Project Manual & Specifications
Enos Derbonne Sports Complex Outdoor Pickleball Courts
7903 Lake Street
Lake Charles, Louisiana 70605

Lake Charles Ward 3 Recreation Board Members

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VSG Project No. 2448
August 18, 2025

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ADVERTISEMENT

The Lake Charles Ward 3 Recreation, of Calcasieu Parish, Louisiana, does hereby advertise for sealed bids and will open same on:

1. Thursday, September 18, 2025.

2. At the Office of the Lake Charles Ward 3 Recreation, 3210 Power Centre Parkway, Lake Charles, Louisiana, 70607, at the hour of 2:00 p.m. Central Time Zone

3. For the Enos Derbonne Sports Complex Outdoor Pickleball Courts VSG# 2448.

4. Contract documents, including drawings and technical specifications, are on file at the office of VSG Architects, 1502 South Huntington Street, Sulphur, Louisiana, 70663, or by calling 337-527-8137. Complete documents may be obtained from the Project Architect upon deposit of $50.00 for each set of documents. Deposit is fully refundable for the first set of documents to all bona fide prime* bidders upon return of the documents in good condition no later than ten (10) days after receipt of bids. The deposit of all other set of documents will be refunded fifty percent (50%) upon return of documents as stated above. Electronic form may be obtained from the Project Architect upon a non-refundable $25 fee for this project.

   *Prime bidders is defined as licensed Building Contractors bidding this job as such.

5. All bids must be accompanied by bid security equal to five percent (5%) of the sum of the base bid and all alternates, and must be in the form of a certified check or cashier's check drawn on a bank insured by the FDIC, or the Bid Bond Form contained in bidding documents, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents, all in accordance with LSA—R.S. 38:2218. No Bid Bond indicating an obligation of less than five percent (5%) by any method is acceptable.

6. The successful bidder shall be required to furnish a Performance and Payment Bond in an amount equal to one hundred percent (100%) of the Contract amount, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents, all in accordance with LSA—R.S. 38:2219.

7. Bids shall be accepted only from contractors who are licensed under LSA—R.S. 37:2150-2165 for the classification of "Building Construction." No bid may be withdrawn for a period of forty-five (45) days after receipt of bids, except under the provisions of LSA—R.S. 38:2214.

8. The Lake Charles Ward 3 Recreation/Owner reserves the right to reject any and all bids for just cause as permitted by LA R.S. 38:2214B. The ability of an entity to reject any bid is applicable only when administered in accordance with the Public Bid Law. In accordance with LSA—R.S. 38:2212B.(1), the provisions and requirements of this Section, and those stated in the bidding documents shall not be waived by any entity.

9. The Lake Charles Ward 3 Recreation/Owner shall incur no obligation to the Contractor/Bidder until the Contract between the Lake Charles Ward 3 Recreation/Owner and the Contractor/Bidder is fully executed.

10. A Pre-Bid Conference will be held on Thursday, September 4, 2025, at 10:00 a.m. Central Time Zone on site at the job site, located at 7903 Lake Street, Lake Charles, Louisiana, 70605.

11. Minority owned firm and small businesses are encouraged to participate. Any person with disabilities requiring special accommodations should contact the Lake Charles Ward 3 Recreation.

12. Official action on this bid will be taken within forty-five (45) days by the Lake Charles Ward 3 Recreation, except as may be extended by mutual written consent with the lowest responsible bidder.

13. All bids must be plainly marked and should contain the following on the outside of the envelope:

BID FOR "Enos Derbonne Sports Complex Outdoor Pickleball Courts"

Sally Fenet, President
Lake Charles Ward 3 Recreation

RUN: Lake Charles American Press – August 21, 28, September 4, 2025

INSTRUCTIONS TO BIDDERS

ARTICLE I

Definitions

1.1 The bidding documents include the following:
Front End Documents-Bid Packages for Construction
Advertisement for Bids
Instructions to Bidders
Contract Form
Insurance Requirements
Scope of Work
Louisiana Uniform Public Work Bid Form
Louisiana Uniform Public Work Unit Price Form (if applicable)
Bid Bond
Subcontractor Listing
Subcontractor Affidavit
Contractor Compliance Certificate on State & Local Residency Requirements
Contractor Compliance Certificate on Electrical Subcontractors
Non-Collusion Affidavit of Prime Bidder
Affidavit (R.S. 38:2224 2190 2290-2296)
Attestation Form (R.S. 38:2227)
Affidavit Form (R.S.38:2212.10)
Monthly Form State & Local Residency Requirements
Monthly Form Electrical Subcontractors Certification
General Conditions of the Contract for Construction,
AIA Document A201-2017
Performance and Payment Bond Form
Louisiana Department of Revenue Form R-1020
Change Order Form
Recommendation of Acceptance Form
Beneficial Occupancy Form
Specifications
Supplementary Conditions
Drawings
Addenda issued during bid period and acknowledged in Bid Form
Special Provisions
Roofing Manufacturing Warranty & Approved Applicator Letter (if applicable)
Verification of Items in Supplementary Conditions

1.1.1 Forms turned in with the bid. The Louisiana Uniform Public Work Bid Form, Bid Bond Form, and a Corporate Resolution or written evidence of the authority of the person signing the bid are the only forms that are turned in by the date and time specified.

1.1.2 Forms turned in within ten (10) days after the bid opening. The Contractor Compliance Certificate on State and Local Residency Requirements, the Contractor Compliance Certificate on Electrical Subcontractors, the Non-Collusion Affidavit of Prime Bidder, the Affidavit (LSA—R.S. 38:2224 2190 2290-2296), Attestation Form (R.S. 38:2227), Affidavit Form (R.S. 38:2212.10), and the Roofing Manufacturing Warranty and Approved Applicator Letter (if applicable). These forms can be sent to the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation.

1.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201-2017, or in other Contract Documents are applicable to the Bidding Documents.

1.3 Addenda are written on graphic instruments issued by the Architect prior to the opening of bids which modify or interpret the bidding documents by additions, deletions, clarifications, corrections, and prior approvals.

1.4 A Bid is a complete and properly signed bid to do the work or designated portion thereof for the sums stipulated therein supported by data called for by the Bidding Documents.

1.5 Base Bid is the sum stated in the Bid for which the Bidder offers to perform the work described as the Base, to which work may be added for sums stated in Alternate Bids.

1.6 An Alternate Bid (or Alternate) is an item on the bid form that may either increase or decrease the quantity of work or change the type of work within the scope of the project, material, or equipment specified in the bidding documents or both.

1.7 A Unit Price Form shall be used if the contract includes unit prices and will be made a part of the bid documents, if applicable.

1.8 A Bidder is one who submits a bid for a prime contract with the Lake Charles Ward 3 Recreation/Owner for the work described in the proposed contract documents.

1.9 A Sub-Bidder or Subcontractor is one who submits a bid to a Bidder for materials and/or labor for a portion of the work.

1.10 Where the word "Architect" is used in any of the Documents, it shall refer to the Prime Designer of the project, an Architect or Engineer.

1.11 The executed Contract between the parties shall include all plans, specifications, instructions, general conditions, any addenda issued, and the proposal, including alternates, unit prices, and allowances (if applicable) of the bid.

ARTICLE II

Bidder's Representation

2.1 Each Bidder by making his bid represents that:

2.1.1 He has read and understands the Bidding Documents and his bid is made in accordance therewith.

2.1.2 He has visited the site and has familiarized himself with the local conditions under which the work is to be performed.

2.1.3 His bid is based upon the materials, systems, and equipment described in the Bidding Documents as advertised and as modified by Addenda.

2.2 The Bidder must be fully qualified under any state or local licensing law for Contractors in effect at the time and at the location of the work before submitting his bid. In the State of Louisiana, Revised Statutes 37:2150 et.seq. will be considered, if applicable. The Contractor shall be responsible for determining that all of his Sub-Bidders or prospective Subcontractors are duly licensed in accordance with law.

ARTICLE III

Bidding Documents

3.1 Copies

3.1.1 Bidding Documents may be obtained from the Architect for a deposit as stated in the Advertisement for Bids. The deposit will be refunded as stated in the Advertisement for Bids. No deposits will be refunded on Bidding Documents returned later than ten (10) days after receipt of Bids.

3.1.2 Complete sets of Bidding Documents shall be used in preparing bids; neither the Lake Charles Ward 3 Recreation nor the Architect assumes any responsibility for errors of misinterpretation resulting from the use of incomplete sets of Bidding Documents.

3.1.3 In accordance with LSA—R.S. 38:2212 E., Public entities shall provide, as an additional bidding option, a uniform and secure electronic interactive system for the submittal of bids for public works requiring competitive bidding. The Lake Charles Ward 3 Recreation has implemented the procedures related to this requirement that electronic bidding be an option for Contractors to submit bids on all Lake Charles Ward 3 Recreation projects.

3.1.4 The Lake Charles Ward 3 Recreation or Architect, in making copies of the Bidding Documents available on the above terms, do so only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

3.2 Interpretation or correction of Bidding Documents.

3.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents or of the site and local conditions.

3.2.2 Bidders, requiring clarification or interpretation of Bidding Documents, shall make a written request to the Architect to reach him at least seven (7) days prior to the date of receipt of bids.

3.2.3 Any interpretation, correction or change of the Bidding Documents will be made by Addendum. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections or changes.

3.3 Substitutions

3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

3.3.2 Prior approvals of substitutions are not required, but recommended. If a potential supplier (Proposer) wishes to submit a request for prior approval of a particular product other than the product specified in the Contract Documents, the supplier shall do so no later than fourteen (14) working days prior to the bid opening.

3.3.2.1 Each request for prior approval shall include the applicable section of the specifications; the name of the material or equipment for which it is to be substituted; and a complete description of the proposed substitute including model numbers, drawings, cut sheets, performance and test data, and other information necessary for an evaluation. Failure to disclose variations from the specified standard may, at the Lake Charles Ward 3 Recreation's discretion, void any approvals given based on the submitted description. An approval given to a substitution through this process does not waive the Lake Charles Ward 3 Recreation's right to a subsequent review, following contract award. This subsequent review may be more detailed and may provide more detailed comments and requirements concerning the proposed substitution as if it were any material, product or equipment specifically described or listed in the Bidding Documents. A statement setting forth any changes in other materials, equipment

or work that incorporation of the substitute would require shall be included in the request. No additional compensation shall be allowed for the incremental cost of any additional activity required for the incorporation of a substitute. The burden of proof of the merit of the proposed substitute is upon the Proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final. The Contractor shall ensure that the products used in preparation of the bid to be used on this project, are equivalent to that specified in appearance, performance, size, installation type, and shape. Any material found to not be equivalent to that specified will be rejected.

3.3.3 If the Architect approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

3.3.4 If the Architect denies approval of any proposed substitution, such denial shall be communicated through written communication to the Lake Charles Ward 3 Recreation and the Bidder submitting the request.

3.4 Addenda

3.4.1 Addenda will be emailed, mailed, or delivered to all who are known by the Architect to have received a complete set of Bidding Documents.

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 Addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening bids, excluding Saturdays, Sundays, and any other legal holidays; however, if the necessity arises to issue an addendum modifying plans and specifications within the seventy-two (72) hour period prior to the advertised time for the opening of bids, then the opening of bids shall be extended for at least seven (7) but not more than twenty-one (21) working days , without the requirement of re-advertising. The Lake Charles Ward 3 Recreation shall be consulted prior to the issuance of such an Addendum, and shall approve such issuance.

3.4.4 Each Bidder shall ascertain from the Architect prior to submitting his bid that he has received all Addenda issued, and he shall acknowledge their receipt on the Bid Form.

ARTICLE IV

Bidding Procedures

4.1 Form and Style of Bids.

4.1.1 Bids shall be submitted on the forms provided by the Architect.

4.1.2 All blanks on the Bid Form shall be filled in by typewriter or manually in ink or electronically, if requested.

4.1.3 Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the written words shall govern.

4.1.4 Any interlineations, alteration or erasure must be initialed by the signer of the Bid or his authorized representative.

4.1.5 Bidders are cautioned to complete all Alternates or Unit Prices should such be required in the Bid Form. Failure to submit alternate prices will render the bid informal and may cause its rejection.

4.1.6 Bidder shall make no additional stipulation on this Bid Form nor qualify his Bid in any other manner.

4.1.7 The bidding documents shall only require the following information at the time designated in the advertisement for bid opening: Bid Security or Bid Bond, Acknowledgment of Addenda, Base Bid, Alternates, Signature of Bidder, Name, Title, and Address of Bidder, Name of Firm or Joint Venture, Corporate Resolution or written evidence of the authority of the person signing the bid and Louisiana Contractors License Number, and unit price information on public works projects where required. Written evidence of authority of the person signing the bid for public works shall be submitted at the time of bidding. Written evidence of authority and all supporting documents detailed in R.S. 38:2212 (5).

4.1.8 On any Bid in excess of Fifty Thousand Dollars ($50,000), the Contractor shall certify that he is licensed under R.S. 37:2150-2163 and show his license number on the Bid above his signature of his duly authorized representative as well as on the outside of the Bid envelope.

4.2 Bid Security

4.2.1 All bids must be accompanied by bid security equal to five percent (5%) of the sum of the base bid and all alternates, and must be in the form of certified check or cashier's check drawn on a bank insured by the FDIC, or a Lake Charles Ward 3 Recreation Bid Bond Form contained in the bidding documents, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents. No Bid Bond indicating an obligation of less than five percent (5%) by any method is acceptable.

Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded, perform the work according to the terms of his bid, enter into the Contract and furnish the Performance and Payment Bonds as required by these Contract Documents, within fifteen (15) days after written notice that the Contract is ready for signature.

Should the Awarded Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Lake Charles Ward 3 Recreation as stipulated damages, not as penalty.

4.2.2 The Lake Charles Ward 3 Recreation will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

4.3 Submission of Bids

4.3.2 Bids shall be sealed in an opaque envelope and will be received until the time specified and at the place specified in the Advertisement for Bids. It shall be the specific responsibility of the Bidder to deliver his sealed bid to Lake Charles Ward 3 Recreation at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by U. S. Mail, or express delivery, shall disqualify the bid. The bid envelope shall be identified on the outside with the name of project, and name, address, and license number of the Bidder.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids

shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to 3210 Power Centre Parkway, Lake Charles, LA 70607.

Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in the Advertisement for Bids, or an extension thereof made by Addendum. Bids received after the time and date for receipt of bids will be returned unopened.

Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

Oral, telephonic, or telegraphic bids or modifications to bids, with the exception of the electronic procedures provided for herein, are invalid and will not receive consideration. The Lake Charles Ward 3 Recreation will not consider notation written on outside of Bid Envelope which has the effect of amending the Bid.

4.4 Modification or Withdrawal of Bid

4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with LSA—R.S. 38:2214 C., which states, in part, Bids containing patently obvious mechanical, clerical or mathematical errors may be withdrawn by the Contractor, if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty-eight (48) hours of the bid opening excluding Saturdays, Sundays, and legal holidays.

4.4.2 Prior to the time and date designated for receipt of Bids, Bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.

4.4.3 Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

4.4.4 Bid Security shall be in an amount sufficient for the Bid as modified or resubmitted.

ARTICLE V

Consideration of Bids

5.1 Opening of Bids

5.1.1 The properly identified bids received on time will be opened publicly and read aloud, and a tabulation abstract of the amounts of the Base Bid and any Alternates and/or unit prices, if applicable, will be made available to Bidders.

5.2 Rejection of Bids

5.2.1 The Lake Charles Ward 3 Recreation reserves the right to reject any and all bids for just cause as permitted by LA R.S. 38:2214 (B). The ability of an entity to reject any bid is applicable only when administered in accordance with the Public Bid Law. In accordance with LSA—R.S. 38:2212 B.(1), the provisions and requirements of this Section and those stated in the bid documents shall not be waived by any entity. The Lake Charles Ward 3 Recreation shall have the right to reject any or all bids and in particular to reject a Bid not accompanied by any required bid security or data required by the Bidding Documents or a Bid in any way incomplete or irregular.

5.3 Acceptance of Bid

5.3.1 Determination of the low bidder shall be on the basis of the sum of the Base Bid and Alternates accepted. The Lake Charles Ward 3 Recreation reserves the right to accept Alternates in any order, which does not affect determination of the lower Bidder.

5.3.2 It is the intent of the Lake Charles Ward 3 Recreation to award a contract to the lowest responsible Bidder in accordance with the requirements of the Bidding Documents, and if the bid does not exceed the funds available.

ARTICLE VI

Post Bid Information

6.1 Forms required within ten (10) days after the bid opening.

6.1.1 See enclosed Contractor Compliance Certificate on State & Local Residency Requirements. There shall be a requirement that not less than eighty percent (80%) of the persons employed in fulfilling of this contract be residents of the State of Louisiana. In addition, there shall be a requirement that not less than fifty percent (50%) of the persons employed in fulfilling of this contract be residents of Calcasieu Parish in accordance with LA—R.S. 38:2225.1 B. (1) and (2). The Lake Charles Ward 3 Recreation further requests that not less than eighty percent (80%) of the persons employed in fulfilling of this contract be residents of Calcasieu Parish. This form shall be executed and submitted to the Lake Charles Ward 3 Recreation, or the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation, within ten (10) days after the bid opening by the apparent low bidder.

6.1.2 See enclosed Contractor Compliance Certificate on Electrician Subcontractors. There shall be a requirement that any party bidding to perform electrical work of any nature under this contract shall not be deemed a "responsible bidder" unless it certifies that it will employ electricians on the project(s) in question who are certified as participating in a program of training and education or as having successfully completed such programs that are conducted or supervised by the National Joint Apprenticeship and Training Committee of the Electrical Industry and the Louisiana Department of Labor, Office of Regulatory Services, Labor Programs Section, Apprenticeship Division. The electrical Subcontractor shall provide through the General Contractor on a monthly basis a signed certificate on a form provided by the Lake Charles Ward 3 Recreation verifying compliance with the provisions of this section. This form shall be executed and submitted to the Lake Charles Ward 3 Recreation, or the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation, within ten (10) days after the bid opening by the apparent low bidder.

6.1.3 See enclosed Non-Collusion Affidavit of Prime Bidder. The apparent low bidder shall execute the Non-Collusion Affidavit of Prime Bidder, and it must be submitted to the Lake Charles Ward 3 Recreation, or the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation, within ten (10) days after the bid opening.

6.1.4 See enclosed Affidavit (RS 38:2224, 2190, 2290-2296). The apparent low bidder shall execute an affidavit, in accordance with LSA—R.S. 38:2290-2296 as amended, to the effect that he has not entered in to a collusive agreement with any other person, firm or corporation in regard to any bid submitted to the Lake Charles Ward 3 Recreation, or the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation, within ten (10) days after the bid opening.

6.1.5 See enclosed Attestation Form (R.S.38:2227). The apparent low bidder shall execute an attestation, in accordance with LSA—R.S. 38:2227 to the effect that he has have past criminal convictions and it must be submitted to the Lake Charles Ward 3 Recreation, or the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation, within ten (10) days after the bid opening.

6.1.6 See enclosed Affidavit Form (RS 38:2212.10). The apparent low bidder shall execute an affidavit, in accordance with LSA—R.S. 38:2212.10 (C). that he is registered and participates in a status verification system, that he shall continue during the term of the contract, and shall require all Subcontractors to submit a sworn affidavit verifying compliance. This form must be submitted to the Lake

Charles Ward 3 Recreation, or the Project Architect or Project Engineer, on behalf of the Lake Charles Ward 3 Recreation, within ten (10) days after the bid opening.

6.2 At the preconstruction conference, the Contractor shall submit the following information to the Architect:

6.2.1 A breakdown of the contract cost into divisions of the C.S.I. No payments will be made to the Contractor until this is received.

6.2.2 A list of names and business domiciles of all Subcontractors proposed for the principal portions of the work. See the enclosed Subcontractor's Listing form. Submitted information shall include the Subcontractor's license number and Federal ID number.

6.2.3 See enclosed Sub-Contractor Affidavit as required by (RS 38:2224). Each of the apparent low bidder's sub-contractors, as shown on the Subcontractor's Listing form, shall execute an affidavit, in accordance with LSA—R.S. 38:2224 as amended, attesting that public contract was not secured through employment or payment of solicitor.

ARTICLE VII

Performance and Payment Bonds

7.1 Bonds Required

7.1.1 The successful bidder shall be required to furnish a Performance and Payment Bond in an amount equal to one hundred percent (100%) of the Contract amount, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents.

7.2 Time of Delivery and Form of Bond

7.2.2 Bond shall be in the form furnished by the Lake Charles Ward 3 Recreation, entitled Performance and Payment Bond, a copy of which is included in the Bidding Documents.

7.2.3 The Bidder shall require the Attorney-in-Fact, who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of attorney.

ARTICLE VIII

Contract

8.1 Form to be Used

8.1.1 Form of the Contract to be used shall be furnished by the Lake Charles Ward 3 Recreation, a draft copy of which is bound in the Bidding Documents. The draft contract is subject to change at the Lake Charles Ward 3 Recreation's discretion when deemed necessary.

8.2 Award

8.2.1 Before award of the contract, the successful Bidders shall furnish to the Lake Charles Ward 3 Recreation a certified copy of the minutes of the corporation of partnership meeting which authorized the party executing the Bid to sign on behalf of the Contractor.

ARTICLE IX

Insurance Requirements

SEE ATTACHED INSURANCE REQUIREMENTS

ARTICLE X

Completion Time & Stipulated Damages

The completion of the Contract must be within the time stated in the Special Provisions section included in these bid documents, subject to such extensions as may be granted under AIA Document A201-2017, Paragraph 8.3, Delays and Extensions of Time in the General Conditions and the Supplementary Conditions, or the Contractor will be subject to pay to the Lake Charles Ward 3 Recreation, Stipulated Damages in the amount as stated in the Special Provisions section included in these bid documents and the executed contract between the Lake Charles Ward 3 Recreation and the Contractor.

ARTICLE XI

Pre-Bid Conference

11.1 If deemed necessary, a pre-bid conference may be held at least ten (10) days before the date for receipt of bids. The Architect shall coordinate the setting of the date, time, and place for the pre-bid conference as stated in the advertisement and should invite the Lake Charles Ward 3 Recreation and all who have received sets of the Bidding Documents to attend. The purpose of the pre-bid conference is to familiarize Bidders with the requirements of the Project and the intent of the Contract Documents, and to receive comments and information from interested Bidders.

11.2 Any revision of the Bidding Documents, made as a result of the pre-bid conference, shall not be valid unless included in an Addendum issued in accordance with Paragraph 3.4 of the Instructions to Bidders.

ARTICLE XII

Local Preference

12.1 The Lake Charles Ward 3 Recreation has gone on official record encouraging General Contractors and Subcontractors domiciled in Calcasieu Parish to participate in this project, and further, expressing the preference of the Lake Charles Ward 3 Recreation that such Calcasieu Parish businesses obtain the work through the bid process. Also, the Lake Charles Ward 3 Recreation expresses its desire that fair wages be paid to employees working on the contract.

ARTICLE XIII

Use of Minority Subcontractors

13.1 The Lake Charles Ward 3 Recreation has gone on official record to encourage General Contractors to award at least ten percent (10%) of their subcontracted work to minority Contractors.

13.2 For the purposes of this Article, minority shall be defined as stipulated by LA—R.S. 38:2233.2E. (1) (2) which are as follows:

E. (1) "Minority" means a person who is a citizen or lawful permanent resident of the United States and who is:

(a) American Indian or Alaskan Native: having origins in any of the original peoples of North America.

(b) Asian American: having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

(c) Black: having origins in any of the black racial groups of Africa.

(d) Female.

(e) Hispanic: of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish or Portuguese culture or origin regardless of race.

(2) "Minority business enterprise" or "Minority-owned business" means a small business organized for profit performing a commercially useful function which is owned and controlled by one or more minority individuals or minority business enterprises. "Owned and controlled" means a business in which one or more minorities or minority business enterprises own at least fifty-one percent (51%) or in the case of a corporation at least fifty-one percent (51%) of the voting stock and control at least fifty-one percent (51%) of the management and daily business operations of the business.

13.3 Contracting with Small and Minority Businesses, Women's Business Enterprises, and Labor Surplus Area Firms.

(a) Bidders are to take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. These steps should also be used for the hiring of any subcontractors under the resulting contract.

(b) Affirmative steps by the Bidder are to include:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

ARTICLE XIV

Sales and Use Tax Exemption

14.1 In accordance with applicable rules adopted and promulgated by the Louisiana Department of Revenue, the Lake Charles Ward 3 Recreation shall designate the Contractor and all Subcontractors as its agents for the purchase and lease of materials, supplies or equipment for the project. The Contractor and all Subcontractors shall accept the agency designation. The designation and acceptance thereof shall be made on the form prescribed by the Louisiana State Department of Revenue which form shall be part of the contract between the Lake Charles Ward 3 Recreation and the Contractor. A copy of this form is hereby made part of these front end documents.

The agency relationship between the Lake Charles Ward 3 Recreation and the Contractor and all Subcontractors shall relieve the Contractor and Subcontractors (1) from paying any state or local sales or state or local use taxes on materials, supplies or equipment which is affixed to and/or made a part of the real estate of the project or work or which is permanently incorporated into the project or work and, (2) from paying any state or local use taxes on any materials, supplies or equipment which is leased and used exclusively for the project or work. Accordingly, in preparing their bids and computing costs, the Contractor and Subcontractors shall not consider sales and/or use taxes which would otherwise be due.

The Contractor and Subcontractors shall furnish a copy of such certificate to all vendors or suppliers of any of the materials, supplies or equipment described above.

The Contractor and Subcontractors shall make all purchases and leases on behalf of and as the agent of the Lake Charles Ward 3 Recreation.

Rules and regulations of the Louisiana Department of Revenue shall prevail over any conflicting provisions or specifications of the contract.

ARTICLE XV

Drug Screen Testing

15.1 By submittal of this bid, Contractor hereby certifies that it has in place and employs a pre-employment drug screen test for each employee of Contractor and administers periodic random drug screen testing for each such employee and agrees that it will not enter into any Subcontractor agreement, whether verbal or written, unless said Subcontractor has in place and employs pre-employment drug screen testing and periodic random drug screen testing. All such pre-employment drug screen testing and random testing shall meet or exceed the standards for drug screen testing as promulgated by the Associated General Contractors of Louisiana.

ARTICLE XVI

Dismissal of Contractor's Employee

16.1 At the request of the Lake Charles Ward 3 Recreation, the Contractor shall remove from the Lake Charles Ward 3 Recreation's project, any employee of the Contractor or Subcontractor. Any work of the Contractor may be suspended until such removal has occurred. The Contractor shall indemnify the Lake Charles Ward 3 Recreation against any claims arising from the removal of any such employee from the Lake Charles Ward 3 Recreation's project.

CONSTRUCTION CONTRACT BETWEEN THE LAKE CHARLES WARD 3 RECREATION AND _____

STATE OF LOUISIANA
PARISH OF CALCASIEU

THIS AGREEMENT is hereby made and entered into this _____day of _____2025, by and between Lake Charles Ward 3 Recreation, hereinafter referred to as "OWNER," a political subdivision of the State of Louisiana, represented herein by its duly authorized President, Sally Fenet, and _____, hereinafter referred to as "CONTRACTOR," and represented herein by its duly authorized President, _____.

WHEREAS, the OWNER has solicited, received and analyzed competitive bids for Enos Derbonne Sports Complex Outdoor Pickleball courts, identified as VSG Project No. 2448, which is the legal responsibility of the OWNER, and

WHEREAS, the OWNER has duly awarded the CONTRACTOR as the successful proposer for the referenced construction activity, products and/or services as hereinafter set forth and in accordance with all local, state and federal regulations governing the expenditure of public funds as discussed in Section 3 below, and

WHEREAS, the OWNER considers the public benefit of properly maintaining a publicly owned property in order to meet the needs of the OWNER employees and citizens who utilize the property either currently or who anticipate using the property in the future to be proportionate to the costs associated with this activity, and

WHEREAS, the CONTRACTOR shall provide all materials, equipment and labor and perform all the work required to accomplish the designated scope of work in a thorough and workmanlike manner to the satisfaction of the OWNER or the OWNER'S architect and in accordance with all plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued, and the "Bid," including alternates, unit prices and allowances (when applicable) on file with the OWNER or the OWNER'S architect, which are as much a part of this agreement as if repeated verbatim herein.

NOW THEREFORE, the OWNER and the CONTRACTOR do mutually agree to the following terms and conditions of this agreement:

1. Scope of Work

The OWNER hereby agrees to engage the CONTRACTOR to provide the construction activity, products and/or services inclusive in the OWNER'S "Bid" identified as "Bid". This project involves : .

Any additional construction activity, products and/or services not specifically listed in the "Bid" but required by the OWNER and available to the CONTRACTOR may be added to the terms of this agreement at a mutually agreed upon price, subject to the verification of cost reasonableness of said change order.

2. Term of Agreement

The initial term of this agreement shall commence upon execution of this agreement and shall continue until the completion of the project listed in the Scope of Work and all payments have been made. The work will be substantially completed within One Hundred Twenty (120) calendar days after the date when the contract time commences to run as established in the Notice to Proceed.

If the time frame extends beyond the completion time period then the CONTRACTOR will notify the OWNER or the OWNER'S architect/engineer and follow the specific procedures identified in the plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued, and the "Bid" documents, where applicable. Stipulated damages will be assessed in accordance with the plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued, and the "Bid" documents, where applicable for any project not completed within the contractually authorized time period. If these referenced documents are silent with respect to this information then stipulated damages will be assessed in the amount of Five Hundred dollars ($500) per day for any project not completed within the contractually authorized time period.

3. Payment Terms

Under this agreement, the OWNER agrees to pay the CONTRACTOR _____dollars ($_____) which is inclusive of all amounts properly due under the terms and conditions set forth in the "Bid" documents. If the "Bid" documents are silent with respect to payment and related terms then the CONTRACTOR will issue at least monthly invoices for which the OWNER will, in all good faith, attempt to review and process for payment within a reasonable time period. If the "Bid" documents are silent with respect to retainage amounts, then ten (10) percent of the total payment amount will be withheld for projects less than five hundred thousand ($500,000) dollars or five (5) percent of the total payment amount will be withheld for projects equal to or greater than five hundred thousand ($500,000) dollars both of which are provided in Louisiana Revised Statute 38:2248. A retainage bond shall not be acceptable, in lieu of withholding these amounts.

The CONTRACTOR'S request for final retainage payment shall constitute a waiver of all claims by the CONTRACTOR against the OWNER other than claims previously made in writing and still unsettled.

