION UPON LIABILITY. In any and all claims against the Owner, the Architect, the Contractor (including its affiliates, parents and subsidiaries) and other contractors or subcontractors, or any of their agents or employees, by any employee of the Subcontractor, anyone directly or indirectly employed by the Subcontractor or anyone for whose acts the Subcontractor may be liable, the indemnification obligation under this Article 12 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

12.3 ARCHITECT EXCLUSION. The obligations of the Subcontractor under this Article 12 shall not extend to the liability of the Architect, its agents or employees, arising out of (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (b) the giving of or the failure to give directions or instructions by the Architect, its agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

12.4 COMPLIANCE WITH LAWS. The Subcontractor agrees to be bound by, and at its own cost, comply with all federal, state and local laws, ordinances and regulations (hereinafter collectively referred to as "laws") applicable to the Subcontractor's Work including, but not limited to, equal employment opportunity, minority business enterprise, women's business enterprise, disadvantaged business enterprise, safety and all other laws with which the Contractor must comply according to the Contract Documents.

The Subcontractor shall be liable to the Contractor and the Owner for all loss, cost and expense attributable to any acts or omissions by the Subcontractor, its employees and agents resulting from the failure to comply therewith, including, but not limited to, any fines, penalties or corrective measures.

12.5 PATENTS. Except as otherwise provided by the Contract Documents, the Subcontractor shall pay all royalties and license fees, which may be due on the inclusion of any patented materials in the Subcontractor's Work. The Subcontractor shall indemnify, defend and hold harmless the Owner, the Architect, the Contractor (including its affiliates, parents and subsidiaries) and other contractors and subcontractors and all of their agents and employee from all suits for claims for infringement of any patent or intellectual property rights arising out of the Subcontractor's Work, which may be brought against the Contractor or Owner, and shall be liable to the Contractor and

Owner for all loss, including all costs, expenses, and attorney's fees and expenses.

ARTICLE 13 INSURANCE

13.1 SUBCONTRACTOR'S INSURANCE. Prior to start of the Subcontractor's Work, the Subcontractor shall procure for the Subcontractor's Work and maintain in force Worker's Compensation Insurance, Employer's Liability Insurance, Comprehensive General Liability Insurance and all insurance required of the Contractor under the Contract Documents, with such policies including the following:

(a) The Contractor, Owner and Architect/Engineer and Consultants shall be named as additional insured on each of these policies except for Worker's Compensation.

(b) This insurance shall include contractual liability insurance covering the Subcontractor's obligations under Article 12.

(c) The insurance shall comply with the provisions outlined in Attachment "C" of this Agreement.

13.2 MINIMUM LIMITS OF LIABILITY. The insurance required by Article 13.1 shall be written for not less than any limits of liability specified in the Contract Documents, or required by law, whichever is greater.

13.3 NUMBER OF POLICIES. Comprehensive General Liability Insurance and other liability insurance may be arranged under a single policy for the full limits required, or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

13.4 CANCELLATION, RENEWAL OR MODIFICATION. The Subcontractor shall maintain in effect all insurance coverage required under this Agreement at the Subcontractor's sole expense and with insurance companies acceptable to the Contractor.

All insurance policies shall contain a provision that the coverages afforded there under shall not be cancelled or not renewed, nor restrictive modifications added, until at least thirty (30) days prior written notice has been given to the Contractor, unless otherwise specifically required in the Contract Documents.

Certificates of Insurance, or certified copies of policies acceptable to the Contractor shall be filed with the Contractor prior to the commencement of the Subcontractor's Work.

The Subcontractor shall, at minimum, maintain required insurance coverage during the Contract Warranty period of the project.

In the event the Subcontractor fails to obtain or maintain any insurance coverage required under this Agreement, the Contractor may purchase such coverage and charge the expense thereof to the Subcontractor, or terminate this Agreement.

13.5 WAIVER OF RIGHTS. The Contractor and Subcontractor waive all rights against each other and the Owner, the Architect, separate contractors, and all other subcontractors for loss or damage to the extent covered by Builder's Risk or any other property or equipment insurance, except such rights as they may have to the proceeds of such insurance; provided, however, that such waiver shall not extend to the acts of the Architect listed in Article 12.3.

Upon written request of the Subcontractor, the Contractor shall provide the Subcontractor with a copy of the Builder's Risk policy of insurance or any other property or equipment insurance in force for the Project and procured by the Contractor. The Subcontractor shall satisfy itself as to the existence and extent of such insurance prior to commencement of the Subcontractor's Work.

If not covered under the Builder's Risk policy of insurance or any other property or equipment insurance required by the Contract Documents, the Subcontractor shall procure and maintain at the Subcontractor's own expense property and equipment insurance for portions of the Subcontractor's Work performed or stored off the site or in transit, when such portions of the Subcontractor's Work are to be included in an application for payment under Article 5.

13.6 ENDORSEMENT. Subcontractor shall comply with the provisions outlined in Attachment "C" of this Agreement.

ARTICLE 14 ARBITRATION

14.1 AGREEMENT TO ARBITRATE. All claims, disputes and matters in question arising out of, or relating to, this Agreement or the breach thereof, except for claims which have been waived by the making or acceptance of final payment, shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect, unless the parties mutually agree otherwise. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law.

14.2 NOTICE OF DEMAND. Notice of the demand for arbitration shall be filed in writing with the other party to this Agreement and with the American Arbitration Association. Any demand for arbitration made by the Subcontractor against the Contractor for adjustments in the contract price, additional compensation for extra work or changed conditions, or damages for delay or other causes shall be made within 180 days after written notice of the claim, dispute or other matter has been given by the Subcontractor to the Contractor. If a demand for arbitration is not made within 180 days after written notice of the claim, dispute or other matter has been given by the Subcontractor to the Contractor, the Subcontractor's claim for an adjustment in the contract price, additional compensation for extra work or changed conditions, or for damages for delay or other causes shall be barred and the Subcontractor shall not be able to recover against the Contractor.

14.3 AWARD. The award rendered by the arbitrator(s) shall be final and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

14.4 WORK CONTINUATION AND PAYMENT. Unless otherwise agreed in writing, or the Contractor has suspended or terminated the Subcontractor's Work hereunder, the Subcontractor shall carry on the Subcontractor's Work and maintain the Schedule of Work pending arbitration, and, if so, the Contractor shall continue to make payments in accordance with this Agreement.

14.5 RIGHTS OR REMEDIES PROVIDED BY STATUTE. Except as provided in this subparagraph, nothing in this Article shall limit any rights or remedies not expressly waived by the Subcontractor which the Subcontractor may have under lien laws or payment bonds. Subcontractor agrees, however, that any lien claims or payment bond claims shall be filed with the appropriate parties within 180 days after written notice of the claim has been given by the Subcontractor to the Contractor or within the period of time provided by statute for the filing of such claims, whichever is less.

14.6 COMMON ARBITRATORS. To the extent agreed upon by all parties, the claims and disputes of the Owner, Architect, Contractor and Subcontractor and other subcontractors and suppliers involving a common question of fact or law shall be heard by the same arbitrator(s).

14.7 LOCATION OF ARBITRATION. The parties agree that the location of any arbitration hereunder shall be in Peoria County, Illinois, unless otherwise agreed in writing by both parties.

ARTICLE 15 CONTRACT INTERPRETATION

15.1 INCONSISTENCIES AND OMISSIONS. Should inconsistencies or omissions appear in the Contract Documents, the Subcontractor shall notify the Contractor in accordance with the General Conditions of the Contract Documents.

15.2 LAW AND EFFECT. This Agreement shall be governed by the law of the State of Illinois.

15.3 SEVERABILITY AND WAIVER. The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision. The failure of either party hereto to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Agreement, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respects further performance.

15.4 ATTORNEY'S FEES. Should either party employ an attorney to institute suit or demand arbitration to enforce any of the provisions hereof, to protect its interest in any matter arising under this Agreement, or to collect damages for the breach of the Agreement or to recover on a surety bond given by a party under this Agreement, the prevailing party shall be entitled to recover reasonable attorney's fees, costs, charges, and expenses expended or incurred therein.

15.5 TITLES. The titles given to the Articles of this Agreement are for ease of reference only and shall not be relied upon or cited for any other purpose.

15.6 ENTIRE AGREEMENT. This Agreement is solely for the benefit of the signatories hereto and represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

ARTICLE 16 SPECIAL PROVISIONS

16.1 PRECEDENCE. It is understood the work to be performed under this Agreement, including the terms and conditions thereof, is as described in Articles 1 thru 16 herein together with the following Special Provisions, which are intended to complement same. However, in the event of any inconsistency, these Special Provisions shall govern.

16.2 SCOPE OF WORK. All work necessary or incidental to complete the following work in strict accordance with the Contract Documents and as more particularly, though not exclusively specified in:

<u>SPECIFICATION SECTION</u>	<u>DESCRIPTION</u>
------------------------------	--------------------

«Type»

«Detail»

«FirmName» shall provide all material, equipment, labor and supervision to complete your scope of work. Your scope includes but is not limited to the following:

«SLNotes»

GENERAL REQUIREMENTS

Comply with River City Construction's, local jurisdiction and CDC guidelines pertaining to COVID—19. River City Construction is not responsible for subcontractor/supplier productivity loss or additional labor costs incurred on the project due to these COVID-19 requirements. Additionally, River City Construction is not responsible for any material/equipment delays, price escalation, or expedited/additional shipping costs required to meet our project schedule.

Safety:

- All work shall be completed in accordance with OSHA guidelines and/or Owner requirements.
- Contractor and Owner reserve the right to issue immediate stop work notice at any time due to safety related concerns.
- Subcontractor Safety Incident Infraction Policy – Subcontractor Safety Infractions will be reviewed on a per occurrence basis by the Contractor and/or Owner, and the Subcontractor will be subject to the following infraction levels:
 - o First Tier Infraction – Joint counseling on the issues
 - o Second Tier Infraction – 1 or 2-day work shutdown for subcontractor
 - o Third Tier Infraction - Subcontractor removal from the project
 - o Forth Tier Infraction – Subcontractor removal from future work with the Contractor or Owner
- All employees must report to the Superintendent's office, prior to starting work, for Site Orientation.
- All employees on the construction site must wear high visibility vests, shirts, and/or jackets at all times along with all other appropriate PPE required for the work being performed.
- In the State of Missouri, all tradespersons are required to provide their OSHA 10 Hour Certification, prior to starting work.
- Subcontractor must provide River City Construction's Superintendent with their Safety Manual and all Safety Data Sheets (SDS), prior to starting work onsite.
- Subcontractor must provide River City Construction's Superintendent with their Silica Control Plan, prior to starting work onsite.
- Subcontractor is responsible to provide all crane operator certifications and crane inspections as required.
- Remove keys from all equipment at the end of every workday.
- A safety committee comprised of representatives of each contractor onsite will monitor this project for safety. Your firm is responsible for appointing a representative to this committee to attend a 1-hour per week safety review for each week that your firm is working onsite.
- Subcontractor is responsible for filling out all hot work permits for their work and include all fire watch, as required.
- Subcontractor shall comply with RCC and/or owner's safety and risk mitigation procedures. This includes submission of a completed Risk Assessment, Job Hazard Analysis (JHA) or Activity Hazard Analysis (AHA) form with sufficient time for RCC and/or owner to review and approve before subcontractor commences work at the site.
- Subcontractor is aware of site conditions and familiar with Contract Documents and Scope of Work.
- Subcontractor has instructed or will instruct all such agents and employees, prior to their reporting to the jobsite, with respect to unusual conditions and/or hazards and the proper safety precautions to be observed in regard thereto.
- Subcontractor will provide a "competent person" who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

General:

- The term "provide" means that all material, labor, administrative, supervision and equipment is included to complete the described inclusion.
- Furnish all equipment, material and labor for hoisting your work.
- Furnish and install all coring of your work unless sleeves are provided and installed.
- Provide all required tools and equipment for your work, including hand tools, scaffolding, ladders, storage containers, hoisting equipment, cords, etc.
- Provide all field measuring as required for your work.

- Perform all testing, training, maintenance, etc. required by the Contract Documents.
- Provide all marking and labeling as required for your work.
- This Contract includes any and all labor or material escalations as required to complete the work for the duration of the Contract.
- Subcontractor to properly store, cover and protect all equipment and materials before, during and after installation.
- Coordinate all deliveries with River City Construction's Superintendent.
- Coordinate all inspections for your work with River City Construction's Superintendent.
- Provide required notification and work plans for shutdowns or work outside of construction limits. This Contract includes any and all cost associated with shutdown work including but not limited to overtime, etc.
- All work outside of construction limits must be coordinated with River City Construction so proper procedures are set up and maintained.
- Your firm shall attend all subcontractor meetings as required during your work.
- Parking onsite is limited. When available, parking for one company vehicle shall be coordinated with River City Construction's Superintendent. No personal vehicles are allowed to be parked on the project site.
- Material storage and/or office trailers, if permitted by River City Construction, must be removed or relocated when requested by River City Construction with no exceptions.
- Subcontractor is responsible for all traffic control for your deliveries into and out of the Project Site. All access in and out of the project site is through construction gate(s), unless prior authorization is provided by River City Construction. Construction gate to be closed immediately after entering the site, unless traffic/pedestrian control is provided while the gate is open.
- Retesting expenses, if incurred and charged to River City Construction, will be done at your expense.
- Clean public streets as necessary to remove mud, dust, etc. tracked onto these streets by your equipment.
- It is understood that due to the phasing of this project, multiple trips may be required. It is understood that you must provide manpower, material, and equipment as required.
- Coordinate with River City Construction's Superintendent to avoid delays or poor site access to other subcontractors.
- Existing road ways must be documented by your firm and submitted to River City Construction prior to starting work. Your firm will be responsible for any damage caused by your firm while hauling material or equipment in and out of site.
- Absolutely no work in addition to the Contract is to commence until written approval is obtained from River City Construction. Any and all costs for additional work that this contractor proceeds with prior to approval will be at your expense.
- River City Construction will set bench marks and control points, this contractor is responsible for shooting all grades and points for layout required in conjunction with their own work.
- Subcontractor to verify layout and control points provide and immediately notify River City Construction in writing if any discrepancies in layout are determined prior to continuing with work.
- Your firm shall complete your work in accordance with the project schedule as set forth by River City Construction. Should you fail to meet this schedule, you will undertake any and all efforts to bring the project back on schedule at no additional cost to River City Construction. These efforts will include but are not limited to overtime, additional manpower, additional tools, additional equipment, etc.
- Your firm is responsible for verifying scheduled durations shown on the project schedule within 5 business days of receipt.
- Provide foreman with means to access the River City Construction maintained As-Built documents on BlueBeam.
- This subcontractor acknowledges that paper hard copies of project information will not be distributed or made available in the project office. Relevant project information will be distributed via electronic means, including Blueprints, RFIs, ASIs, Addenda, Sketches, Shop Drawings, Submittals, etc. It is this subcontractor's responsibility to review and accept all electronic documents and correspondence associated with this project, and to distribute this project information to this subcontractor's field staff.
- Your firm is responsible to keep updated Contract Documents, or a "Record Set", for your staff's use. River City Construction may provide your firm access to our "Record Set", but it is ultimately your firm's responsibility to maintain updated Contract Documents for your work.