If this agreement extends beyond the current fiscal year and notwithstanding anything to the contrary and when applicable, the CONTRACTOR acknowledges and agrees that pursuant to the applicable state law, this agreement is subject to an annual appropriation dependency requirement to the effect that the renewal of this agreement is contingent upon the appropriation of funds to fulfill the requirements of this agreement. If the OWNER fails to appropriate sufficient monies to provide for payments under this agreement, then this agreement shall terminate on the last day of the last fiscal year for which funds were appropriated.

4. Amendments and Assignments

If there is a need to review and/or revise this agreement, the requesting party shall comply with the provisions of the "Bid" documents. If the "Bid" documents are silent with respect to amendments then the requesting party shall submit a written amendment to the other party, with the understanding that no amendment to this agreement shall be valid unless it is agreed and signed by both parties. This agreement shall not be assignable by either party without written consent of the other, except for assignment resulting from merger, consolidation, or reorganization of the assigning party.

5. Records and Audits

For audit purposes, all records will be made available by both parties to any authorized representative of either party and said records will be retained for three (3) years from the final contractual payment under this agreement. It is also agreed that all records shall be made available to either party at no additional charge for such information. If any confidential information is obtained during the course of this agreement, both parties agree not to release that information without the approval of the other party unless instructed otherwise by court order, grantor, auditor, public information request or as required by law.

6. Liability, Indemnity and Insurance

The CONTRACTOR shall perform the scope of work hereunder in accordance with all plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued and the "Bid" documents, including alternates, unit prices and allowances (if applicable) as well as complying with all applicable laws and regulations. All construction activity, products and/or services will be provided or performed in a thorough and workmanlike manner to the satisfaction of the OWNER.

This agreement is intended for the benefit of the OWNER and the CONTRACTOR and does not confer any rights upon any other third parties. All rights by and between the OWNER and

the CONTRACTOR are limited to the actions outlined in the applicable local, state and federal laws, regulations and policies.

The CONTRACTOR will indemnify, defend, and hold harmless the OWNER, including the OWNER'S employees and agents, from and against any and all claims or liabilities arising from the fault of the CONTRACTOR, its employees, subcontractors or agents in carrying out the CONTRACTOR'S duties and obligations under the terms of this agreement. The OWNER will indemnify, defend, and hold harmless the CONTRACTOR, including the CONTRACTOR'S employees and agents, from and against any and all claims or liabilities arising from the fault of the OWNER, its employees or agents in carrying out the OWNER'S duties and obligations under the terms of this agreement. This section will survive the termination of this agreement. In the event that either party takes any action to enforce this mutual indemnity provision, the prevailing party shall be entitled to recover reasonable attorney's fees and costs arising as a result thereof.

The CONTRACTOR will comply with the insurance requirements as specified in the "Bid" documents and attached as Exhibit A. Evidence of compliance with the attached insurance requirements will be provided to the OWNER prior to the commencement of any work.

As specified in the "Bid" documents, the CONTRACTOR is also required to provide both a Payment and a Performance Bond, each in the amount equal to one hundred percent (100%) of the contract amount. The CONTRACTOR is also required to maintain all contracting and/or other licenses as may be required by the Louisiana State Licensing Board for Contractors as well as other regulatory agencies.

7. Independent Contractor Status

The CONTRACTOR shall provide the services contemplated under this agreement as an independent contractor and not as an employee, agent, joint venturer, subcontractor or partner of the OWNER. Nothing in this agreement shall be construed as creating any other relationship between the CONTRACTOR and the OWNER, or between any employee, agent, joint venturer, subcontractor or agent of the CONTRACTOR and the OWNER. During the term of this agreement, all persons employed by CONTRACTOR shall be an employee of the CONTRACTOR for purposes of the CONTRACTOR'S benefit programs for plans now existing or hereafter created, workers' compensation, compensation, and payment and withholding of federal, state and local income, social security, unemployment, Medicare, and other payroll taxes.

The CONTRACTOR acknowledges independent contractor status within the meaning of Louisiana workers' compensation law, specifically Louisiana Revised Statute 23:1021 (6). The CONTRACTOR is rendering a service, other than manual labor, for a specified recompense for a specified result either as a unit or as a whole, under the control of the OWNER as to the result of this work only, and not as to the means by which such result is accomplished.

8. Warranties, Termination of Agreement and Dispute Resolution

The CONTRACTOR warrants the following: (a) that it has the experience and ability to perform the scope of work required in this agreement, (b) that it will perform said scope of work in a professional, competent and timely manner, (c) that its services, reports and materials furnished hereunder will be as represented, (d) that it has the power to enter into and perform this agreement, and (e) that its performance of this agreement shall not infringe upon or violate any third party's rights or any federal, state or municipal law, including the proper handling of any waste disposals that may result from the services provided herein.

While both parties agree to negotiate all contractual disputes in good faith, the OWNER reserves the right to terminate this agreement at any time upon written notice of termination, in which event, the CONTRACTOR will be reimbursed for all construction activity, products and/or services satisfactorily provided up until the date of termination. The CONTRACTOR may terminate this agreement "for cause" with written notice to the OWNER within fifteen (15) days stating the cause for termination. Upon receipt, the OWNER shall have thirty (30) days to satisfactorily remedy, correct or remove the cause for termination. If the notice of termination is by the OWNER then the OWNER may withhold payment of any costs and fees related to, arising from or incidental to the stated cause or causes for termination.

If the parties are unable to independently and satisfactorily resolve any disagreement then both parties agree that any contractual disagreement will be resolved under the jurisdiction of the 14th Judicial District Court for Calcasieu OWNER, Louisiana. In addition, if it is necessary to enforce this agreement in any judicial forum, then the parties agree that whoever substantially prevails in the litigation shall be entitled to reasonable attorney's fees and costs as fixed by the Court.

9. Severability, Entire Agreement and Captions

This agreement shall be governed by and construed in accordance with the laws of the State of Louisiana. If any provision of this agreement is held invalid, void or unenforceable under any law or regulation or by a court of competent jurisdiction, such provision will be deemed amended in a manner which renders it valid, or if it cannot be so amended, it will be deemed to be deleted. Such amendment or deletion will not affect the validity of any other provision of this agreement. This agreement, any attached documents, and any referenced documents, including the "Bid" documents, represent the entire agreement between the OWNER and the CONTRACTOR and supersede all prior negotiations, representations or agreements, either written or oral. In the event of a conflict between this agreement and other documents, the terms of this agreement shall control.

Each paragraph of this agreement has been supplied with a caption to serve only as a guide to the contents. The caption does not control the meaning of any paragraph or in any way determine its interpretation.

10. No Authorship Presumptions

The OWNER and the CONTRACTOR have had an opportunity to negotiate the language of this agreement in consultation with legal counsel prior to its execution. No presumption shall arise or adverse inference be drawn by virtue of authorship. The OWNER and the CONTRACTOR hereby waive the benefit of any rule of law that might otherwise be applicable in connection with the interpretation of this agreement, including but not limited to, any rule of law to the effect that any provision of this agreement shall be interpreted or construed against the party who (or whose counsel) drafted that provision. The rule of no authorship presumption set forth in this paragraph is equally applicable to any person that becomes a party by reason of assignment and/or assumption of this agreement and any successor to a signatory party.

11. Address of Notices and Communications

All notices between the OWNER and the CONTRACTOR provided for pursuant to this agreement shall be in writing. The name and address of the OWNER'S representative is:

Kip Texada, Executive Director
Lake Charles Ward 3 Recreation
3210 Power Centre Parkway
Lake Charles, Louisiana 70607

The name and address of the CONTRACTOR'S representative is:

_____
_____
_____
_____

In the event that the mailing address of the OWNER or the CONTRACTOR changes during the terms of this agreement, or that there is a change in the designated points of contact, the party with the address change or change of contact shall immediately notify the other party of the change.

[The remainder of this page is intentionally left blank.]

THUS DONE AND SIGNED on the ___ day of _____ 2025, in Lake Charles, Louisiana, and in the presence of the undersigned witnesses and Notary Public, after a due reading of the whole.

WITNESSES:

Lake Charles Ward 3 Recreation:

_____
Witness Signature

BY: _____
Sally Fenet, President

_____
Printed Witness Name

_____
Witness Signature

_____
Printed Witness Name

_____
NOTARY PUBLIC

_____
Notary Printed/Stamped Name
and Identification Number

THUS DONE AND SIGNED on the ___ day of _____ 2025, in Lake Charles, Louisiana, and in the presence of the undersigned witnesses and Notary Public, after a due reading of the whole.

WITNESSES:

INSERT CONTRACTOR'S NAME:

_____
Witness Signature

BY: _____
INSERT OFFICER'S NAME

_____
Printed Witness Name

_____
Witness Signature

_____
Printed Witness Name

_____
NOTARY PUBLIC

_____
Notary Printed/Stamped Name
and Identification Number

Section A – Types of Coverage Required

Where applicable, any **Contractor, Subcontractor, Consultant, Architect, Engineer, Other Professional or Vendor (hereinafter referred to as Contractor collectively)**, who performs services for the Owner in the amount of one hundred thousand dollars or greater shall maintain the following insurance coverage with insurances companies acceptable to the Owner. Those insurance companies must be rated in the current A.M. Best Rating Guide with an "A-"rating or better. In the event that insurance requirements are included elsewhere within any other procurement documents, the requirements contained within this article shall supersede any such reference.

In connection therewith, the Contractor agrees to provide to the Owner, at the Contractor's expense and prior to any entry on the Owner's property, proof of liability insurance coverage set forth. The Contractor agrees to furnish to the Owner certificates evidencing said insurance coverage for the full term of this agreement which certificates shall name the Owner as an additional named insured on all policies except errors and omissions policies and shall provide for thirty (30) days advanced written notice to the Owner in the event of cancellation or alteration of the policies.

The Contractor agrees to maintain the coverage limits and endorsements as listed herein. The Contractor's obligation to provide the required insurance will not be waived by the Contractor's failure to provide the certificate of insurance, the Owner's acceptance of a certificate of insurance showing coverage varying from the required coverage, or the Owner's allowance to commence work.

No work shall commence under any contract until the following insurance coverage is obtained by the Contractor:

(1) Worker's Compensation

(a) Standard Louisiana Coverage (Always Required) – Worker's Compensation coverage: (i) should cover all employees, including owners, (ii) must be statutory for medical and indemnity and (iii) should have a minimum limit for employer's liability of:

Employer's Liability -	$1,000,000 each accident
	$1,000,000 each employee – disease
	$1,000,000 policy limit – disease

(b) Maritime Coverage

☐ Required ☒ Not Required

When specifically required by the Owner (as denoted with an "X" in the above "Required" box), the Contractor shall procure and maintain during the life of this contract a Worker's Compensation Policy specifically covering maritime activities. The scope of the project will determine whether maritime insurance is required but if the project is going to be performed over any body of water then this separate coverage should be obtained.

(2) Contractor's Liability Insurance (Always Required)

(Note: The term Contractor refers collectively, where applicable, to any Contractor, Subcontractor, Consultant, Architect, Engineer or Vendor performing services for the Owner)

(a) Contractor's Comprehensive General Liability
("Claims Made Policies" may not be used)

$1,000,000 per occurrence
$2,000,000 general aggregate (☒ Limit applies to specific project ☐ Limit applies to policy)
$1,000,000 products/completed operations aggregate
$1,000,000 personal injury and advertising coverage

Sub Contractor Comprehensive General Liability – Any Sub Contractors utilized on the project will be (☒ Required ☐ Not Required) to maintain the above comprehensive general liability policy limits.

(b) Contractor's Automobile Liability (Owner, Non-Owned, and Hired Car)

$1,000,000 per occurrence

Sub Contractor Automobile Liability – Any Sub Contractors utilized on the project will be (☒ Required ☐ Not Required) to maintain the above automobile liability policy limit.

(c) Contractor's Umbrella Policy

Unless specifically excluded for project specific reasons, the Contractor shall procure and maintain during the life of this contract an Umbrella Policy as follows:

$5,000,000 each occurrence
$5,000,000 general aggregate

☐ Coverage Specifically Excluded For Project

(3) Owner's Contractor Protective Liability Policy (OCP Policy)

☒ Required ☐ Not Required

When specifically required by the Owner (as denoted with an "X" in the above "Required" box), the Contractor shall procure and maintain during the life of this contract an Owner's Contractor Protective Liability Policy (OCP) in a minimum amount of $1,000,000 (per occurrence) and $2,000,000 (general aggregate). This type of policy provides the Owner with separate coverage up to the above limits as opposed to shared coverage when the Owner is only named as an additional insured on the Contractor's main policy.

(4) Property Insurance (Builder's Risk Insurance)

☒ Required ☐ Not Required

Note that Builder's Risk for Flood Coverage is separate and may need to be considered for any project work occurring in a flood prone area.
For this project, Builder's Risk for Flood is:
☐ Required ☒ Not Required

When specifically required by the Owner (as denoted with an "X" in the above "Required" box), the Contractor shall purchase and maintain property insurance covering the work site up to the full insurable value equal to the Contract sum and the insurance shall be endorsed to comply with any waiver of rights provisions. The property insurance shall be "All Risks Builder's Risk Completed Value Form" insurance or equivalent manuscript policy, and shall include without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft including theft of materials whether or not attached to any structure, vandalism/malicious mischief, collapse, earthquake, windstorm, false work, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any law.

The property insurance shall also contain an endorsement or specific provision to cover damages, losses and expenses incurred in the repair or replacement of any insured property (including, but not limited to charges of engineers, architects, attorneys and others). The Property insurance also shall include by endorsement or special provision the following additional coverage elections: operational testing (if risk is present), off premises storage not on the site or in transit and property in transit. When required, no work may commence on the site until the Builder's Risk Insurance is obtained.

The Contractor is to provide Builder's Risk Insurance to protect the Owner, Architect, Engineer, Contractor, and any Subcontractors as to any interests that may exist. Until acceptance of work by the Owner, all work in connection with a particular contract is in the custody, charge and care of the Contractor who will take every necessary precaution against injury or damage to any part thereof whether arising from execution or from the non-execution of the work.

Contractor shall be responsible for payment of the deductible for Builder's Risk Insurance or any other property coverage deemed required to be purchased for this Contract, whether acquired by the Owner or otherwise.

(5) Errors & Omissions Policy (Professional Liability Insurance)

(Applicable Only to Professional Services Contracts including, but not limited to, Architect, Engineer, Consultant or Other Professional Contracts)

☐ Required ☒ Not Required

This policy covers negligent acts, errors and omissions in its performance of professional services with minimum policy limits of $1,000,000 per occurrence and $1,000,000 general aggregate.

Section B – Other Insurance Requirements

(1) Additional Insured Classification and Waiver of Subrogation (Always Required)

The Owner must be listed as an additional insured on all policies except for worker's compensation and professional liability insurance policies. All policies will provide a thirty day written notice of cancellation. Waiver of subrogation will be given to the Owner on all policies which means that the Contractor's insurer(s) will have no right of recovery or subrogation against the Owner.

Except for professional liability insurance, it is the intention of the parties that the insurance policy shall protect both parties and be the PRIMARY COVERAGE for any and all losses covered. Again all policies required above shall be primary to any insurance carried by the Owner. The insurance companies shall have no recourse against the Owner for payment of any premiums or for assessments under any of the above policies.

(2) Indemnification for all Contractors, Except for Architects, Engineers or Other Licensed Professionals (Always Required)

The Contractor will indemnify, defend, and hold harmless the Owner, including the Owner's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Contractor, its employees, subcontractors or agents in carrying out the Contractor's duties and obligations under the terms of this agreement. The Owner will indemnify, defend, and hold harmless the Contractor, including the Contractor's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Owner, its employees or agents in carrying out the Owner's duties and obligations under the terms of any agreement. This section will survive the termination of any agreement. In the event that either party takes any action to enforce this mutual indemnity provision, the prevailing party shall be entitled to recover reasonable attorney's fees and costs arising as a result thereof.

(3) Indemnification for Architects, Engineers or Other Licensed Professionals (Always Required)

The Contractor will indemnify and hold harmless the Owner, including the Owner's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Contractor, its employees, subcontractors or agents in carrying out the Contractor's duties and obligations under the terms of this agreement. The Owner will indemnify and hold harmless the Contractor, including the Contractor's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Owner, its employees or agents in carrying out the Owner's duties and obligations under the terms of any agreement. This section will survive the termination of any agreement. In the event that either party takes any action to enforce this mutual indemnity provision, the prevailing party shall be entitled to recover reasonable attorney's fees and costs arising as a result thereof.

(4) Statutory Employer Status (Always Required Except for Architects, Engineers or Other Licensed Professionals)

The Owner as principal whether as the direct or statutory employer, mutually agree with the Contractor that it is their intention, and the intention of the contract between them, to recognize the Owner as the statutory employer of the Contractor's employees, whether direct or statutory, while the Contractor's employees, direct or statutory, are performing work or services with respect to this contract. It is also recognized that the work contemplated by this contract is a part of the trade, business or occupation of the Owner and it is an integral part of or essential to the ability of the Owner to generate its goods, products or services. It is the express intention of the Owner and the Contractor that the Owner as the statutory employer, shall, in accordance with LSA—R.S. 23:1061, be granted the exclusive remedy protections of LSA—R.S. 23:1032, and shall be liable to pay any employee employed in the execution of the work, or to his dependent, compensation which it would have been liable to pay if the employee had been immediately employed by it. In the event the Owner is required as the statutory employer to pay any workers' compensation benefits, it shall be entitled to indemnity from the Contractor for such benefits.

Project: Enos Derbonne Sports Complex Outdoor Pickleball Courts
Project No.: VSG – 2448

GENERAL SCOPE OF WORK:

- Remove existing trees from area to receive new pickleball courts.
- Prepare earthwork for foundation of pickleball courts and bleacher canopy.
- Reshape area for positive drainage that leads to existing drainage system.
- Provide and install post-tension concrete foundation for (4) outdoor pickleball courts.
- Provide and install (1) bleacher canopy between pickleball courts. Bleachers to be included as described.
- Provide and install 10’-0” high chain link fence with full height windscreen along North and South edges of courts.
- Provide and install 4’-0” high chain link fence along West and East edges of courts.
- Provide and install sports lighting system and electrical outlets as described on electrical drawings.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Lake Charles Ward 3 Recreation
3210 Power Centre Parkway
Lake Charles, LA 70607

BID FOR: **Enos Derbonne Sports Complex Outdoor Pickleball Courts**
7903 Lake Street
Lake Charles, Louisiana 70605
VSG Project No. 2448

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: VSG Architects, APALLC and dated: August 08, 2025

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____.

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid

BID BOND

FOR

Enos Derbonne Sports Complex Outdoor Pickleball Courts VSG Project# 2448

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That_____of_____, as Principal, and_____, as Surety, are held and firmly bound unto the Lake Charles Ward 3 Recreation (Obligee), in the full and just sum of five (5%) percent of the total amount of this proposal, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.

Surety further represents that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

_____

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

_____	_____
PRINCIPAL (BIDDER)	SURETY
BY: _____	BY:_____
AUTHORIZED OFFICER-OWNER-PARTNER (SEAL)	AGENT OR ATTORNEY-IN-FACT

PROJECT: Enos Derbonne Sports Complex Outdoor Pickleball Courts VSG Project No. 2448

SUBCONTRACTOR LISTING

(See Post Bid Information, Article VI for further instructions.)

Work Description	Subcontractor & Location	√ if minority	Phone #	LA. Contractor's License #	Federal I.D. #

THIS FORM IS TO BE SUBMITTED TO THE OWNER, OR
PROJECT ARCHITECT/ENGINEER ON BEHALF OF THE OWNER, BY THE AWARDED BIDDER
AT THE PRE-CONSTRUCTION MEETING.

SUB-CONTRACTOR AFFIDAVIT (RS 38:2224)

Lake Charles Ward 3 Recreation
PROJECT NO. 2448
NAME: Enos Derbonne Sports Complex Outdoor Pickleball Courts

STATE OF LOUISIANA
PARISH OF CALCASIEU

In Accordance with Louisiana R.S. 38:2224, all architects, landscape architects, engineers, contractors, subcontractors, or any person, corporation, firm, association, or other organization receiving value for services rendered in connection with a contract for the construction, alteration or demolition of a public building or project shall execute an affidavit attesting:

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.

Before me, the undersigned authority, duly commissioned and qualified within and for the State and the Parish aforesaid, personally came and appeared _____, representing _____, who, being by me first duly sworn deposed and said that he has read this affidavit and does hereby agree under oath to comply with all provisions.

_____

SWORN TO AND SUBSCRIBED before me on this ____ day of _____,

20____.

_____
NOTARY PUBLIC

THIS FORM IS BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, AT THE PRE-CONSTRUCTION MEETING.

CONTRACTOR COMPLIANCE CERTIFICATE
ON STATE & LOCAL RESIDENCY REQUIREMENTS

In accordance with Article VI, I hereby certify that this construction firm will comply with the requirements that certain percentages of state and local residents be hired on this project in accordance with the provisions of LSA—R.S. 38:2225.1 B. (1) and (2).

I acknowledge that the Calcasieu Parish Police Jury has invoked its authority under the provisions of the statutes, which are as follows:

B. (1) When a participating political subdivision lets a contract for a public works project that is to be administered by or paid for, in whole or in part, by said political subdivision's funds, the governing authority of the political subdivision may require, as a condition of letting the contract, that not less than eighty percent (80%) of the persons employed in fulfilling that contract be residents of the State of Louisiana.

(2) In addition, when the governing authority of Calcasieu Parish may, upon a finding that there is substantial cause to counteract grave economic and social ills, require, as a condition of letting contracts for public works to be paid for solely with parish funds, that no less than fifty percent (50%) of the persons employed in fulfilling that contract be residents of Calcasieu Parish. Notwithstanding the provisions of this Paragraph, management personnel and persons whose skills are unavailable for performing the work may be excluded from the requirements of this Paragraph, as said governing authority may determine and provide for in the bid specifications.

I will complete the "Contractor's Monthly Certification Affidavit" similar to that enclosed in these bid documents submit same at the required times during the course of this project.

_____
BIDDER

BY: _____

_____
Name & Title

_____
Address

Date: _____

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

CONTRACTOR COMPLIANCE CERTIFICATE ON ELECTRICAL SUBCONTRACTORS

In accordance with Article VI, I, the undersigned, do hereby certify that this construction firm will comply with the following requirement of the Lake Charles Ward 3 Recreation:

> *Any party bidding to perform electrical work of any nature under this contract shall not be deemed a "responsible bidder" unless it certifies that it will employ electricians on the project(s) in question who are certified as participating in a program of training and education or as having successfully completed such programs that are conducted or supervised by the National Joint Apprenticeship and Training Committee of the Electrical Industry and the Louisiana Department of Labor, Office of Regulatory Services, Labor Programs Section, Apprenticeship Division. The electrical sub-contractor shall provide through the general contractor on a monthly basis a signed certificate on a form provided by the Parish verifying compliance with the provisions of this section.*

I will require the electrical subcontractor(s) to submit a signed certificate on the form provided by the Parish on a monthly basis, and said certificate will be submitted by this firm along with the monthly invoice and other appropriate documents.

_____
BIDDER

BY: _____

_____
NAME & TITLE

_____
ADDRESS

DATE: _____

THIS FORM MUST BE SUBMITTED TO THE OWNER,
OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

STATE OF LOUISIANA
PARISH OF CALCASIEU

_____, being first duly sworn, deposed and says that

(1) He is _____ of _____, the Bidder that has submitted the attached Bid:

(2) He is fully informed respecting the preparations and contents of the attached Bid and of all pertinent circumstances respecting such Bid:

(3) Such Bid is genuine and is not a collusive or sham Bid:

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through the collusion, conspiracy, connivance or unlawful agreement any advantage against the Lake Charles Ward 3 Recreation, or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees or parties in interest, including this affiant.

Company Name: _____

By: _____

_____
Title

SUBSCRIBED AND SWORN TO BEFORE ME, NOTARY PUBLIC, on this _____ day of _____, 20___.

_____
NOTARY PUBLIC

My Commission Expires: _____

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

AFFIDAVIT (RS 38:2224, 2190, 2290-2296)

Lake Charles Ward 3 Recreation
PROJECT NO. VSG# 2448
NAME: Enos Derbonne Sports Complex Outdoor Pickleball Courts
LOCATION: 7903 Lake Street, Lake Charles, LA 70605

STATE OF LOUISIANA
PARISH OF CALCASIEU

Before me, the undersigned authority, duly commissioned and qualified within and for the State and the Parish aforesaid, personally came and appeared _____, representing _____, who, being by me first duly sworn deposed and said that he has read this affidavit and does hereby agree under oath to comply with all provisions herein as follows:

PART I
Section 2224 of Part I of Chapter 10 of Title 38
of the LA. Revised Statutes of 1950 as amended.

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the contract price received by affiant as paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction of the public building or project were in the regular course of their duties for affiant.

PART II
Section 2190 of the Part I of Chapter 10 of Title 38
of the LA. Revised Statutes of 1950 as amended.

That affiant, if he be an architect or engineer, or representative thereof, does not own a substantial financial interest, either directly or indirectly, in any corporation, firm partnership, or other organization which supplies materials for the construction of a public building or project when the architect or engineer has performed architectural or engineering services, either directly or indirectly, in connection with the public building or project for which the materials are being supplied.

For the purpose of this section, a "substantial financial interest" shall exclude any interest in stock being traded on the American Stock Exchange or the New York Stock Exchange.

AFFIDAVIT (RS 38:2224, 2190, 2290-2296)

That affiant, if subject to the provisions of this section, does hereby agree to be subject to the penalties involved for the violation of this section.

PART III

That affiant does hereby state that he has read and agrees to comply with and be subject to the provisions of Part V of Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950, being Sections 2290 through 2296 of Title 38 as amended.

_____

SWORN TO AND SUBSCRIBED before me on this ____ day of _____,

20____.

_____

NOTARY PUBLIC

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

ATTESTATION FORM
(R.S. 38:2227)
(Past Criminal Convictions of Bidders)

Enos Derbonne Sports Complex Outdoor Pickleball Courts VSG# 2448
NAME OF PROJECT

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:230)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S.14:67.20)
(d) False accounting (R.S. 14:70)
(e) Issuing worthless checks (R.S. 14:71)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Contractors; misapplication of payments (R.S. 14:202)
(i) Malfeasance in office (R.S. 14:134)

NAME OF BIDDER _____ **NAME OF AUTHORIZED SIGNATORY OF BIDDER** _____

DATE _____ **TITLE OF AUTHORIZED SIGNATORY OF BIDDER** _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER _____

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

AFFIDAVIT FORM
(R.S. 38:2212.10(C))
(Verification of Employees E-Verify)

Enos Derbonne Sports Complex Outdoor Pickleball Courts VSG# 2448
NAME OF PROJECT

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

LA. R.S. 38:2212.10 Verification of Employees (E-Verify)

A. Appearer is registered and participates in a status verification system (E-Verify) to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens.

B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system (E-Verify) to verify the legal status of all new employees in the state of Louisiana.

C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

_____ _____
NAME OF BIDDER **NAME OF AUTHORIZED SIGNATORY OF BIDDER**

_____ _____
DATE **TITLE OF AUTHORIZED SIGNATORY OF BIDDER**

_____
SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

_____
WITNESS

_____
WITNESS

_____
NOTARY PUBLIC

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

MONTHLY FORM

CONTRACTOR COMPLIANCE FOR LOCAL AND STATE RESIDENCY REQUIREMENTS

NOTE: this Contract Compliance Executed Form shall be submitted on a monthly basis to the Lake Charles Ward 3 Recreation along with the Contractor's Monthly Request for Payment. It must be properly completed, executed, totaled, and certified on the last page of this form by the authorized agent.

General Contractor/Location Subcontractor/Location	Total # In Work Force this Project	Total # Calcasieu Residents in Work Force on this Project	% of Calcasieu Residents in Work Force on this Project	Total # of Louisiana Residents in Work Force on this Project	% of Louisiana Residents in Work Force on this Project

MONTHLY FORM
CONTRACTOR COMPLIANCE FOR LOCAL AND STATE RESIDENCY REQUIREMENTS

NOTE: this Contract Compliance Executed Form shall be submitted on a monthly basis to the Lake Charles Ward 3 Recreation along with the Contractor's Monthly Request for Payment. It must be properly completed, executed, totaled, and certified on the last page of this form by the authorized agent.

General Contractor/Location Subcontractor/Location	Total # in Work Force this Project	Total # Calcasieu Residents in Work Force on this Project	% of Calcasieu Residents in Work Force on this Project	Total # of Louisiana Residents in Work Force on this Project	% of Louisiana Residents in Work Force on this Project
TOTALS					

I, the undersigned, do hereby certify that the information provided herein of the total work force on this project listed below for the month of _____, 20___, is true and correct and in compliance with Article XII of the Contract Documents.

PROJECT: _____ GENERAL CONTRACTOR: _____

SIGNATURE OF AGENT: _____TITLE: _____

MONTHLY FORM
ELECTRICAL SUBCONTRACTOR'S CERTIFICATION

(See Post Bid Information, Article VI for further instructions)

NOTE: this electrical subcontractor's certification shall be properly filled out, executed, and submitted by the electrical subcontractor(s) through the general contractor on a monthly basis, and must be attached to the monthly invoice submitted by the general contractor to the Lake Charles Ward 3 Recreation. Electrical subcontractor(s) may make more copies of this form, if additional pages are necessary.