Jobsite Clean-Up:

- It is River City Construction's policy that all subcontractors performing work on this project are responsible for the clean-up and disposal of all trash and debris created by their work/work force into a dumpster provided by River City Construction.
- This subcontractor's responsibilities shall include the clean-up of both their identifiable and unidentifiable trash and debris, including but not limited to: packaging materials; material scraps; coring debris; dust from saw cutting; food packaging and containers; drink cans and cups; dirt, mud, and dust from foot traffic; etc.
- This subcontractor agrees that all identifiable trash and debris is to be cleaned up at least once weekly or more often as necessary to maintain a safe work environment.
- This subcontractor further agrees and recognizes that their work force contributes to the creation of unidentifiable trash and debris and that the responsibility for the clean-up of unidentifiable debris is difficult to quantify. As such, this subcontractor agrees that they will provide manpower, based upon their firm's total percentage of the jobsite workforce, toward a composite clean-up crew of all subcontractors working on the project site to perform the clean-up of unidentifiable debris on a weekly basis.

- This subcontractor agrees that the project safety committee's determination of clean-up issues shall be final and agrees to abide by said determinations. Should this subcontractor fail to commence and complete clean-up operations or provide manpower for the composite clean-up crew after notification by the project safety committee, River City Construction may, after written notification, proceed with said clean-up and back-charge the cost of the clean-up to the subcontractor.
- This subcontractor also agrees that the cost of all their clean-up, including manpower for the composite clean-up crew, has been included in their lump sum contract amount.
- The subcontractor shall follow the contractor's clean up directions:
 - A. The subcontractor shall be responsible for removing their debris from the work site on a daily basis and shall leave the area "broom clean" upon completion of their portion of the work.
 - B. If the subcontractor fails to immediately commence compliance with safety or clean-up duties within 24-hours of receipt of notice from the contractor, the contractor may implement such safety or clean-up measures without further notice and deduct the cost thereof from the monies due or to become due to the subcontractor.

16.3 COMMON TEMPORARY SERVICES. The following "Project" common temporary services and/or facilities are for use of all project personnel and shall be furnished as herein below noted:

By Contractor: Temporary Toilet Facilities
 Temporary electric power for small tool usage will be provided at a central location as determined by the Contractor. Any branch lines permanent and/or non-permanent are the responsibility of this Subcontractor.

By this Subcontractor: Drinking water for Subcontractors personnel.
 Disposal of all debris created by your forces.

16.4 OTHER SPECIAL PROVISIONS. See Attachment "A" for Subcontractors
 See Attachment "B" Subcontractor Close-Out Agreement
 See Attachment "C" Standard Subcontract Insurance Requirements

16.4. This is to inform you, that Contractor is committed to non-discrimination in employment according to Executive Order 11246, Section 503 and the affirmation action provisions of VEVRAA. The provisions of Executive Order 11246 are a condition of your subcontract and your full compliance is required. Periodic reports may be required of you to ensure compliance with the provisions.

16.5 CONTRACT DOCUMENTS. See Attachment "A"

IN WITNESS WHEREOF, the parties hereto have executed this Agreement under seal, the day and year first above written.

Subcontractor: «FirmName»

Contractor: River City Construction, L.L.C.

By _____
 «ContactFName» «ContactLName»

By _____
 «ProjectManager» Project Manager

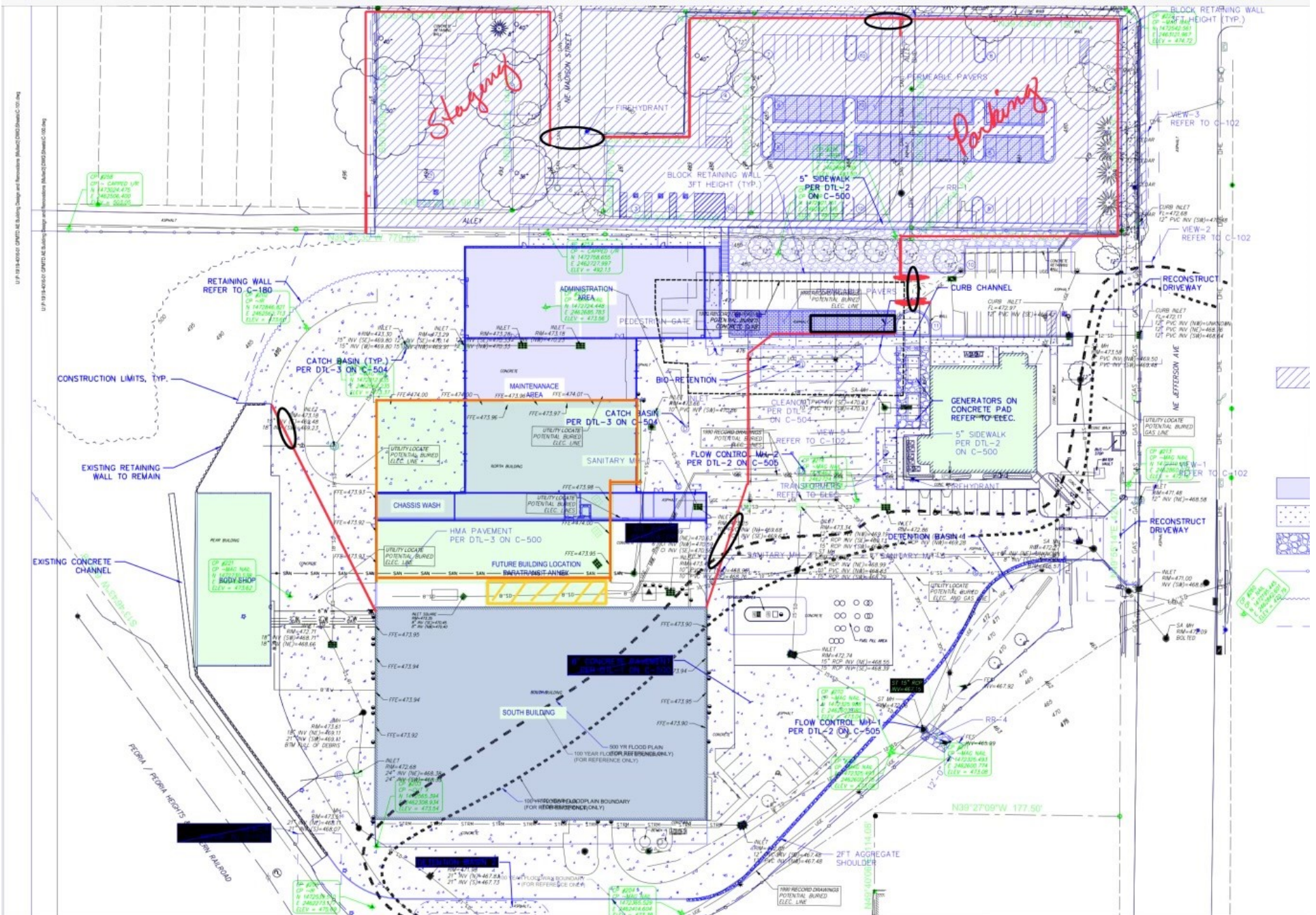
Date: _____

Date: _____

As per Article 13, in its entirety, of this subcontract, Certificate(s) of insurance, or certified copies of policies acceptable to the Contractor shall be filed with the Contractor prior to the commencement of the Subcontractor's Work. The required certificate(s) must be returned with your signed contract(s). Once all compliance requirements have been satisfied, River City Construction will fully execute the agreement and return one (1) full set for your files. A subcontractor may not commence any work until all requirements have been satisfied.

Done

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SECTION 01 10 00

SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work performed by Owner.
5. Multiple Work Packages.
6. Work under Owner's separate contracts.
7. Future work not part of this Project.
8. Owner's product purchase contracts.
9. Owner-furnished/Contractor-installed (OFCI) products.
10. Owner-furnished/Owner-installed (OFOI) products.
11. Contractor-furnished/Owner-installed (CFOI) products.
12. Contractor's use of site and premises.
13. Coordination with occupants.
14. Work restrictions.
15. Specification and Drawing conventions.

B. Related Requirements:

1. Section 01 50 00 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Section 01 73 00 "Execution" for coordination of Owner-installed products.

1.3 PROJECT INFORMATION

- A. Project Identification: <Insert Project identifier, such as Project name and number>.

1. Project Location: 2105 NE Jefferson St., Peoria, IL. 61603.

- B. Owner: Greater Peoria Mass Transit District.

1. Owner's Representative: **<Insert name and contact information for Owner's representative>.**

- C. Architect: Muller & Muller, Ltd., 700 N Sangamon, Chicago, IL. 60642, PH: 312-432-4180.

1. Architect's Representative: Mark Stromberg, mstromberg@ muller2.com

D. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:

1. MEP: Clark Dietz, 118 S Clinton St., Suite 570, Chicago, IL 60661
 - a. Mechanical Engineer Representative: **Nirav Patel**
 - b. Plumbing Engineer Representative: **Nirav Patel**
 - c. Electrical Engineer Representative: **Mike Strom**
2. Structural: Lindsay & Associates, Inc., 8 E Galena Boulevard, Suite 208, Aurora, IL 60506, PH: 630-264-9650
 - a. Structural Engineer Representative: **Robert Raabe**
3. Civil: Infrastructure Engineering, Inc., One South Wacker Drive, Suite 2650 Chicago, IL 60606, PH: 312-425-9560
 - a. Civil Engineer Representative: **Adrian Fernandez**

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 1. Construction of paint and body shop and other Work indicated in the Contract Documents.
- B. Type of Contract:
 1. Project will be constructed under a single prime contract.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 1. Limits on Use of Site: Confine construction operations to be coordinate with owner
 2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

- C. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy Project site and **[existing] [adjacent]** building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.7 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between **<Insert time>** a.m. to **<Insert time>** p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
 - 1. Weekend Hours: **<Insert restrictions on times permitted for weekend work>**.
 - 2. Early Morning Hours: **<Insert restrictions or references to regulations by authorities having jurisdiction for restrictions on noisy work>**.
 - 3. Hours for Utility Shutdowns: **<Insert Owner's restrictions>**.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Project site is not permitted.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 01 60 00 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form acceptable to Architect.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication, or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section.

Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 26 00

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 01 25 00 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.
 - 2. Section 01 31 00 "Project Management and Coordination" for requirements for forms for contract modifications provided as part of web-based Project management software.

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.

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. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, 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.

- e. Quotation Form: Use forms acceptable to Architect.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim 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 Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
- 7. Proposal Request Form: Use form acceptable to Architect.

1.5 CHANGE ORDER PROCEDURES

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

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 29 00

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Document 004373 "Proposed Schedule of Values Form" for requirements for furnishing proposed schedule of values with bid.
 - 2. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction 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. Coordinate line items in the schedule of values with items required to be indicated as separate activities in 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.
 - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
 - 4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
 - 5. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment

requests, provide subschedules showing values coordinated with the scope of each design services contract, as described in Section 01 10 00 "Summary."

- B. Format and Content: Use 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. Owner's name.
 - c. Owner's Project number.
 - d. Name of Architect.
 - e. Architect's Project number.
 - f. Contractor's name and address.
 - g. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of 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.
6. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
7. Purchase Contracts: Provide a separate line item in the schedule of values for each Purchase contract. Show line-item value of Purchase contract. Indicate Owner payments or deposits, if any, and balance to be paid by Contractor.
8. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.
9. Overhead Costs, Separate Line Items: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.

10. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
11. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
12. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Architect by the 7th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
 1. Other Application for Payment forms proposed by the Contractor may be acceptable to Architect and Owner. Submit forms for approval with initial submittal of schedule of values.
- E. 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 for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.

2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. Transmittal: Submit three 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.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from [entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment] [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 conditional 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 conditional 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 executed waivers of lien on forms acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 5. Products list (preliminary if not final).
 6. Sustainable design action plans, including preliminary project materials cost data.
 7. Schedule of unit prices.
 8. Submittal schedule (preliminary if not final).
 9. List of Contractor's staff assignments.
 10. List of Contractor's principal consultants.
 11. Copies of building permits.
 12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 13. Initial progress report.
 14. Report of preconstruction conference.
 15. Certificates of insurance and insurance policies.
 16. Performance and payment bonds.
 17. Data needed to acquire Owner's insurance.