PROJECT: Enos Derbonne Sports Complex Outdoor Pickleball Courts VSG# 2448

MONTH OF _____, 20____. Page _____ of _____ Pages

NAME OF EMPLOYEES IN WORK FORCE THIS MONTH	PARTICIPATING/COMPLETED TRAINING & EDUCATION PROGRAM (please check one)	
	YES	NO

CERTIFIED BY: _____

DATE: _____

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Enos Derbonne Sports Complex Outdoor Pickleball Courts
7903 Lake Street
Lake Charles, LA 70605

THE OWNER:
(Name, legal status and address)

Lake Charles Ward 3 Recreation
3210 Power Centre Parkway
Lake Charles, LA 70607

THE ARCHITECT:
(Name, legal status and address)

Vincent-Shows-Gautreaux, Architects, APALLC
1502 South Huntington Street
Sulphur, LA 70663

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™–2017, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the

purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct,

but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as

constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The

Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the

Work, provided that 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 Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;

.2 The amount of the adjustment, if any, in the Contract Sum; and

.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

.2 Unit prices stated in the Contract Documents or subsequently agreed upon;

.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

.4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others

whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a Separate Contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

or

.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed

by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that 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 Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve

the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to

fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or

approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in

Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner

may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially

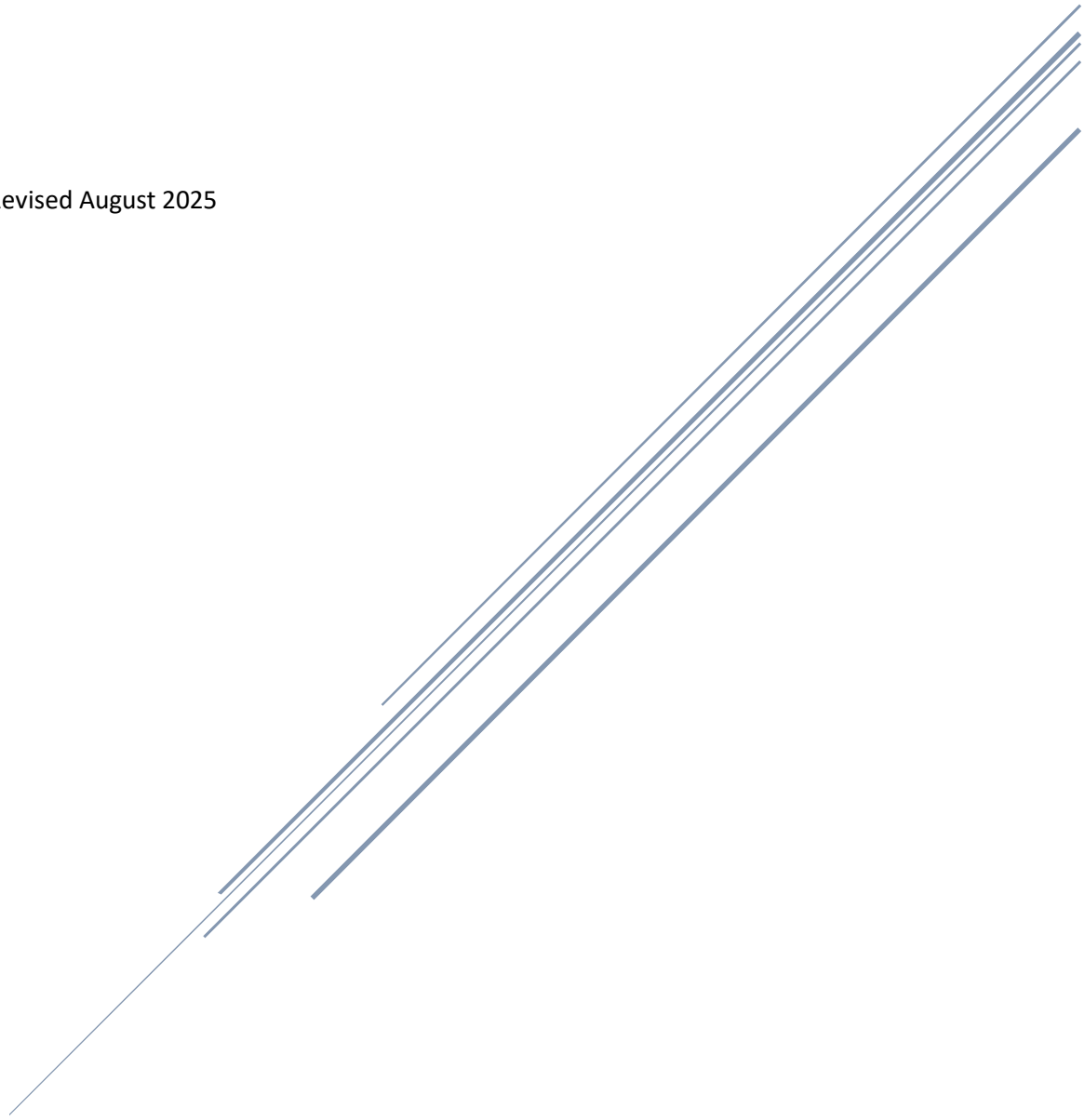
similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

Supplementary Conditions for the AIA A201-2017 Edition

Revised August 2025



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SUPPLEMENTARY CONDITIONS

Note to Reader

These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of the Article, Paragraph, Subparagraph or Clause shall remain in effect. Articles, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1 GENERAL PROVISIONS

§1.1 Basic Definitions

§1.1.1 The Contract Documents

Delete the third sentence and add the following sentence: “The Contract Documents shall include the Bidding Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.”

ARTICLE 2 OWNER

§2.2 EVIDENCE OF THE OWNER’S FINANCIAL ARRANGEMENTS

Delete Section 2.2.

§2.3.1 In the first sentence, delete: all before “the Owner shall secure…”

§2.3 Information and Services Required of the Owner

§2.3.5 (Add the following sentence to the end of Subparagraph 2.3.5): "The Owner shall not be responsible for any explanation or interpretation of the Contract Documents."

(Add the following Paragraph 2.6)

§2.6 Owner's Right of Partial Occupancy

§2.6.1 The Owner shall have the right to use any and all portions of the building that have reached such a stage of completion as to permit occupancy or use provided that such occupancy or use does not hamper the Contractor or prevent his efficient completion of the Contract. Use form provided in the Contract Documents entitled "Beneficial Occupancy.

ARTICLE 3 CONTRACTOR

§3.4 LABOR AND MATERIALS

3.4.2 Delete Section 3.4.2.

§3.6 TAXES

(Delete Paragraph 3.6 and replace with the following)

The Contractor shall not pay any State or local sales taxes for materials and equipment which become fixed and permanent property of the governmental entity for this project. All forms and guidelines shall be in accordance with the Louisiana Department of Revenue and Taxation. Contained in the bidding documents, the Louisiana Department of Revenue Form R-85012-T entitled Public Project Contractor/Subcontractor Sales Tax Certification and Exemption Application (Louisiana Revised Statue 47:305.7 (A)(1)(b), for use by the Contractor and Subcontractors for the Project which is required by the State of Louisiana Department of Revenue and Taxation, Sales Tax Division. The Contractor and Subcontractors are to provide the completed Form R-85012-T and a copy of the executed agreement to the Louisiana Department of Revenue when applying for certification and exemption of sales tax.

§3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS (La R.S. 40:1724[A])

Delete and Add §3.7.1 “The Contractor shall make arrangements for such tests, inspections and approvals with third-party Testing Laboratory and the Contractor shall bear all related costs of tests, inspections and approvals.

Delete Section 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited

to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

§3.8 ALLOWANCES

Delete Sections 3.8.1, 3.8.2, and 3.8.3 in their entirety and add the following new Section 3.8.1:

3.8.1 Allowances shall not be made on any of the Work.

§ 3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph:

Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 For projects with a contract sum greater than $1,000,000.00, the

Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment shall be made until this schedule is received.

3.10.3 In the first sentence, delete the word "general". After the first sentence, add the following:

If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.

Add the following Sections:

3.10.4 Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and others under his control to cooperate. The purpose of such services shall be to ensure that all systems perform correctly and interactively according to the provisions of the Contract Documents.

§3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following: This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

§3.18 INDEMNIFICATION

Delete section and refer to the contractual language in section 6 of the Owner's sample contract.

ARTICLE 4 ARCHITECT

§4.1 General

(Delete Subparagraph 4.1.1 and replace with the following)

§4.1.1 The term Architect, when used in the Contract Documents, shall mean the prime designer (Architect, Professional Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the state of Louisiana, identified as such in the Owner-Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number and masculine in gender.

ARTICLE 5 SUBCONTRACTORS

§5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Delete Section 5.2.1, and substitute the following:

5.2.1 Unless otherwise required by the Contract Documents, the Contractor shall furnish at the Pre-Construction Conference, to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. No Contractor payments shall be made until this information is received.

Delete Section 5.2.2, and substitute the following:

5.2.2 The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

Delete Sections 5.2.3 and 5.2.4 and substitute the following:

5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor.

§5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete Sections 5.4, 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7 CHANGES IN THE WORK

§7.1 General

(Add the following Subparagraph)

§7.1.4 As part of the pre-construction conference submittals, the contractor is to submit the following prior to the commencement of work.

- Fixed job site overhead cost itemized with documentation to support daily rates.
- Insurance and Bond Premium Rates, as a percentage, with supporting information from the General Contractor’s carrier.

§7.2 Change Orders

(Delete Section 7.2.1, and substitute the following Sections: Add the following Subparagraphs 7.2.1 through 7.2.8)

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Architect, and the Contractor issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. Any reservation of rights, stipulation, or other modification made on the change order by the contractor shall have no effect.

7.2.2 "Cost of the Work" for the purpose of Change Orders shall be the eligible costs required to be incurred in performance of the Work and paid by the Contractor and Subcontractors which eligible costs shall be limited to:

7.2.2.1 Actual wages paid directly to labor personnel, with a labor burden markup exclusively limited to applicable payroll taxes, worker's compensation insurance, unemployment compensation, and social security taxes for those labor personnel performing the Work. Wages shall be the basic hourly labor rate paid an employee exclusive of fringe benefits or other employee costs. The labor burden percentage for the "Cost of the Work" is limited to categories listed herein. Employer-provided health insurance, fringe benefits, employee training (whether a requirement of employment or not), vacation pay, etc., are examples of ineligible labor burden costs which shall not be included, as these costs are already compensated by the Overhead and Profit markup.

Supervision shall not be included as a line item in the "Cost of the Work", except when the change results in a documented delay in the critical path, as described in Section 7.2.7.

7.2.2.2 Cost of all materials and supplies necessary and required to perform the Work, identifying each item and its individual cost, including taxes. Incidental consumables are not eligible costs and shall not be included.

7.2.2.3 Cost of each necessary piece of machinery and equipment required to perform the Work, identifying each item and its individual cost, including taxes. Incidental small tools of a specific trade (i.e., shovels, saws, hammers, air compressors, etc.,) and general use vehicles, such as pickup trucks even for moving items around the site, fuel for these general use vehicles, travel, lodging, and/or meals are not eligible and shall not be included.

7.2.2.4 Eligible Insurance costs shall be limited to documented increases in "Builder's Risk" insurance premium / costs only. Commercial General Liability, Automobile Liability, and all other required insurances, where referenced in the Contract shall be considered part of normal overhead. These costs are already compensated by the Overhead and Profit markup.

7.2.2.5 Cost for the General Contractor Performance and Payment Bond premium, where the documented cost of the premiums have been increased due to the Change Order.

7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 16% of the direct cost of any portion of Work.

The credit to the Owner resulting from a change in the Work shall be the sum of those items above, including overhead and profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit shall be computed for credits to the Owner and extras to the Contractor. The Owner shall receive full credit for the computed overhead and profit on credit change order items.

7.2.4 The cost to the Owner resulting from a change in the Work shall be the sum of: Cost of the Work (as defined at Section 7.2.2) and Overhead and Profit (as defined at Section 7.2.3), and shall be computed as follows:

7.2.4.1 When all of the Work is General Contractor Work; 8% markup on the Cost of the Work.

7.2.4.2 When the Work is all Subcontract Work; 8% markup on the Cost of the Work for Subcontractor's Overhead and Profit, plus 8% markup on the Cost of the Work, not including the Subcontractor's Overhead and Profit markup, for General Contractor's Overhead and Profit.

7.2.4.3 When the Work is a combination of General Contractor Work and Subcontract Work; that portion of the direct cost that is General Contract Work shall be computed per Section 7.2.4.1 and that portion of the direct cost that is Subcontract Work shall be computed per Section 7.2.4.2.

Premiums for the General Contractor's bond may be included, but after the markup is added to the Cost of the Work.

Premiums for the Subcontractor's Bond shall not be included.

7.2.4.4 Subcontract cost shall consist of the items in Section 7.2.2 above plus Overhead and Profit as defined in Section 7.2.3.

7.2.5 Before a Change Order is prepared, the Contractor shall prepare and deliver to the Architect the following information concerning the Cost of the Work, not subject to waiver, within a reasonable time after being notified to prepare said Change Order:

A detailed, itemized list of labor, material and equipment costs for the General Contractor's Work including quantities and unit costs for each item of labor, material and equipment.

An itemized list of labor, material and equipment costs for each Subcontractor's and/or Sub-Subcontractor's Work including quantities and unit costs for each item of labor, material and equipment.

7.2.6 After a Change Order has been approved, no future requests for extensions of time or additional cost shall be considered for that Change Order.

7.2.7 Extended fixed job-site costs are indirect costs that are necessary to support the work in the field. Examples of fixed job-site costs are field office rental, salaries of field office staff, field office utilities, and telephone.

Extended fixed job-site costs or equitable adjustment may be included in a Change Order due to a delay in the critical path, with the exception of weather related delays. In the event of a delay in the critical path, the Contractor shall submit all changes or adjustments to the Contract Time within twenty-one (21) days of the event giving rise to the delay. The Contractor shall submit documentation and justification for the adjustment by performing a critical path analysis of its most recent schedule in use prior to the change, which shows an extension in critical path activities.

The Contractor shall notify the Architect in writing that the Contractor is making a claim for extended fixed job-site overhead as required by Section 15.1.2. The Contractor shall provide proof that the Contractor is unable to mitigate financial damages through Alternate Work within this Contract or replacement work. "Replacement Work" is that work which the Contractor is obligated to perform under any construction contract separate from this Contract. Reasonable proof shall be required by the Architect that the delays affected the Completion Date.

7.2.8 "Cost of the Work" whether General Contractor cost or Subcontractor cost shall not apply to the following:

7.2.8.1 Salaries or other compensation of the Contractor's personnel at the Contractor's principal office and branch offices.

7.2.8.2 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work.

7.2.8.3 Overhead and general expenses of any kind or the cost of any item not specifically and expressly included above in Cost of the Work.

7.2.8.4 Cost of supervision refer to section 7.2.2.1, with exception as provided in Section 7.2.7.

7.2.9 When applicable as provided by the Contract, the cost to Owner for Change Orders shall be determined by quantities and unit prices. The quantity of any item shall be as submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of Material, Labor, Equipment, Overhead and Profit.

§7.3 CONSTRUCTION CHANGE DIRECTIVES

Use the term, "Field Order" instead of Construction Change Directive. Field Order(s) requires Owner's approval.

7.3.3 In the first sentence after "following methods" insert: ", but not to exceed a specified amount".

§7.4 Minor Changes in the Work

(Add the following after the last sentence): "However, any changes which effect a reduction in quantity or quality of materials or equipment shall not be made without the written approval of the Owner."

ARTICLE 8 TIME

§8.1 Definitions

§8.1.2 (Change the words "in the Agreement" to read "by the written notice to proceed")

(Add the following Subparagraph)

§8.1.5 The date of Beneficial Occupancy shall be the date when a certain portion or portions of a project are complete to a point where they can be occupied by the Owner.

§8.2 Progress and Completion

(Delete Subparagraph 8.2.1 and substitute the following)

§8.2.1 Completion of the Work must be within the Time for Completion stated in the Agreement, subject to such extensions as may be granted under Section 8.3. The Contractor agrees to commence Work not later than fourteen (14) days after the transmittal date of Written Notice to Proceed from the Owner and to substantially complete the project within the time stated in the Contract. The Owner will suffer financial loss if the project is not substantially complete in the time set forth in the Contract Documents. The Contractor and the Contractor's Surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and stipulated damages for each consecutive calendar day (Saturdays, Sundays and holidays included) of delay until the Work is substantially complete. The Owner shall be entitled to the sum stated in the Contract Documents. Such Stipulated Damages shall be withheld by the Owner from the amounts due the Contractor for progress payments.

§8.3 Delays and Extensions of Time

§8.3.1 Change the words "by change order for such reasonable time as the Architect may determine" to read "as recommended by the Architect, subject to Owner's approval of the change order".

(Delete Subparagraph 8.3.3)

ARTICLE 9 PAYMENTS AND COMPLETION

§9.1 CONTRACT SUM

Delete Section 9.1.2.

(Delete Paragraph 9.2 and substitute the following)

§9.2 Schedule of Values

At the Pre-construction Conference, the contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

9.2.1 The Schedule of Values Form as submittal shall be on AIA Document G703.

9.2.2 Use the index (table of contents) of the specifications as a basis for format for listing costs of work for sections under Division 1 through 33. Use each section number under each division for subtitles. Each section shall be subdivided into separate line items for the total cost (with overhead and profit) of separate items in sections.

9.2.3 The Total of all items shall equal the Total Contract Sum. This schedule, when approved by the Architect, shall be used as a basis for the Contractor's Applications for Payment and it may be used for determining the cost of the Work in deductive change orders, when a specific item of Work listed on the Schedule of Values is to be removed. Once the Schedule of Values is submitted at the Pre-Construction Conference, the schedule shall not be modified without approval from the Owner and Architect..

§9.3 Applications for Payment

(Delete Subparagraph 9.3.1 and substitute the following)

§9.3.1 Monthly, the Contractor shall submit to the Architect an itemized Application of Certificate for Payment on the most recent versions of AIA Document G702, accompanied by AIA Document G703, notarized if required, supported by such data substantiating the right to payment as the Owner or the Architect may require. Application for payment shall be submitted on or about the first of each month for the value of labor and materials incorporated in the work and of material suitably stored at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows:

1. Projects with Contract sum of less than $500,000.00 - 10% of the Contract sum.
2. Projects with Contract sum of more than $500,000.00 - 5% of the Contract sum.

(Delete Subparagraph 9.3.1.1)

Delete Section 9.3.2 and substitute the following:

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, including applicable insurance.

§9.5 DECISIONS TO WITHHOLD CERTIFICATION

Section 9.5.1.7: Delete the word "repeated". Delete Section 9.5.4.

§9.6 Progress Payments

(Delete Subparagraph 9.6.1 and substitute the following)

§9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in a timely manner.

§9.8 Substantial Completion

(Delete the words "or designated portion thereof" wherever they appear in Subparagraphs 9.8.1 through 9.8.5).

§9.8.2 Delete the words "or portion thereof which the Owner agrees to accept separately" where they appear in 9.8.2.

§9.8.5 (Delete the second and third sentences of Subparagraph 9.8.5 and substitute the following): "The normal retainage shall not be due the Contractor until expiration of the forty-five-day lien period and submission to the Architect of a clear lien certificate and invoice for same".

(Add the following Subparagraphs 9.8.7)

§9.8.7 A "punch list" of "exceptions" and the dollar value related thereto will be prepared. A monetary value will be assigned to each item so that a "special" retainage can be withheld for exceptions to acceptance in addition to the "normal" retainage.

§9.9 Partial Occupancy or Use

(Delete the entire Paragraph 9.9.1 and replace with)

9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the

Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers the designated portion substantially complete the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

§9.10 Final Completion and Final Payment

§9.10.2 (Completely delete that part of the sentence following (5) and substitute the following): "Contractor shall furnish a clear lien certificate from the Clerk of Courts not less than forty-five (45) days after the recordation of acceptance. The cost of recordation shall be the responsibility of the Contractor."

§9.10 FINAL COMPLETION AND FINAL PAYMENT

Delete Section 9.10.4 and replace with the following:

9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner for the following:

9.10.4.1 Claims, security interests, or encumbrances arising out of the Contract and unsettled;

9.10.4.2 failure of the Work to comply with the requirements of the Contract Documents irrespective of when such failure is discovered;

9.10.4.3 terms of special warranties required by the Contract Documents; or

9.10.4.4 audits performed by the Owner, after final payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§10.2 SAFETY OF PERSONS AND PROPERTY

10.2.2 In the first sentence, between the words: “bearing on” and “safety”, add the words: “the health and,”

§10.3 HAZARDOUS MATERIALS

§10.3.1 In the second sentence after (PCB) add: “or lead”.

§10.3.2 After the first sentence, delete all remaining sentences.

Add at the end: “The Contract time shall be extended appropriately.” Delete Section 10.4 and substitute the following:

§10.4 EMERGENCIES

In an emergency affecting the safety of persons or property, the Contractor shall notify the Owner and Architect immediately of the emergency, simultaneously acting at his discretion to prevent damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

(Delete Article 11 in its entirety refer to Insurance Requirements in Contract Documents)

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§12.2 CORRECTION OF WORK

12.2.1 Before Substantial Completion

At the end of the paragraph, add the following sentences:

"If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner finds the Contractor in default, the Surety shall be notified. If within thirty

(30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

§12.2.2 After Substantial Completion

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences:

"If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the non-conforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety."

ARTICLE 13 MISCELLANEOUS PROVISIONS

§13.1 GOVERNING LAW

Delete all after the word "located".

§13.2 SUCCESSORS AND ASSIGNS

13.2.1 In the second sentence, delete "Except as … 13.2.2" Delete Section 13.2.2.

§13.4 TESTS AND INSPECTIONS

In Section 13.4.1, delete the second sentence and substitute the following:

The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory and shall bear all related costs of tests, inspections and approvals.

Delete the last two sentences of Section 13.4.1.

§13.5 INTEREST

Delete Section 13.5.

(Add new Paragraph 13.6)

§13.6 Recordation of Contract and Bond

§13.6.1 The Owner shall record the Agreement between the Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the parish in which the work is to be performed.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

Delete Section 14.1.1.4.

In Section 14.1.3, after the word “profit,” delete the words “on Work not executed” and substitute the following: “for Work completed prior to stoppage”.

§14.2 Termination by the Owner for Cause

Add the following Section:

14.2.1.5 failure to complete the punch list within the lien period as provided in 9.8.7.

14.2.3 Add the following sentence:

“Termination by the Owner shall not suspend assessment of stipulated damages against the Surety.”

Add the following Section:

14.2.5 If an agreed sum of stipulated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under

the stipulated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem stipulated damages.

(Add the following Subparagraph 14.2.5)

§14.2.5 If an agreed sum of stipulated damages has been established, termination by the Owner under this article will not relieve the Contractor and/or surety of his obligations under the stipulated damages provisions and the Contractor and/or surety shall be liable to the Owner for per diem stipulated damages.

ARTICLE 15 CLAIMS AND DISPUTES

15.1 CLAIMS

Delete Section 15.1.2, Time Limit on Claims, (See La R.S. 38:2189, and 38:2189.1).

15.1.3.1 Add the following to the end of the paragraph:

“A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided.”

15.1.4.2 In the first sentence of the Section, delete “Initial Decision Maker’s” and replace with “Architect’s”. In the second sentence of the Section, delete “the decision of the Initial Decision Maker” and replace with: “his/her decision”.

Delete Section 15.1.6.2 and substitute the following:

15.1.6.2 If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within twenty-one (21) days from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the project site.

15.2 INITIAL DECISION

15.2.1 In the second sentence, delete the word “will” and replace with: “shall always”. In the second sentence, delete the phrase: “, unless otherwise indicated in the Agreement.”

In the third sentence, delete the word “mediation” and replace with: “litigation”.

At the end of the third sentence, add: “arising prior to the date final payment is due”. Delete the fourth sentence.

15.2.5 In the middle of the first sentence, delete all after the phrase: “rejecting the Claim”. In the second sentence, delete the phrase: “and the Architect, if the Architect is not serving as the Initial Decision Maker,”.

In the third sentence, delete all after: “binding on the parties” and add the following:

“except that the Owner may reject the decision or suggest a compromise or both”. Delete Section 15.2.6.

Delete Section 15.2.6.1.

15.3 MEDIATION

Delete Section 15.3.

15.4 ARBITRATION

Delete Section 15.4.

(Add the following as Articles 16 – 20)

ARTICLE 16 EQUAL OPPORTUNITY

§16.1 The contractor and all subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. 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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of nondiscrimination.

§16.2 The Contractor and all Subcontractors shall, in all solicitations or advertisement for employees placed by them or on their behalf, state that all qualified applicants receive consideration for employment without regard to race, religion, color, sex or national origin.

ARTICLE 17 DOCUMENT INTENT

§17.1 The Contract Documents are intended to produce a piece of work complete in every respect and the Contractor shall furnish all things necessary to complete the work within the meaning and intent of the said documents. It shall be the responsibility of the Contractor to provide everything necessary to complete the work as enumerated in these Supplementary Conditions.

ARTICLE 18 COORDINATION OF TRADES

§18.1 The Contract Documents are intended to produce a piece of work complete in every respect and the Contractor shall furnish all things necessary to complete the Work within the meaning and intent of said documents. It shall be the responsibility of the Contractor to provide everything necessary to complete the Work.

§18.2 If installation of conduits, piping and ductwork become a problem, it will be expected that the various Subcontractors with the General Contractor will coordinate their work to complete the installation at no additional cost to the Owner.

Attention is called to priority list for installation in the Mechanical Section of this Specification as enumerated here:

1. Sanitary Drain and Waste
2. Storm Drain and Sewer
3. Acid Waste
4. Steam Supply
5. Heating Hot Water
6. Chilled Water
7. Clinical Gases
8. Air Conditioning Supply Duct
9. Sprinkler System
10. Natural Gas
11. Domestic Hot Water
12. Domestic Cold Water
13. Electric Conduit

Items not required will be deleted, but adjusted sequence will remain.

§18.3 It will be the responsibility of the Contractor and all Subcontractors to review all architectural, structural, mechanical and electrical plans. After the contract is signed, it will be the responsibility of the Contractor and all Subcontractors to provide necessary rough-in and connection, mechanical and electrical, to all items and equipment necessary to place this unit or equipment in complete operating condition. If item is shown on any one segment (architectural, structural, mechanical or electrical), it shall be considered as being required by all and will be provided with all utility hook-up at no additional cost to the Owner, unless specifically noted otherwise.

§18.4 Electrical panel locations shall be reviewed, and locations adjusted for reasonable access by conduits within walls. If structure interferes with access to panels, the panel will be relocated at no cost to the Owner. Further, if the electrical panels cannot be flush mounted two options remain:

1. If the space is 1/2” or less from the wall, provide a finished wood trim filler at perimeter of panel 2-1/2” wide with mitered corners.
2. Subcontractor shall arrange with the General Contractor to provide an increase in wall thickness so that the panel may be flush mounted with no additional cost to the Owner.

§18.5 Plans will generally be complete with regard to pipe chases and furred areas. If additional furring is required, this should be called to the attention of the Architect for an addendum. After the contract is signed it will be the responsibility of the Contractor to provide all pipe chases, increases in wall dimension and other furring necessary to the completion of the project with required finishes at no additional cost to the Owner. No exposed piping or conduit will be permitted.

ARTICLE 19 PRODUCT AND COLOR SELECTIONS

§19.1 Although one carpet, vinyl wall covering, paint and/or other similar items are specified and scheduled, it is not the intent of the documents to use a single selection for all such scheduled areas.

ARTICLE 20 OPEN WALL AND CEILING INSPECTION

§20.1 No finish material or construction will be issued on walls, partitions and ceilings until a representative of the Architect in the presence of the General Contractor and his Subcontractors make an open wall inspection of all plumbing piping, fixtures, supports, electrical conduit wall bracing, duct work and support, etc. Contractor will notify Architect forty-eight (48) hours prior to requested inspection.

PERFORMANCE AND PAYMENT BOND

To these presents personally came and intervene_____, herein acting for _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business in the State of Louisiana, as surety, who declared that having taken cognizance of this contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney-In-Fact obligates his said company, as Surety for the said Contractor, unto the said Owner, Lake Charles Ward 3 Recreation, up to the sum of _____($_____)DOLLARS.

The condition of this performance and payment bond shall be that should the Contractor herein not perform the contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Owner, Lake Charles Ward 3 Recreation, from all costs and damages which he may suffer by said Contractor's non-performance or should said Contractor not pay all persons who have and fulfill obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example workmen, laborers, mechanics, and furnishers of materials, machinery, equipment, and fixtures, then said Surety agrees and is bound to so perform the contract and make said payment(s).

Provided, that any alterations which may be made in the terms, of the contract or in the work to be done under it, or the giving by the Owner, Lake Charles Ward 3

Recreation, of any extensions of time for the performance of the contract, or any other forbearance on the part of either the Owner, Lake Charles Ward 3 Recreation, or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions, or other forbearance being hereby waived.

IN WITNESS WHEREOF, the parties herein on this _____ day of _____, 20___, have executed this agreement in five (5) counterparts, each of which shall, without proof of accountancy for the other counterparts, be deemed an original thereof.

WITNESSES: As to Principal

_____ _____

_____ _____

WITNESSES: As to Surety

_____ _____
SURETY

_____

_____ _____
(Attorney-In-Fact)

_____

LOUISIANA DEPARTMENT of REVENUE

Public Projects Contractor/Subcontractor

Sales Tax Certification and Exemption Application
Louisiana Revised Statute 47:305.7(A)(1)(b)

For questions about this form, please contact:
Louisiana Department of Revenue
Taxpayer Compliance - SES Division
Phone: (855) 307-3893
Email: LDRSales.ExemptionApplications@la.gov

This form is for use by contractors and subcontractors when applying for certification and exemption from the collection of sales tax in accordance with La. R.S. 47:305.7(A)(1)(b).

Please complete the application below and return it via email to LDRSales.ExemptionApplications@la.gov along with a copy of the executed contract.

Applicant Information

Contractor Legal Name	LDR Sales Tax Account Number		
Contractor Trade Name			
Physical Address	City	State	ZIP
Mailing Address	City	State	ZIP
Contact Person	Contact Number		
Email Address			

Public Entity Information

Public Entity	LDR Sales Tax Account Number *(if applicable)*

Contract Information

Contract Number	Contract Beginning Date *(mm/dd/yyyy)*	Contract End Date *(mm/dd/yyyy)*
Contract Description		

Please select the legal status of the public entity listed above:

- ☐ State agency, board, or commission
- ☐ Municipal government or instrumentality thereof
- ☐ Public charter school (La. R.S. 17:3971-4001)
- ☐ Hospital service district
- ☐ Public housing authority
- ☐ Parish government or instrumentality thereof
- ☐ Parish school board or public school
- ☐ Law enforcement district
- ☐ Waterworks district
- ☐ Parish and municipal libraries
- ☐ Other _____

Under the penalty of perjury, I declare that I am authorized to sign this application on behalf of the above named contractor, and that I have examined this application, and to the best of my knowledge, it is true, correct, and complete.

Name *(Please print)*	Title
Signature	Date *(mm/dd/yyyy)*

A copy of the contract with all parties' signatures must be attached to the application. Failure to provide a copy of the contract will result in delays in the evaluation process.

Lake Charles Ward 3 Recreation

CHANGE ORDER

PROJECT NAME:	Enos Derbonne Sports Complex Outdoor Pickleball Courts		
PROJECT NUMBER:	VSG# 2448	CHANGE ORDER No.:	
CONTRACTOR:		CONTRACT DATE:	
		PURCHASE ORDER No.:	

You are directed to make the following change(s) in this contract. Attach SUMMARY, BREAKDOWN and/or UNIT PRICE BREAKDOWN forms as required and give a brief description of the change(s) below.

The Original Contract Sum		
Total Changes by Previous Change Order(s)		
Current Contract Sum		
Contract Sum will be (increased) (decreased) (unchanged) by this Change Order		
New Contract Sum		

The Original Contract Completion Date and Contract Time.	Date:		DAYS
Total Time extended by Previous Change Order(s)			DAYS
Contract Time will be (increased) (decreased) (unchanged) by this Change Order			DAYS
New Contract Completion Date & Revised Contract Time	Date:		DAYS

RECOMMENDED	**ACCEPTED**	**APPROVED**
Designer's Name:	Contractor's Name:	Police Jury President
Address:	Address:	Calcasieu Parish Police Jury Post Office Box 1583
Email Address:	Email Address:	Lake Charles, LA 70602-
By:	By:	By:
Date:	Date:	Date:

Construction Contract Change Order
SUMMARY

Lake Charles Ward 3 Recreation

Item No. _____

RFI No. (or COR, CPR, etc.) _____

Project No. VSG# 2448

Date: _____

Project Name: Enos Derbonne Sports Complex Outdoor Pickleball Courts

Contractor Name: _____

Description of Work: _____

General Contractor Direct Costs - Breakdown No. ____ _____
(See attached breakdown)

Total General Contractor Cost ____ % _____
(General Contract Direct Cost plus OH&P) (Max: 8%)

Subcontractor Cost Breakdowns
(See attached.)

Subcontractor Name	Breakdown No.	A Total Direct Cost	B OH&P (Max 8%)	C Total A+(A X B)
			%	
			%	
			%	
			%	
			%	
			%	
			%	
			%	

Subcontractor Direct Costs Total $ -
(Sum column A)

Subcontractor Direct Costs + Subcontractor OH&P
(Sum column C)

General Contractor OH&P on Subcontractor Direct Cost at ____ % _____
(Sum column A times General Contractor OH&P rate.) (Max: 8%)

Total Subcontractor Costs
(Subcontractor Direct Costs + OH&P + General Contractor OH&P)

Change Order Subtotal
(Sum of Total General Contractor Costs and Total Subcontractor Costs)

Performance and Payment Bond at ____ %
(Change Order Subtotal times Performance and Payment Bond rate)

Amount will be ☐ increased ☐ decreased ☐ unchanged by
(Sum of Change Order Subtotal and Performance and Payment Bond)

Days will be ☐ increased ☐ decreased ☐ unchanged by
(Attach supporting data such as meteorological reports)

Construction Contract Change Order

BREAKDOWN

Lake Charles Ward 3 Recreation

Breakdown No. _____

Item No. _____

Project No. VSG# 2448

RFI No. (or COR, CPR, etc.) _____

Date: _____

Project Name: Enos Derbonne Sports Complex Outdoor Pickleball Courts

Contractor/Subcontractor Name: _____

Direct Cost of Work :

A. Labor Check here if explained on the Comment Sheet ➘

			Hourly Wage Rate	Hours	Total Cost
1		☐			
2		☐			
3		☐			
4		☐			
5		☐			
6		☐			
7		☐			
			Add Labor Burden @	____ %	
			LABOR TOTAL		

B. Material

			Unit Price	Unit	Units	Total Cost
1		☐				
2		☐				
3		☐				
4		☐				
5		☐				
6		☐				
7		☐				
	(Copies of invoices may be required.)		Add Tax @		____ %	
			MATERIAL TOTAL			

C. Equipment

			Unit Rate	Unit	Units	Total Cost
1		☐				
2		☐				
3		☐				
4		☐				
5		☐				
6		☐				
7		☐				
	(Copies of invoices may be required.)		Add Tax @		____ %	
			EQUIPMENT TOTAL			

TOTAL DIRECT COST FOR THIS BREAKDOWN:

(Sum A, B & C)

Construction Contract Change Order

BREAKDOWN COMMENT SHEET

Lake Charles Ward 3 Recreation

Breakdown No. _____

Item No. _____

Project No. VSG# 2448

RFI No. (or COR, CPR, etc.) _____

Date: _____

Project Name: Enos Derbonne Sports Complex Outdoor Pickleball Courts

Contractor/Subcontractor Name: _____

A. Labor

No. (From BREAKDOWN Sheet)

B. Material

C. Equipment

Construction Contract Change Order

UNIT PRICE BREAKDOWN

Lake Charles Ward 3 Recreation

Project No. VSG# 2448

Project Name: _____

Breakdown No. _____

Item No. _____

RFI No. (or COR, CPR, etc.) _____

Date: _____

Contractor/Subcontractor Name: _____

Unit Price Tabulation

(Unit prices must be included in the bid or clearly defined in a standard, industry recognized pricing reference. The pricing reference shall be identified herein.)

Unit Price Description	Reference*	Unit Price	Units	Total

* Reference Legend: _____

Unit Price Total:
(Sum Total column)

Facility Management Department

Instructions for Change Order Back Up Forms

The General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition, and the Supplementary Conditions provide for changes in the contract in the form of change orders. The costs of such changes must be carefully, clearly and accurately documented. The Calcasieu Parish Police Jury has adopted in part the Louisiana State Facility Planning & Control Change Order documentation process which has prepared a set of forms to be used to provide this documentation in a consistent format that is in accordance with the Contract Change orders will typically contain one or more items of work. Each item of work will typically include work by the general contractor and/or one or more subcontractors. The documentation begins with a breakdown of the work of the contractor and each subcontractor. This is prepared using the form entitled "BREAKDOWN." One form for the General Contractor and one for each subcontractor. Each breakdown will be summarized on the form entitled "SUMMARY." Each item of work will, in turn, be summarized on the change order itself. This should be on the face of the change order.

The forms are available as a Microsoft Excel worksheet for ease of preparation, with formulas established for mark-ups and other basic mathematical operations.
These forms are to be used as provided. Any alteration to the forms may cause the change order to be rejected.

GENERAL:

(Refer to Article 7 of the Supplementary and General Conditions)

Forms - There are five forms to be used for all Facility Planning and Control change orders: CHANGE ORDER form, SUMMARY, BREAKDOWN, BREAKDOWN COMMENT SHEET and UNIT PRICE BREAKDOWN. The CHANGE ORDER form is the highest level and is the official, signed document. A CHANGE ORDER form may include one or more items of work, each of which is backed up by a SUMMARY. Each SUMMARY will be backed up with one or more BREAKDOWNs. Any unusual rates, unit costs or quantities may be explained on the COMMENT SHEET. It's simple. The BREAKDOWN form must be used for the general contractor and any subcontractor, at any level, that is to get OH&P. Use as many as needed.

Unit Pricing - Labor, material and equipment breakdown is the standard method of pricing change orders for Facility Planning and Control. However, unit pricing may be considered in some circumstances if the unit prices are clearly established such as by unit prices that were included in the bid. These prices may also be derived from a construction industry standard reference such as R.S. Means. If unit prices were included in the bid they are acceptable for pricing change order work and, in fact, must be used for any work that is included in the change order for which they were established . The UNIT PRICE BREAKDOWN is provided for this purpose.

CHANGE ORDER:

Project identification information: Complete as required. The Site Code, State ID and CFMS / SRM No(s). (contract numbers) can be obtained from the FP&C Project Manager.

Description: This will include a list of each attached SUMMARY that makes up this change order and a brief statement of the work included in each.

New Contract Sum: Calculate the new contract amount using the original contract amount, previous change orders and the new change order. Select the appropriate word for increase, decrease or unchanged, and delete the terms that don't apply.

New Contract Completion Date and Revised Time: Calculate the new contract time using the original Contract Completion Date and Contract Time, previous changes in time and the change in time by this change order. Select the appropriate word for increase, decrease or unchanged and delete the terms that don't apply. Show days in the main column and the date in the blank indicated.

Added Building Area: Show any building area added by this change order. If none, enter "None."

RECOMMENDED: Show the Designer's name and address, sign on the line indicated as "By:" and date on the indicated line.

ACCEPTED: Show the Contractor's name and address, sign on the line indicated as "By:" and date on the indicated line.

APPROVED: For approval by Calcasieu Parish Police Jury

SUMMARY:

(Refer to Article 7 of the Supplementary and General Conditions)

Item No.: Show the Item number as it will appear on the CHANGE ORDER Form. Note: This may be one of several items included in one CHANGE ORDER form.

RFI No.: Show the number of the request for information. This may be known by another name such as COR (Change Order Request,) CPR (Change Proposal Request,) etc.

Project No., WBS No., Date, Project Name. Complete as appropriate.

Contractor: Name of General Contractor.

Description of Work: Give a brief description of the work included in this **Item**.

General Contractor Direct Costs: Show the total General Contractor Cost from the BREAKDOWN and show the Breakdown No. in the space provided.

General Contractor Total Cost: Show the total General Contractor Cost plus the General Contractor's overhead and profit. The overhead and profit shall not exceed 8% of the Direct Cost.

Subcontractor Cost Breakdowns: List each subcontractor, Breakdown No. and Total Direct Cost (in column "A") from the attached BREAKDOWN sheets. Show the subcontractor's overhead and profit percentage in column "B" and show the calculated total of the direct cost plus the percentage of the direct cost in column "C." If the electronic version of the form is being used, column "C" will be automatically calculated. The overhead and profit shall not exceed 8% of the Total Direct Cost.

Subcontractor Direct Costs Total: Sum of column "A." This will be used to calculate the General Contractor's overhead and profit on the subcontractors' work. If the electronic version is being used, this will be an automatic calculation.

Subcontractor Direct Costs + Subcontractor OH&P: Sum of column "C." This represents the total amount that subcontractors will be paid. Automatic calculation.

General Contractor OH&P on Subcontractor Direct Cost at ___%. The contractors overhead and profit on the subcontractors' direct cost (without subcontractor OH&P.) Enter the percentage of the contractor's OH&P on the subcontractors' work (not to exceed 8%) and show the calculated total of the subcontractors' direct cost plus the percentage of the direct cost in the space. Automatic calculation.

Total Subcontractor Costs: Total of the last two spaces.

Change Order Subtotal: Total of change order except bond.

Performance and Payment Bond at ____%: Enter bond percentage (from amount provided by the contractor at the Pre-Construction Conference) and calculate the amount for the bond.

Amount will be (increased) (decreased) (unchanged) by: Add bond and calculate total change order amount. Indicate "increase," "decrease" or "unchanged", and **delete the terms that don't apply**.

Days will be (increased) (decreased) (unchanged) by: Show the number of days to be added or deleted from the contract, if any, due to changes in scope, adverse weather, unusual delays or other factors, **only** if it is proven the critical path is affected. Note that a change in scope does not necessarily indicate a change in time. Indicate "increased," "decreased" or "unchanged", and **delete the terms that don't apply**.

BREAKDOWN:

Item No. Show the Item number as it will appear on the CHANGE ORDER Form and the SUMMARY. Note: This may be one of several items included in one CHANGE ORDER form.

RFI No.: Show the number of the request for information. This may be known by another name such as COR (Change Order Request,) CPR (Change Proposal Request,) etc.

Project No., WBS No., Date, Project Name. Complete as appropriate.

Contractor: Name of General Contractor or Subcontractor.

Direct Cost of Work:

Check here if explained on the Comment Sheet: If rates, unit costs or quantities may appear unreasonable compared to standard costs or quantities the reasons may be explained on the attached comment sheet and the box checked to indicate that there is an explanation.

A. Labor: Include the "wages paid" hourly direct labor and/or foreman necessary to perform the required change. "Wages paid" is the amount actually paid the employee, not the fully burdened charge rate used in the bid, etc. Supervisory personnel in district or home office shall not be included. Do not include the project superintendent, except as permitted by Section 7.2 of Supplementary Conditions. Supervisory personnel on the job-site, but with broad supervisory responsibility shall not be included as Direct Labor, except as permitted by Section 7.2 of Supplementary Conditions. Typically there will be only one superintendent on the job and his/her time shall not be included, except as permitted by Section 7.2 of Supplementary Conditions. Typically all other employees are eligible for inclusion. List by job title each person employed on the work, his/her hourly rate, the number hours work and the extended Total Cost. Do not list crews unless the rates for them are readily available in standard cost estimating references such as R. S. Means. Add the labor burden that was provided at the Pre-Construction conference and in compliance with the Contract Documents, and total the amounts in LABOR TOTAL.

B. Material: Include the acquisition cost of all materials directly required to perform the required change. List each material used in the work, the price per unit, name of the unit, the number of units used and the extended Total Cost. Add the tax rate and tax and total the amounts in MATERIAL TOTAL.

C. Equipment: Include the rental cost of equipment items necessary to perform the change. For company-owned equipment items, include documentation of internal rental rates submitted at the pre-construction conference. Charges for small tools, and craft specific tools are not allowed. List each piece of equipment used in the work, the rate by units of time (hour, day, week, etc.,) number of units of time the piece was in service on the work and the extended total cost. Add the tax rate, calculate the tax and total the amounts in EQUIPMENT TOTAL.

TOTAL DIRECT COST FOR THIS BREAKDOWN: Total of A. Labor, B. Material and C. Equipment. This is the amount that will be carried forward to the SUMMARY Sheet. This amount does **NOT** include Overhead and Profit. This will be added on the SUMMARY Sheet.

COMMENTS SHEET:

The COMMENTS SHEET uses the same heading as the SUMMARY and BREAKDOWN.

The COMMENTS SHEET includes three sections, one each for A. Labor, B. Materials and C. Equipment. These correspond to the sections in the BREAKDOWN. Each comment should be entered in the section to which it corresponds on the BREAKDOWN and numbered to correspond to the appropriate line. Comments are to used only to explain unusual rates, costs or quantities.

UNIT PRICE BREAKDOWN:

The UNIT PRICE BREAKDOWN uses the same heading as the BREAKDOWN.

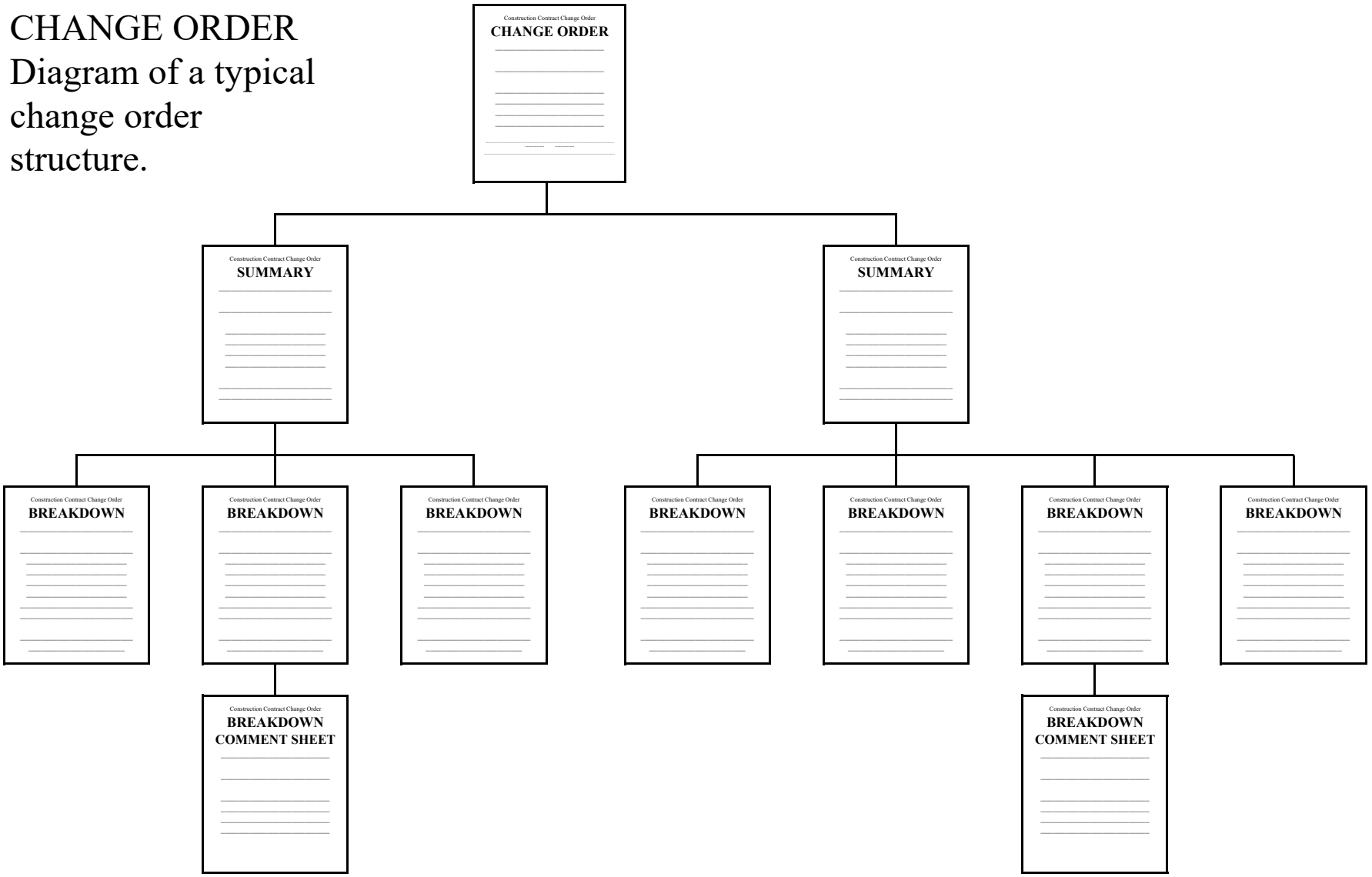
The UNIT PRICE BREAKDOWN is similar to the BREAKDOWN.

Unit Price Tabulation: Each unit price is listed along with its corresponding price and the number of units used in the work. The price and number of units are multiplied to provide the total cost of each unit price item. The pricing reference, such as the bid form for the project or a construction industry standard reference, must be cited for each unit price. This may be more fully described in "Reference Legend,"

Unit Price Total: Sum the unit prices to obtain the total cost for unit prices.

CHANGE ORDER

Diagram of a typical change order structure.



Lake Charles Ward 3 Recreation

SCHEDULE OF VALUES

Project No. VSG# 2448 Date:

Project Name: Enos Derbonne Sports Complex Outdoor Pickleball Courts

The Contractor is to use the following format. The total Contract Cost is to be itemized in each Subsection listed (as applicable)

List of Applicable Divisions	
Divisions	**Description**
01 00 00	General Requirements
02 00 00	Existing Conditions
03 00 00	Concrete
04 00 00	Masonry
05 00 00	Metals
06 00 00	Wood, Plastics, and Composites
07 00 00	Thermal and Moisture Protection
08 00 00	Openings
09 00 00	Finishes
10 00 00	Specialties
11 00 00	Equipment
12 00 00	Furnishings
13 00 00	Special Construction
14 00 00	Conveying Equipment
21 00 00	Fire Suppression
22 00 00	Plumbing
23 00 00	Heating, Ventilating, and Air Conditioning (HVAC)
25 00 00	Integrated Automation
26 00 00	Electrical
27 00 00	Communications
28 00 00	Electronic Safety and Security
31 00 00	Earthwork
32 00 00	Exterior Improvements
33 00 00	Utilities
34 00 00	Transportation
35 00 00	Waterway and Marine Construction
40 00 00	Process Interconnections
41 00 00	Material Processing and Handling Equipment
42 00 00	Process Heating, Cooling, and Drying Equipment
43 00 00	Process Gas and Liquid Handling, Purification, and Storage Equipment
44 00 00	Pollution and Waste Control Equipment
45 00 00	Industry Specific Manufacturing Equipment
46 00 00	Water and Wastewater Equipment
48 00 00	Electrical Power Generation

DIVISION 01	GENERAL REQUIREMENTS	Quantity	Cost	Total
01 10 00.11	Project Information and Services		$ -	$ -
01 35 00	Special Procedures		$ -	$ -
01 35 46	Indoor Air Quality Procedures		$ -	$ -
01 40 00	Quality Requirements		$ -	$ -
01 41 00	Regulatory Requirements		$ -	$ -
01 41 13	Codes		$ -	$ -
01 42 00	References		$ -	$ -
01 42 19	Reference Standards		$ -	$ -
01 45 00	Quality Control		$ -	$ -
01 45 23	Testing and Inspecting Services		$ -	$ -
01 45 29	Testing Laboratory Services		$ -	$ -
01 50 00	Temporary Facilities and Controls		$ -	$ -
01 52 00	Construction Facilities		$ -	$ -
01 52 19	Sanitary Facilities		$ -	$ -
01 54 00	Construction Aids		$ -	$ -
01 54 13	Temporary Elevators		$ -	$ -
01 54 16	Temporary Hoists		$ -	$ -
01 54 19	Temporary Cranes		$ -	$ -
01 54 23	Temporary Scaffolding and Platforms		$ -	$ -
01 57 00	Temporary Controls		$ -	$ -
01 57 13	Temporary Erosion and Sediment Control		$ -	$ -
01 61 00	Common Product Requirements		$ -	$ -
01 61 13	Software Licensing Requirements		$ -	$ -
01 66 00	Product Storage and Handling Requirements		$ -	$ -
01 71 23	Field Engineering		$ -	$ -
01 71 23.16	Construction Surveying		$ -	$ -
01 74 00	Cleaning and Waste Management		$ -	$ -
01 74 19	Construction Waste Management and Disposal		$ -	$ -
01 76 00	Protecting Installed Construction		$ -	$ -
01 81 00	Facility Performance Requirements		$ -	$ -
01 81 13	Sustainable Design Requirements		$ -	$ -
01 81 19	Indoor Air Quality Requirements		$ -	$ -
01 90 00	Life Cycle Activities		$ -	$ -
	SUBTOTAL	$		-

DIVISION 02	EXISTING CONDITIONS	Quantity	Cost	Total
02 05 00	Common Work Results for Existing Conditions		$ -	$ -
02 05 19	Geosynthetics for Existing Conditions		$ -	$ -
02 05 19.13	Geotextiles for Existing Conditions		$ -	$ -
02 05 19.16	Geomembranes for Existing Conditions		$ -	$ -
02 05 19.19	Geogrids for Existing Conditions		$ -	$ -
02 32 00	Geotechnical Investigations		$ -	$ -
02 32 16	Material Testing		$ -	$ -
02 40 00	Demolition and Structure Moving		$ -	$ -
02 41 00	Demolition		$ -	$ -
02 42 00	Removal and Salvage of Construction Materials		$ -	$ -
02 43 00	Structure Moving		$ -	$ -
02 50 00	Site Remediation		$ -	$ -
02 55 00	Remediation Soil Stabilization		$ -	$ -
02 56 00	Site Containment		$ -	$ -
02 56 13	Waste Containment		$ -	$ -
02 57 13	Sinkhole Remediation by Grouting		$ -	$ -
02 80 00	Facility Remediation		$ -	$ -
02 81 00	Transportation and Disposal of Hazardous Materials		$ -	$ -
02 82 00	Asbestos Remediation		$ -	$ -
02 82 13	Asbestos Abatement		$ -	$ -
02 86 00	Hazardous Waste Drum Handling		$ -	$ -
02 87 13	Mold Remediation		$ -	$ -
	SUBTOTAL	$		-

DIVISION 03	CONCRETE	Quantity	Cost	Total
03 01 00	Maintenance of Concrete		$ -	$ -
03 05 00	Common Work Results for Concrete		$ -	$ -
03 10 00	Concrete Forming and Accessories		$ -	$ -
03 11 00	Concrete Forming		$ -	$ -
03 11 13	Structural Cast in Place Concrete Forming		$ -	$ -
03 11 13.13	Concrete Slip Forming		$ -	$ -
03 11 16	Architectural Cast in Place Concrete Forming		$ -	$ -
03 11 16.13	Concrete Form Liners		$ -	$ -
03 11 19	Insulating Concrete Forming		$ -	$ -
03 15 00	Concrete Accessories		$ -	$ -
03 15 13	Waterstops		$ -	$ -
03 15 16	Concrete Construction Joints		$ -	$ -
03 20 00	Concrete Reinforcing		$ -	$ -
03 21 00	Reinforcement Bars		$ -	$ -
03 21 11	Plain Steel Reinforcement Bars		$ -	$ -
03 21 19	Stainless Steel Reinforcement Bars		$ -	$ -
03 21 21	Composite Reinforcement Bars		$ -	$ -
03 22 00	Fabric and Grid Reinforcing		$ -	$ -
03 24 00	Fibrous Reinforcing		$ -	$ -
03 25 00	Composite Reinforcing		$ -	$ -
03 25 16	Organic Fiber Reinforced Polymer Reinforcing		$ -	$ -
03 25 19	Carbon Fiber Reinforced Polymer Reinforcing		$ -	$ -
03 30 00	Cast		$ -	$ -
03 33 00	Architectural Concrete		$ -	$ -
03 35 00	Concrete Finishing		$ -	$ -
03 35 19	Colored Concrete Finishing		$ -	$ -
03 35 33	Stamped Concrete Finishing		$ -	$ -
03 35 43	Polished Concrete Finishing		$ -	$ -
03 37 00	Specialty Placed Concrete		$ -	$ -
03 37 13	Shotcrete		$ -	$ -
03 37 16	Pumped Concrete		$ -	$ -
03 38 00	Post Tensioned Concrete		$ -	$ -
03 39 00	Concrete Curing		$ -	$ -
03 39 23	Membrane Concrete Curing		$ -	$ -
03 39 23.23	Sheet Membrane Concrete Curing		$ -	$ -
03 40 00	Precast Concrete		$ -	$ -
03 41 00	Precast Structural Concrete		$ -	$ -
03 41 13	Precast Concrete Hollow Core Planks		$ -	$ -
03 41 16	Precast Concrete Slabs		$ -	$ -
03 41 23	Precast Concrete Stairs		$ -	$ -
03 41 33	Precast Structural Pretensioned Concrete		$ -	$ -
03 41 36	Precast Structural Post Tensioned Concrete		$ -	$ -
03 45 00	Precast Architectural Concrete		$ -	$ -
03 45 33	Precast Architectural Pretensioned Concrete		$ -	$ -
03 45 36	Precast Architectural Post Tensioned Concrete		$ -	$ -
03 47 13	Tilt Up Concrete		$ -	$ -
03 47 16	Lift Slab Concrete		$ -	$ -
03 48 00	Precast Concrete Specialties		$ -	$ -
03 48 13	Precast Concrete Bollards		$ -	$ -
03 48 16	Precast Concrete Splash Blocks		$ -	$ -
03 48 19	Precast Concrete Stair Treads		$ -	$ -
03 48 33	Precast Pre Framed Concrete Panels		$ -	$ -
03 48 43	Precast Concrete Trim		$ -	$ -
03 49 00	Glass Fiber Reinforced Concrete		$ -	$ -
03 49 43	Glass Fiber Reinforced Concrete Trim		$ -	$ -
03 50 00	Cast Decks and Underlayment		$ -	$ -
03 51 13	Cementitious Wood Fiber Decks		$ -	$ -
03 52 00	Lightweight Concrete Roof Insulation		$ -	$ -
03 53 00	Concrete Topping		$ -	$ -
03 54 00	Cast Underlayment		$ -	$ -
03 54 13	Gypsum Cement Underlayment		$ -	$ -
03 60 00	Grouting		$ -	$ -
03 61 00	Cementitious Grouting		$ -	$ -
03 61 13	Dry Pack Grouting		$ -	$ -
03 62 00	Non Shrink Grouting		$ -	$ -

03 63 00	Epoxy Grouting		$ -	$ -
03 80 00	Concrete Cutting and Boring		$ -	$ -
03 81 00	Concrete Cutting		$ -	$ -
03 82 00	Concrete Boring		$ -	$ -
03 82 13	Concrete Core Drilling		$ -	$ -
	SUBTOTAL	$		-
DIVISION 04	**MASONRY**	**Quantity**	**Cost**	**Total**
04 01 00	Maintenance of Masonry		$ -	$ -
04 01 20	Maintenance of Unit Masonry		$ -	$ -
04 01 20.41	Unit Masonry Stabilization		$ -	$ -
04 01 20.91	Unit Masonry Restoration		$ -	$ -
04 01 40	Maintenance of Stone Assemblies		$ -	$ -
04 01 40.91	Stone Restoration		$ -	$ -
04 05 00	Common Work Results for Masonry		$ -	$ -
04 05 13	Masonry Mortaring		$ -	$ -
04 05 13.16	Chemical Resistant Masonry Mortaring		$ -	$ -
04 05 13.23	Surface Bonding Masonry Mortaring		$ -	$ -
04 05 13.91	Masonry Restoration Mortaring		$ -	$ -
04 05 16	Masonry Grouting		$ -	$ -
04 05 19	Masonry Anchorage and Reinforcing		$ -	$ -
04 05 19.16	Masonry Anchors		$ -	$ -
04 05 19.29	Stone Anchors		$ -	$ -
04 05 23	Masonry Accessories		$ -	$ -
04 05 23.13	Masonry Control and Expansion Joints		$ -	$ -
04 05 23.19	Masonry Cavity Drainage, Weepholes, and Vents		$ -	$ -
04 20 00	Unit Masonry		$ -	$ -
04 21 00	Clay Unit Masonry		$ -	$ -
04 21 13	Brick Masonry		$ -	$ -
04 21 13.13	Brick Veneer Masonry		$ -	$ -
04 21 16	Ceramic Glazed Clay Masonry		$ -	$ -
04 21 19	Clay Tile Masonry		$ -	$ -
04 21 23	Structural Clay Tile Masonry		$ -	$ -
04 21 26	Glazed Structural Clay Tile Masonry		$ -	$ -
04 22 00	Concrete Unit Masonry		$ -	$ -
04 22 00.13	Concrete Unit Veneer Masonry		$ -	$ -
04 22 23	Architectural Concrete Unit Masonry		$ -	$ -
04 22 23.26	Sound Absorbing Concrete Unit Masonry		$ -	$ -
04 23 00	Glass Unit Masonry		$ -	$ -
04 23 13	Vertical Glass Unit Masonry		$ -	$ -
04 23 16	Glass Unit Masonry Floors		$ -	$ -
04 23 19	Glass Unit Masonry Skylights		$ -	$ -
04 25 00	Unit Masonry Panels		$ -	$ -
04 27 00	Multiple Wythe Unit Masonry		$ -	$ -
04 40 00	Stone Assemblies		$ -	$ -
04 40 00.11	Agglomerate*		$ -	$ -
04 40 00.14	Bluestone*		$ -	$ -
04 40 00.17	Granite*		$ -	$ -
04 40 00.21	Limestone*		$ -	$ -
04 40 00.24	Marble*		$ -	$ -
04 40 00.27	Sandstone*		$ -	$ -
04 40 00.31	Slate*		$ -	$ -
04 42 00	Exterior Stone Cladding		$ -	$ -
04 43 00	Stone Masonry		$ -	$ -
04 43 13	Stone Masonry Veneer		$ -	$ -
04 47 00	Reconstructed Stone		$ -	$ -
04 50 00	Refractory Masonry		$ -	$ -
04 51 00	Flue Liner Masonry		$ -	$ -
04 60 00	Corrosion Resistant Masonry		$ -	$ -
04 61 00	Chemical Resistant Brick Masonry		$ -	$ -
04 70 00	Manufactured Masonry		$ -	$ -
04 71 00	Manufactured Brick Masonry		$ -	$ -
04 72 00	Cast Stone Masonry		$ -	$ -
04 73 00	Manufactured Stone Masonry		$ -	$ -
	SUBTOTAL	$		-