- J. Application for Payment at Substantial Completion: After Architect issues 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.
 - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 01 77 00 "Closeout Procedures."
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, 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. Certification of completion of final punch list items.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Updated final statement, accounting for final changes to the Contract Sum.
 5. AIA Document G706.
 6. AIA Document G706A.
 7. AIA Document G707.
 8. Evidence that claims have been settled.
 9. 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.
 10. Final liquidated damages settlement statement.
 11. Proof that taxes, fees, and similar obligations are paid.
 12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 31 00

PART 1 -

PROJECT MANAGEMENT AND COORDINATION

PART 2 - GENERAL

2.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

2.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. RFIs.
 - 4. Digital project management procedures.
 - 5. Web-based Project management software package.
 - 6. Project meetings.
- B. Related Requirements:
 - 1. Section 01 32 00 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 01 73 00 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 01 77 00 "Closeout Procedures" for coordinating closeout of the Contract.

2.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

2.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.

2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, cellular telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room and in temporary field office. Keep list current at all times.

2.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation 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.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later 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 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. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

2.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
 1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
 3. Mechanical Rooms: Provide coordination drawings for mechanical rooms, showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
 5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
 6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
 7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switchboard, switchgear, transformer, busway, generator, and motor-control center locations.

- d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Fire-Protection System: Show the following:
 - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
9. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
 1. File Preparation Format:
 - a. Same digital data software program, version, and operating system as original Drawings.
 2. File Submittal Format: Submit or post coordination drawing files using PDF format.
 3. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
 - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
 - b. Digital Data Software Program: Drawings are available in **<Insert name and version of digital data software program and operating system>**.
 - c. Contractor shall execute a data licensing agreement in the form of **[AIA Document C106] [Agreement included in this Project Manual] [Agreement form acceptable to Owner and Architect]**.

2.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Owner name.
 3. Owner's Project number.
 4. Name of Architect.
 5. Architect's Project number.
 6. Date.
 7. Name of Contractor.

8. RFI number, numbered sequentially.
 9. RFI subject.
 10. Specification Section number and title and related paragraphs, as appropriate.
 11. Drawing number and detail references, as appropriate.
 12. Field dimensions and conditions, as appropriate.
 13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 14. Contractor's signature.
 15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
1. Attachments shall be electronic files in PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 00 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 5 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number, including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.

7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within three days if Contractor disagrees with response.

2.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Architect's Digital Data Files: Digital data files of Architect's CAD drawings will be provided by Architect for Contractor's use during construction.
1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
 2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
 3. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.
 - a. Subcontractors and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of Agreement acceptable to Owner and Architect.
 4. The following digital data files will be furnished for each appropriate discipline:
 - a. Floor plans.
 - b. Reflected ceiling plans.
 - c. **<Insert name of digital data file>.**
- B. Web-Based Project Management Software Package: **[Provide, administer, and use] [Use Architect's] [Use Owner's] [Use Construction Manager's]** web-based Project management software package for purposes of hosting and managing Project communication and documentation until Final Completion.
1. Web-based Project management software includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, subcontractors, Architect, Architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow between project entities.
 - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creating and distributing meeting minutes.

- j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.
 - m. **<Insert description of software feature>.**
2. Provide up to **[seven] <Insert number>** Project management software user licenses for use of Owner[, **Owner's Commissioning Authority**] [, **Construction Manager**], Architect, and Architect's consultants. Provide **[eight] <Insert number>** hours of software training at Architect's office for web-based Project software users.
 3. At completion of Project, provide digital archive in format that is readable by common desktop software applications in format acceptable to Architect. Provide data in locked format to prevent further changes.
- C. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

2.9 PROJECT MEETINGS

- A. General: **[Schedule and conduct] [Construction Manager will schedule and conduct]** meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of **[seven] <Insert number>** days prior to meeting.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner[, **Construction Manager**,] and Architect, within **[three] <Insert number>** days of the meeting.
- B. Preconstruction Conference: **[Architect will schedule and conduct] [Construction Manager will schedule and conduct] [Schedule and conduct]** a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than **[15] <Insert number>** days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner[, **Owner's Commissioning Authority**,] [, **Construction Manager**,] Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.

- e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Use of web-based Project software.
 - h. Procedures for processing field decisions and Change Orders.
 - i. Procedures for RFIs.
 - j. Procedures for testing and inspecting.
 - k. Procedures for processing Applications for Payment.
 - l. Distribution of the Contract Documents.
 - m. Submittal procedures.
 - n. Sustainable design requirements.
 - o. Preparation of Record Documents.
 - p. Use of the premises[**and existing building**].
 - q. Work restrictions.
 - r. Working hours.
 - s. Owner's occupancy requirements.
 - t. Responsibility for temporary facilities and controls.
 - u. Procedures for moisture and mold control.
 - v. Procedures for disruptions and shutdowns.
 - w. Construction waste management and recycling.
 - x. Parking availability.
 - y. Office, work, and storage areas.
 - z. Equipment deliveries and priorities.
 - aa. First aid.
 - bb. Security.
 - cc. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Sustainable Design Requirements Coordination Conference: **[Owner will schedule and conduct] [Construction Manager will schedule and conduct]** a sustainable design coordination conference before starting construction, at a time convenient to Owner[, **Construction Manager**,] Architect, and Contractor.
- 1. Attendees: Authorized representatives of Owner,[**Owner's Commissioning Authority**,] **[Construction Manager**,] Architect, and their consultants; Contractor and its superintendent and sustainable design coordinator; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Discuss items of significance that could affect meeting sustainable design requirements, including the following:
 - a. Sustainable design Project checklist.
 - b. General requirements for sustainable design-related procurement and documentation.
 - c. Project closeout requirements and sustainable design certification procedures.
 - d. Role of sustainable design coordinator.
 - e. Construction waste management.
 - f. Construction operations and sustainable design requirements and restrictions.
 - 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- D. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect[, **Construction Manager**] [, and **Owner's Commissioning Authority**] of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Sustainable design requirements.
 - i. Review of mockups.
 - j. Possible conflicts.
 - k. Compatibility requirements.
 - l. Time schedules.
 - m. Weather limitations.
 - n. Manufacturer's written instructions.
 - o. Warranty requirements.
 - p. Compatibility of materials.
 - q. Acceptability of substrates.
 - r. Temporary facilities and controls.
 - s. Space and access limitations.
 - t. Regulations of authorities having jurisdiction.
 - u. Testing and inspecting requirements.
 - v. Installation procedures.
 - w. Coordination with other work.
 - x. Required performance results.
 - y. Protection of adjacent work.
 - z. Protection of construction and personnel.
 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- E. Project Closeout Conference: [**Schedule and conduct**] [**Construction Manager will schedule and conduct**] a project closeout conference, at a time convenient to Owner and Architect, but no later than [90] <Insert number> days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of Owner, [**Owner's Commissioning Authority,**] [**Construction Manager,**] Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

- a. Preparation of Record Documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Procedures for completing and archiving web-based Project software site data files.
 - d. Submittal of written warranties.
 - e. Requirements for completing sustainable design documentation.
 - f. Requirements for preparing operations and maintenance data.
 - g. Requirements for delivery of material samples, attic stock, and spare parts.
 - h. Requirements for demonstration and training.
 - i. Preparation of Contractor's punch list.
 - j. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - k. Submittal procedures.
 - l. Coordination of separate contracts.
 - m. Owner's partial occupancy requirements.
 - n. Installation of Owner's furniture, fixtures, and equipment.
 - o. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- F. Progress Meetings: [Conduct] [Construction Manager will conduct] progress meetings at [weekly] [biweekly] [monthly] [regular] <Insert appropriate interval> intervals.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner[, **Owner's Commissioning Authority**] [, **Construction Manager**,] and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. 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; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Resolution of BIM component conflicts.
 - 4) Status of submittals.
 - 5) Status of sustainable design documentation.
 - 6) Deliveries.
 - 7) Off-site fabrication.
 - 8) Access.
 - 9) Site use.
 - 10) Temporary facilities and controls.

- 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) Status of RFIs.
 - 16) Status of Proposal Requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- G. Coordination Meetings: **[Conduct] [Construction Manager will conduct] [Project Coordinator will conduct]** Project coordination meetings at **[weekly] [biweekly] [monthly] [regular] <Insert appropriate interval>** intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner[, **Owner's Commissioning Authority**] [, **Construction Manager**,] and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Resolution of BIM component conflicts.
 - 4) Status of submittals.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site use.
 - 9) Temporary facilities and controls.

- 10) Work hours.
- 11) Hazards and risks.
- 12) Progress cleaning.
- 13) Quality and work standards.
- 14) Status of RFIs.
- 15) Proposal Requests.
- 16) Change Orders.
- 17) Pending changes.

- 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 3 - PRODUCTS (Not Used)

PART 4 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 32 00

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Startup construction schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Construction schedule updating reports.
 - 4. Daily construction reports.
- B. Related Requirements:
 - 1. Section 01 40 00 "Quality Requirements" for schedule of tests and inspections.
 - 2. Section 01 29 00 "Payment Procedures" for schedule of values and requirements for use of cost-loaded schedule for Applications for Payment.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file.
 - 2. PDF file.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.

1.4 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

- 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 floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Submittal Review Time: Include review and resubmittal times indicated in Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 - 2. 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.
 - 3. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.
- D. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 - 1. Unresolved issues.
 - 2. Unanswered Requests for Information.
 - 3. Rejected or unreturned submittals.
 - 4. Notations on returned submittals.
 - 5. Pending modifications affecting the Work and the Contract Time.
- E. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate Final Completion percentage for each activity.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- G. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.6 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice of Award.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1.7 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Testing and inspection.
 - 8. Accidents.
 - 9. Meetings and significant decisions.
 - 10. Unusual events.
 - 11. Stoppages, delays, shortages, and losses.
 - 12. Meter readings and similar recordings.
 - 13. Emergency procedures.
 - 14. Orders and requests of authorities having jurisdiction.
 - 15. Change Orders received and implemented.
 - 16. Construction Change Directives received and implemented.
 - 17. Services connected and disconnected.
 - 18. Equipment or system tests and startups.
 - 19. Partial completions and occupancies.
 - 20. Substantial Completions authorized.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.

- B. Related Requirements:

- 1. Section 01 29 00 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 01 31 00 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
 - 3. Section 01 32 00 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 4. Section 01 40 00 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
 - 5. Section 01 77 00 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 6. Section 01 78 23 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 7. Section 01 78 39 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 8. Section 01 79 00 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Architect.
 4. Name of Contractor.
 5. Name of firm or entity that prepared submittal.
 6. Names of subcontractor, manufacturer, and supplier.
 7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
 8. Category and type of submittal.
 9. Submittal purpose and description.
 10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 11. Drawing number and detail references, as appropriate.
 12. Indication of full or partial submittal.
 13. Location(s) where product is to be installed, as appropriate.
 14. Other necessary identification.
 15. Remarks.
 16. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 - a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.

3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, 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. Processing Time: Allow 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, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.

- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of

color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 1. Certificates and Certifications Submittals: Submit a 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. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.7 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.
 - 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
- B. 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.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Mockups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.

1. Mockups are used for one or more of the following:
 - a. Verify selections made under Sample submittals.
 - b. Demonstrate aesthetic effects.
 - c. Demonstrate the qualities of products and workmanship.
 - d. Demonstrate successful installation of interfaces between components and systems.
 - e. Perform preconstruction testing to determine system performance.
 2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
 3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.
- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- G. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."
- I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.
- 1.4 DELEGATED DESIGN SERVICES
- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated Design Services Statement: Submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified is the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Reports: Prepare and submit certified written reports and documents as specified.
- E. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, telephone number, and email address of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.

- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, telephone number, and email address of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement of whether conditions, products, and installation will affect warranty.
 - 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, telephone number, and email address of factory-authorized service representative making report.
 - 2. Statement that equipment complies with requirements.
 - 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 4. Statement of whether conditions, products, and installation will affect warranty.
 - 5. Other required items indicated in individual Specification Sections.

1.8 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Structural Engineer Qualifications: A structural engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.

- F. Specialists: Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and engage in the activities indicated.
 - 1. Requirements of authorities having jurisdiction supersede requirements for specialists.
- G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor will not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
 - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect, Commissioning Authority and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Architect, Commissioning Authority, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 6. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's, Commissioning Authority's, and authorities' having jurisdiction reference during normal working hours.
 - 1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 73 00 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
 - 1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.
 - 1. ICC - International Code Council; www.iccsafe.org.
 - 2. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
 - 1. OSHA - Occupational Safety & Health Administration; www.osha.gov.
- D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
 - 1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.govinfo.gov.
 - 2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
 - 3. FED-STD - Federal Standard; (See FS).
 - 4. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.
 - a. Available from General Services Administration; www.gsa.gov.
 - b. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.
 - 5. USAB - United States Access Board; www.access-board.gov.
 - 6. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 50 00

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 01 10 00 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations.
- C. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

- D. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.
1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
 2. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
 3. Indicate methods to be used to avoid trapping water in finished work.
- E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
1. Locations of dust-control partitions at each phase of work.
 2. HVAC system isolation schematic drawing.
 3. Location of proposed air-filtration system discharge.
 4. Waste-handling procedures.
 5. Other dust-control measures.
- F. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by the Owner. Include the following:
1. Methods used to meet the goals and requirements of the Owner.
 2. Concrete cutting method(s) to be used.
 3. Location of construction devices on the site.
 4. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
 5. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with the Owner.
 6. Indicate locations of sensitive **[research]** **[patient]** **[equipment]** **<Insert item>** areas or other areas requiring special attention as identified by Owner. Indicate means for complying with Owner's requirements.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to 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

2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top and bottom rails. Provide galvanized-steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

- A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:
 - 1. Furniture required for Project-site documents, including file cabinets, plan tables, plan racks, and bookcases.
 - 2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot-square tack and marker boards.
 - 3. Drinking water and private toilet.
 - 4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
 - 5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - 1. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating, Cooling, and Dehumidifying Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
 - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 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.
 - 1. Locate facilities to limit site disturbance as specified in Section 01 10 00 "Summary."
- 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.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 - 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
 - 1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.