DIVISION 05	METALS	Quantity	Cost	Total
05 01 00	Maintenance of Metals		$ -	$ -
05 01 10	Maintenance of Structural Metal Framing		$ -	$ -
05 05 00	Common Work Results for Metals		$ -	$ -
05 05 13	Shop Applied Coatings for Metal		$ -	$ -
05 05 23	Metal Fastenings		$ -	$ -
05 05 53	Security Metal Fastenings		$ -	$ -
05 10 00	Structural Metal Framing		$ -	$ -
05 12 00	Structural Steel Framing		$ -	$ -
05 12 13	Architecturally Exposed Structural Steel Framing		$ -	$ -
05 12 16	Fabricated Fireproofed Steel Columns		$ -	$ -
05 12 23	Structural Steel for Buildings		$ -	$ -
05 12 33	Structural Steel for Bridges		$ -	$ -
05 14 00	Structural Aluminum Framing		$ -	$ -
05 15 00	Wire Rope Assemblies		$ -	$ -
05 17 00	Structural Rod Assemblies		$ -	$ -
05 20 00	Metal Joists		$ -	$ -
05 30 00	Metal Decking		$ -	$ -
05 31 00	Steel Decking		$ -	$ -
05 33 00	Aluminum Decking		$ -	$ -
05 40 00	Cold Formed Metal Framing		$ -	$ -
05 45 00	Metal Support Assemblies		$ -	$ -
05 45 13	Mechanical Metal Supports		$ -	$ -
05 45 16	Electrical Metal Supports		$ -	$ -
05 50 00	Metal Fabrications		$ -	$ -
05 51 00	Metal Stairs		$ -	$ -
05 51 00.11	Prefabricated Stairs and Ramps*		$ -	$ -
05 51 17	Alternating Tread Stairs		$ -	$ -
05 51 23	Metal Fire Escapes		$ -	$ -
05 51 33	Metal Ladders		$ -	$ -
05 51 33.13	Vertical Metal Ladders		$ -	$ -
05 51 33.16	Inclined Metal Ladders		$ -	$ -
05 51 33.23	Alternating Tread Ladders		$ -	$ -
05 52 00	Metal Railings		$ -	$ -
05 52 13	Pipe and Tube Railings		$ -	$ -
05 53 00	Metal Gratings		$ -	$ -
05 53 13	Bar Gratings		$ -	$ -
05 53 16	Plank Gratings		$ -	$ -
05 54 00	Metal Floor Plates		$ -	$ -
05 55 00	Metal Stair Treads and Nosings		$ -	$ -
05 55 13	Metal Stair Treads		$ -	$ -
05 55 16	Metal Stair Nosings		$ -	$ -
05 56 00	Metal Castings		$ -	$ -
05 58 00	Formed Metal Fabrications		$ -	$ -
05 58 13	Column Covers		$ -	$ -
05 58 16	Formed Metal Enclosures		$ -	$ -
05 59 00	Metal Specialties		$ -	$ -
05 59 63	Detention Enclosures		$ -	$ -
05 70 00	Decorative Metal		$ -	$ -
05 70 00.11	Decorative Woven Metal Fabrics*		$ -	$ -
05 71 00	Decorative Metal Stairs		$ -	$ -
05 71 13	Fabricated Metal Spiral Stairs		$ -	$ -
05 73 00	Decorative Metal Railings		$ -	$ -
05 73 13	Glazed Decorative Metal Railings		$ -	$ -
05 73 16	Wire Rope Decorative Metal Railings		$ -	$ -
05 74 00	Decorative Metal Castings		$ -	$ -
05 75 00	Decorative Formed Metal		$ -	$ -
05 75 00.11	Perforated and Expanded Metals		$ -	$ -
05 76 00	Decorative Forged Metal		$ -	$ -
	SUBTOTAL	$		-

DIVISION 06	WOOD, PLASTICS, & COMPOSITES	Quantity	Cost	Total
06 01 00	Maintenance of Wood, Plastics, and Composites		$ -	$ -
06 01 10.91	Rough Carpentry Restoration		$ -	$ -
06 01 20.91	Finish Carpentry Restoration		$ -	$ -
06 01 40.91	Architectural Woodwork Restoration		$ -	$ -

06 05 00	Common Work Results for Wood, Plastics, and Composites		$ -	$ -
06 05 00.11	Trade Associations for Wood, Plastics, and Composites*		$ -	$ -
06 05 23.11	Adhesives*		$ -	$ -
06 05 23.14	Connectors and Supports*		$ -	$ -
06 05 73	Wood Treatment		$ -	$ -
06 05 83	Shop Applied Wood Coatings		$ -	$ -
06 10 00	Rough Carpentry		$ -	$ -
06 11 00	Wood Framing		$ -	$ -
06 11 13	Engineered Wood Products		$ -	$ -
06 11 16	Mechanically Graded Lumber		$ -	$ -
06 12 00	Structural Panels		$ -	$ -
06 12 13	Cementitious Reinforced Panels		$ -	$ -
06 12 16	Stressed Skin Panels		$ -	$ -
06 13 00	Heavy Timber Construction		$ -	$ -
06 13 13	Log Construction		$ -	$ -
06 13 23	Heavy Timber Framing		$ -	$ -
06 13 26	Heavy Timber Trusses		$ -	$ -
06 15 00	Wood Decking		$ -	$ -
06 16 00	Sheathing		$ -	$ -
06 16 00.11	Fiberboard Sheets*		$ -	$ -
06 16 23	Subflooring		$ -	$ -
06 16 26	Underlayment		$ -	$ -
06 16 33	Wood Board Sheathing		$ -	$ -
06 16 36	Wood Panel Product Sheathing		$ -	$ -
06 16 43	Gypsum Sheathing		$ -	$ -
06 16 53	Moisture Resistant Sheathing Board		$ -	$ -
06 16 63	Cementitious Sheathing		$ -	$ -
06 17 00	Shop Fabricated Structural Wood		$ -	$ -
06 17 13	Laminated Veneer Lumber		$ -	$ -
06 17 23	Parallel Strand Lumber		$ -	$ -
06 17 33	Wood I Joists		$ -	$ -
06 17 36	Metal Web Wood Joists		$ -	$ -
06 17 43	Rim Boards		$ -	$ -
06 17 53	Shop Fabricated Wood Trusses		$ -	$ -
06 18 00	Glued Laminated Construction		$ -	$ -
06 18 13	Glued Laminated Beams		$ -	$ -
06 20 00	Finish Carpentry		$ -	$ -
06 20 13	Exterior Finish Carpentry		$ -	$ -
06 20 23	Interior Finish Carpentry		$ -	$ -
06 22 00	Millwork		$ -	$ -
06 25 00	Prefinished Paneling		$ -	$ -
06 26 00	Board Paneling		$ -	$ -
06 40 00	Architectural Woodwork		$ -	$ -
06 40 23	Interior Architectural Woodwork		$ -	$ -
06 41 00	Architectural Wood Casework		$ -	$ -
06 41 93	Cabinet and Drawer Hardware		$ -	$ -
06 42 00	Wood Paneling		$ -	$ -
06 42 16	Flush Wood Paneling		$ -	$ -
06 43 00	Wood Stairs and Railings		$ -	$ -
06 43 13	Wood Stairs		$ -	$ -
06 43 16	Wood Railings		$ -	$ -
06 44 00	Ornamental Woodwork		$ -	$ -
06 44 39	Wood Posts and Columns		$ -	$ -
06 46 00	Wood Trim		$ -	$ -
06 48 00	Wood Frames		$ -	$ -
06 49 00	Wood Screens and Exterior Wood Shutters		$ -	$ -
06 49 19	Exterior Wood Shutters		$ -	$ -
06 50 00	Structural Plastics		$ -	$ -
06 51 13	Plastic Lumber		$ -	$ -
06 53 00	Plastic Decking		$ -	$ -
06 60 00	Plastic Fabrications		$ -	$ -
06 60 00.11	Plastic Lattice		$ -	$ -
06 61 00	Cast Polymer Fabrications		$ -	$ -
06 61 13	Simulated Stone Fabrications		$ -	$ -
06 61 16	Solid Surfacing Fabrications		$ -	$ -
06 63 00	Plastic Railings		$ -	$ -

06 64 00	Plastic Paneling		$ -	$ -
06 65 00	Plastic Trim		$ -	$ -
06 66 00	Custom Ornamental Simulated Woodwork		$ -	$ -
06 70 00	Structural Composites		$ -	$ -
06 71 00	Structural Composite Shapes and Plates		$ -	$ -
06 71 13	Composite Lumber		$ -	$ -
06 73 00	Composite Decking		$ -	$ -
06 74 00	Composite Gratings		$ -	$ -
06 74 13	Fiberglass Reinforced Gratings		$ -	$ -
06 80 00	Composite Fabrications		$ -	$ -
06 81 00	Composite Railings		$ -	$ -
06 81 13	Glass Fiber Reinforced Plastic Railings		$ -	$ -
06 82 00	Composite Trim		$ -	$ -
06 83 00	Composite Paneling		$ -	$ -
06 83 16	Fiberglass Reinforced Paneling		$ -	$ -
	SUBTOTAL	$		-
DIVISION 07	**THERMAL AND MOISTURE PROTECTION**	**Quantity**	**Cost**	**Total**
07 01 30	Maintenance of Steep Slope Roofing		$ -	$ -
07 01 40	Maintenance of Roofing and Siding Panels		$ -	$ -
07 01 50	Maintenance of Membrane Roofing		$ -	$ -
07 01 50.91	Roofing Restoration		$ -	$ -
07 01 60.92	Flashing and Sheet Metal Preservation		$ -	$ -
07 10 00	Dampproofing and Waterproofing		$ -	$ -
07 11 00	Dampproofing		$ -	$ -
07 13 00	Sheet Waterproofing		$ -	$ -
07 13 54	Thermoplastic Sheet Waterproofing		$ -	$ -
07 14 00	Fluid Applied Waterproofing		$ -	$ -
07 16 00	Cementitious and Reactive Waterproofing		$ -	$ -
07 16 16	Crystalline Waterproofing		$ -	$ -
07 18 00	Traffic Coatings		$ -	$ -
07 18 13	Pedestrian Traffic Coatings		$ -	$ -
07 18 16	Vehicular Traffic Coatings		$ -	$ -
07 19 00	Water Repellents		$ -	$ -
07 20 00	Thermal Protection		$ -	$ -
07 21 00	Thermal Insulation		$ -	$ -
07 21 13	Board Insulation		$ -	$ -
07 21 16	Blanket Insulation		$ -	$ -
07 21 19	Foamed In Place Insulation		$ -	$ -
07 21 23	Loose Fill Insulation		$ -	$ -
07 21 26	Blown Insulation		$ -	$ -
07 21 29	Sprayed Insulation		$ -	$ -
07 21 53	Reflective Insulation		$ -	$ -
07 22 00	Roof and Deck Insulation		$ -	$ -
07 24 00	Exterior Insulation and Finish Systems		$ -	$ -
07 25 00	Weather Barriers		$ -	$ -
07 26 00	Vapor Retarders		$ -	$ -
07 27 00	Air Barriers		$ -	$ -
07 30 00	Steep Slope Roofing		$ -	$ -
07 31 00	Shingles and Shakes		$ -	$ -
07 31 13	Asphalt Shingles		$ -	$ -
07 31 13.13	Fiberglass Reinforced Asphalt Shingles		$ -	$ -
07 31 16	Metal Shingles		$ -	$ -
07 31 26	Slate Shingles		$ -	$ -
07 31 29	Wood Shingles and Shakes		$ -	$ -
07 32 00	Roof Tiles		$ -	$ -
07 32 13	Clay Roof Tiles		$ -	$ -
07 32 14	Ceramic and Porcelain Roof Tiles		$ -	$ -
07 32 16	Concrete Roof Tiles		$ -	$ -
07 32 19	Metal Roof Tiles		$ -	$ -
07 32 26	Plastic Roof Tiles		$ -	$ -
07 40 00	Roofing and Siding Panels		$ -	$ -
07 41 00	Roof Panels		$ -	$ -
07 41 13	Metal Roof Panels		$ -	$ -
07 41 16	Insulated Metal Roof Panels		$ -	$ -
07 41 43	Composite Roof Panels		$ -	$ -

07 42 00	Wall Panels		$ -	$ -
07 42 13	Metal Wall Panels		$ -	$ -
07 42 13.19	Insulated Metal Wall Panels		$ -	$ -
07 42 13.23	Metal Composite Material Wall Panels		$ -	$ -
07 42 23	Wood Wall Panels		$ -	$ -
07 42 29	Terracotta Wall Panels		$ -	$ -
07 42 33	Plastic Wall Panels		$ -	$ -
07 42 43	Composite Wall Panels		$ -	$ -
07 42 63	Fabricated Wall Panel Assemblies		$ -	$ -
07 42 93	Soffit Panels		$ -	$ -
07 44 00	Faced Panels		$ -	$ -
07 46 00	Siding		$ -	$ -
07 46 16	Aluminum Siding		$ -	$ -
07 46 19	Steel Siding		$ -	$ -
07 46 23	Wood Siding		$ -	$ -
07 46 26	Hardboard Siding		$ -	$ -
07 46 29	Plywood Siding		$ -	$ -
07 46 33	Plastic Siding		$ -	$ -
07 46 46	Fiber Cement Siding		$ -	$ -
07 50 00	Membrane Roofing		$ -	$ -
07 51 00	Built Up Bituminous Roofing		$ -	$ -
07 51 13.13	Cold Applied Built Up Asphalt Roofing		$ -	$ -
07 51 23	Glass Fiber Reinforced Asphalt Emulsion Roofing		$ -	$ -
07 52 00	Modified Bituminous Membrane Roofing		$ -	$ -
07 52 13	Atactic Polypropylene Modified Bituminous Membrane Roofing		$ -	$ -
07 52 16	Styrene Butadiene Styrene Modified Bituminous Membrane Roofing		$ -	$ -
07 53 00	Elastomeric Membrane Roofing		$ -	$ -
07 53 16	Chlorosulfonate Polyethylene Roofing		$ -	$ -
07 53 23	Ethylene Propylene Diene Monomer Roofing		$ -	$ -
07 54 00	Thermoplastic Membrane Roofing		$ -	$ -
07 54 19	Polyvinyl Chloride Roofing		$ -	$ -
07 55 00	Protected Membrane Roofing		$ -	$ -
07 55 51	Built Up Bituminous Protected Membrane Roofing		$ -	$ -
07 55 53	Elastomeric Protected Membrane Roofing		$ -	$ -
07 55 63	Vegetated Protected Membrane Roofing		$ -	$ -
07 56 00	Fluid Applied Roofing		$ -	$ -
07 57 00	Coated Foamed Roofing		$ -	$ -
07 57 13	Sprayed Polyurethane Foam Roofing		$ -	$ -
07 58 00	Roll Roofing		$ -	$ -
07 60 00	Flashing and Sheet Metal		$ -	$ -
07 61 00	Sheet Metal Roofing		$ -	$ -
07 61 13	Standing Seam Sheet Metal Roofing		$ -	$ -
07 61 16	Batten Seam Sheet Metal Roofing		$ -	$ -
07 61 19	Flat Seam Sheet Metal Roofing		$ -	$ -
07 62 00	Sheet Metal Flashing and Trim		$ -	$ -
07 64 00	Sheet Metal Wall Cladding		$ -	$ -
07 65 00	Flexible Flashing		$ -	$ -
07 65 16	Modified Bituminous Sheet Flashing		$ -	$ -
07 65 19	Plastic Sheet Flashing		$ -	$ -
07 65 23	Rubber Sheet Flashing		$ -	$ -
07 70 00	Roof and Wall Specialties and Accessories		$ -	$ -
07 71 00	Roof Specialties		$ -	$ -
07 71 13	Manufactured Copings		$ -	$ -
07 71 16	Manufactured Counterflashing Systems		$ -	$ -
07 71 19	Manufactured Gravel Stops and Fasciae		$ -	$ -
07 71 23	Manufactured Gutters and Downspouts		$ -	$ -
07 71 23.13	Gutter Debris Guards		$ -	$ -
07 71 26	Reglets		$ -	$ -
07 71 29	Manufactured Roof Expansion Joints		$ -	$ -
07 71 33	Manufactured Scuppers		$ -	$ -
07 72 00	Roof Accessories		$ -	$ -
07 72 13	Manufactured Curbs		$ -	$ -
07 72 23	Relief Vents		$ -	$ -
07 72 26	Ridge Vents		$ -	$ -
07 72 33	Roof Hatches		$ -	$ -
07 72 36	Smoke Vents		$ -	$ -

07 72 43	Roof Walk Boards		$ -	$ -
07 72 46	Roof Walkways		$ -	$ -
07 72 53	Snow Guards		$ -	$ -
07 76 00	Roof Pavers		$ -	$ -
07 81 00	Applied Fireproofing		$ -	$ -
07 82 00	Board Fireproofing		$ -	$ -
07 84 00	Firestopping		$ -	$ -
07 84 13	Penetration Firestopping		$ -	$ -
07 84 43	Joint Firestopping		$ -	$ -
07 84 53	Building Perimeter Firestopping		$ -	$ -
07 86 00	Smoke Seals		$ -	$ -
07 87 00	Smoke Containment Barriers		$ -	$ -
07 90 00	Joint Protection		$ -	$ -
07 91 00	Preformed Joint Seals		$ -	$ -
07 91 13	Compression Seals		$ -	$ -
07 91 16	Joint Gaskets		$ -	$ -
07 91 23	Backer Rods		$ -	$ -
07 91 26	Joint Fillers		$ -	$ -
07 92 00	Joint Sealants		$ -	$ -
07 92 19	Acoustical Joint Sealants		$ -	$ -
07 95 00	Expansion Control		$ -	$ -
07 95 13	Expansion Joint Cover Assemblies		$ -	$ -
07 95 53	Joint Slide Bearings		$ -	$ -
07 95 63	Bridge Expansion Joint Cover Assemblies		$ -	$ -
	SUBTOTAL	$		-

DIVISION 08	**OPENINGS**	**Quantity**	**Cost**	**Total**
08 01 52.91	Wood Window Restoration		$ -	$ -
08 10 00	Doors and Frames		$ -	$ -
08 10 00.11	Door Louvers and Vision Lights		$ -	$ -
08 11 00	Metal Doors and Frames		$ -	$ -
08 11 13	Hollow Metal Doors and Frames		$ -	$ -
08 11 16	Aluminum Doors and Frames		$ -	$ -
08 11 63	Metal Screen and Storm Doors and Frames		$ -	$ -
08 11 73	Sliding Metal Firedoors		$ -	$ -
08 12 00	Metal Frames		$ -	$ -
08 12 13	Hollow Metal Frames		$ -	$ -
08 12 13.13	Standard Hollow Metal Frames		$ -	$ -
08 12 16	Aluminum Frames		$ -	$ -
08 12 19	Stainless Steel Frames		$ -	$ -
08 13 00	Metal Doors		$ -	$ -
08 13 13	Hollow Metal Doors		$ -	$ -
08 13 13.13	Standard Hollow Metal Doors		$ -	$ -
08 13 16	Aluminum Doors		$ -	$ -
08 13 19	Stainless Steel Doors		$ -	$ -
08 13 73	Sliding Metal Doors		$ -	$ -
08 13 76	Bifolding Metal Doors		$ -	$ -
08 14 00	Wood Doors		$ -	$ -
08 14 23	Clad Wood Doors		$ -	$ -
08 14 33	Stile and Rail Wood Doors		$ -	$ -
08 14 73	Sliding Wood Doors		$ -	$ -
08 14 76	Bifolding Wood Doors		$ -	$ -
08 15 00	Plastic Doors		$ -	$ -
08 15 13	Laminated Plastic Doors		$ -	$ -
08 15 16	Solid Plastic Doors		$ -	$ -
08 15 66	Plastic Screen Doors		$ -	$ -
08 16 00	Composite Doors		$ -	$ -
08 16 13	Fiberglass Doors		$ -	$ -
08 16 73	Sliding Composite Doors		$ -	$ -
08 17 00	Integrated Door Opening Assemblies		$ -	$ -
08 17 13	Integrated Metal Door Opening Assemblies		$ -	$ -
08 17 23	Integrated Wood Door Opening Assemblies		$ -	$ -
08 17 33	Integrated Plastic Door Opening Assemblies		$ -	$ -
08 17 43	Integrated Composite Door Opening Assemblies		$ -	$ -
08 30 00	Specialty Doors and Frames		$ -	$ -
08 31 00	Access Doors and Panels		$ -	$ -

08 31 13	Access Doors and Frames		$ -	$ -
08 31 13.53	Security Access Doors and Frames		$ -	$ -
08 31 16	Access Panels and Frames		$ -	$ -
08 32 00	Sliding Glass Doors		$ -	$ -
08 33 00	Coiling Doors and Grilles		$ -	$ -
08 33 13	Coiling Counter Doors		$ -	$ -
08 33 23	Overhead Coiling Doors		$ -	$ -
08 33 26	Overhead Coiling Grilles		$ -	$ -
08 33 33	Side Coiling Doors		$ -	$ -
08 33 36	Side Coiling Grilles		$ -	$ -
08 33 43	Overhead Coiling Smoke Curtains		$ -	$ -
08 33 44	Overhead Coiling Fire Curtains		$ -	$ -
08 34 00	Special Function Doors		$ -	$ -
08 34 13	Cold Storage Doors		$ -	$ -
08 34 16	Hangar Doors		$ -	$ -
08 34 19	Industrial Doors		$ -	$ -
08 34 36	Darkroom Doors		$ -	$ -
08 34 46	Radio Frequency Interference Shielding Doors		$ -	$ -
08 34 49	Radiation Shielding Doors and Frames		$ -	$ -
08 34 49.13	Neutron Shielding Doors and Frames		$ -	$ -
08 34 53	Security Doors and Frames		$ -	$ -
08 34 56	Security Gates		$ -	$ -
08 34 59	Vault Doors and Day Gates		$ -	$ -
08 34 63	Detention Doors and Frames		$ -	$ -
08 34 73	Sound Control Door Assemblies		$ -	$ -
08 35 00	Folding Doors and Grilles		$ -	$ -
08 35 13	Folding Doors		$ -	$ -
08 35 13.13	Accordion Folding Doors		$ -	$ -
08 35 13.23	Accordion Folding Fire Doors		$ -	$ -
08 35 13.33	Panel Folding Doors		$ -	$ -
08 35 16	Folding Grilles		$ -	$ -
08 36 00	Panel Doors		$ -	$ -
08 36 13	Sectional Doors		$ -	$ -
08 36 16	Single Panel Doors		$ -	$ -
08 36 19	Multi Leaf Vertical Lift Doors		$ -	$ -
08 38 00	Traffic Doors		$ -	$ -
08 38 13	Flexible Strip Doors		$ -	$ -
08 38 16	Flexible Traffic Doors		$ -	$ -
08 39 00	Pressure Resistant Doors		$ -	$ -
08 39 13	Airtight Doors		$ -	$ -
08 39 19	Watertight Doors		$ -	$ -
08 39 53	Blast Resistant Doors		$ -	$ -
08 40 00	Entrances, Storefronts, and Curtain Walls		$ -	$ -
08 41 00	Entrances and Storefronts		$ -	$ -
08 41 13	Aluminum Framed Entrances and Storefronts		$ -	$ -
08 41 26	All Glass Entrances and Storefronts		$ -	$ -
08 42 00	Entrances		$ -	$ -
08 42 26	All Glass Entrances		$ -	$ -
08 42 29	Automatic Entrances		$ -	$ -
08 42 29.13	Folding Automatic Entrances		$ -	$ -
08 42 29.23	Sliding Automatic Entrances		$ -	$ -
08 42 29.33	Swinging Automatic Entrances		$ -	$ -
08 42 33	Revolving Door Entrances		$ -	$ -
08 42 33.13	Security Revolving Door Entrances		$ -	$ -
08 42 36	Balanced Door Entrances		$ -	$ -
08 42 43	Intensive Care Unit/Critical Care Unit Entrances		$ -	$ -
08 43 00	Storefronts		$ -	$ -
08 43 13	Aluminum Framed Storefronts		$ -	$ -
08 43 16	Bronze Framed Storefronts		$ -	$ -
08 43 26	All Glass Storefronts		$ -	$ -
08 43 29	Sliding Storefronts		$ -	$ -
08 44 00	Curtain Wall and Glazed Assemblies		$ -	$ -
08 44 13	Glazed Aluminum Curtain Walls		$ -	$ -
08 44 26	Structural Glass Curtain Walls		$ -	$ -
08 44 26.11	Structural Glass Curtain Wall Hardware		$ -	$ -
08 44 26.19	Point Supported Structural Glass		$ -	$ -

08 44 33	Sloped Glazing Assemblies		$ -	$ -
08 45 00	Translucent Wall and Roof Assemblies		$ -	$ -
08 45 13	Structured Polycarbonate Panel Assemblies		$ -	$ -
08 45 23	Fiberglass Sandwich Panel Assemblies		$ -	$ -
08 50 00	Windows		$ -	$ -
08 50 00.11	Replacement Windows*		$ -	$ -
08 51 00	Metal Windows		$ -	$ -
08 51 13	Aluminum Windows		$ -	$ -
08 51 16	Bronze Windows		$ -	$ -
08 51 19	Stainless Steel Windows		$ -	$ -
08 51 23	Steel Windows		$ -	$ -
08 51 66	Metal Window Screens		$ -	$ -
08 51 69	Metal Storm Windows		$ -	$ -
08 52 00	Wood Windows		$ -	$ -
08 52 13	Metal Clad Wood Windows		$ -	$ -
08 52 16	Plastic Clad Wood Windows		$ -	$ -
08 53 00	Plastic Windows		$ -	$ -
08 53 13	Vinyl Windows		$ -	$ -
08 53 69	Vinyl Storm Windows		$ -	$ -
08 54 00	Composite Windows		$ -	$ -
08 54 13	Fiberglass Windows		$ -	$ -
08 54 66	Fiberglass Window Screens		$ -	$ -
08 55 00	Pressure Resistant Windows		$ -	$ -
08 55 23	Blast Resistant Windows		$ -	$ -
08 56 00	Special Function Windows		$ -	$ -
08 56 19	Pass Windows		$ -	$ -
08 56 49	Radiation Shielding Windows		$ -	$ -
08 56 53	Security Windows		$ -	$ -
08 56 56	Security Window Screens		$ -	$ -
08 56 59	Service and Teller Window Units		$ -	$ -
08 56 63	Detention Windows		$ -	$ -
08 56 66	Detention Window Screens		$ -	$ -
08 56 73	Sound Control Windows		$ -	$ -
08 60 00	Roof Windows and Skylights		$ -	$ -
08 61 00	Roof Windows		$ -	$ -
08 62 00	Unit Skylights		$ -	$ -
08 62 13	Domed Unit Skylights		$ -	$ -
08 62 16	Pyramidal Unit Skylights		$ -	$ -
08 62 19	Vaulted Unit Skylights		$ -	$ -
08 62 23	Tubular Skylights		$ -	$ -
08 63 00	Metal Framed Skylights		$ -	$ -
08 64 00	Plastic Framed Skylights		$ -	$ -
08 67 00	Skylight Protection and Screens		$ -	$ -
08 70 00	Hardware		$ -	$ -
08 71 00	Door Hardware		$ -	$ -
08 71 00.11	Exit Devices*		$ -	$ -
08 71 00.14	Sliding and Folding Door Hardware*		$ -	$ -
08 71 00.17	Weatherstripping, Thresholds, and Seals*		$ -	$ -
08 71 13	Automatic Door Operators		$ -	$ -
08 71 53	Security Door Hardware		$ -	$ -
08 71 63	Detention Door Hardware		$ -	$ -
08 74 00	Access Control Hardware		$ -	$ -
08 74 13	Card Key Access Control Hardware		$ -	$ -
08 74 16	Keypad Access Control Hardware		$ -	$ -
08 74 19	Biometric Identity Access Control Hardware		$ -	$ -
08 75 00	Window Hardware		$ -	$ -
08 75 16	Window Operators		$ -	$ -
08 78 00	Special Function Hardware		$ -	$ -
08 80 00	Glazing		$ -	$ -
08 81 00	Glass Glazing		$ -	$ -
08 81 13	Decorative Glass Glazing		$ -	$ -
08 83 00	Mirrors		$ -	$ -
08 83 13	Mirrored Glass Glazing		$ -	$ -
08 84 00	Plastic Glazing		$ -	$ -
08 84 13	Decorative Plastic Glazing		$ -	$ -
08 85 00	Glazing Accessories		$ -	$ -

08 87 00	Glazing Surface Films		$ -	$ -
08 87 13	Solar Control Films		$ -	$ -
08 87 23	Safety and Security Films		$ -	$ -
08 87 23.13	Safety Films		$ -	$ -
08 87 23.16	Security Films		$ -	$ -
08 87 33	Decorative Films		$ -	$ -
08 88 00	Special Function Glazing		$ -	$ -
08 88 00.11	Fire Rated Glass and Glazing Systems		$ -	$ -
08 88 13	Fire Resistant Glazing		$ -	$ -
08 88 19	Hurricane Resistant Glazing		$ -	$ -
08 88 36	Switchable Glass		$ -	$ -
08 88 36.16	Electronically Controlled Switchable Glass		$ -	$ -
08 88 49	Radiation Resistant Glazing		$ -	$ -
08 88 53	Security Glazing		$ -	$ -
08 88 56	Ballistics Resistant Glazing		$ -	$ -
08 90 00	Louvers and Vents		$ -	$ -
08 91 00	Louvers		$ -	$ -
08 91 13	Motorized Wall Louvers		$ -	$ -
08 91 16	Operable Wall Louvers		$ -	$ -
08 91 19	Fixed Louvers		$ -	$ -
08 91 26	Door Louvers		$ -	$ -
08 92 00	Louvered Equipment Enclosures		$ -	$ -
08 95 00	Vents		$ -	$ -
08 95 13	Soffit Vents		$ -	$ -
08 95 16	Wall Vents		$ -	$ -
08 95 16.11	Brick and Block Vents		$ -	$ -
08 95 33	Explosion Vents		$ -	$ -
08 95 43	Flood Vents		$ -	$ -
	SUBTOTAL		$	-

DIVISION 09	**FINISHES**	**Quantity**	**Cost**	**Total**
09 01 00	Maintenance of Finishes		$ -	$ -
09 01 20.91	Plaster Restoration		$ -	$ -
09 01 30	Maintenance of Tiling		$ -	$ -
09 01 30.91	Tile Restoration		$ -	$ -
09 01 50.91	Ceiling Restoration		$ -	$ -
09 01 60	Maintenance of Flooring		$ -	$ -
09 01 60.91	Flooring Restoration		$ -	$ -
09 01 70	Maintenance of Wall Finishes		$ -	$ -
09 01 70.91	Wall Finish Restoration		$ -	$ -
09 01 90	Maintenance of Painting and Coating		$ -	$ -
09 01 90.91	Paint Restoration		$ -	$ -
09 01 90.92	Coating Restoration		$ -	$ -
09 01 90.93	Paint Preservation		$ -	$ -
09 05 71	Acoustic Underlayment		$ -	$ -
09 20 00	Plaster and Gypsum Board		$ -	$ -
09 21 00	Plaster and Gypsum Board Assemblies		$ -	$ -
09 21 13	Plaster Assemblies		$ -	$ -
09 21 16	Gypsum Board Assemblies		$ -	$ -
09 21 16.23	Gypsum Board Shaft Wall Assemblies		$ -	$ -
09 21 16.33	Gypsum Board Area Separation Wall Assemblies		$ -	$ -
09 22 00	Supports for Plaster and Gypsum Board		$ -	$ -
09 22 13	Metal Furring		$ -	$ -
09 22 16	Non Structural Metal Framing		$ -	$ -
09 22 36	Lath		$ -	$ -
09 22 36.13	Gypsum Lath		$ -	$ -
09 22 36.23	Metal Lath		$ -	$ -
09 22 39	Veneer Plaster Base		$ -	$ -
09 23 00	Gypsum Plastering		$ -	$ -
09 24 00	Cement Plastering		$ -	$ -
09 25 00	Other Plastering		$ -	$ -
09 25 13	Acrylic Plastering		$ -	$ -
09 25 23	Lime Based Plastering		$ -	$ -
09 25 26	Natural Clay Plastering		$ -	$ -
09 26 00	Veneer Plastering		$ -	$ -
09 27 00	Plaster Fabrications		$ -	$ -

09 28 00	Backing Boards and Underlayments		$ -	$ -
09 28 13	Cementitious Backing Boards		$ -	$ -
09 29 00	Gypsum Board		$ -	$ -
09 30 00	Tiling		$ -	$ -
09 30 00.11	Tile Setting Materials		$ -	$ -
09 30 13	Ceramic Tiling		$ -	$ -
09 30 16	Quarry Tiling		$ -	$ -
09 30 19	Paver Tiling		$ -	$ -
09 30 23	Glass Mosaic Tiling		$ -	$ -
09 30 29	Metal Tiling		$ -	$ -
09 30 33	Stone Tiling		$ -	$ -
09 30 39	Brick Tiling		$ -	$ -
09 31 00	Thin Set Tiling		$ -	$ -
09 32 00	Mortar Bed Tiling		$ -	$ -
09 35 00	Chemical Resistant Tiling		$ -	$ -
09 35 13	Chemical Resistant Ceramic Tiling		$ -	$ -
09 50 00	Ceilings		$ -	$ -
09 51 00	Acoustical Ceilings		$ -	$ -
09 51 13	Acoustical Panel Ceilings		$ -	$ -
09 51 14	Acoustical Fabric Faced Panel Ceilings		$ -	$ -
09 51 23	Acoustical Tile Ceilings		$ -	$ -
09 51 33	Acoustical Metal Pan Ceilings		$ -	$ -
09 51 53	Direct Applied Acoustical Ceilings		$ -	$ -
09 53 00	Acoustical Ceiling Suspension Assemblies		$ -	$ -
09 53 33	Plastic Acoustical Ceiling Suspension Assemblies		$ -	$ -
09 54 00	Specialty Ceilings		$ -	$ -
09 54 13	Open Metal Mesh Ceilings		$ -	$ -
09 54 16	Luminous Ceilings		$ -	$ -
09 54 19	Mirror Panel Ceilings		$ -	$ -
09 54 23	Linear Metal Ceilings		$ -	$ -
09 54 26	Suspended Wood Ceilings		$ -	$ -
09 56 00	Textured Ceilings		$ -	$ -
09 56 16	Metal Panel Textured Ceilings		$ -	$ -
09 58 00	Integrated Ceiling Assemblies		$ -	$ -
09 60 00	Flooring		$ -	$ -
09 60 00.14	Flooring Installation Products*		$ -	$ -
09 61 00	Flooring Treatment		$ -	$ -
09 61 13	Slip Resistant Flooring Treatment		$ -	$ -
09 61 19	Concrete Staining		$ -	$ -
09 62 00	Specialty Flooring		$ -	$ -
09 62 13	Asphaltic Plank Flooring		$ -	$ -
09 62 19	Laminate Flooring		$ -	$ -
09 62 23	Bamboo Flooring		$ -	$ -
09 62 29	Cork Flooring		$ -	$ -
09 62 35	Acid Resistant Flooring		$ -	$ -
09 62 63	Metal Flooring		$ -	$ -
09 62 83	Structural Glass Flooring		$ -	$ -
09 63 00	Masonry Flooring		$ -	$ -
09 63 13	Brick Flooring		$ -	$ -
09 63 40	Stone Flooring		$ -	$ -
09 64 00	Wood Flooring		$ -	$ -
09 64 16	Wood Block Flooring		$ -	$ -
09 64 29	Wood Strip and Plank Flooring		$ -	$ -
09 64 33	Laminated Wood Flooring		$ -	$ -
09 64 53	Resilient Wood Flooring Assemblies		$ -	$ -
09 64 66	Wood Athletic Flooring		$ -	$ -
09 65 00	Resilient Flooring		$ -	$ -
09 65 13	Resilient Base and Accessories		$ -	$ -
09 65 13.13	Resilient Base		$ -	$ -
09 65 13.23	Resilient Stair Treads and Risers		$ -	$ -
09 65 13.26	Resilient Stair Nosings		$ -	$ -
09 65 13.33	Resilient Accessories		$ -	$ -
09 65 16	Resilient Sheet Flooring		$ -	$ -
09 65 16.23	Vinyl Sheet Flooring		$ -	$ -
09 65 16.33	Rubber Sheet Flooring		$ -	$ -
09 65 19	Resilient Tile Flooring		$ -	$ -

09 65 19.19	Vinyl Composition Tile Flooring		$ -	$ -
09 65 19.23	Vinyl Tile Flooring		$ -	$ -
09 65 19.33	Rubber Tile Flooring		$ -	$ -
09 65 33	Conductive Resilient Flooring		$ -	$ -
09 65 36	Static Control Resilient Flooring		$ -	$ -
09 65 43	Linoleum Flooring		$ -	$ -
09 65 66	Resilient Athletic Flooring		$ -	$ -
09 66 00	Terrazzo Flooring		$ -	$ -
09 66 13	Portland Cement Terrazzo Flooring		$ -	$ -
09 66 16	Terrazzo Floor Tile		$ -	$ -
09 66 23	Resinous Matrix Terrazzo Flooring		$ -	$ -
09 67 00	Fluid Applied Flooring		$ -	$ -
09 67 13	Elastomeric Liquid Flooring		$ -	$ -
09 67 16	Epoxy Marble Chip Flooring		$ -	$ -
09 67 23	Resinous Flooring		$ -	$ -
09 67 26	Quartz Flooring		$ -	$ -
09 67 66	Fluid Applied Athletic Flooring		$ -	$ -
09 68 00	Carpeting		$ -	$ -
09 68 13	Tile Carpeting		$ -	$ -
09 68 16	Sheet Carpeting		$ -	$ -
09 69 00	Access Flooring		$ -	$ -
09 69 13	Rigid Grid Access Flooring		$ -	$ -
09 69 19	Stringerless Access Flooring		$ -	$ -
09 69 33	Low Profile Fixed Height Access Flooring		$ -	$ -
09 69 53	Access Flooring Accessories		$ -	$ -
09 69 56	Access Flooring Stairs and Stringers		$ -	$ -
09 70 00	Wall Finishes		$ -	$ -
09 72 00	Wall Coverings		$ -	$ -
09 72 13	Cork Wall Coverings		$ -	$ -
09 72 16	Vinyl Coated Fabric Wall Coverings		$ -	$ -
09 72 16.13	Flexible Vinyl Wall Coverings		$ -	$ -
09 72 16.16	Rigid Sheet Vinyl Wall Coverings		$ -	$ -
09 72 19	Textile Wall Coverings		$ -	$ -
09 72 23	Wallpapering		$ -	$ -
09 73 00	Wall Carpeting		$ -	$ -
09 74 00	Flexible Wood Sheets		$ -	$ -
09 74 13	Wood Wall Coverings		$ -	$ -
09 74 16	Flexible Wood Veneers		$ -	$ -
09 77 00	Special Wall Surfacing		$ -	$ -
09 77 00.11	Sanitary Wall and Ceiling Panels*		$ -	$ -
09 77 13	Stretched Fabric Wall Systems		$ -	$ -
09 77 23	Fabric Wrapped Panels		$ -	$ -
09 77 53	Vegetated Wall Systems		$ -	$ -
09 78 00	Interior Wall Paneling		$ -	$ -
09 78 13	Metal Interior Wall Paneling		$ -	$ -
09 80 00	Acoustic Treatment		$ -	$ -
09 81 00	Acoustic Insulation		$ -	$ -
09 81 13	Acoustic Board Insulation		$ -	$ -
09 81 16	Acoustic Blanket Insulation		$ -	$ -
09 81 29	Sprayed Acoustic Insulation		$ -	$ -
09 84 00	Acoustic Room Components		$ -	$ -
09 84 16	Fixed Sound Reflective Panels		$ -	$ -
09 84 26	Moveable Sound Reflective Panels		$ -	$ -
09 84 36	Sound Absorbing Ceiling Units		$ -	$ -
09 90 00	Painting and Coating		$ -	$ -
09 91 00	Painting		$ -	$ -
09 91 13	Exterior Painting		$ -	$ -
09 91 23	Interior Painting		$ -	$ -
09 93 00	Staining and Transparent Finishing		$ -	$ -
09 93 13.13	Exterior Staining		$ -	$ -
09 93 23.13	Interior Staining		$ -	$ -
09 94 00	Decorative Finishing		$ -	$ -
09 96 00	High Performance Coatings		$ -	$ -
09 96 13	Abrasion Resistant Coatings		$ -	$ -
09 96 23	Graffiti Resistant Coatings		$ -	$ -
09 96 26	Marine Coatings		$ -	$ -

09 96 43	Fire Retardant Coatings		$ -	$ -
09 96 46	Intumescent Painting		$ -	$ -
09 96 53	Elastomeric Coatings		$ -	$ -
09 96 56	Epoxy Coatings		$ -	$ -
09 96 59	High Build Glazed Coatings		$ -	$ -
09 97 00	Special Coatings		$ -	$ -
09 97 23	Concrete and Masonry Coatings		$ -	$ -
09 97 26	Cementitious Coatings		$ -	$ -
	SUBTOTAL	$		-
DIVISION 10	**SPECIALTIES**	**Quantity**	**Cost**	**Total**
10 10 00	Information Specialties		$ -	$ -
10 11 00	Visual Display Units		$ -	$ -
10 11 13	Chalkboards		$ -	$ -
10 11 16	Markerboards		$ -	$ -
10 11 16.53	Electronic Markerboards		$ -	$ -
10 11 23	Tackboards		$ -	$ -
10 11 33	Sliding Visual Display Units		$ -	$ -
10 11 36	Visual Display Conference Units		$ -	$ -
10 11 43	Visual Display Wall Panels		$ -	$ -
10 11 46	Visual Display Fabrics		$ -	$ -
10 12 00	Display Cases		$ -	$ -
10 13 00	Directories		$ -	$ -
10 13 13	Electronic Directories		$ -	$ -
10 14 00	Signage		$ -	$ -
10 14 16	Plaques		$ -	$ -
10 14 19	Dimensional Letter Signage		$ -	$ -
10 14 23	Panel Signage		$ -	$ -
10 14 26	Post and Panel/Pylon Signage		$ -	$ -
10 14 33	Illuminated Panel Signage		$ -	$ -
10 14 43	Photoluminescent Signage		$ -	$ -
10 14 53	Traffic Signage		$ -	$ -
10 14 63	Electronic Message Signage		$ -	$ -
10 14 64	Audible Signage		$ -	$ -
10 14 67	Tactile Signage		$ -	$ -
10 17 00	Telephone Specialties		$ -	$ -
10 17 13	Telephone Directory Units		$ -	$ -
10 17 16	Telephone Enclosures		$ -	$ -
10 17 16.13	Telephone Stalls		$ -	$ -
10 17 16.16	Telephone Alcoves		$ -	$ -
10 18 00	Informational Kiosks		$ -	$ -
10 20 00	Interior Specialties		$ -	$ -
10 21 00	Compartments and Cubicles		$ -	$ -
10 21 13	Toilet Compartments		$ -	$ -
10 21 13.13	Metal Toilet Compartments		$ -	$ -
10 21 13.16	Plastic Laminate Clad Toilet Compartments		$ -	$ -
10 21 13.19	Plastic Toilet Compartments		$ -	$ -
10 21 13.23	Particleboard Toilet Compartments		$ -	$ -
10 21 16	Shower and Dressing Compartments		$ -	$ -
10 21 16.13	Metal Shower and Dressing Compartments		$ -	$ -
10 21 16.16	Plastic Laminate Clad Shower and Dressing Compartments		$ -	$ -
10 21 16.19	Plastic Shower and Dressing Compartments		$ -	$ -
10 21 16.40	Stone Shower and Dressing Compartments		$ -	$ -
10 21 23	Cubicle Curtains and Track		$ -	$ -
10 21 23.13	Cubicle Curtains		$ -	$ -
10 21 23.16	Cubicle Track and Hardware		$ -	$ -
10 22 00	Partitions		$ -	$ -
10 22 13	Wire Mesh Partitions		$ -	$ -
10 22 16	Folding Gates		$ -	$ -
10 22 19	Demountable Partitions		$ -	$ -
10 22 23	Portable Partitions, Screens, and Panels		$ -	$ -
10 22 23.23	Movable Panel Systems		$ -	$ -
10 22 26	Operable Partitions		$ -	$ -
10 22 33	Accordion Folding Partitions		$ -	$ -
10 22 39	Folding Panel Partitions		$ -	$ -
10 22 43	Sliding Partitions		$ -	$ -

10 25 00	Service Walls		$ -	$ -
10 26 00	Wall and Door Protection		$ -	$ -
10 26 13	Corner Guards		$ -	$ -
10 26 16	Bumper Guards		$ -	$ -
10 26 16.13	Bumper Rails		$ -	$ -
10 26 16.16	Protective Corridor Handrails		$ -	$ -
10 26 23	Protective Wall Covering		$ -	$ -
10 26 23.13	Impact Resistant Wall Protection		$ -	$ -
10 26 33	Door and Frame Protection		$ -	$ -
10 26 41	Bullet Resistant Panels		$ -	$ -
10 28 00	Toilet, Bath, and Laundry Accessories		$ -	$ -
10 28 13	Toilet Accessories		$ -	$ -
10 28 13.13	Commercial Toilet Accessories		$ -	$ -
10 28 13.19	Healthcare Toilet Accessories		$ -	$ -
10 28 13.53	Security Toilet Accessories		$ -	$ -
10 28 13.63	Detention Toilet Accessories		$ -	$ -
10 28 16	Bath Accessories		$ -	$ -
10 28 16.13	Residential Bath Accessories		$ -	$ -
10 28 19	Tub and Shower Enclosures		$ -	$ -
10 28 19.16	Shower Doors		$ -	$ -
10 28 19.19	Tub Doors		$ -	$ -
10 28 23	Laundry Accessories		$ -	$ -
10 28 23.13	Built In Ironing Boards		$ -	$ -
10 30 00	Fireplaces and Stoves		$ -	$ -
10 31 00	Manufactured Fireplaces		$ -	$ -
10 31 13	Manufactured Fireplace Chimneys		$ -	$ -
10 32 00	Fireplace Specialties		$ -	$ -
10 32 19	Fireplace Screens		$ -	$ -
10 32 23	Fireplace Doors		$ -	$ -
10 35 00	Stoves		$ -	$ -
10 35 13	Heating Stoves		$ -	$ -
10 40 00	Safety Specialties		$ -	$ -
10 41 00	Emergency Access and Information Cabinets		$ -	$ -
10 41 13	Fire Department Plan Cabinets		$ -	$ -
10 41 16	Emergency Key Cabinets		$ -	$ -
10 43 00	Emergency Aid Specialties		$ -	$ -
10 43 13	Defibrillator Cabinets		$ -	$ -
10 43 16	First Aid Cabinets		$ -	$ -
10 44 00	Fire Protection Specialties		$ -	$ -
10 44 13	Fire Protection Cabinets		$ -	$ -
10 44 13.53	Security Fire Extinguisher Cabinets		$ -	$ -
10 44 16	Fire Extinguishers		$ -	$ -
10 44 16.13	Portable Fire Extinguishers		$ -	$ -
10 44 16.16	Wheeled Fire Extinguisher Units		$ -	$ -
10 44 19	Fire Blankets		$ -	$ -
10 44 33	Fire Blankets and Cabinets		$ -	$ -
10 44 43	Fire Extinguisher Accessories		$ -	$ -
10 50 00	Storage Specialties		$ -	$ -
10 51 00	Lockers		$ -	$ -
10 51 00.11	Locker Locks and Accessories*		$ -	$ -
10 51 13	Metal Lockers		$ -	$ -
10 51 16	Wood Lockers		$ -	$ -
10 51 23	Plastic Laminate Clad Lockers		$ -	$ -
10 51 26	Plastic Lockers		$ -	$ -
10 51 29	Phenolic Lockers		$ -	$ -
10 51 43	Wire Mesh Storage Lockers		$ -	$ -
10 51 53	Locker Room Benches		$ -	$ -
10 55 00	Postal Specialties		$ -	$ -
10 55 13	Central Mail Delivery Boxes		$ -	$ -
10 55 16	Mail Collection Boxes		$ -	$ -
10 55 19	Receiving Boxes		$ -	$ -
10 55 23	Mail Boxes		$ -	$ -
10 55 23.13	Apartment Mail Boxes		$ -	$ -
10 55 26	Parcel Lockers		$ -	$ -
10 55 36	Package Depositories		$ -	$ -
10 55 91	Mail Chutes		$ -	$ -

10 56 00	Storage Assemblies		$ -	$ -
10 56 00.11	Shelf Brackets and Hardware*		$ -	$ -
10 56 13	Metal Storage Shelving		$ -	$ -
10 56 16	Fabricated Wood Storage Shelving		$ -	$ -
10 56 17	Wall Mounted Standards and Shelving		$ -	$ -
10 56 19	Plastic Storage Shelving		$ -	$ -
10 56 26	Mobile Storage Shelving		$ -	$ -
10 56 29	Storage Racks		$ -	$ -
10 56 29.13	Flow Storage Racks		$ -	$ -
10 56 29.16	Pallet Storage Racks		$ -	$ -
10 56 33	Mercantile Storage Assemblies		$ -	$ -
10 57 00	Wardrobe and Closet Specialties		$ -	$ -
10 57 13	Hat and Coat Racks		$ -	$ -
10 57 23	Closet and Utility Shelving		$ -	$ -
10 57 33	Closet and Utility Shelving Hardware		$ -	$ -
10 57 36	Closet Doors		$ -	$ -
10 57 36.13	Sliding Closet Doors		$ -	$ -
10 57 36.16	Bifold Closet Doors		$ -	$ -
10 70 00	Exterior Specialties		$ -	$ -
10 71 00	Exterior Protection		$ -	$ -
10 71 13	Exterior Sun Control Devices		$ -	$ -
10 71 13.13	Exterior Shutters		$ -	$ -
10 71 13.23	Coiling Exterior Shutters		$ -	$ -
10 71 13.43	Fixed Sun Screens		$ -	$ -
10 71 13.53	Exterior Daylighting Devices		$ -	$ -
10 71 16	Storm Panels		$ -	$ -
10 71 19	Flood Barriers		$ -	$ -
10 71 19.16	Removable Flood Barriers		$ -	$ -
10 73 00	Protective Covers		$ -	$ -
10 73 13	Awnings		$ -	$ -
10 73 16	Canopies		$ -	$ -
10 73 23	Car Shelters		$ -	$ -
10 73 26	Walkway Coverings		$ -	$ -
10 73 33	Marquees		$ -	$ -
10 73 43	Transportation Stop Shelters		$ -	$ -
10 74 00	Manufactured Exterior Specialties		$ -	$ -
10 74 13	Exterior Clocks		$ -	$ -
10 74 23	Cupolas		$ -	$ -
10 74 26	Spires		$ -	$ -
10 74 29	Steeples		$ -	$ -
10 74 33	Weathervanes		$ -	$ -
10 74 46	Window Wells		$ -	$ -
10 75 00	Flagpoles		$ -	$ -
10 75 16	Ground Set Flagpoles		$ -	$ -
10 75 19	Nautical Flagpoles		$ -	$ -
10 75 23	Wall Mounted Flagpoles		$ -	$ -
10 80 00	Other Specialties		$ -	$ -
10 81 00	Pest Control Devices		$ -	$ -
10 81 13	Bird Control Devices		$ -	$ -
10 81 16	Insect Control Devices		$ -	$ -
10 81 19	Rodent Control Devices		$ -	$ -
10 82 00	Grilles and Screens		$ -	$ -
10 82 13	Exterior Grilles and Screens		$ -	$ -
10 82 19	Exterior Sound Screens		$ -	$ -
10 83 00	Flags and Banners		$ -	$ -
10 83 16	Banners		$ -	$ -
10 86 00	Security Mirrors and Domes		$ -	$ -
	SUBTOTAL		$	-

DIVISION 11	**EQUIPMENT**	**Quantity**	**Cost**	**Total**
11 05 13	Common Motor Requirements for Equipment		$ -	$ -
11 10 00	Vehicle and Pedestrian Equipment		$ -	$ -
11 11 00	Vehicle Service Equipment		$ -	$ -
11 11 13	Compressed Air Vehicle Service Equipment		$ -	$ -
11 11 19	Vehicle Lubrication Equipment		$ -	$ -
11 11 26	Vehicle Washing Equipment		$ -	$ -

11 11 36	Vehicle Charging Equipment		$ -	$ -
11 12 00	Parking Control Equipment		$ -	$ -
11 12 33	Parking Gates		$ -	$ -
11 13 00	Loading Dock Equipment		$ -	$ -
11 13 13	Loading Dock Bumpers		$ -	$ -
11 13 16	Loading Dock Seals and Shelters		$ -	$ -
11 13 16.13	Loading Dock Seals		$ -	$ -
11 13 16.23	Loading Dock Shelters		$ -	$ -
11 13 19.13	Loading Dock Levelers		$ -	$ -
11 13 19.33	Loading Dock Truck Restraints		$ -	$ -
11 13 26	Loading Dock Lights		$ -	$ -
11 14 00	Pedestrian Control Equipment		$ -	$ -
11 14 13.19	Turnstiles		$ -	$ -
11 14 19	Portable Posts and Railings		$ -	$ -
11 14 43	Pedestrian Detection Equipment		$ -	$ -
11 14 43.13	Electronic Detection and Counting Systems		$ -	$ -
11 14 53	Pedestrian Security Equipment		$ -	$ -
11 20 00	Commercial Equipment		$ -	$ -
11 21 00	Retail and Service Equipment		$ -	$ -
11 21 23	Vending Equipment		$ -	$ -
11 21 33	Checkroom Equipment		$ -	$ -
11 21 53	Barber and Beauty Shop Equipment		$ -	$ -
11 21 63	Refrigerated Display Equipment		$ -	$ -
11 21 73	Commercial Laundry and Dry Cleaning Equipment		$ -	$ -
11 21 73.16	Drying and Conditioning Equipment		$ -	$ -
11 21 73.19	Finishing Equipment		$ -	$ -
11 21 73.23	Commercial Ironing Equipment		$ -	$ -
11 21 73.26	Commercial Washers and Extractors		$ -	$ -
11 21 73.33	Coin Operated Laundry Equipment		$ -	$ -
11 21 73.43	Hanging Garment Conveyors		$ -	$ -
11 21 83	Photo Processing Equipment		$ -	$ -
11 22 00	Banking Equipment		$ -	$ -
11 22 13	Vault Equipment		$ -	$ -
11 22 13.13	Safe Deposit Boxes		$ -	$ -
11 22 13.16	Safes		$ -	$ -
11 22 16	Teller and Service Equipment		$ -	$ -
11 22 16.13	Teller Equipment Systems		$ -	$ -
11 22 16.16	Automatic Banking Systems		$ -	$ -
11 22 16.29	Package Transfer Units		$ -	$ -
11 22 16.33	Deal Trays		$ -	$ -
11 26 00	Unit Kitchens		$ -	$ -
11 28 00	Office Equipment		$ -	$ -
11 28 13	Computers		$ -	$ -
11 30 00	Residential Equipment		$ -	$ -
11 30 13	Residential Appliances		$ -	$ -
11 30 13.13	Residential Kitchen Appliances		$ -	$ -
11 30 13.23	Residential Laundry Appliances		$ -	$ -
11 30 33	Retractable Stairs		$ -	$ -
11 30 34	Residential Ceiling Fans		$ -	$ -
11 32 00	Unit Kitchens		$ -	$ -
11 40 00	Foodservice Equipment		$ -	$ -
11 41 00	Foodservice Storage Equipment		$ -	$ -
11 41 13	Refrigerated Food Storage Cases		$ -	$ -
11 41 23	Walk In Coolers		$ -	$ -
11 41 26	Walk In Freezers		$ -	$ -
11 42 00	Food Preparation Equipment		$ -	$ -
11 43 00	Food Delivery Carts and Conveyors		$ -	$ -
11 43 13	Food Delivery Carts		$ -	$ -
11 44 00	Food Cooking Equipment		$ -	$ -
11 44 13	Commercial Ranges		$ -	$ -
11 44 16	Commercial Ovens		$ -	$ -
11 46 13	Bar Equipment		$ -	$ -
11 46 16	Service Line Equipment		$ -	$ -
11 46 19	Soda Fountain Equipment		$ -	$ -
11 46 83	Ice Machines		$ -	$ -
11 48 00	Food Service Cleaning and Disposal Equipment		$ -	$ -

11 48 13	Commercial Dishwashers		$ -	$ -
11 50 00	Educational and Scientific Equipment		$ -	$ -
11 51 00	Library Equipment		$ -	$ -
11 52 00	Audio Visual Equipment		$ -	$ -
11 52 13	Projection Screens		$ -	$ -
11 52 13.13	Fixed Projection Screens		$ -	$ -
11 52 13.16	Portable Projection Screens		$ -	$ -
11 52 13.19	Rear Projection Screens		$ -	$ -
11 52 16	Projectors		$ -	$ -
11 52 16.13	Movie Projectors		$ -	$ -
11 52 16.19	Overhead Projectors		$ -	$ -
11 52 16.26	Video Projectors		$ -	$ -
11 52 19	Players and Recorders		$ -	$ -
11 52 23	Audio Visual Equipment Supports		$ -	$ -
11 53 00	Laboratory Equipment		$ -	$ -
11 53 13	Laboratory Fume Hoods		$ -	$ -
11 53 16	Laboratory Incubators		$ -	$ -
11 53 17	Laboratory Equipment Washers		$ -	$ -
11 53 19	Laboratory Sterilizers		$ -	$ -
11 53 23	Laboratory Refrigerators		$ -	$ -
11 53 26	Laboratory Freezers		$ -	$ -
11 55 00	Planetarium Equipment		$ -	$ -
11 59 00	Exhibit Equipment		$ -	$ -
11 60 00	Entertainment and Recreation Equipment		$ -	$ -
11 61 00	Broadcast, Theater, and Stage Equipment		$ -	$ -
11 61 13	Acoustical Shells		$ -	$ -
11 61 23	Folding and Portable Stages		$ -	$ -
11 61 33	Rigging Systems and Controls		$ -	$ -
11 61 43	Stage Curtains		$ -	$ -
11 62 00	Musical Equipment		$ -	$ -
11 62 13	Bells		$ -	$ -
11 62 16	Carillons		$ -	$ -
11 66 00	Athletic Equipment		$ -	$ -
11 66 13	Exercise Equipment		$ -	$ -
11 66 23	Gymnasium Equipment		$ -	$ -
11 66 23.13	Basketball Equipment		$ -	$ -
11 66 23.23	Volleyball Equipment		$ -	$ -
11 66 23.53	Wall Padding		$ -	$ -
11 66 23.56	Mat Storage		$ -	$ -
11 66 43	Interior Scoreboards		$ -	$ -
11 66 53	Gymnasium Dividers		$ -	$ -
11 66 53.13	Batting/Golf Cages		$ -	$ -
11 67 00	Recreational Equipment		$ -	$ -
11 67 23	Shooting Range Equipment		$ -	$ -
11 67 33	Climbing Walls		$ -	$ -
11 68 00	Play Field Equipment and Structures		$ -	$ -
11 68 13	Playground Equipment		$ -	$ -
11 68 16	Play Structures		$ -	$ -
11 68 23	Exterior Court Athletic Equipment		$ -	$ -
11 68 23.13	Exterior Basketball Equipment		$ -	$ -
11 68 23.23	Exterior Volleyball Equipment		$ -	$ -
11 68 23.33	Tennis Equipment		$ -	$ -
11 68 33	Athletic Field Equipment		$ -	$ -
11 68 43	Exterior Scoreboards		$ -	$ -
11 70 00	Healthcare Equipment		$ -	$ -
11 71 00	Medical Sterilizing Equipment		$ -	$ -
11 72 00	Examination and Treatment Equipment		$ -	$ -
11 73 00	Patient Care Equipment		$ -	$ -
11 74 00	Dental Equipment		$ -	$ -
11 76 00	Operating Room Equipment		$ -	$ -
11 77 00	Radiology Equipment		$ -	$ -
11 78 00	Mortuary Equipment		$ -	$ -
11 78 13	Mortuary Refrigerators		$ -	$ -
11 79 00	Therapy Equipment		$ -	$ -
11 80 00	Facility Maintenance and Operation Equipment		$ -	$ -
11 81 00	Facility Maintenance Equipment		$ -	$ -

11 81 13	Floor and Wall Cleaning Equipment		$ -	$ -
11 81 19	Vacuum Cleaning Systems		$ -	$ -
11 81 23	Facade Access Equipment		$ -	$ -
11 81 23.13	Window Washing Systems		$ -	$ -
11 81 29	Facility Fall Protection		$ -	$ -
11 82 00	Facility Solid Waste Handling Equipment		$ -	$ -
11 82 19	Packaged Incinerators		$ -	$ -
11 82 23	Recycling Equipment		$ -	$ -
11 82 26	Facility Waste Compactors		$ -	$ -
11 82 33	Facility Waste Shredders		$ -	$ -
11 82 36	Facility Waste Balers		$ -	$ -
11 90 00	Other Equipment		$ -	$ -
11 91 00	Religious Equipment		$ -	$ -
11 91 13	Baptisteries		$ -	$ -
11 95 00	Arts and Crafts Equipment		$ -	$ -
11 95 13	Kilns		$ -	$ -
11 97 00	Security Equipment		$ -	$ -
11 97 13	Deal Drawers		$ -	$ -
11 97 16	Gun Ports		$ -	$ -
11 98 00	Detention Equipment		$ -	$ -
11 98 12	Detention Doors and Frames		$ -	$ -
11 98 14	Detention Door Hardware		$ -	$ -
11 98 19	Detention Room Padding		$ -	$ -
11 98 21	Detention Windows		$ -	$ -
11 98 23	Detention Window Screens		$ -	$ -
	SUBTOTAL	$		-