- F. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 - 1. Install electric power service overhead unless otherwise indicated.
- G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Comply with the following:
 - 1. Provide construction for temporary field offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
 - 1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- C. Temporary Use of Planned Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
 - 1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 - 2. Prepare subgrade and install subbase and base for temporary roads and paved areas in accordance with Section 31 20 00 "Earth Moving."
 - 3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
- D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain, including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- E. Storage and Staging: Use designated areas of Project site for storage and staging needs.
- F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated on Drawings.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
3. Maintain and touch up signs, so they are legible at all times.

H. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 01 73 00 "Execution."

I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to 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 Section 01 10 00 "Summary."

C. Temporary Erosion and Sedimentation Control: Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Section 31 10 00 "Site Clearing."

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

F. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.

2. Maintain security by limiting number of keys and restricting distribution to authorized personnel.
- G. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- I. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
- J. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign, stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 MOISTURE AND MOLD CONTROL

- A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.
- B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 1. Protect porous materials from water damage.
 2. Protect stored and installed material from flowing or standing water.
 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 4. Remove standing water from decks.
 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 2. Keep interior spaces reasonably clean and protected from water damage.
 3. Periodically collect and remove waste containing cellulose or other organic matter.

4. Discard or replace water-damaged material.
 5. Do not install material that is wet.
 6. Discard and replace stored or installed material that begins to grow mold.
 7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.
- D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
 3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective and require replacing.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
 - c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

- A. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- B. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

END OF SECTION

SECTION 01 57 23

TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Temporary stormwater pollution controls.

1.3 STORMWATER POLLUTION PREVENTION PLAN

- A. The Stormwater Pollution Prevention Plan (SWPPP) is part of the Contract Documents and is bound into this Project Manual.

1.4 INFORMATIONAL SUBMITTALS

- A. Stormwater Pollution Prevention Plan (SWPP): Within 15 days of date established for commencement of the Work, submit completed SWPPP.
- B. EPA authorization under the EPA's "2017 Construction General Permit (CGP)."
- C. Stormwater Pollution Prevention (SWPP) Training Log: For each individual performing Work under the SWPPP.
- D. Inspection reports.

1.5 QUALITY ASSURANCE

- A. Stormwater Pollution Prevention Plan (SWPPP) Coordinator: Experienced individual or firm with a record of successful water pollution control management coordination of projects with similar requirements.
 - 1. SWPPP Coordinator shall complete and finalize the SWPPP form.
 - 2. SWPPP Coordinator shall be responsible for inspections and maintaining of all requirements of the SWPPP.
- B. Installers: Trained as indicated in the SWPPP.

PART 2 - PRODUCTS

2.1 TEMPORARY STORMWATER POLLUTION CONTROLS

- A. Provide temporary stormwater pollution controls as required by the SWPPP.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with all best management practices, general requirements, performance requirements, reporting requirements, and all other requirements included in the SWPPP.
- B. Locate stormwater pollution controls in accordance with the SWPPP.
- C. Conduct construction as required to comply with the SWPPP and that minimize possible contamination or pollution or other undesirable effects.
 - 1. Inspect, repair, and maintain SWPPP controls during construction.
 - a. Inspect all SWPPP controls not less than every seven days, and after each occurrence of a storm event, as outlined in the SWPPP.
- D. Remove SWPPP controls at completion of construction and restore and stabilize areas disturbed during construction.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 01 10 00 "Summary" for Contractor requirements related to Owner-furnished products.
 - 2. Section 01 25 00 "Substitution Procedures" for requests for substitutions.
 - 3. Section 01 42 00 "References" for applicable industry standards for products specified.
 - 4. Section 01770 "Closeout Procedures" for submitting warranties.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 01 33 00 "Submittal Procedures."
- F. Substitution: Refer to Section 01 25 00 "Substitution Procedures" for definition and limitations on substitutions.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.

3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.5 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.
- C. Storage:
 1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
 2. Store products to allow for inspection and measurement of quantity or counting of units.
 3. Store materials in a manner that will not endanger Project structure.
 4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
 5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.

2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
 2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."

3. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
4. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 25 00 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 25 00 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 01 33 00 "Submittal Procedures."
 - 1. Form of Approval of Submittal: As specified in Section 01 33 00 "Submittal Procedures."
 - 2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 73 00

EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
 - 8. Correction of the Work.
- B. Related Requirements:
 - 1. Section 01 10 00 "Summary" for coordination of, and limits on use of Project site.
 - 2. Section 01 33 00 "Submittal Procedures" for submitting surveys.
 - 3. Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For land surveyor.
- B. Certified Surveys: Submit two copies signed by land surveyor.
- C. Certificates: Submit certificate signed by land surveyor, certifying that location and elevation of improvements comply with requirements.
- D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.4 CLOSEOUT SUBMITTALS

- A. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: 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, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner 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. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. 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 in accordance with requirements in Section 01 31 00 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- B. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- C. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 - 2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.

- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.

3.6 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. 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 waste materials more than seven days during normal weather or three 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.
 - a. Use containers intended for holding waste materials of type to be stored.
- 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. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."
- H. 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.
- I. 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.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 01 40 00 "Quality Requirements."

3.8 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.

- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.9 CORRECTION OF THE WORK

- A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Restore permanent facilities used during construction to their specified condition.
- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous construction waste.
 - 2. Recycling nonhazardous construction waste.
 - 3. Disposing of nonhazardous construction waste.
- B. Related Requirements:
 - 1. Section 04 20 00 "Unit Masonry" for disposal requirements for masonry waste.
 - 2. Section 31 10 00 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- C. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- D. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for the Notice of Award.

1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Use Form CWM-1 for construction waste. Include estimated quantities and assumptions for estimates.

- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-3 for construction waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there were no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste. Include the following:
1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include transportation and tipping fees and cost of collection containers and handling for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Revenue from salvaged materials.
 5. Revenue from recycled materials.
 6. Savings in transportation and tipping fees by donating materials.
 7. Savings in transportation and tipping fees that are avoided.
 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
 9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total nonhazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
1. Comply with operation, termination, and removal requirements in Section 01 50 00 "Temporary Facilities and Controls."
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
 2. Comply with Section 01 50 00 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 4. Store components off the ground and protect from the weather.
 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.3 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 2. Polystyrene Packaging: Separate and bag materials.

3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

D. Paint: Seal containers and store by type.

3.4 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

C. Burning: Do not burn waste materials.

END OF SECTION

FORM CWM-1: CONSTRUCTION WASTE IDENTIFICATION							
MATERIAL CATEGORY	GENERATION POINT	EST. QUANTITY OF MATERIALS RECEIVED* (A)	EST. WASTE - % (B)	TOTAL EST. QUANTITY OF WASTE* (C = A x B)	EST. VOLUME CY (CM)	EST. WEIGHT TONS (TONNES)	REMARKS AND ASSUMPTIONS
Packaging: Cardboard							
Packaging: Boxes							
Packaging: Plastic Sheet or Film							
Packaging: Polystyrene							
Packaging: Pallets or Skids							
Packaging: Crates							
Packaging: Paint Cans							
Packaging: Plastic Pails							
Site-Clearing Waste							
Masonry or CMU							
Lumber: Cut-Offs							
Lumber: Warped Pieces							
Plywood or OSB (scraps)							
Wood Forms							
Wood Waste Chutes							
Wood Trim (cut-offs)							
Metals							
Insulation							
Roofing							
Joint Sealant Tubes							
Gypsum Board (scraps)							
Carpet and Pad (scraps)							
Piping							
Electrical Conduit							
Other:							

FORM CWM-2: DEMOLITION WASTE IDENTIFICATION				
MATERIAL DESCRIPTION	EST. QUANTITY	EST. VOLUME CY (CM)	EST. WEIGHT TONS (TONNES)	REMARKS AND ASSUMPTIONS
Asphaltic Concrete Paving				
Concrete				
Brick				
CMU				
Lumber				
Plywood and OSB				
Wood Paneling				
Wood Trim				
Miscellaneous Metals				
Structural Steel				
Rough Hardware				
Insulation				
Roofing				
Doors and Frames				
Door Hardware				
Windows				
Glazing				
Acoustical Tile				
Carpet				
Carpet Pad				
Demountable Partitions				
Equipment				
Cabinets				
Plumbing Fixtures				
Piping				
Piping Supports and Hangers				
Valves				
Sprinklers				
Mechanical Equipment				
Electrical Conduit				
Copper Wiring				
Light Fixtures				
Lamps				
Lighting Ballasts				
Electrical Devices				
Switchgear and Panelboards				
Transformers				
Other:				

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FORM CWM-3: CONSTRUCTION WASTE REDUCTION WORK PLAN						
MATERIAL CATEGORY	GENERATION POINT	TOTAL EST. QUANTITY OF WASTE TONS (TONNES)	DISPOSAL METHOD AND QUANTITY			HANDLING AND TRANSPORTATION PROCEDURES
			EST. AMOUNT SALVAGED TONS (TONNES)	EST. AMOUNT RECYCLED TONS (TONNES)	EST. AMOUNT DISPOSED TO LANDFILL TONS (TONNES)	
Packaging: Cardboard						
Packaging: Boxes						
Packaging: Plastic Sheet or Film						
Packaging: Polystyrene						
Packaging: Pallets or Skids						
Packaging: Crates						
Packaging: Paint Cans						
Packaging: Plastic Pails						
Site-Clearing Waste						
Masonry or CMU						
Lumber: Cut-Offs						
Lumber: Warped Pieces						
Plywood or OSB (scraps)						
Wood Forms						
Wood Waste Chutes						
Wood Trim (cut-offs)						
Metals						
Insulation						
Roofing						
Joint Sealant Tubes						

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Gypsum Board (scraps)						
Carpet and Pad (scraps)						
Piping						
Electrical Conduit						
Other:						

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FORM CWM-4: DEMOLITION WASTE REDUCTION WORK PLAN						
MATERIAL CATEGORY	GENERATION POINT	TOTAL EST. QUANTITY OF WASTE TONS (TONNES)	DISPOSAL METHOD AND QUANTITY			HANDLING AND TRANSPORTION PROCEDURES
			EST. AMOUNT SALVAGED TONS (TONNES)	EST. AMOUNT RECYCLED TONS (TONNES)	EST. AMOUNT DISPOSED TO LANDFILL TONS (TONNES)	
Asphaltic Concrete Paving						
Concrete						
Brick						
CMU						
Lumber						
Plywood and OSB						
Wood Paneling						
Wood Trim						
Miscellaneous Metals						
Structural Steel						
Rough Hardware						
Insulation						
Roofing						
Doors and Frames						
Door Hardware						
Windows						
Glazing						
Acoustical Tile						
Carpet						
Carpet Pad						
Demountable Partitions						
Equipment						
Cabinets						
Plumbing Fixtures						

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Piping						
Supports and Hangers						
Valves						
Sprinklers						
Mechanical Equipment						
Electrical Conduit						
Copper Wiring						
Light Fixtures						
Lamps						
Lighting Ballasts						
Electrical Devices						
Switchgear and Panelboards						
Transformers						
Other:						

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FORM CWM-5: COST/REVENUE ANALYSIS OF CONSTRUCTION WASTE REDUCTION WORK PLAN								
MATERIALS	TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)	EST. COST OF DISPOSAL (B)	TOTAL EST. COST OF DISPOSAL (C = A x B)	REVENUE FROM SALVAGED MATERIALS (D)	REVENUE FROM RECYCLED MATERIALS (E)	LANDFILL TIPPING FEES AVOIDED (F)	HANDLING AND TRANSPORTATION COSTS AVOIDED (G)	NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pails								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								

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Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

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FORM CWM-6: COST/REVENUE ANALYSIS OF DEMOLITION WASTE REDUCTION WORK PLAN								
MATERIALS	TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)	EST. COST OF DISPOSAL (B)	TOTAL EST. COST OF DISPOSAL (C = A x B)	REVENUE FROM SALVAGED MATERIALS (D)	REVENUE FROM RECYCLED MATERIALS (E)	LANDFILL TIPPING FEES AVOIDED (F)	HANDLING AND TRANSPORTATION COSTS AVOIDED (G)	NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)
Asphaltic Concrete Paving								
Concrete								
Brick								
CMU								
Lumber								
Plywood and OSB								
Wood Paneling								
Wood Trim								
Miscellaneous Metals								
Structural Steel								
Rough Hardware								
Insulation								
Roofing								
Doors and Frames								
Door Hardware								
Windows								
Glazing								
Acoustical Tile								
Carpet								
Carpet Pad								
Demountable Partitions								
Equipment								
Cabinets								

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Plumbing Fixtures								
Piping								
Supports and Hangers								
Valves								
Sprinklers								
Mech. Equipment								
Electrical Conduit								
Copper Wiring								
Light Fixtures								
Lamps								
Lighting Ballasts								
Electrical Devices								
Switchgear and Panelboards								
Transformers								
Other:								

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FORM CWM-7: CONSTRUCTION WASTE REDUCTION PROGRESS REPORT								
MATERIAL CATEGORY	GENERATION POINT	TOTAL QUANTITY OF WASTE TONS (TONNES) (A)	QUANTITY OF WASTE SALVAGED		QUANTITY OF WASTE RECYCLED		TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C)	TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100)
			ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (B)	ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (C)		
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pails								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								

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Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

FORM CWM-8: DEMOLITION WASTE REDUCTION PROGRESS REPORT								
MATERIAL CATEGORY	GENERATION POINT	TOTAL QUANTITY OF WASTE TONS (TONNES) (A)	QUANTITY OF WASTE SALVAGED		QUANTITY OF WASTE RECYCLED		TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C)	TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100)
			ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (B)	ESTIMATED TONS (TONNES)	ACTUAL TONS (TONNES) (C)		
Asphaltic Concrete Paving								
Concrete								
Brick								
CMU								
Lumber								
Plywood and OSB								
Wood Paneling								
Wood Trim								
Miscellaneous Metals								
Structural Steel								
Rough Hardware								
Insulation								
Roofing								
Doors and Frames								
Door Hardware								
Windows								
Glazing								
Acoustical Tile								
Carpet								
Carpet Pad								
Demountable Partitions								
Equipment								
Cabinets								
Plumbing Fixtures								
Piping								
Supports and Hangers								
Valves								

Sprinklers								
Mechanical Equipment								
Electrical Conduit								
Copper Wiring								
Light Fixtures								
Lamps								
Lighting Ballasts								
Electrical Devices								
Switchgear and Panelboards								
Transformers								
Other:								

SECTION 01 77 00

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Requirements:
 - 1. Section 01 29 00 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
 - 2. Section 01 78 23 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 3. Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 4. Section 01 79 00 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.5 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.7 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit testing, adjusting, and balancing records.
 - 5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 - 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 01 79 00 "Demonstration and Training."
 - 6. Advise Owner of changeover in utility services.
 - 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 - 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 9. Complete final cleaning requirements.