DIVISION 12	**FURNISHINGS**	**Quantity**	**Cost**	**Total**
12 05 13	Fabrics		$ -	$ -
12 10 00	Art		$ -	$ -
12 11 00	Murals		$ -	$ -
12 11 26	Ceramic Tile Murals		$ -	$ -
12 12 00	Wall Decorations		$ -	$ -
12 12 26	Wall Hangings		$ -	$ -
12 14 00	Sculptures		$ -	$ -
12 14 23	Relief Art		$ -	$ -
12 17 00	Art Glass		$ -	$ -
12 17 13	Etched Glass		$ -	$ -
12 17 16	Stained Glass		$ -	$ -
12 19 00	Religious Art		$ -	$ -
12 20 00	Window Treatments		$ -	$ -
12 21 00	Window Blinds		$ -	$ -
12 21 13	Horizontal Louver Blinds		$ -	$ -
12 21 16	Vertical Louver Blinds		$ -	$ -
12 21 26	Black Out Blinds		$ -	$ -
12 22 00	Curtains and Drapes		$ -	$ -
12 22 13	Draperies		$ -	$ -
12 22 16	Drapery Track and Accessories		$ -	$ -
12 23 00	Interior Shutters		$ -	$ -
12 23 13	Wood Interior Shutters		$ -	$ -
12 24 00	Window Shades		$ -	$ -
12 24 13	Roller Window Shades		$ -	$ -
12 24 16	Pleated Window Shades		$ -	$ -
12 24 16.16	Cellular Shades		$ -	$ -
12 25 00	Window Treatment Operating Hardware		$ -	$ -
12 25 09	Window Treatment Control System		$ -	$ -
12 25 13	Motorized Drapery Rods		$ -	$ -
12 26 00	Interior Daylighting Devices		$ -	$ -
12 30 00	Casework		$ -	$ -
12 31 00	Manufactured Metal Casework		$ -	$ -
12 32 00	Manufactured Wood Casework		$ -	$ -
12 35 00	Specialty Casework		$ -	$ -
12 35 00.11	Musical Instrument and Performance Casework		$ -	$ -
12 35 17	Bank Casework		$ -	$ -
12 35 25	Hospitality Casework		$ -	$ -
12 35 30	Residential Casework		$ -	$ -

12 35 30.13	Kitchen Casework		$ -	$ -
12 35 30.23	Bathroom Casework		$ -	$ -
12 35 36	Mailroom Casework		$ -	$ -
12 35 53	Laboratory Casework		$ -	$ -
12 35 59	Display Casework		$ -	$ -
12 35 70	Healthcare Casework		$ -	$ -
12 35 83	Performing Arts Casework		$ -	$ -
12 36 00	Countertops		$ -	$ -
12 36 13	Concrete Countertops		$ -	$ -
12 36 16	Metal Countertops		$ -	$ -
12 36 19	Wood Countertops		$ -	$ -
12 36 23	Plastic Countertops		$ -	$ -
12 36 23.13	Plastic Laminate Clad Countertops		$ -	$ -
12 36 26	Glass Countertops		$ -	$ -
12 36 40	Stone Countertops		$ -	$ -
12 36 53	Laboratory Countertops		$ -	$ -
12 36 61	Simulated Stone Countertops		$ -	$ -
12 36 61.16	Solid Surfacing Countertops		$ -	$ -
12 36 61.19	Quartz Agglomerate Countertops		$ -	$ -
12 40 00	Furnishings and Accessories		$ -	$ -
12 41 00	Office Accessories		$ -	$ -
12 41 13	Desk Accessories		$ -	$ -
12 43 00	Portable Lamps		$ -	$ -
12 43 13	Lamps		$ -	$ -
12 44 00	Bath Furnishings		$ -	$ -
12 44 16	Shower Curtains		$ -	$ -
12 45 00	Bedroom Furnishings		$ -	$ -
12 45 13	Bed Linens		$ -	$ -
12 45 13.13	Blankets		$ -	$ -
12 45 16	Pillows		$ -	$ -
12 46 00	Furnishing Accessories		$ -	$ -
12 46 13	Ash Receptacles		$ -	$ -
12 46 19	Clocks		$ -	$ -
12 46 26	Decorative Screens		$ -	$ -
12 48 00	Rugs and Mats		$ -	$ -
12 48 13	Entrance Floor Mats and Frames		$ -	$ -
12 48 13.13	Entrance Floor Mats		$ -	$ -
12 48 13.16	Entrance Floor Mat Frames		$ -	$ -
12 48 16	Entrance Floor Grilles		$ -	$ -
12 48 19	Entrance Floor Gratings		$ -	$ -
12 48 23	Entrance Floor Grids		$ -	$ -
12 48 26	Entrance Tile		$ -	$ -
12 48 43	Floor Mats		$ -	$ -
12 48 53	Rugs		$ -	$ -
12 48 53.13	Runners		$ -	$ -
12 50 00	Furniture		$ -	$ -
12 51 00	Office Furniture		$ -	$ -
12 51 16	Case Goods		$ -	$ -
12 51 19	Filing Cabinets		$ -	$ -
12 51 23	Office Tables		$ -	$ -
12 52 00	Seating		$ -	$ -
12 52 13	Chairs		$ -	$ -
12 52 19	Upholstered Seating		$ -	$ -
12 52 23	Office Seating		$ -	$ -
12 54 00	Hospitality Furniture		$ -	$ -
12 54 13	Hotel and Motel Furniture		$ -	$ -
12 54 16	Restaurant Furniture		$ -	$ -
12 55 00	Detention Furniture		$ -	$ -
12 55 86	Detention Control Room Furniture		$ -	$ -
12 56 00	Institutional Furniture		$ -	$ -
12 56 23	Religious Furniture		$ -	$ -
12 56 33	Classroom Furniture		$ -	$ -
12 56 39	Lecterns		$ -	$ -
12 56 43	Dormitory Furniture		$ -	$ -
12 56 51	Library Furniture		$ -	$ -
12 56 51.16	Study Carrels		$ -	$ -

12 56 52	Audio Visual Furniture		$ -	$ -
12 56 70	Healthcare Furniture		$ -	$ -
12 56 86	Institutional Control Room Furniture		$ -	$ -
12 57 00	Industrial Furniture		$ -	$ -
12 57 19	Laser Containment Screens		$ -	$ -
12 57 86	Industrial Control Room Furniture		$ -	$ -
12 58 00	Residential Furniture		$ -	$ -
12 58 16	Residential Chairs		$ -	$ -
12 58 19	Dining Tables and Chairs		$ -	$ -
12 58 23	Coffee Tables		$ -	$ -
12 58 26	Entertainment Centers		$ -	$ -
12 58 29	Beds		$ -	$ -
12 58 33	Dressers		$ -	$ -
12 58 33.13	Armoires		$ -	$ -
12 58 36	Nightstands		$ -	$ -
12 59 00	Systems Furniture		$ -	$ -
12 59 16	Free Standing Component System Furniture		$ -	$ -
12 60 00	Multiple Seating		$ -	$ -
12 62 00	Portable Audience Seating		$ -	$ -
12 62 13	Folding Chairs		$ -	$ -
12 62 23	Portable Bleachers		$ -	$ -
12 63 00	Stadium and Arena Seating		$ -	$ -
12 63 13	Stadium and Arena Bench Seating		$ -	$ -
12 63 23	Stadium and Arena Seats		$ -	$ -
12 65 00	Multiple Use Fixed Seating		$ -	$ -
12 66 00	Telescoping Stands		$ -	$ -
12 66 13	Telescoping Bleachers		$ -	$ -
12 66 23	Telescoping Chair Platforms		$ -	$ -
12 67 00	Pews and Benches		$ -	$ -
12 67 13	Pews		$ -	$ -
12 67 23	Benches		$ -	$ -
12 68 00	Seat and Table Assemblies		$ -	$ -
12 92 00	Interior Planters and Artificial Plants		$ -	$ -
12 93 00	Interior Public Space Furnishings		$ -	$ -
	SUBTOTAL		$	-

DIVISION 13	**SPECIAL CONSTRUCTION**	**Quantity**	**Cost**	**Total**
13 01 11	Operation and Maintenance of Swimming Pools		$ -	$ -
13 05 00	Common Work Results for Special Construction		$ -	$ -
13 10 00	Special Facility Components		$ -	$ -
13 11 00	Swimming Pools		$ -	$ -
13 11 43	Recirculating Gutter Systems		$ -	$ -
13 11 46	Swimming Pool Accessories		$ -	$ -
13 12 00	Fountains		$ -	$ -
13 12 13	Exterior Fountains		$ -	$ -
13 12 23	Interior Fountains		$ -	$ -
13 13 00	Aquariums		$ -	$ -
13 14 00	Amusement Park Structures and Equipment		$ -	$ -
13 14 13	Water Slides		$ -	$ -
13 14 23	Amusement Park Rides		$ -	$ -
13 17 00	Tubs and Pools		$ -	$ -
13 17 13	Hot Tubs		$ -	$ -
13 17 23	Therapeutic Pools		$ -	$ -
13 17 33	Whirlpool Tubs		$ -	$ -
13 18 00	Ice Rinks		$ -	$ -
13 18 16	Ice Rink Dasher Boards		$ -	$ -
13 19 00	Kennels and Animal Shelters		$ -	$ -
13 20 00	Special Purpose Rooms		$ -	$ -
13 21 00	Controlled Environment Rooms		$ -	$ -
13 21 13	Clean Rooms		$ -	$ -
13 21 23	Insulated Rooms		$ -	$ -
13 21 26	Cold Storage Rooms		$ -	$ -
13 21 29	Constant Temperature Rooms		$ -	$ -
13 21 48	Sound Conditioned Rooms		$ -	$ -
13 22 00	Office Shelters and Booths		$ -	$ -
13 23 00	Planetariums		$ -	$ -

13 24 00	Special Activity Rooms		$ -	$ -
13 24 16	Saunas		$ -	$ -
13 24 26	Steam Baths		$ -	$ -
13 24 66	Athletic Rooms		$ -	$ -
13 26 00	Fabricated Rooms		$ -	$ -
13 26 13	Storm Shelter Rooms		$ -	$ -
13 27 00	Vaults		$ -	$ -
13 27 53	Security Vaults		$ -	$ -
13 28 00	Athletic and Recreational Special Construction		$ -	$ -
13 28 16	Safety Netting		$ -	$ -
13 30 00	Special Structures		$ -	$ -
13 31 00	Fabric Structures		$ -	$ -
13 31 13	Air Supported Fabric Structures		$ -	$ -
13 31 23	Tensioned Fabric Structures		$ -	$ -
13 31 33	Framed Fabric Structures		$ -	$ -
13 32 00	Space Frames		$ -	$ -
13 32 13	Metal Space Frames		$ -	$ -
13 33 00	Geodesic Structures		$ -	$ -
13 34 00	Fabricated Engineered Structures		$ -	$ -
13 34 13	Glazed Structures		$ -	$ -
13 34 13.13	Greenhouses		$ -	$ -
13 34 13.16	Solariums		$ -	$ -
13 34 13.19	Swimming Pool Enclosures		$ -	$ -
13 34 13.23	Sunrooms		$ -	$ -
13 34 13.26	Conservatories		$ -	$ -
13 34 16	Grandstands and Bleachers		$ -	$ -
13 34 16.13	Grandstands		$ -	$ -
13 34 16.53	Bleachers		$ -	$ -
13 34 18	Post Frame Building Systems		$ -	$ -
13 34 19	Metal Building Systems		$ -	$ -
13 34 23	Fabricated Structures		$ -	$ -
13 34 23.13	Portable and Mobile Buildings		$ -	$ -
13 34 23.16	Fabricated Control Booths		$ -	$ -
13 34 23.19	Fabricated Dome Structures		$ -	$ -
13 34 23.23	Fabricated Substation Control Rooms		$ -	$ -
13 36 00	Towers		$ -	$ -
13 40 00.11	Bullet Resistant Construction		$ -	$ -
13 40 00.14	Blast Resistant Construction		$ -	$ -
13 42 33	Apartment Unit Modules		$ -	$ -
13 42 63	Detention Cell Modules		$ -	$ -
13 44 00	Modular Mezzanines		$ -	$ -
13 47 13	Cathodic Protection		$ -	$ -
13 48 00	Sound, Vibration, and Seismic Control		$ -	$ -
13 48 53	Manufactured Seismic Control Components		$ -	$ -
13 49 00	Radiation Protection		$ -	$ -
13 49 13	Integrated X Ray Shielding Assemblies		$ -	$ -
	SUBTOTAL	$		-

DIVISION 14	**CONVEYING EQUIPMENT**	**Quantity**	**Cost**	**Total**
14 10 00	Dumbwaiters		$ -	$ -
14 20 00	Elevators		$ -	$ -
14 20 00.11	Residential Elevators*		$ -	$ -
14 21 00	Electric Traction Elevators		$ -	$ -
14 24 00	Hydraulic Elevators		$ -	$ -
14 26 00	Limited Use/Limited Application Elevators		$ -	$ -
14 27 00	Custom Elevator Cabs and Doors		$ -	$ -
14 27 16	Custom Elevator Doors		$ -	$ -
14 28 00	Elevator Equipment and Controls		$ -	$ -
14 28 16	Elevator Controls		$ -	$ -
14 28 19	Elevator Equipment		$ -	$ -
14 30 00	Escalators and Moving Walks		$ -	$ -
14 31 00	Escalators		$ -	$ -
14 32 00	Moving Walks		$ -	$ -
14 33 00	Moving Ramps		$ -	$ -
14 40 00	Lifts		$ -	$ -
14 41 00	People Lifts		$ -	$ -

14 42 00	Wheelchair Lifts		$ -	$ -
14 42 13	Inclined Wheelchair Lifts		$ -	$ -
14 42 16	Vertical Wheelchair Lifts		$ -	$ -
14 43 00	Platform Lifts		$ -	$ -
14 43 13	Orchestra Lifts		$ -	$ -
14 43 16	Stage Lifts		$ -	$ -
14 44 00	Sidewalk Lifts		$ -	$ -
14 45 00	Vehicle Lifts		$ -	$ -
14 70 00	Turntables		$ -	$ -
14 71 00	Industrial Turntables		$ -	$ -
14 71 11	Vehicle Turntables		$ -	$ -
14 72 00	Hospitality Turntables		$ -	$ -
14 72 25	Restaurant Turntables		$ -	$ -
14 74 00	Entertainment Turntables		$ -	$ -
14 74 61	Stage Turntables		$ -	$ -
14 80 00	Scaffolding		$ -	$ -
14 90 00	Other Conveying Equipment		$ -	$ -
14 91 00	Facility Chutes		$ -	$ -
14 91 33	Laundry and Linen Chutes		$ -	$ -
14 91 82	Trash Chutes		$ -	$ -
14 92 00	Pneumatic Tube Systems		$ -	$ -
	SUBTOTAL	$		-

DIVISION 21	**FIRE SUPPRESSION**	**Quantity**	**Cost**	**Total**
21 05 00	Common Work Results for Fire Suppression		$ -	$ -
21 05 19	Meters and Gages for Fire Suppression Systems		$ -	$ -
21 05 23	General Duty Valves for Water Based Fire Suppression Piping		$ -	$ -
21 05 29	Hangers and Supports for Fire Suppression Piping and Equipment		$ -	$ -
21 05 33	Heat Tracing for Fire Suppression Piping		$ -	$ -
21 05 53	Identification for Fire Suppression Piping and Equipment		$ -	$ -
21 07 00	Fire Suppression Systems Insulation		$ -	$ -
21 07 16	Fire Suppression Equipment Insulation		$ -	$ -
21 07 19	Fire Suppression Piping Insulation		$ -	$ -
21 09 00	Instrumentation and Control for Fire Suppression Systems		$ -	$ -
21 10 00	Water Based Fire Supression Systems		$ -	$ -
21 11 00	Facility Fire Suppression Water Service Piping		$ -	$ -
21 13 00	Fire Suppression Sprinkler Systems		$ -	$ -
21 13 39	Foam Water Systems		$ -	$ -
21 20 00	Fire Extinguishing Systems		$ -	$ -
21 21 00	Carbon Dioxide Fire Extinguishing Systems		$ -	$ -
21 23 00	Wet Chemical Fire Extinguishing Systems		$ -	$ -
21 24 00	Dry Chemical Fire Extinguishing Systems		$ -	$ -
21 30 00	Fire Pumps		$ -	$ -
21 41 00	Storage Tanks for Fire Suppression Water		$ -	$ -
	SUBTOTAL	$		-

DIVISION 22	**PLUMBING**	**Quantity**	**Cost**	**Total**
22 01 00	Operation and Maintenance of Plumbing		$ -	$ -
22 01 10	Operation and Maintenance of Plumbing Piping and Pumps		$ -	$ -
22 01 10.51	Plumbing Piping Cleaning		$ -	$ -
22 01 10.61	Plumbing Piping Repairs		$ -	$ -
22 01 10.62	Plumbing Piping Relining		$ -	$ -
22 01 40	Operation and Maintenance of Plumbing Fixtures		$ -	$ -
22 05 00	Common Work Results for Plumbing		$ -	$ -
22 05 13	Common Motor Requirements for Plumbing Equipment		$ -	$ -
22 05 16	Expansion Fittings and Loops for Plumbing Piping		$ -	$ -
22 05 19	Meters and Gages for Plumbing Piping		$ -	$ -
22 05 23	General Duty Valves for Plumbing Piping		$ -	$ -
22 05 29	Hangers and Supports for Plumbing Piping and Equipment		$ -	$ -
22 05 33	Heat Tracing for Plumbing Piping		$ -	$ -
22 05 48	Vibration and Seismic Controls for Plumbing Piping and Equipment		$ -	$ -
22 05 53	Identification for Plumbing Piping and Equipment		$ -	$ -
22 05 73	Facility Drainage Manholes		$ -	$ -
22 06 15	Schedules for General Service Compressed Air Equipment		$ -	$ -
22 07 00	Plumbing Insulation		$ -	$ -
22 07 16	Plumbing Equipment Insulation		$ -	$ -

22 07 19	Plumbing Piping Insulation		$ -	$ -
22 10 00	Plumbing Piping		$ -	$ -
22 11 00	Facility Water Distribution		$ -	$ -
22 11 13	Facility Water Distribution Piping		$ -	$ -
22 11 16	Domestic Water Piping		$ -	$ -
22 11 23	Domestic Water Pumps		$ -	$ -
22 12 00	Facility Potable Water Storage Tanks		$ -	$ -
22 12 23	Facility Indoor Potable Water Storage Tanks		$ -	$ -
22 13 00	Facility Sanitary Sewerage		$ -	$ -
22 13 13	Facility Sanitary Sewers		$ -	$ -
22 13 19	Sanitary Waste Piping Specialties		$ -	$ -
22 13 19.13	Sanitary Drains		$ -	$ -
22 13 29	Sanitary Sewerage Pumps		$ -	$ -
22 13 53	Facility Septic Tanks		$ -	$ -
22 14 00	Facility Storm Drainage		$ -	$ -
22 14 13	Facility Storm Drainage Piping		$ -	$ -
22 14 26	Facility Storm Drains		$ -	$ -
22 14 26.13	Roof Drains		$ -	$ -
22 14 26.16	Facility Area Drains		$ -	$ -
22 14 26.19	Facility Trench Drains		$ -	$ -
22 14 29	Sump Pumps		$ -	$ -
22 14 29.16	Submersible Sump Pumps		$ -	$ -
22 14 36	Packaged, Submersible, Drainage Pump Units		$ -	$ -
22 15 00	General Service Compressed Air Systems		$ -	$ -
22 15 16	General Service Compressed Air Valves		$ -	$ -
22 30 00	Plumbing Equipment		$ -	$ -
22 31 00	Domestic Water Softeners		$ -	$ -
22 31 13	Residential Domestic Water Softeners		$ -	$ -
22 32 00	Domestic Water Filtration Equipment		$ -	$ -
22 32 26	Domestic Water Sand Filters		$ -	$ -
22 33 00	Electric Domestic Water Heaters		$ -	$ -
22 33 13	Instantaneous Electric Domestic Water Heaters		$ -	$ -
22 33 30	Residential, Electric Domestic Water Heaters		$ -	$ -
22 33 33	Light Commercial Electric Domestic Water Heaters		$ -	$ -
22 34 00	Fuel Fired Domestic Water Heaters		$ -	$ -
22 34 13	Instantaneous, Tankless, Gas Domestic Water Heaters		$ -	$ -
22 40 00	Plumbing Fixtures		$ -	$ -
22 41 00	Residential Plumbing Fixtures		$ -	$ -
22 41 13	Residential Water Closets, Urinals, and Bidets		$ -	$ -
22 41 13.13	Residential Water Closets		$ -	$ -
22 41 16	Residential Lavatories and Sinks		$ -	$ -
22 41 19	Residential Bathtubs		$ -	$ -
22 41 23	Residential Showers		$ -	$ -
22 41 26	Residential Disposers		$ -	$ -
22 41 36	Residential Laundry Trays		$ -	$ -
22 41 39	Residential Faucets, Supplies, and Trim		$ -	$ -
22 42 00	Commercial Plumbing Fixtures		$ -	$ -
22 42 13	Commercial Water Closets, Urinals, and Bidets		$ -	$ -
22 42 13.13	Commercial Water Closets		$ -	$ -
22 42 13.16	Commercial Urinals		$ -	$ -
22 42 16	Commercial Lavatories and Sinks		$ -	$ -
22 42 16.13	Commercial Lavatories		$ -	$ -
22 42 16.16	Commercial Sinks		$ -	$ -
22 42 23	Commercial Showers		$ -	$ -
22 42 26	Commercial Disposers		$ -	$ -
22 42 33	Wash Fountains		$ -	$ -
22 42 39	Commercial Faucets, Supplies, and Trim		$ -	$ -
22 42 43	Flushometers		$ -	$ -
22 43 00	Healthcare Plumbing Fixtures		$ -	$ -
22 43 13	Healthcare Water Closets		$ -	$ -
22 43 16	Healthcare Sinks		$ -	$ -
22 43 19	Healthcare Bathtubs		$ -	$ -
22 43 23	Healthcare Showers		$ -	$ -
22 43 39	Healthcare Faucets		$ -	$ -
22 43 43	Healthcare Plumbing Fixture Flushometers		$ -	$ -
22 45 00	Emergency Plumbing Fixtures		$ -	$ -

22 45 16	Eyewash Equipment		$ -	$ -
22 45 26	Eye/Face Wash Equipment		$ -	$ -
22 45 33	Combination Emergency Fixture Units		$ -	$ -
22 46 00	Security Plumbing Fixtures		$ -	$ -
22 46 13	Security Water Closets and Urinals		$ -	$ -
22 46 16	Security Lavatories and Sinks		$ -	$ -
22 46 39	Security Faucets, Supplies, and Trim		$ -	$ -
22 47 00	Drinking Fountains and Water Coolers		$ -	$ -
22 47 13	Drinking Fountains		$ -	$ -
22 50 00	Pool and Fountain Plumbing Systems		$ -	$ -
22 51 00	Swimming Pool Plumbing Systems		$ -	$ -
22 51 16	Swimming Pool Pumps		$ -	$ -
22 51 19	Swimming Pool Water Treatment Equipment		$ -	$ -
22 51 23	Swimming Pool Equipment Controls		$ -	$ -
22 52 00	Fountain Plumbing Systems		$ -	$ -
22 52 13	Fountain Piping		$ -	$ -
22 52 16	Fountain Pumps		$ -	$ -
22 52 19	Fountain Water Treatment Equipment		$ -	$ -
22 52 23	Fountain Equipment Controls		$ -	$ -
22 60 00	Gas and Vacuum Systems for Laboratory and Healthcare Facilities		$ -	$ -
22 61 00	Compressed Air Systems for Laboratory and Healthcare Facilities		$ -	$ -
22 62 00	Vacuum Systems for Laboratory and Healthcare Facilities		$ -	$ -
22 62 13	Vacuum Piping for Laboratory and Healthcare Facilities		$ -	$ -
22 62 13.53	Laboratory Vacuum Piping		$ -	$ -
22 62 13.70	Healthcare, Surgical Vacuum Piping		$ -	$ -
22 63 19	Gas Storage Tanks for Laboratory and Healthcare Facilities		$ -	$ -
22 66 83	Chemical Waste Tanks		$ -	$ -
22 66 83.13	Chemical Waste Dilution Tanks		$ -	$ -
22 66 83.16	Chemical Waste Neutralization Tanks		$ -	$ -
22 67 00	Processed Water Systems for Laboratory and Healthcare Facilities		$ -	$ -
22 67 19	Processed Water Equipment for Laboratory and Healthcare Facilities		$ -	$ -
22 67 19.13	Distilled Water Equipment		$ -	$ -
	SUBTOTAL	$		-

DIVISION 23	**HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)**	**Quantity**	**Cost**	**Total**
23 01 00	Operation and Maintenance of HVAC Systems		$ -	$ -
23 01 30	Operation and Maintenance of HVAC Air Distribution		$ -	$ -
23 01 30.51	HVAC Air Distribution System Cleaning		$ -	$ -
23 01 60	Operation and Maintenance of Central Cooling Equipment		$ -	$ -
23 01 60.71	Refrigerant Recovery/Recycling		$ -	$ -
23 05 00	Common Work Results for HVAC		$ -	$ -
23 05 13	Common Motor Requirements for HVAC Equipment		$ -	$ -
23 05 16	Expansion Fittings and Loops for HVAC Piping		$ -	$ -
23 05 19	Meters and Gages for HVAC Piping		$ -	$ -
23 05 23	General Duty Valves for HVAC Piping		$ -	$ -
23 05 29	Hangers and Supports for HVAC Piping and Equipment		$ -	$ -
23 05 33	Heat Tracing for HVAC Piping		$ -	$ -
23 05 48	Vibration and Seismic Controls for HVAC		$ -	$ -
23 05 53	Identification for HVAC Piping and Equipment		$ -	$ -
23 05 66	Anti Microbial Ultraviolet Emitters for HVAC Ducts and Equipment		$ -	$ -
23 05 93	Testing, Adjusting, and Balancing for HVAC		$ -	$ -
23 07 00	HVAC Insulation		$ -	$ -
23 07 13	Duct Insulation		$ -	$ -
23 07 16	HVAC Equipment Insulation		$ -	$ -
23 07 19	HVAC Piping Insulation		$ -	$ -
23 09 00	Instrumentation and Control for HVAC		$ -	$ -
23 09 13	Instrumentation and Control Devices for HVAC		$ -	$ -
23 09 13.23	Sensors and Transmitters		$ -	$ -
23 09 13.33	Control Valves		$ -	$ -
23 09 13.43	Control Dampers		$ -	$ -
23 10 00	Facility Fuel Systems		$ -	$ -
23 11 00	Facility Fuel Piping		$ -	$ -
23 11 13	Facility Fuel Oil Piping		$ -	$ -
23 11 23	Facility Natural Gas Piping		$ -	$ -
23 12 00	Facility Fuel Pumps		$ -	$ -
23 12 13	Facility Fuel Oil Pumps		$ -	$ -

23 12 16	Facility Gasoline Dispensing Pumps		$ -	$ -
23 13 00	Facility Fuel Storage Tanks		$ -	$ -
23 20 00	HVAC Piping and Pumps		$ -	$ -
23 21 00	Hydronic Piping and Pumps		$ -	$ -
23 21 13	Hydronic Piping		$ -	$ -
23 21 23	Hydronic Pumps		$ -	$ -
23 22 00	Steam and Condensate Piping and Pumps		$ -	$ -
23 22 13	Steam and Condensate Heating Piping		$ -	$ -
23 22 16	Steam and Condensate Heating Piping Specialties		$ -	$ -
23 22 23	Steam Condensate Pumps		$ -	$ -
23 23 13	Refrigerant Piping Valves		$ -	$ -
23 25 00	HVAC Water Treatment		$ -	$ -
23 30 00	HVAC Air Distribution		$ -	$ -
23 31 00	HVAC Ducts and Casings		$ -	$ -
23 31 13	Metal Ducts		$ -	$ -
23 31 13.19	Metal Duct Fittings		$ -	$ -
23 32 00	Air Plenums and Chases		$ -	$ -
23 32 13	Fabricated, Metal Air Plenums		$ -	$ -
23 32 43	Air Distribution Chases Formed by General Construction		$ -	$ -
23 33 00	Air Duct Accessories		$ -	$ -
23 33 13	Dampers		$ -	$ -
23 33 13.13	Volume Control Dampers		$ -	$ -
23 33 13.16	Fire Dampers		$ -	$ -
23 33 13.19	Smoke Control Dampers		$ -	$ -
23 33 13.23	Backdraft Dampers		$ -	$ -
23 33 19	Duct Silencers		$ -	$ -
23 33 33	Duct Mounting Access Doors		$ -	$ -
23 34 00	HVAC Fans		$ -	$ -
23 34 23	HVAC Power Ventilators		$ -	$ -
23 34 33	Air Curtains		$ -	$ -
23 34 39	Air Destratification Fans		$ -	$ -
23 35 00	Special Exhaust Systems		$ -	$ -
23 35 13	Dust Collection Systems		$ -	$ -
23 35 16	Engine Exhaust Systems		$ -	$ -
23 36 00	Air Terminal Units		$ -	$ -
23 37 00	Air Outlets and Inlets		$ -	$ -
23 37 13	Diffusers, Registers, and Grilles		$ -	$ -
23 37 23	HVAC Gravity Ventilators		$ -	$ -
23 38 00	Ventilation Hoods		$ -	$ -
23 38 13	Commercial Kitchen Hoods		$ -	$ -
23 38 16	Fume Hoods		$ -	$ -
23 40 00	HVAC Air Cleaning Devices		$ -	$ -
23 41 00	Particulate Air Filtration		$ -	$ -
23 41 13	Panel Air Filters Media Air Filters		$ -	$ -
23 41 16	Renewable Media Air Filters		$ -	$ -
23 41 19	Washable Air Filters		$ -	$ -
23 42 00	Gas Phase Air Filtration		$ -	$ -
23 43 00	Electronic Air Cleaners		$ -	$ -
23 50 00	Central Heating Equipment		$ -	$ -
23 51 00	Breechings, Chimneys, and Stacks		$ -	$ -
23 51 13	Draft Control Devices		$ -	$ -
23 51 13.13	Draft Induction Fans		$ -	$ -
23 51 13.16	Vent Dampers		$ -	$ -
23 51 19	Fabricated Stacks		$ -	$ -
23 51 23	Gas Vents		$ -	$ -
23 51 33	Insulated Sectional Chimneys		$ -	$ -
23 52 00	Heating Boilers		$ -	$ -
23 52 13	Electric Boilers		$ -	$ -
23 52 16	Condensing Boilers		$ -	$ -
23 52 33	Water Tube Boilers		$ -	$ -
23 52 39	Fire Tube Boilers		$ -	$ -
23 52 83	Boiler Blowdown Systems		$ -	$ -
23 53 00	Heating Boiler Feedwater Equipment		$ -	$ -
23 53 13	Boiler Feedwater Pumps		$ -	$ -
23 54 00	Furnaces		$ -	$ -
23 54 13	Electric Resistance Furnaces		$ -	$ -