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

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. 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. 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.

1.8 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:

1. Submit a final Application for Payment in accordance with Section 01 29 00 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. 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. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.9 LIST OF INCOMPLETE ITEMS

A. Organization 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 of spaces in sequential order, starting with exterior areas first, listed by room or space number.
2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.

- e. Page number.
- 4. Submit list of incomplete items in the following format:
 - a. PDF Electronic File: Architect will return annotated file.

1.10 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit by email to Architect.
- D. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
- a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - i. Vacuum and mop concrete.
 - j. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - k. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - l. Remove labels that are not permanent.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
 - q. Clean strainers.
 - r. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste-disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 01 73 00 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION

SECTION 01 78 23

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 01 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 manuals.
 - 2. Systems and equipment operation manuals.
 - 3. Systems and equipment maintenance manuals.
 - 4. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 01 33 00 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

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. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved 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 operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit by email to Architect. Enable reviewer comments on draft submittals.

- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. 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.
- E. Comply with Section 01 77 00 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. 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: Bookmark 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.
- B. 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. 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. Enclose title pages and directories in clear plastic sleeves.
 - 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.

1.6 REQUIREMENTS FOR OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: 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. 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."

1.7 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
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.
- B. 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.
- C. 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.
- D. 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.
- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

- F. Piped Systems: Diagram piping as installed and identify color coding where required for identification.

1.8 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
 - 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.
- B. 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 warranties and bonds as described below.
- C. 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.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; 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.
 - a. 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.
 - 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.
- E. 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.

- F. 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.
- G. 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.
- 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.
- I. 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 maintenance manuals.

1.9 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. 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.
- C. 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.
- D. 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.
- E. 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.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. 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 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 78 39

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 01 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. Section 01 73 00 "Execution" for final property survey.
 - 2. Section 01 77 00 "Closeout Procedures" for general closeout procedures.
 - 3. Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit PDF electronic files of scanned record prints and one set(s) of file prints.
 - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned Record Prints and three set(s) of file prints.
 - 2) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files and 2 paper copies of Project's Specifications, including addenda and Contract modifications.

1.4 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 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.
 - 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 Construction 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 prints 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.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Annotated PDF electronic file.
 2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 3. Refer instances of uncertainty to Architect for resolution.
 4. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.

- a. See Section 01 31 00 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Format: Annotated PDF electronic file.
 - 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 - 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Note related Change Orders and Record Drawings where applicable.
- B. Format: Submit record specifications as annotated PDF electronic file.

1.6 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
 - 2. Demonstration and training video recordings.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name and address of videographer.
 - c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Date of video recording.
 - 2. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to

corresponding training components. Include name of Project and date of video recording on each page.

3. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Section 01 78 23 "Operation and Maintenance Data."

1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 40 00 "Quality Requirements," experienced in operation and maintenance procedures and training.

1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.7 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 2. Documentation: Review the following items in detail:

- a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.

8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.8 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 01 78 23 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.9 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

1.10 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode.
 1. Submit video recordings on CD-ROM or thumb drive.
 2. File Hierarchy: Organize folder structure and file locations according to Project Manual table of contents. Provide complete screen-based menu.
 3. File Names: Utilize file names based on name of equipment generally described in video segment, as identified in Project specifications.

4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the equipment demonstration and training recording that describes the following for each Contractor involved on the Project, arranged according to Project Manual table of contents:
 - a. Name of Contractor/Installer.
 - b. Business address.
 - c. Business phone number.
 - d. Point of contact.
 - e. Email address.
- B. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
 1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- C. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
 1. Furnish additional portable lighting as required.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION

SECTION 05 12 00

STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Structural steel.
2. Shear stud connectors, shop and field welded.
3. Shrinkage-resistant grout.

B. Related Requirements:

1. Section 053100 "Steel Decking" for field installation of shear stud connectors through deck.
2. Section 055000 "Metal Fabrications" for steel lintels and shelf angles not attached to structural-steel frame, miscellaneous steel fabrications and other steel items not defined as structural steel.
3. Section 133419 "Metal Building Systems" for structural steel.

1.2 DEFINITIONS

A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in ANSI/AISC 303.

B. Seismic-Load-Resisting System: Elements of structural-steel frame designated as "SLRS" or along grid lines designated as "SLRS" on Drawings, including columns, beams, and braces and their connections.

C. Heavy Sections: Rolled and built-up sections as follows:

1. Shapes included in ASTM A6/A6M with flanges thicker than **1-1/2 inches**.
2. Welded built-up members with plates thicker than **2 inches**.
3. Column base plates thicker than **2 inches**.

D. Protected Zone: Structural members or portions of structural members indicated as "protected zone" on Drawings. Connections of structural and nonstructural elements to protected zones are limited.

E. Demand-Critical Welds: Those welds, the failure of which would result in significant degradation of the strength and stiffness of the seismic-load-resisting system and which are indicated as "demand critical" or "seismic critical" on Drawings.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

- A. Product Data:
 - 1. Structural-steel materials.
 - 2. High-strength, bolt-nut-washer assemblies.
 - 3. Shear stud connectors.
 - 4. Anchor rods.
 - 5. Threaded rods.
 - 6. Shop primer.
 - 7. Galvanized-steel primer.
 - 8. Etching cleaner.
 - 9. Galvanized repair paint.
 - 10. Shrinkage-resistant grout.
- B. Shop Drawings: Show fabrication of structural-steel components.
 - 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
 - 2. Include embedment Drawings.
 - 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
 - 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.
 - 5. Identify members and connections of the seismic-load-resisting system.
 - 6. Indicate locations and dimensions of protected zones.
 - 7. Identify demand-critical welds.
 - 8. Identify members not to be shop primed.
- C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide in accordance with AWS D1.1/D1.1M for each welded joint whether prequalified or qualified by testing or qualified by testing, including the following:
 - 1. Power source (constant current or constant voltage).
 - 2. Electrode manufacturer and trade name, for demand-critical welds.

- D. Delegated Design Submittal: For structural-steel connections indicated on Drawings to comply with design loads, include analysis data signed and sealed by the licensed structural engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer fabricator shop-painting applicators professional engineer testing agency.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Mill test reports for structural-steel materials, including chemical and physical properties.
- E. Product Test Reports: For the following:
 - 1. Bolts, nuts, and washers, including mechanical properties and chemical analysis.
 - 2. Direct-tension indicators.
 - 3. Tension-control, high-strength, bolt-nut-washer assemblies.
 - 4. Shear stud connectors.
- F. Source quality-control reports.
- G. Field quality-control reports.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category BU or is accredited by the IAS Fabricator Inspection Program for Structural Steel (Acceptance Criteria 172).
- B. Installer Qualifications: A qualified Installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.
- C. Shop-Painting Applicators: Qualified in accordance with AISC's Sophisticated Paint Endorsement P1 or to SSPC-QP 3.
- D. Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1/D1.1M.
 - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8/D1.8M. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F3125/F3125M, Grade F1852 bolt assemblies and for retesting bolt assemblies after lubrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with applicable provisions of the following specifications and documents:
1. ANSI/AISC 303.
 2. ANSI/AISC 341.
 3. ANSI/AISC 360.
 4. RCSC's "Specification for Structural Joints Using High-Strength Bolts."
- B. Connection Design Information:
1. Design connections and final configuration of member reinforcement at connections in accordance with ANSI/AISC 303 by fabricator's qualified licensed structural engineer.
 - a. Use Allowable Stress Design; data are given at service-load level.
- C. Moment Connections: Type PR, partially restrained.
- D. Construction: Combined system of moment frame, braced frame, and shear walls.

2.2 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A992/A992M.
- B. Channels, Angles, M-Shapes, S-Shapes : ASTM A36/A36M.
- C. Plate and Bar: ASTM A36/A36M.
- D. Cold-Formed Hollow Structural Sections: ASTM A500/A500M, Grade B structural tubing.
- E. Welding Electrodes: Comply with AWS requirements.

2.3 BOLTS AND CONNECTORS

- A. High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125/F3125M, **Grade A325**, Type 1, heavy-hex steel structural bolts; **ASTM A563, Grade DH**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.
 - 1. Direct-Tension Indicators: ASTM F959/F959M, **Type 325-1**, compressible-washer type with plain finish.
- B. High-Strength A490 Bolts, Nuts, and Washers: ASTM F3125/F3125M, **Grade A490**, Type 1, heavy-hex steel structural bolts or Grade F2280 tension-control, bolt-nut-washer assemblies with splined ends; **ASTM A563, Grade DH**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.
 - 1. Direct-Tension Indicators: ASTM F959/F959M, **Type 490-1**, compressible-washer type with plain finish.
- C. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F3125/F3125M, Grade F1852, Type 1, heavy-hex head assemblies, consisting of steel structural bolts with splined ends; **ASTM A563, Grade DH**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers.
 - 1. Finish: Plain.
- D. Shear Stud Connectors: ASTM A108, AISI C-1015 through C-1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.

2.4 RODS

- A. Unheaded Anchor Rods: ASTM F1554, Grade 36.
 - 1. Configuration: Straight.
 - 2. Nuts: **ASTM A563** heavy-hex carbon steel.
 - 3. Plate Washers: ASTM A36/A36M carbon steel.
 - 4. Washers: **ASTM F436**, Type 1, hardened carbon steel.
 - 5. Finish: Plain.
- B. Threaded Rods: ASTM A36/A36M.
 - 1. Nuts: **ASTM A63** heavy-hex carbon steel.
 - 2. Washers: **ASTM F436**, Type 1, hardened carbon steel.
 - 3. Finish: Plain.

2.5 PRIMER

- A. Steel Primer:
 - 1. Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

2.6 SHRINKAGE-RESISTANT GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C1107/C1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.7 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate in accordance with ANSI/AISC 303 and to ANSI/AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel in accordance with ASTM A6/A6M and maintain markings until structural-steel framing has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted in accordance with SSPC-SP 3.
- F. Shear Stud Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Weld using automatic end welding of headed-stud shear connectors in accordance with AWS D1.1/D1.1M and manufacturer's written instructions.
- G. Steel Wall-Opening Framing: Select true and straight members for fabricating steel wall-opening framing to be attached to structural-steel frame. Straighten as required to provide uniform, square, and true members in completed wall framing. Build up welded framing, weld exposed joints continuously, and grind smooth.
- H. Welded-Steel Door Frames: Build up welded-steel door frames attached to structural-steel frame. Weld exposed joints continuously and grind smooth. Plug-weld fixed steel bar stops to frames. Secure removable stops to frames with countersunk machine screws, uniformly spaced not more than **10 inches** o.c. unless otherwise indicated on Drawings.
- I. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.8 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened or Slip critical.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in ANSI/AISC 303 for mill material.

2.9 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel in accordance with ASTM A123/A123M.
 - 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.
 - 2. Galvanize lintels, shelf angles and welded door frames attached to structural-steel frame and located in exterior walls.

2.10 SHOP PRIMING

- A. Shop prime steel surfaces, except the following:
 - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
 - 2. Surfaces to be field welded.
 - 3. Surfaces of high-strength bolted, slip-critical connections.
 - 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
 - 5. Galvanized surfaces.
- B. Surface Preparation of Steel: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces in accordance with the following specifications and standards:
 - 1. SSPC-SP 3.
- C. Surface Preparation of Galvanized Steel: Prepare galvanized-steel surfaces for shop priming by thoroughly cleaning steel of grease, dirt, oil, flux, and other foreign matter, and treating with etching cleaner or in accordance with SSPC-SP 16.
- D. Priming: Immediately after surface preparation, apply primer in accordance with manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

2.11 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform shop tests and inspections.
 1. Allow testing agency access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
 2. Bolted Connections: Inspect and test shop-bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
 3. Welded Connections: Visually inspect shop-welded connections in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E165/E165M.
 - b. Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - c. Ultrasonic Inspection: ASTM E164.
 - d. Radiographic Inspection: ASTM E94/E94M.
 4. In addition to visual inspection, test and inspect shop-welded shear stud connectors in accordance with requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - a. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear stud connector.
 - b. Conduct tests in accordance with requirements in AWS D1.1/D1.1M on additional shear stud connectors if weld fracture occurs on shear stud connectors already tested.
 5. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated on Drawings.

1. Do not remove temporary shoring supporting composite deck construction and structural-steel framing until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and in accordance with ANSI/AISC 303 and ANSI/AISC 360.
- B. Baseplates, Bearing Plates and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 2. Weld plate washers to top of baseplate.
 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 4. Promptly pack shrinkage-resistant grout solidly between bearing surfaces and plates, so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for grouting.
- C. Maintain erection tolerances of structural steel within ANSI/AISC 303.
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 1. Level and plumb individual members of structure. Slope roof framing members to slopes indicated on Drawings.
 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt and joint type specified.
 1. Joint Type: Snug tightened or Slip critical.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with ANSI/AISC 303 and ANSI/AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
 3. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in ANSI/AISC 303 for mill material.
- C. Shear Stud Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Weld using end welding of headed-stud shear connectors in accordance with AWS D1.1/D1.1M and manufacturer's written instructions.

3.5 INSTALLATION OF PREFABRICATED BUILDING COLUMNS

- A. Install prefabricated building columns to comply with ANSI/AISC 360, manufacturer's written recommendations, and requirements of testing and inspecting agency that apply to the fire-resistance rating indicated.

3.6 REPAIR

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing, and repair galvanizing to comply with ASTM A780/A780M.
- B. Touchup Painting:
1. Immediately after erection, clean exposed areas where primer is damaged or missing, and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - a. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

3.7 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform the following special inspections:
1. Verify structural-steel materials and inspect steel frame joint details.
 2. Verify weld materials and inspect welds.
 3. Verify connection materials and inspect high-strength bolted connections.
- B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
1. Bolted Connections: Inspect and test bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
 2. Welded Connections: Visually inspect field welds in accordance with AWS D1.1/D1.1M.
 - a. In addition to visual inspection, test and inspect field welds in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1) Liquid Penetrant Inspection: ASTM E165/E165M.
 - 2) Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.

- 3) Ultrasonic Inspection: ASTM E164.
- 4) Radiographic Inspection: ASTM E94/E94M.
- 3. Shear Stud Connectors: In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - a. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - b. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.

END OF SECTION 051200

SECTION 05 21 00
STEEL JOIST FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. K-series steel joists.
2. KCS-type K-series steel joists.
3. LH-series long-span steel joists.
4. Steel joist accessories.

B. Related Requirements:

1. Section 051200 "Structural Steel Framing" for field-welded shear connectors.

1.2 DEFINITIONS

- A. SJI's "Specifications": Steel Joist Institute's "Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders."
- B. Special Joists: Steel joists or joist girders requiring modification by manufacturer to support nonuniform, unequal, or special loading conditions that invalidate load tables in SJI's "Specifications."

1.3 ACTION SUBMITTALS

A. Product Data: For each type of joist, accessory, and product.

B. Shop Drawings:

1. Include layout, designation, number, type, location, and spacing of joists.
2. Include joining and anchorage details; bracing, bridging, and joist accessories; splice and connection locations and details; and attachments to other construction.
3. Indicate locations and details of bearing plates to be embedded in other construction.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer professional engineer.

B. Welding certificates.

C. Manufacturer certificates.

D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

- E. Mill Certificates: For each type of bolt.
- F. Comprehensive engineering analysis of special joists signed and sealed by the qualified licensed structural engineer responsible for its preparation.
- G. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer certified by SJI to manufacture joists complying with applicable standard specifications and load tables in SJI's "Specifications."
 - 1. Manufacturer's responsibilities include providing professional engineering services for designing special joists to comply with performance requirements.
- B. Welding Qualifications: Qualify field-welding procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle joists as recommended in SJI's "Specifications."
- B. Protect joists from corrosion, deformation, and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide special joists and connections capable of withstanding design loads indicated on Drawings.
 - 1. Use ASD; data are given at service-load level.
 - 2. Design special joists to withstand design loads with live-load deflections no greater than the following:
 - a. Roof Joists: Vertical deflection of 1/240 of the span.

2.2 STEEL JOISTS

- A. K-Series Steel Joist: Manufactured steel joists of type indicated according to "Standard Specification for Open Web Steel Joists, K-Series" in SJI's "Specifications," with steel-angle top- and bottom-chord members, underslung ends, and parallel top chord.
 - 1. Joist Type: K-series steel joists and KCS-type K-series steel joists.
 - 2. Provide holes in chord members for connecting and securing other construction to joists.
 - 3. Camber joists according to SJI's "Specifications."
 - 4. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds **1/4 inch per 12 inches**.

- B. Long-Span Steel Joist: Manufactured steel joists according to "Standard Specification for Longspan Steel Joists, LH-Series and Deep Longspan Steel Joists, DLH-Series" in SJI's "Specifications," with steel-angle top- and bottom-chord members; of joist type and end and top-chord arrangements as follows:

1. Joist Type: LH-series long-span steel joists .
2. End Arrangement: Underslung .
3. Top-Chord Arrangement: Parallel .
4. Provide holes in chord members for connecting and securing other construction to joists.
5. Camber long-span steel joists according to SJI's "Specifications." .
6. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds **1/4 inch per 12 inches**.

2.3 PRIMERS

- A. Primer:

1. SSPC-Paint 15, or manufacturer's standard shop primer complying with performance requirements in SSPC-Paint 15.
2. Provide shop primer that complies with

2.4 STEEL JOIST ACCESSORIES

- A. Bridging:

1. Provide bridging anchors and number of rows of horizontal and/or diagonal bridging of material, size, and type required by SJI's "Specifications" for type of joist, chord size, spacing, and span. Furnish additional erection bridging if required for stability.

- B. Fabricate steel bearing plates from ASTM A36/A36M steel with integral anchorages of sizes and thicknesses indicated on Drawings. Shop prime paint.

- C. High-Strength Bolts, Nuts, and Washers: ASTM F3125/F3125M, **Grade A325**, Type 1, heavy-hex steel structural bolts; **ASTM A563, Grade DH**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers.

1. Finish: Plain.

- D. Welding Electrodes: Comply with AWS standards.

- E. Furnish miscellaneous accessories including splice plates and bolts required by joist manufacturer to complete joist assembly.

2.5 CLEANING AND SHOP PAINTING

- A. Clean and remove loose scale, heavy rust, and other foreign materials from fabricated joists and accessories by hand-tool cleaning, SSPC-SP 2 power-tool cleaning, SSPC-SP 3.

- B. Do not prime paint joists and accessories to receive sprayed fire-resistive materials.

- C. Apply one coat of shop primer to joists and joist accessories to be primed to provide a continuous, dry paint film not less than **1 mil** thick.
- D. Shop priming of joists and joist accessories is specified in

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting substrates, embedded bearing plates, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Do not install joists until supporting construction is in place and secured.
- B. Install joists and accessories plumb, square, and true to line; securely fasten to supporting construction according to SJI's "Specifications," joist manufacturer's written instructions, and requirements in this Section.
 - 1. Before installation, splice joists delivered to Project site in more than one piece.
 - 2. Space, adjust, and align joists accurately in location before permanently fastening.
 - 3. Install temporary bracing and erection bridging, connections, and anchors to ensure that joists are stabilized during construction.
 - 4. Delay rigidly connecting bottom-chord extensions to columns or supports until dead loads are applied.
- C. Field weld joists to supporting steel and framework. Coordinate welding sequence and procedure with placement of joists. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
- D. Bolt joists to supporting steel framework using carbon-steel bolts.
- E. Bolt joists to supporting steel framework using high-strength structural bolts. Comply with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for high-strength structural bolt installation and tightening requirements.
- F. Install and connect bridging concurrently with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords if terminating at walls or beams.

3.3 REPAIRS

- A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A780/A780M and manufacturer's written instructions.
- B. Touchup Painting:

1. Immediately after installation, clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists, bearing plates, abutting structural steel, and accessories.
 - a. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
 - b. Apply a compatible primer of same type as primer used on adjacent surfaces.
2. Cleaning and touchup painting are specified in

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Visually inspect field welds according to AWS D1.1/D1.1M.
- C. Visually inspect bolted connections.
- D. Prepare test and inspection reports.

END OF SECTION 052100

SECTION 05 31 00

STEEL DECKING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof deck.
2. Composite floor deck.

B. Related Requirements:

1. Section 033000 "Cast-in-Place Concrete" for normal-weight and lightweight structural concrete fill over steel deck.
2. Section 051200 "Structural Steel Framing" for shop- and field-welded shear connectors.
3. Section 055000 "Metal Fabrications" for framing deck openings with miscellaneous steel shapes.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Roof deck.
2. Composite floor deck.

B. Shop Drawings:

1. Include layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

1.3 INFORMATIONAL SUBMITTALS

A. Certificates:

1. Welding certificates.
2. Product Certificates: For each type of steel deck.

B. Test and Evaluation Reports:

1. Product Test Reports: For tests performed by a qualified testing agency, indicating that each of the following complies with requirements:
 - a. Power-actuated mechanical fasteners.
 - b. Acoustical roof deck.

C. Field Quality-Control Submittals:

1. Field quality-control reports.

- D. Qualification Statements: For welding personnel and testing agency.

1.4 QUALITY ASSURANCE

A. Qualifications:

1. Welding Qualifications: Qualify procedures and personnel in accordance with SDI QA/QC and the following welding codes:
 - a. AWS D1.1/D1.1M.
 - b. AWS D1.3/D1.3M.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store products in accordance with SDI MOC3. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.
1. Protect and ventilate acoustical cellular roof deck with factory-installed insulation to maintain insulation free of moisture.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. AISI Specifications: Comply with calculated structural characteristics of steel deck in accordance with AISI S100.
- B. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
1. Indicate design designations from UL's "Fire Resistance Directory" or from listings of another qualified testing agency.

2.2 ROOF DECK

- A. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with SDI RD and with the following:
1. Galvanized-Steel Sheet: ASTM A653/A653M, Structural Steel (SS), Grade 33 , G60 zinc coating.
 2. Deck Profile: Type WR, wide rib .
 3. Profile Depth: 1-1/2 inches.
 4. Design Uncoated-Steel Thickness: 0.0295 inch or 0.0358 inch, as indicated.
 5. Span Condition: Triple span or more.
 6. Side Laps: Overlapped or interlocking seam at Contractor's option.

2.3 COMPOSITE FLOOR DECK

- A. Composite Floor Deck: Fabricate panels, with integrally embossed or raised pattern ribs and interlocking side laps, to comply with SDI C, with the minimum section properties indicated, and with the following:
1. Galvanized-Steel Sheet: ASTM A653/A653M, Structural Steel (SS), Grade **33**, **G60** zinc coating.
 2. Profile Depth: **3 inches**.
 3. Design Uncoated-Steel Thickness: **0.0474 inch**.
 4. Span Condition: Triple span or more.

2.4 ACCESSORIES

- A. Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.
- C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, **No. 10** minimum diameter.
- D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.
- E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of **33,000 psi**, not less than **0.0359-inch** design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.
- F. Pour Stops and Girder Fillers: Steel sheet, minimum yield strength of **33,000 psi**, of same material and finish as deck, and of thickness and profile recommended by SDI standards for overhang and slab depth.
- G. Column Closures, End Closures, Z-Closures, and Cover Plates: Steel sheet, of same material, finish, and thickness as deck unless otherwise indicated.
- H. Shear Stud Connectors: ASTM A108, AISI C-1015 through C-1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.
- I. Flat Sump Plates: Single-piece steel sheet, **0.0747 inch** thick, of same material and finish as deck. For drains, cut holes in the field.
- J. Recessed Sump Pans: Single-piece steel sheet, **0.0747 inch** thick, of same material and finish as deck, with **3-inch** wide flanges and **[level] [sloped]** recessed pans of **1-1/2-inch** minimum depth. For drains, cut holes in the field.
- K. Galvanizing Repair Paint: ASTM A780/A780M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Install deck panels and accessories in accordance with SDI C, SDI NC, and SDI RD, as applicable; manufacturer's written instructions; and requirements in this Section.
- B. Install temporary shoring before placing deck panels if required to meet deflection limitations.
- C. Locate deck bundles to prevent overloading of supporting members.
- D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
 - 1. Align cellular deck panels over full length of cell runs and align cells at ends of abutting panels.
- E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.
- G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.
- H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.
- I. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners and install in accordance with deck manufacturer's written instructions.
- J. Shear Stud Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Weld using end welding of headed-stud shear connectors in accordance with AWS D1.1/D1.1M and manufacturer's written instructions.

3.3 INSTALLATION OF ROOF DECK

- A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than **1-1/2 inches** long, and as follows:
 - 1. Weld Diameter: **5/8 inch**, nominal.

2. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds as indicated on the structural drawings.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of one-half of the span or **18 inches**, and as follows:
 1. Mechanically fasten with self-drilling, **No. 10** diameter or larger, carbon-steel screws.
- C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of **1-1/2 inches**, with end joints as follows:
 1. End Joints: Lapped **2 inches** minimum.
- D. Roof Sump Pans and Sump Plates: Install over openings provided in roof deck and mechanically fasten flanges to top of deck. Space mechanical fasteners not more than **12 inches** apart with at least one fastener at each corner.
 1. Install reinforcing channels or zees in ribs to span between supports and mechanically fasten.
- E. Miscellaneous Roof-Deck Accessories: Install ridge and valley plates, finish strips, end closures, and reinforcing channels in accordance with deck manufacturer's written instructions. mechanically fasten to substrate to provide a complete deck installation.
 1. Weld cover plates at changes in direction of roof-deck panels unless otherwise indicated.
- F. Flexible Closure Strips: Install flexible closure strips over partitions, walls, and where indicated. Install with adhesive in accordance with manufacturer's written instructions to ensure complete closure.

3.4 INSTALLATION OF FLOOR DECK

- A. Fasten floor-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated and as follows:
 1. Weld Diameter: **5/8 inch**, nominal.
 2. Weld Spacing:
 - a. Weld edge ribs of panels at each support. Space additional welds an average of **16 inches** apart, but not more than **18 inches** apart.
 - b. Space and locate welds as indicated.
 3. Weld Washers: Install weld washers at each weld location.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of one-half of the span or **36 inches**, and as follows:
 1. Mechanically fasten with self-drilling, **No. 10** diameter or larger, carbon-steel screws.
 2. Mechanically clinch or button punch.
 3. Fasten with a minimum of **1-1/2-inch**- long welds.
- C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of **2-1/2 inches**, with end joints as follows:

1. End Joints: Lapped or butted at Contractor's option.
- D. Pour Stops and Girder Fillers: Weld steel sheet pour stops and girder fillers to supporting structure in accordance with SDI recommendations unless otherwise indicated.
- E. Floor-Deck Closures: Weld steel sheet column closures, cell closures, and Z-closures to deck, in accordance with SDI recommendations, to provide tight-fitting closures at open ends of ribs and sides of deck.

3.5 REPAIR

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint in accordance with ASTM A780/A780M and manufacturer's written instructions.
- B. Repair Painting:
 1. Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.
 2. Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.
 3. Wire brushing, cleaning, and repair painting of bottom deck surfaces are included in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."
 4. Wire brushing, cleaning, and repair painting of rust spots, welds, and abraded areas of both deck surfaces are included in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Tests and Inspections:
 1. Special inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck in accordance with quality-assurance inspection requirements of SDI QA/QC.
 - a. Field welds will be subject to inspection.
 2. Steel decking will be considered defective if it does not pass tests and inspections.
 3. Shear Stud Connectors: In addition to visual inspection, test and inspect field-welded shear connectors in accordance with requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - a. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - b. Conduct tests in accordance with requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors that are already tested.
- C. Prepare test and inspection reports.

END OF SECTION 053100

SECTION 05 50 00

METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Elevator sill support angles hoist beams.
 - 2. Pipe bollards.
 - 3. Vertical ladders for roof access.
 - 4. Supports for overhead doors.
 - 5. Miscellaneous steel supports and framing.
 - 6. Nosings for concrete stairs.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting Attendees and Procedures:
 - 1. Conduct meeting one week, minimum, before starting Work of this Section.

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Metal nosings for stairs.
- B. Shop Drawings: Layouts, details, connections, anchorages.
 - 1. Elevator hoist beams.
 - 2. Supports for overhead doors.
 - 3. Miscellaneous steel supports and framing.
 - 4. Ladders.
 - 5. Bollards.
 - 6. Steel lintels and ledge angles.

1.4 INFORMATIONAL SUBMITTALS

- A. Delegated Design Submittals:
 - 1. Provide sealed calculations and shop drawings for delegated design items listed in Part 2.
- B. Research Evaluation Reports: ICC-ES reports for post-installed anchors.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Provide copies of welder certificates as informational submittals if requested by Architect.
 - 1. Steel Fabrications: AWS D1.1, Structural Welding Code - Steel.

- B. Mockups and Field Samples: Provide metal fabrications for mockup and field samples assemblies specified in other Sections.

1.6 FIELD CONDITIONS

- A. Existing Conditions: Verify field measurements before fabrication. Show field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PERFORMANCE

- A. Delegate design to fabricator licensed Professional Engineer.
 - 1. Overhead door support framing.
 - 2. Elevator hoist beams.
 - 3. Ladders.
- B. Structural Design Criteria: See Structural Drawings.
- C. Structural Loads: See Structural Drawings.
 - 1. Live Load:
- D. Accessibility Requirements: Comply with applicable provisions in Department of Justice publication 2010 ADA Standards for Accessible Design, ICC/ANSI A117.1, and state accessibility code.

2.2 MATERIALS - STEEL

- A. Steel Structural Wide Flange Shapes: ASTM A992.
- B. Other Steel Structural Shapes: ASTM A36.
- C. Steel Plates: ASTM A36.
- D. Steel Pipe: ASTM A53, Grade B.
- E. Steel Sheet: ASTM A653, Grade 33 Structural Quality, G40 galvanizing.
- F. Steel Bolts: ASTM A307, Grade A or B, heavy hex style.
 - 1. Finish: Hot dip galvanized.
- G. Steel Nuts: ASTM A563, types appropriate for bolts
 - 1. Finish: Hot dip galvanized.
- H. Welding Materials: AWS D1.1, types as required for materials being welded.

2.3 MISCELLANEOUS MATERIALS

- A. Post-Installed Anchors: Torque controlled expansion and chemical anchors.

1. Material: Steel.
- B. Anchors for Embedment in Concrete: Wedge type for adjustable bolt location; malleable iron or cast steel. Supply bolts, washers, and shims with ASTM F2329 hot-dip galvanized finish.
- C. Shop Primer: primer specified in Section 09 90 00.
- D. Separation Coating: Bituminous paint; SSPC-Paint 12.
- E. Stair Nosings: Epoxy abrasive bars.
 1. Manufacturers:
 - a. Balco.
 - b. Wooster Products, Inc.
 - c. Nystrom.
 - d. Or approved equal.
 2. Length: Tread width minus 4 inches.
 3. Configuration: Single component.
 4. Color: See Drawings.

2.4 FABRICATION - GENERAL

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to uniform small radius.
- E. Exposed Welded Joints: NOMMA Guideline 1 Joint Finish 4.
- F. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- G. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
- H. Tolerances:
 1. Squareness: 1/8 inch maximum difference in diagonal measurements.
 2. Face Offset: 1/16 inch, maximum.
 3. Misalignment of Adjacent Members: 1/16 inch, maximum.
 4. Bow: 1/8 inch in 48 inches, maximum.
 5. Plane: 1/8 inch deviation in 48 inches, maximum.

2.5 FABRICATION - LINTELS AND LEDGE ANGLES

- A. Loose Steel Lintels: Steel sections, size and configuration shown on Drawings, length for minimum 8-inch bearing on both sides of opening.
- B. Ledge Angles: Steel sections, size and configuration shown on Drawings; shop-drilled fastener holes. Fabricate for 1/4 inch gap between units.

- C. Built-Up Lintel Assemblies: Steel structural sections and plate shown on Drawings.
- D. Finishes:
 - 1. Exterior Walls: Galvanized.
 - 2. Interior Walls: Shop primer.

2.6 FABRICATION - ELEVATOR SILL ANGLES, HOIST BEAMS

- A. Sill Angles: Steel sections shown on Drawings for support of elevator sills.
 - 1. Finish: Shop primer.
- B. Hoist Beams: Steel wide flange sections, shape and size required to support applied loads.
 - 1. Deflection: L/240, maximum.
 - 2. Finish: Shop primer.

2.7 FABRICATION - BOLLARDS

- A. Bollards: Schedule 40 steel pipe.
 - 1. Diameter: See Drawings.
 - 2. Fill metal-capped bollards with concrete. Cure concrete minimum 7 days before installation.
 - 3. Anchorage: Sleeves embedded in concrete and Baseplates welded to bollards, drilled for bolting to substrate.
 - 4. Finish: Galvanized.
- B. Concrete Fill: 3,000 psi concrete specified in Section 03 30 00.

2.8 FABRICATION - LADDERS

- A. Fabricated Vertical Ladders: ANSI ASC A14.3, steel welded construction. Provide bottom and wall attachment angles spaced maximum 5 ft o/c.
 - 1. Side Rails: 3/8 by 2 inches spaced 16 inches.
 - 2. Rungs: One-inch steel bars let into side rails and spaced 12 inches on center.
 - 3. Exterior Ladders: Shop primer.
 - 4. Interior Ladders: Shop primer.
- B. Ladder Security Enclosures: Steel framed with expanded metal panel, and with continuous steel hinge and steel hasp for padlocking in closed and open positions. Size panel to prevent unauthorized ladder access.
 - 1. Finish: Match ladders.

2.9 FABRICATION - MISCELLANEOUS STRUCTURAL SUPPORTS

- A. Delegated Design: Provide supports fabricated from structural steel shapes coordinated with supported item manufacturer anchorage requirements and building structure.
- B. Other Supports: Structural steel sections shown on Drawings; shop primer finish.

2.10 FABRICATION - STEEL EDGE AND WALL PROTECTION

- A. Fabricate slab edge trim and wall corner guards from steel angles in single pieces between changes in direction.
 - 1. Provide anchors for embedment in concrete and masonry joints.
 - 2. Finish: Shop primer.

2.11 STEEL FINISHES

- A. Prepare surfaces to be primed per SSPC SP 2.
- B. Clean surfaces of rust, scale, grease, and foreign matter before finishing.
- C. Do not prime surfaces in direct contact with concrete or where field welding is required.
- D. Prime paint items in fabrication shop with two coats except where galvanizing is specified.
- E. Galvanizing: ASTM A123; hot dip galvanize after fabrication.
- F. Galvanizing for Fasteners, Connectors, and Anchors:
 - 1. Hot-Dipped Galvanizing: ASTM A153.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean and strip metal fabrications and primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete and embedded in masonry with setting templates to appropriate installers.
- C. Apply separation coating to aluminum surfaces contacting dissimilar metals, concrete, and masonry.

3.2 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Separate dissimilar exterior metals with non-absorptive gaskets.
- C. Make provisions for erection stresses. Install temporary bracing to maintain alignment, until permanent bracing and attachments are installed.
- D. Fasten work rigidly and securely to supports.
- E. Field weld components shown on Drawings per AWS D1.1.
- F. Obtain Architect/Engineer approval before site cutting or making adjustments not scheduled.

- G. After erection, touch up welds, abrasions, and damaged finishes with prime paint or zinc-rich paint to match shop finishes.
- H. Miscellaneous Framing and Supports:
 - 1. Attach supports rigidly and securely to building structural elements.
- I. Bollards:
 - 1. Anchor bollards in sleeves with anchorage cement or non-shrink grout. Slope cement or grout 1/4 inch.
 - 2. Fill bollards with concrete. Round top surface to shed water.

3.3 INSTALLATION TOLERANCES

- A. Plumb: Maximum 1/4 inch deviation per story or for every 12 ft in height, whichever is greater; non-cumulative.
- B. Alignment: Maximum 1/8 inch offset.
- C. Position: Maximum 1/4 inch deviation.

3.4 FIELD QUALITY CONTROL

- A. Field Tests and Inspections: Owner will engage inspectors to perform tests and inspections and prepare reports. Allow inspectors access to work areas.
 - 1. Failed Test Retest Cost: Contractor responsibility.
- B. Field Weld Inspection: AWS D1.1.
- C. Non-Conforming Work: Make corrections or replace, and re-test.

3.5 ADJUSTING

- A. Clean and touch up damaged primer paint with same product applied in shop.

END OF SECTION

SECTION 05 51 00

METAL STAIRS

PART 1 - GENERAL

1.1 SUMMARY

- A. Work Results: Concrete-filled painted galvanized steel pan egress stairs at locations indicated on Drawings.
- B. Principal Products:
 - 1. Painted galvanized steel stairs
 - 2. Finishes

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordination Procedures:
 - 1. Coordinate supports and anchorages for metal stairs.
 - 2. Coordinate locations of concealed supports for wall-mounted handrails.
- B. Preinstallation Meeting Attendees and Procedures:
 - 1. Conduct meeting one week, minimum, before starting Work of this Section.
 - 2. Additional Attendees: Installers of structural supports, installers of enclosing walls.

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Steel stair system.
 - 2. Handrail brackets.
 - 3. Shop primer.
- B. Shop Drawings:
 - 1. Plans, elevations, sections, details, attachments.
 - 2. Locations for block-outs in concrete and masonry.
 - 3. Sizes and locations of loads imposed on building structure.

1.4 INFORMATIONAL SUBMITTALS

- A. Certificates:
 - 1. Welding qualifications.
 - 2. Paint compatibility.
 - 3. Mill certificates, for Type 316 stainless steel.
- B. Delegated Design Submittals: Stair design.
 - 1. Sealed calculations and shop drawings.
- C. Source Quality Control Submittals: Shop inspection reports.

- D. Field Quality Control Submittals: Field inspection reports.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of stairs.
- B. Welding Qualifications:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Handling Requirements:
 - 1. Store products off ground and protected from water.
 - 2. Handle products to prevent impact damage.

1.7 FIELD CONDITIONS

- A. Existing Conditions: Verify field measurements before fabrication. Show field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PERFORMANCE

- A. Delegate steel stair design to manufacturer's Professional Engineer registered in state in which Project is located.
- B. Structural Design Criteria: See Structural Drawings.
- C. Structural Design Criteria:
 - 1. Live Loads: 100 psf uniform, 300 lbf concentrated, non-simultaneous.
- D. Guard Railing Structural Loads:
 - 1. Top Rail: 50 psf, uniform and 200 lbf concentrated, both omnidirectional and non-simultaneous.
 - 2. Guard Infill: 50 psf uniform and 200 lbf concentrated, both horizontal and non-simultaneous.
- E. Allowable Deflection: 1/360, maximum.
- F. Seismic Movement: See Structural Drawings.
 - 1. Sway
 - 2. Interstory Drift

2.2 DESIGN CRITERIA

- A. Handrails: Continuous gripping surfaces without interruption by newel posts, other structural elements or obstructions.
- B. Headroom: Size beams and other supports to maintain minimum 80-inch clearance.
- C. Uniformity of Risers and Treads: Provide stairs with uniform depth tread and uniform height risers between floors.
- D. Accessibility Requirements: Comply with applicable provisions in Department of Justice 2010 ADA Standards for Accessible Design ICC/ANSI A117.1 and state accessibility code.

2.3 METAL MATERIALS

- A. Exposed Surfaces: Free of seam marks, rolled names, and other irregularities.
- B. Steel Plates, Shapes, Bars: ASTM A36.
- C. Steel Sheet: Hot-rolled sheet; ASTM A1008, grade as appropriate for loads.
 - 1. Galvanized Steel Sheet: ASTM A653 G90 coating.
- D. Steel Tubing: ASTM A500 or ASTM A513.
- E. Steel Pipe: ASTM A53, Type F or Type S, Grade A; Schedule 40 minimum.
 - 1. Galvanized where indicated.

2.4 TREAD AND LANDING MATERIALS

- A. Concrete: Normal-weight ready-mixed concrete, 3,000 psi minimum 28-day compressive strength; 1/2 inch maximum aggregate size; conforming to Section 03 30 00.
- B. Reinforcement: Galvanized welded-wire mesh, 2 by 2 inch size, 0.062 inch diameter wire.
- C. Rolled Steel Floor Plate: ASTM A786, small lug pattern.

2.5 FASTENERS

- A. Anchor Bolts: ASTM F1554, Grade 36.
 - 1. Finish: Hot-dip galvanized for exterior and indicated interior stairs.
- B. Post-Installed Anchors: Torque-controlled expansion and chemical anchors.
 - 1. Interior: Zinc plated per ASTM B633 or ASTM F1941, Class FE.
- C. Connection Bolts: ASTM A307, Grade A hexagon head bolts with ASTM A563 nuts.

2.6 STAIR AND RAILING COMPONENTS

- A. Handrail Brackets: Architect selected from stair manufacturer's standard types.
 - 1. Wall Mounted Brackets: Concealed fastener design.

- B. Grout: ASTM C1107; factory-packaged nonmetallic, shrinkage-resistant grout for interior use.

2.7 FABRICATION - STAIRS

- A. Stair Classification: NAAMM publication AMP 510, Commercial.
- B. Factory Assembly: Assemble components to minimize field assembly.
- C. Remove sharp or rough areas on surfaces exposed to view or to human contact.
- D. Exposed Welded Connections: Weld continuously and grind smooth to NOMMA Finish #2 appearance.
- E. Bolted Connections: Flush, full contact.
- F. Provide clips for mounting framing specified in Section 09 22 16 for gypsum board soffits on flights and landings.
- G. Stringers: Channel. Close exposed ends of channels with welded steel plate.
 - 1. Bolted Joints: Not exposed on finish surfaces.
- H. Hanger Rods: Stairs enclosed by gypsum board or shaft wall assemblies.
- I. Temporary Struts: Design stairs with temporary struts and stability bracing where erected before enclosing walls are constructed.
- J. Metal Pan Stairs: Commercial Class.
 - 1. Material: Galvanized Steel sheet; 0.067 inch minimum thickness.
 - 2. Attachment: Attach tread pans to stringers with angle or bar brackets.
 - 3. Provide smooth metal soffits at landings.
 - 4. Finish: Factory primed.
- K. Fabrication Tolerances: Fabricate stairs with riser heights that are within tolerance required by building code governing Project.

2.8 FABRICATION - RAILINGS

- A. Connect members by butt-welding or welding with internal splines.
- B. Cope ends of round members at tee and cross intersections and weld continuously.
- C. Exposed Welded Connections: Weld continuously and grind smooth to NOMMA Finish #1 appearance.
- D. Make changes in direction without deforming cross section profile of members.
- E. Close exposed ends of railing members unless they will be 1/4 inch maximum from wall surface.
- F. Attach guard railing posts by welding.
- G. Where handrails are mounted on gypsum board walls, supply fillers to transfer loads to wall framing.

2.9 FINISHES

- A. Primer Materials:
 - 1. Shop Primer: primer specified in Section 09 90 00.
- B. Primer Application: Apply primer to all surfaces except those to be field welded or embedded in concrete and masonry.
 - 1. Apply second coat to surfaces that will be concealed when installed, and to bolts and welds.
- C. Galvanizing: ASTM A153 and ASTM A123, as applicable.
 - 1. Fill drain and vent holes not intended as weeps and file smooth.
- D. Galvanizing Repair Paint: Zinc-rich paint; ASTM A780.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that supports for stairs are installed and ready to receive stair components.
- B. Verify locations of concealed supports in gypsum board assemblies for wall-mounted handrail brackets.

3.2 PREPARATION

- A. Strip surfaces for field welding to bare metal and remove contaminating substances.

3.3 INSTALLATION - STAIRS

- A. Install assemblies plumb and level, accurately fitted, and free from distortion and other defects.
- B. Provide brackets, fasteners, and other anchorage devices needed to connect stairs to supporting structure and transfer design loads safely.
- C. Provide temporary bracing and supports to maintain true alignment and support erection loads until final connections to structure are made.
- D. Perform field welding in accordance with AWS D1.1.
 - 1. Grind exposed welds smooth and flush to contour of adjoining surfaces for seamless appearance.
- E. Make mechanical connections with full-contact surfaces, accurately aligned, rigid, and securely fastened.
- F. Obtain prior permission of Architect for site cutting or modifications not shown on final Shop Drawings.
- G. Grouted Baseplates:
 - 1. Clean and roughen bearing surfaces.
 - 2. Set baseplates on shims or leveling nuts.

3. Fill space with grout to provide full bearing and finish exposed edges flush with bearing plate and smooth.

H. Place and finish concrete fill treads and landings per Section 03 30 00.

- I. Install abrasive nosings in proper alignment with edges of treads and landings and in full contact with substrate and with anchors securely embedded in concrete.

3.4 INSTALLATION - RAILINGS

- A. Adjust guard railings and handrails to accurate alignment. Plumb railing posts in all directions.
- B. Install handrails with continuous, uninterrupted gripping surfaces.
- C. Attach wall mounted handrails to hollow masonry with toggle bolts.
- D. Attach wall mounted handrails to concrete with expansion anchors.
- E. Attach wall mounted handrails to gypsum board wall with filler and self-tapping screws in stud framing and wood blocking.

3.5 REPAIR

- A. Apply primer to field welds, bolted connections, and damaged areas of factory-applied primer.
- B. Apply galvanizing repair paint per ASTM A780 to field welds, bolted connections, and damaged areas of hot-dip galvanized members.
- C. Remove scratches and abrasions from stainless steel surfaces by polishing to match factory finish.

3.6 CLEANING

- A. Clean primed steel surfaces of substances that would impair bond of finish paint.
- B. Remove stains from concrete tread surfaces.
- C. Clean surfaces that would impair adhesive bond of resilient stair accessories.

3.7 PROTECTION

- A. Protect stairs used during construction period against soiling and damage.

END OF SECTION

SECTION 05 52 13
PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Work Results: Galvanized steel pipe and tube railings at egress stairs.
- B. Principal Products:
 - 1. Galvanized steel railings
 - 2. Installation materials
 - 3. Finishes

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordination Procedures:
 - 1. Coordinate work results of this section with 055100 Metal Stairs.
- B. Preinstallation Meeting Attendees and Procedures:
 - 1. Conduct meeting one week, minimum, before starting Work of this Section.

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Railing system componenets.
 - 2. Handrail brackets.
 - 3. Shop primer.
 - 4. Prefinished Components: Initial selection color charts.
- B. Shop Drawings:
 - 1. Railing layout, profiles and sizes, and anchorage details.
 - 2. Railing connections.
 - 3. Anchorage accessories and fasteners.
- C. Samples:
 - 1. Railings: 12 inch long shop-finished sample, demonstrating bending radius.

1.4 INFORMATIONAL SUBMITTALS

- A. Certificates:
 - 1. Welding qualifications.
- B. Delegated Design Submittals: Sealed calculations and shop drawings.
 - 1. Guards and infill.
 - 2. Handrails.
 - 3. Anchorage.

- C. Field Quality Control Submittals: Field inspection reports.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of railings.
- B. Welding Qualifications:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."
- C. Licensed Professional Qualifications: Engineer experienced in designing railings, licensed in state where project is located.

1.6 FIELD CONDITIONS

- A. Existing Conditions: Verify field measurements before fabricating. Show field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 STEEL RAILINGS

- A. Components:
 - 1. Rails and Posts: 1-1/2 inch diameter tubing.
 - 2. Posts: 1-1/2 inch diameter tubing.
 - 3. Guard Infill: Round bars.
 - 4. Splice Connectors: Hot-dip galvanized steel, concealed spigots.
 - 5. Exposed Fasteners: Hot-dip galvanized steel, flush countersunk screws or bolts; consistent with railing design.
 - 6. Anchors: Hot-dip galvanized steel; selected to meet structural performance requirements and substrate conditions.
- B. Wall Brackets:
 - 1. Wall Mounted Brackets: Concealed fastener design.
 - a. Material and Finish: Same as railing.
 - b. Clearance: 1-1/2 inch clear from handrail to wall surface.
- C. Materials:
 - 1. Tubing: ASTM A513.
 - 2. Pipe:
 - a. ASTM A53/A53M, Type S, Grade A, Schedule 40.
 - b. ASTM A53/A53M, Type S, grade and weight determined by structural requirements.
 - 3. Bars, Plates, and Shapes: ASTM A36/A36M.
- D. Galvanizing: ASTM A123/A123M; hot dip after fabrication.
- E. Galvanized Steel Finishes: Shop primed.

2.2 PERFORMANCE

- A. Delegate railing design to fabricator's licensed Structural Engineer.
- B. Handrail Structural Design:
 - 1. Live Loads: 100 psf uniform, 300 lbf concentrated, non-simultaneous.
- C. Guard Structural Design:
 - 1. Top Rail: 50 psf, uniform and 200 lbf concentrated, both omnidirectional and non-simultaneous.
 - 2. Guard Infill: 50 psf uniform and 200 lbf concentrated, both horizontal and non-simultaneous.
- D. Structural Design Criteria: See Structural Drawings.
- E. Allowable Deflection: 1/360, maximum.
- F. Accessibility Requirements: Comply with applicable provisions in Department of Justice publication 2010 ADA Standards for Accessible Design, ICC/ANSI A117.1, and state accessibility code.

2.3 INSTALLATION MATERIALS

- A. Welding Rods and Bare Electrodes: Selected per AWS for metal being welded and structural requirements.
- B. Bituminous Paint: ASTM D1187 asphalt emulsion.
- C. Grout: ASTM C1107, factory-packaged nonmetallic, shrinkage-resistant grout for interior use.

2.4 FABRICATION

- A. Factory Assembly: Fit and shop assemble components in largest practical sizes for delivery to site.
- B. Fabricate components with joints tightly fitted and secured. Furnish spigots and sleeves to accommodate site assembly and installation.
- C. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as railing assembly.
- E. Steel Railing Joints and Connections:
 - 1. Interior Components: Continuously seal joined pieces by intermittent welds and plastic filler.
 - 2. Exposed Welded Joints: NOMMA Guideline 1 Joint Finish 4.
- F. Accurately form components to suit stairs and landings, to each other and to building structure.

- G. Accommodate for expansion and contraction of members and building movement without damage to connections or members.
- H. Railing Ends: Closed, except when railing returns to within 1/8 inch of wall face.
- I. Changes in Direction:
 - 1. Uniform, without out buckling, twisting, deforming or cracking surfaces.
 - 2. Formed by flush bending or with prefabricated elbow fittings.
 - 3. Radii: See Drawings.

2.5 STEEL AND IRON FINISHES

- A. Shop-Finished Railings:
 - 1. Primer and Finish Materials: Section 09 90 00 - Painting and Coating.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify field conditions are acceptable and are ready to receive work.
- B. Verify concealed blocking and reinforcement is installed and correctly located to receive wall mounted handrails.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete and embedded in masonry with setting templates, to appropriate sections.

3.3 INSTALLATION

- A. Install components plumb and level, accurately fitted, free from distortion or defects.
- B. Anchor Posts to structure.
 - 1. Posts: Preset sleeves in concrete; set post in sleeve and fill space around post with grout.
 - 2. Posts: Core drill concrete; set posts in cored hole and fill space around post with grout.
 - 3. Posts: Weld directly to stringers.
- C. Attach Railings:
 - 1. Wall Mounting: Mount with wall brackets and end flanges.
 - 2. Guardrail Mounting: Weld railing brackets to posts.
- D. Field weld anchors as shown on Drawings. Grind welds smooth. Touch up welds with primer.
- E. Assemble with spigots and sleeves to accommodate tight joints and secure installation

3.4 FIELD QUALITY CONTROL

- A. Field Tests and Inspections: Owner will engage inspectors to perform tests and inspections and prepare reports. Allow inspectors access to work areas.
 - 1. Retesting of Failed Tests: Performed at Contractor's expense.
 - 2. Do not begin construction until inspectors have verified compliance of materials.
 - 3. Do not use materials that fail tests and inspections.
- B. Test Method: ASTM E894 and ASTM E935 on randomly-selected representative railing assemblies.
- C. Non-Conforming Work: Remove and replace, and re-test.

3.5 CLEANING

- A. Clean primed steel surfaces of substances that would impair bond of finish paint.

3.6 REPAIR

- A. Apply primer to field welds, bolted connections, and damaged areas of factory-applied primer.
- B. Apply galvanizing repair paint per ASTM A780 to field welds, bolted connections, and damaged areas of hot-dip galvanized members.
- C. Remove scratches and abrasions from stainless steel surfaces by polishing to match factory finish.

3.7 PROTECTION

- A. Protect railings during construction period against soiling and damage.

END OF SECTION