23 54 16	Fuel Fired Furnaces		$ -	$ -
23 54 16.13	Gas Fired Furnaces		$ -	$ -
23 54 16.16	Oil Fired Furnaces		$ -	$ -
23 55 00	Fuel Fired Heaters		$ -	$ -
23 55 13	Fuel Fired Duct Heaters		$ -	$ -
23 55 23	Gas Fired Radiant Heaters		$ -	$ -
23 55 33	Fuel Fired Unit Heaters		$ -	$ -
23 55 33.13	Oil Fired Unit Heaters		$ -	$ -
23 55 33.16	Gas Fired Unit Heaters		$ -	$ -
23 56 00	Solar Energy Heating Equipment		$ -	$ -
23 56 13	Heating Solar Collectors		$ -	$ -
23 57 00	Heat Exchangers for HVAC		$ -	$ -
23 60 00	Central Cooling Equipment		$ -	$ -
23 61 00	Refrigerant Compressors		$ -	$ -
23 62 00	Packaged Compressor and Condenser Units		$ -	$ -
23 63 00	Refrigerant Condensers		$ -	$ -
23 64 00	Packaged Water Chillers		$ -	$ -
23 65 00	Cooling Towers		$ -	$ -
23 65 13	Forced Draft Cooling Towers		$ -	$ -
23 65 16	Natural Draft Cooling Towers		$ -	$ -
23 70 00	Central HVAC Equipment		$ -	$ -
23 71 00	Thermal Storage		$ -	$ -
23 71 13	Thermal Heat Storage		$ -	$ -
23 71 16	Chilled Water Thermal Storage		$ -	$ -
23 71 19	Ice Storage		$ -	$ -
23 72 00	Air to Air Energy Recovery Equipment		$ -	$ -
23 73 00	Indoor Central Station Air Handling Units		$ -	$ -
23 76 00	Evaporative Air Cooling Equipment		$ -	$ -
23 76 13	Direct Evaporative Air Coolers		$ -	$ -
23 76 16	Indirect Evaporative Air Coolers		$ -	$ -
23 80 00	Decentralized HVAC Equipment		$ -	$ -
23 81 00	Decentralized Unitary HVAC Equipment		$ -	$ -
23 81 13	Packaged Terminal Air Conditioners		$ -	$ -
23 81 16	Room Air Conditioners		$ -	$ -
23 81 23	Computer Room Air Conditioners		$ -	$ -
23 81 43	Air Source Unitary Heat Pumps		$ -	$ -
23 81 46	Water Source Unitary Heat Pumps		$ -	$ -
23 82 29	Radiators		$ -	$ -
23 82 33	Convectors		$ -	$ -
23 82 39	Unit Heaters		$ -	$ -
23 82 39.13	Cabinet Unit Heaters		$ -	$ -
23 82 41	Water to Water Heat Pumps		$ -	$ -
23 83 00	Radiant Heating Units		$ -	$ -
23 83 13	Radiant Heating Electric Cables		$ -	$ -
23 83 13.16	Radiant Heating Electric Mats		$ -	$ -
23 83 16	Radiant Heating Hydronic Piping		$ -	$ -
23 83 23	Radiant Heating Electric Panels		$ -	$ -
23 83 26	Gas Fired Radiant Heaters		$ -	$ -
23 83 33	Electric Radiant Heaters		$ -	$ -
23 84 00	Humidity Control Equipment		$ -	$ -
23 84 13	Humidifiers		$ -	$ -
23 84 16.33	Portable Dehumidifiers		$ -	$ -
23 84 19	Desiccant Dehumidification Units		$ -	$ -
	SUBTOTAL	$		-

DIVISION 25	**INTEGRATED AUTOMATION**	**Quantity**	**Cost**	**Total**
25 05 00	Common Work Results for Integrated Automation		$ -	$ -
25 05 13	Conductors and Cables for Integrated Automation		$ -	$ -
25 05 28.29	Hangers and Supports for Integrated Automation		$ -	$ -
25 05 28.33	Conduits and Backboxes for Integrated Automation		$ -	$ -
25 05 28.36	Cable Trays for Integrated Automation		$ -	$ -
25 05 28.39	Surface Raceways for Integrated Automation		$ -	$ -
25 05 53	Identification for Integrated Automation		$ -	$ -
25 15 00	Integrated Automation Software		$ -	$ -
25 30 00	Integrated Automation Instrumentation and Terminal Devices		$ -	$ -
25 35 00	Integrated Automation Instrumentation and Terminal Devices for HVAC		$ -	$ -

25 35 23	Integrated Automation Control Dampers		$ -	$ -
25 50 00	Integrated Automation Facility Controls		$ -	$ -
25 56 00	Integrated Automation Control of Electrical Systems		$ -	$ -
25 58 00	Integrated Automation Control of Electronic Safety and Security Systems		$ -	$ -
	SUBTOTAL	$		-
DIVISION 26	**ELECTRICAL**	**Quantity**	**Cost**	**Total**
26 01 00	Operation and Maintenance of Electrical Systems		$ -	$ -
26 01 26	Maintenance Testing of Electrical Systems		$ -	$ -
26 05 00	Common Work Results for Electrical		$ -	$ -
26 05 13	Medium		$ -	$ -
26 05 19	Low		$ -	$ -
26 05 19.13	Undercarpet Electrical Power Cables		$ -	$ -
26 05 23	Control		$ -	$ -
26 05 26	Grounding and Bonding for Electrical Systems		$ -	$ -
26 05 33	Raceway and Boxes for Electrical Systems		$ -	$ -
26 05 33.13	Conduit for Electrical Systems		$ -	$ -
26 05 33.16	Boxes for Electrical Systems		$ -	$ -
26 05 33.23	Surface Raceways for Electrical Systems		$ -	$ -
26 05 36	Cable Trays for Electrical Systems		$ -	$ -
26 05 39	Underfloor Raceways for Electrical Systems		$ -	$ -
26 05 53	Identification for Electrical Systems		$ -	$ -
26 09 00	Instrumentation and Control for Electrical Systems		$ -	$ -
26 09 16	Electrical Controls and Relays		$ -	$ -
26 09 23	Lighting Control Devices		$ -	$ -
26 09 33	Central Dimming Controls		$ -	$ -
26 09 36	Modular Dimming Controls		$ -	$ -
26 09 43	Network Lighting Controls		$ -	$ -
26 09 43.19	Wireless Network Lighting Controls		$ -	$ -
26 09 61	Theatrical Lighting Controls		$ -	$ -
26 10 00	Medium Voltage Electrical Distribution		$ -	$ -
26 12 00	Medium Voltage Transformers		$ -	$ -
26 13 00	Medium Voltage Switchgear		$ -	$ -
26 18 00	Medium Voltage Circuit Protection Devices		$ -	$ -
26 18 16	Medium Voltage Fuses		$ -	$ -
26 18 19	Medium Voltage Lightning Arresters		$ -	$ -
26 20 00	Low Voltage Electrical Transmission		$ -	$ -
26 22 00	Low Voltage Transformers		$ -	$ -
26 23 00	Low Voltage Switchgear		$ -	$ -
26 27 00	Low Voltage Distribution Equipment		$ -	$ -
26 27 13	Electricity Metering		$ -	$ -
26 27 23	Indoor Service Poles		$ -	$ -
26 27 26	Wiring Devices		$ -	$ -
26 27 33	Power Distribution Units		$ -	$ -
26 28 00	Low Voltage Circuit Protective Devices		$ -	$ -
26 28 13	Fuses		$ -	$ -
26 30 00	Facility Electrical Power Generating and Storing Equipment		$ -	$ -
26 31 00	Photovoltaic Collectors		$ -	$ -
26 32 00	Packaged Generator Assemblies		$ -	$ -
26 32 13	Engine Generators		$ -	$ -
26 33 00	Battery Equipment		$ -	$ -
26 33 13	Batteries		$ -	$ -
26 33 19	Battery Units		$ -	$ -
26 33 33	Static Power Converters		$ -	$ -
26 33 43	Battery Chargers		$ -	$ -
26 33 53	Static Uninterruptible Power Supply		$ -	$ -
26 35 00	Power Filters and Conditioners		$ -	$ -
26 35 33	Power Factor Correction Equipment		$ -	$ -
26 36 00	Transfer Switches		$ -	$ -
26 36 23	Automatic Transfer Switches		$ -	$ -
26 40 00	Electrical Protection		$ -	$ -
26 41 00	Facility Lightning Protection		$ -	$ -
26 42 00	Cathodic Protection		$ -	$ -
26 43 00	Surge Protective Devices		$ -	$ -
26 43 13	Surge Protective Devices for Low Voltage Electrical Power Circuits		$ -	$ -
26 50 00	Lighting		$ -	$ -

26 51 00	Interior Lighting		$ -	$ -
26 51 13	Interior Lighting Fixtures, Lamps, And Ballasts		$ -	$ -
26 52 00	Safety Lighting		$ -	$ -
26 52 13	Emergency and Exit Lighting		$ -	$ -
26 52 13.13	Emergency Lighting		$ -	$ -
26 52 13.16	Exit Signs		$ -	$ -
26 55 00	Special Purpose Lighting		$ -	$ -
26 55 29	Underwater Lighting		$ -	$ -
26 55 33	Hazard Warning Lighting		$ -	$ -
26 55 59	Display Lighting		$ -	$ -
26 55 61	Theatrical Lighting		$ -	$ -
26 55 63	Detention Lighting		$ -	$ -
26 55 68	Athletic Field Lighting		$ -	$ -
26 55 70	Healthcare Lighting		$ -	$ -
26 56 00	Exterior Lighting		$ -	$ -
26 56 13	Lighting Poles and Standards		$ -	$ -
26 56 16	Parking Lighting		$ -	$ -
26 56 23	Area Lighting		$ -	$ -
26 56 26	Landscape Lighting		$ -	$ -
26 56 29	Site Lighting		$ -	$ -
26 56 33	Walkway Lighting		$ -	$ -
26 56 36	Flood Lighting		$ -	$ -
	SUBTOTAL	$		-

DIVISION 27	**COMMUNICATIONS**	**Quantity**	**Cost**	**Total**
27 05 26	Grounding and Bonding for Communications Systems		$ -	$ -
27 05 29	Hangers and Supports for Communications Systems		$ -	$ -
27 05 33	Conduits and Backboxes for Communications Systems		$ -	$ -
27 05 36	Cable Trays for Communications Systems		$ -	$ -
27 05 39	Surface Raceways for Communications Systems		$ -	$ -
27 05 43	Underground Ducts and Raceways for Communications Systems		$ -	$ -
27 05 53	Identification for Communications Systems		$ -	$ -
27 10 00	Structured Cabling		$ -	$ -
27 11 00	Communications Equipment Room Fittings		$ -	$ -
27 11 16	Communications Cabinets, Racks, Frames and Enclosures		$ -	$ -
27 13 00	Communications Backbone Cabling		$ -	$ -
27 15 00	Communications Horizontal Cabling		$ -	$ -
27 15 01.11	Conductors and Cables for Electronic Safety and Security		$ -	$ -
27 20 00	Data Communications		$ -	$ -
27 21 00	Data Communications Network Equipment		$ -	$ -
27 21 33	Data Communications Wireless Access Points		$ -	$ -
27 22 00	Data Communications Hardware		$ -	$ -
27 22 16	Data Communications Storage and Backup		$ -	$ -
27 22 19	Data Communications Servers		$ -	$ -
27 25 00	Data Communications Software		$ -	$ -
27 25 16	Application Suites		$ -	$ -
27 25 23	Graphics/Multimedia Software		$ -	$ -
27 25 26	Customer Relationship Management Software		$ -	$ -
27 25 33	Database Software		$ -	$ -
27 30 00	Voice Communications		$ -	$ -
27 31 00	Voice Communications Switching and Routing Equipment		$ -	$ -
27 32 00	Voice Communications Terminal Equipment		$ -	$ -
27 40 00	Audio Video Communications		$ -	$ -
27 41 00	Audio Video Systems		$ -	$ -
27 41 16	Integrated Audio Video Systems and Equipment		$ -	$ -
27 41 16.25	Integrated Audio Video Systems and Equipment for Restaurants and Bars		$ -	$ -
27 41 16.28	Integrated Audio Video Systems and Equipment for Conference Rooms		$ -	$ -
27 41 16.51	Integrated Audio Video Systems and Equipment for Classrooms		$ -	$ -
27 41 16.61	Integrated Audio Video Systems and Equipment for Theaters		$ -	$ -
27 41 16.62	Integrated Audio Video Systems and Equipment for Auditoriums		$ -	$ -
27 41 23	Audio Video Accessories		$ -	$ -
27 42 00	Electronic Digital Systems		$ -	$ -
27 42 13	Point of Sale Systems		$ -	$ -
27 50 00	Distributed Communications and Monitoring Systems		$ -	$ -
27 51 00	Distributed Audio Video Communications Systems		$ -	$ -
27 51 16	Public Address and Mass Notification Systems		$ -	$ -

27 51 19	Sound Masking Systems		$ -	$ -
27 51 23	Intercommunications and Program Systems		$ -	$ -
27 51 23.20	Commercial Intercommunications and Program Systems		$ -	$ -
27 51 23.30	Residential Intercommunications and Program Systems		$ -	$ -
27 52 00	Healthcare Communications and Monitoring Systems		$ -	$ -
27 52 23	Nurse Call/Code Blue Systems		$ -	$ -
27 53 00	Distributed Systems		$ -	$ -
27 53 13	Clock Systems		$ -	$ -
27 53 13.13	Wireless Clock Systems		$ -	$ -
	SUBTOTAL	$		-

DIVISION 28	**ELECTRONIC SAFETY AND SECURITY**	**Quantity**	**Cost**	**Total**
28 05 00	Common Work Results for Electronic Safety and Security		$ -	$ -
28 05 53	Identification for Electronic Safety and Security		$ -	$ -
28 10 00	Access Control		$ -	$ -
28 13 00	Access Control Software and Database Management		$ -	$ -
28 14 00	Access Control System Hardware		$ -	$ -
28 15 00	Access Control Hardware Devices		$ -	$ -
28 15 11	Integrated Credential Readers and Field Entry Management		$ -	$ -
28 15 11.11	Standard Card Readers		$ -	$ -
28 15 11.13	Keypads		$ -	$ -
28 15 11.15	Biometric Identity Devices		$ -	$ -
28 18 00	Security Access Detection Equipment		$ -	$ -
28 18 11	Security Access Metal Detectors		$ -	$ -
28 18 13	Security Access X Ray Equipment		$ -	$ -
28 18 15	Security Access Explosives Detection Equipment		$ -	$ -
28 20 00	Video Surveillance		$ -	$ -
28 27 00	Video Surveillance Sensors		$ -	$ -
28 30 00	Security Detection, Alarm, and Monitoring		$ -	$ -
28 30 00.11	Accessories for Electronic Detection and Alarm*		$ -	$ -
28 31 00	Intrusion Detection		$ -	$ -
28 31 21	Area and Perimeter Intrusion Detection		$ -	$ -
28 40 00	Life Safety		$ -	$ -
28 41 00	Radiation Detection and Alarm		$ -	$ -
28 41 15	Radiation Detection Sensors		$ -	$ -
28 42 00	Gas Detection and Alarm		$ -	$ -
28 42 15	Gas Detection Sensors		$ -	$ -
28 45 00	Water Detection and Alarm		$ -	$ -
28 45 13	Water Detection Sensors		$ -	$ -
28 46 00	Fire Detection and Alarm		$ -	$ -
28 47 00	Mass Notification		$ -	$ -
28 50 00	Specialized Systems		$ -	$ -
28 52 00	Detention Security Systems		$ -	$ -
	SUBTOTAL	$		-

DIVISION 31	**EARTHWORK**	**Quantity**	**Cost**	**Total**
31 05 19	Geosynthetics for Earthwork		$ -	$ -
31 25 00	Erosion and Sedimentation Controls		$ -	$ -
31 30 00	Earthwork Methods		$ -	$ -
31 31 00	Soil Treatment		$ -	$ -
31 31 16	Termite Control		$ -	$ -
31 32 00	Soil Stabilization		$ -	$ -
31 32 16	Chemical Treatment Soil Stabilization		$ -	$ -
31 32 16.13	Polymer Emulsion Soil Stabilization		$ -	$ -
31 32 19	Geosynthetic Soil Stabilization and Layer Separation		$ -	$ -
31 32 23	Pressure Grouting Soil Stabilization		$ -	$ -
31 34 00	Soil Reinforcement		$ -	$ -
31 34 19	Geosynthetic Soil Reinforcement		$ -	$ -
31 35 00	Slope Protection		$ -	$ -
31 35 19	Geosynthetic Slope Protection		$ -	$ -
31 35 26	Containment Barriers		$ -	$ -
31 35 26.16	Geomembrane Containment Barriers		$ -	$ -
31 36 00	Gabions		$ -	$ -
31 36 13	Gabion Boxes		$ -	$ -
31 36 19	Gabion Mattresses		$ -	$ -
31 37 00	Riprap		$ -	$ -

31 40 00	Shoring and Underpinning		$ -	$ -
31 41 00	Shoring		$ -	$ -
31 48 00	Underpinning		$ -	$ -
31 48 13	Underpinning Piers		$ -	$ -
31 50 00	Excavation Support and Protection		$ -	$ -
31 51 00	Anchor Tiebacks		$ -	$ -
31 52 00	Cofferdams		$ -	$ -
31 60 00	Special Foundations and Load Bearing Elements		$ -	$ -
31 62 00	Driven Piles		$ -	$ -
31 63 00	Bored Piles		$ -	$ -
31 66 00	Special Foundations		$ -	$ -
31 66 13	Special Piles		$ -	$ -
31 66 13.13	Rammed Aggregate Piles		$ -	$ -
31 68 00	Foundation Anchors		$ -	$ -
31 70 00	Tunneling and Mining		$ -	$ -
31 72 00	Tunnel Support Systems		$ -	$ -
	SUBTOTAL	$		-
DIVISION 32	**EXTERIOR IMPROVEMENTS**	**Quantity**	**Cost**	**Total**
32 01 00	Operation and Maintenance of Exterior Improvements		$ -	$ -
32 01 13	Flexible Paving Surface Treatment		$ -	$ -
32 01 17	Flexible Paving Repair		$ -	$ -
32 01 90	Operation and Maintenance of Planting		$ -	$ -
32 01 90.13	Fertilizing		$ -	$ -
32 01 90.33	Tree and Shrub Preservation		$ -	$ -
32 10 00	Bases, Ballasts, and Paving		$ -	$ -
32 11 00	Base Courses		$ -	$ -
32 12 00	Flexible Paving		$ -	$ -
32 12 13	Preparatory Coats		$ -	$ -
32 12 16	Asphalt Paving		$ -	$ -
32 12 33	Flexible Paving Surface Treatments		$ -	$ -
32 12 36	Seal Coats		$ -	$ -
32 12 43	Porous Flexible Paving		$ -	$ -
32 13 00	Rigid Paving		$ -	$ -
32 13 13	Concrete Paving		$ -	$ -
32 13 73	Concrete Paving Joint Sealants		$ -	$ -
32 14 00	Unit Paving		$ -	$ -
32 14 13	Precast Concrete Unit Paving		$ -	$ -
32 14 16	Brick Unit Paving		$ -	$ -
32 14 29	Recycled Rubber Paving		$ -	$ -
32 14 40	Stone Paving		$ -	$ -
32 14 43	Porous Unit Paving		$ -	$ -
32 15 00	Aggregate Surfacing		$ -	$ -
32 16 00	Curbs, Gutters, Sidwalks, and Driveways		$ -	$ -
32 16 13	Curbs and Gutters		$ -	$ -
32 17 00	Paving Specialties		$ -	$ -
32 17 13	Parking Bumpers		$ -	$ -
32 17 16	Speed Bumps		$ -	$ -
32 17 23	Pavement Markings		$ -	$ -
32 17 26	Tactile Warning Surfacing		$ -	$ -
32 18 00	Athletic and Recreational Surfacing		$ -	$ -
32 18 13	Synthetic Grass Surfacing		$ -	$ -
32 18 16	Synthetic Resilient Surfacing		$ -	$ -
32 18 16.13	Playground Protective Surfacing		$ -	$ -
32 18 23	Athletic Surfacing		$ -	$ -
32 18 23.33	Running Track Surfacing		$ -	$ -
32 18 23.43	Recreational Court Surfacing		$ -	$ -
32 18 23.53	Tennis Court Surfacing		$ -	$ -
32 30 00	Site Improvements		$ -	$ -
32 30 00.11	Perimeter Security Barriers		$ -	$ -
32 31 00	Fences and Gates		$ -	$ -
32 31 11	Gate Operators		$ -	$ -
32 31 13	Chain Link Fences and Gates		$ -	$ -
32 31 16	Welded Wire Fences and Gates		$ -	$ -
32 31 17	Expanded Metal Fences and Gates		$ -	$ -
32 31 19	Decorative Metal Fences and Gates		$ -	$ -

32 31 23	Plastic Fences and Gates		$ -	$ -
32 31 26	Wire Fences and Gates		$ -	$ -
32 31 29	Wood Fences and Gates		$ -	$ -
32 31 32	Composite Fences and Gates		$ -	$ -
32 32 00	Retaining Walls		$ -	$ -
32 32 16	Precast Concrete Retaining Walls		$ -	$ -
32 32 19	Unit Masonry Retaining Walls		$ -	$ -
32 32 36	Gabion Retaining Walls		$ -	$ -
32 32 53	Stone Retaining Walls		$ -	$ -
32 33 00	Site Furnishings		$ -	$ -
32 33 13	Site Bicycle Racks		$ -	$ -
32 33 14	Site Bicycle Lockers		$ -	$ -
32 33 23	Site Trash and Litter Receptacles		$ -	$ -
32 33 33	Site Manufactured Planters		$ -	$ -
32 33 43	Site Seating and Tables		$ -	$ -
32 33 43.13	Site Seating		$ -	$ -
32 33 43.53	Site Tables		$ -	$ -
32 34 00	Fabricated Bridges		$ -	$ -
32 34 13	Fabricated Pedestrian Bridges		$ -	$ -
32 34 23	Fabricated Roadway Bridges		$ -	$ -
32 34 33	Fabricated Railway Bridges		$ -	$ -
32 35 00	Screening Devices		$ -	$ -
32 35 16	Sound Barriers		$ -	$ -
32 39 00	Manufactured Site Specialties		$ -	$ -
32 39 13	Manufactured Metal Bollards		$ -	$ -
32 39 33	Artificial Rock Fabrications		$ -	$ -
32 80 00	Irrigation		$ -	$ -
32 81 00	Irrigation Components		$ -	$ -
32 82 00	Irrigation Pumps		$ -	$ -
32 84 00	Planting Irrigation		$ -	$ -
32 90 00	Planting		$ -	$ -
32 91 00	Planting Preparation		$ -	$ -
32 91 13	Soil Preparation		$ -	$ -
32 92 00	Turf and Grasses		$ -	$ -
32 92 19	Seeding		$ -	$ -
32 93 00	Plants		$ -	$ -
32 93 13	Ground Covers		$ -	$ -
32 93 23	Plants and Bulbs		$ -	$ -
32 93 33	Shrubs		$ -	$ -
32 93 43	Trees		$ -	$ -
32 93 93	Exterior Artificial Plants		$ -	$ -
32 94 00	Planting Accessories		$ -	$ -
32 94 13	Landscape Edging		$ -	$ -
32 94 33	Planters		$ -	$ -
32 94 43	Tree Grates		$ -	$ -
32 95 00	Exterior Planting Support Structures		$ -	$ -
	SUBTOTAL	$		-

DIVISION 33	**UTILITIES**	**Quantity**	**Cost**	**Total**
33 01 00	Operation and Maintenance of Utilities		$ -	$ -
33 01 30.11	Television Inspection of Sewers		$ -	$ -
33 10 00	Water Utilities		$ -	$ -
33 11 00	Ground Water Sources		$ -	$ -
33 12 00	Surface Water Sources		$ -	$ -
33 14 00	Water Utility Transmission and Distribution		$ -	$ -
33 16 00	Water Utility Storage Tanks		$ -	$ -
33 30 00	Sanitary Sewerage		$ -	$ -
33 31 00	Sanitary Sewerage Piping		$ -	$ -
33 32 00	Sanitary Sewerage Equipment		$ -	$ -
33 32 13	Packaged Wastewater Pumping Stations		$ -	$ -
33 32 19	Septic Tank Effluent Pumps		$ -	$ -
33 36 00	Wastewater Utility Storage Tanks		$ -	$ -
33 40 00	Stormwater Utilities		$ -	$ -
33 41 00	Subdrainage		$ -	$ -
33 42 00	Stormwater Conveyance		$ -	$ -
33 42 36	Stormwater Trench Drains		$ -	$ -

33 42 41	Gratings and Frames for Stormwater Drainage Inlets		$ -	$ -
33 44 00	Storm Utility Water Drains		$ -	$ -
33 46 00	Stormwater Management		$ -	$ -
33 46 11	Stormwater Ponds		$ -	$ -
33 46 16	Outlet Structures for Stormwater Ponds		$ -	$ -
33 50 00	Hydrocarbon Utilities		$ -	$ -
33 56 00	Hydrocarbon Storage		$ -	$ -
33 70 00	Electrical Utilities		$ -	$ -
33 71 00	Electrical Utility Transmission and Distribution		$ -	$ -
33 71 13	Electrical Utility Towers		$ -	$ -
33 71 23	Insulators and Fittings		$ -	$ -
33 71 39	High Voltage Transmission Wiring		$ -	$ -
33 71 83	Transmission and Distribution Specialties		$ -	$ -
33 72 00	Utility Substations		$ -	$ -
33 72 33	Control House Equipment		$ -	$ -
33 72 33.13	Relays		$ -	$ -
33 75 36	High Voltage Utility Fuses		$ -	$ -
33 79 00	Site Grounding		$ -	$ -
33 79 83	Site Grounding Conductors		$ -	$ -
33 79 93	Site Lightning Protection		$ -	$ -
33 80 00	Communication Utilities		$ -	$ -
33 81 00	Communications Structures		$ -	$ -
33 81 29	Communications Vaults, Pedestals and Enclosures		$ -	$ -
33 82 00	Communications Distribution		$ -	$ -
33 82 13	Copper Communications Distribution Cabling		$ -	$ -
33 82 43	Grounding and Bonding for Communications Distribution		$ -	$ -
	SUBTOTAL	$		-

DIVISION 34	**TRANSPORTATION**	**Quantity**	**Cost**	**Total**
34 10 00	Guideways/Railways		$ -	$ -
34 40 00	Transportation Signaling and Control Equipment		$ -	$ -
34 41 00	Roadway Signaling and Control Equipment		$ -	$ -
34 41 13	Traffic Signals		$ -	$ -
34 42 13	Railway Signals		$ -	$ -
34 43 00	Airfield Signaling and Control Equipment		$ -	$ -
34 43 13	Airfield Signals and Lighting		$ -	$ -
34 43 16	Airfield Landing Equipment		$ -	$ -
34 43 23	Weather Observation Equipment		$ -	$ -
34 43 23.16	Airfield Wind Cones		$ -	$ -
34 43 26	Airfield Control Equipment		$ -	$ -
34 48 13	Operating Bridge Signals		$ -	$ -
34 71 00	Roadway Construction		$ -	$ -
34 71 13	Vehicle Barriers		$ -	$ -
34 71 13.16	Vehicle Crash Barriers		$ -	$ -
34 71 16	Impact Attenuating Devices		$ -	$ -
34 73 26	Manufactured Helipads		$ -	$ -
34 75 00	Roadway Equipment		$ -	$ -
34 75 13	Operable Roadway Equipment		$ -	$ -
34 77 39	Baggage Conveying Equipment		$ -	$ -
34 78 00	Weighing Equipment		$ -	$ -
34 78 13	Truck Scales		$ -	$ -
34 78 33	Crane Scales		$ -	$ -
34 80 00	Bridges		$ -	$ -
	SUBTOTAL	$		-

DIVISION 35	**WATERWAY AND MARINE CONSTRUCTION**	**Quantity**	**Cost**	**Total**
35 01 00	Operation and Maintenance of Waterway and Marine Construction		$ -	$ -
35 10 00	Waterway and Marine Signaling and Control Equipment		$ -	$ -
35 11 00	Signaling and Control Equipment for Waterways		$ -	$ -
35 11 13	Signaling Equipment for Waterways		$ -	$ -
35 12 00	Marine Signaling and Control Equipment		$ -	$ -
35 12 13	Marine Signaling Equipment		$ -	$ -
35 13 13	Signaling Equipment for Dams		$ -	$ -
35 20 00	Waterway and Marine Construction and Equipment		$ -	$ -
35 22 00	Hydraulic Gates		$ -	$ -
35 30 00	Coastal Construction		$ -	$ -

35 31 00	Shoreline Protection		$ -	$ -
35 31 16	Seawalls		$ -	$ -
35 31 19.36	Gabion Revetments		$ -	$ -
35 31 26.36	Gabion Jetties		$ -	$ -
35 31 29.36	Gabion Groins		$ -	$ -
35 42 36	Gabion Bank Protection		$ -	$ -
35 43 36	Gabion Scour Protection		$ -	$ -
35 50 00	Marine Construction and Equipment		$ -	$ -
35 51 00	Floating Construction		$ -	$ -
35 51 13	Floating Piers		$ -	$ -
35 53 00	Underwater Construction		$ -	$ -
35 53 33	Underwater Pipeline Construction		$ -	$ -
35 59 00	Marine Specialties		$ -	$ -
	SUBTOTAL	$		-

DIVISION 41	**PROCESS INTERCONNECTIONS**	**Quantity**	**Cost**	**Total**
40 01 00	Operation and Maintenance of Process Interconnections		$ -	$ -
40 05 00	Common Work Results for Process Interconnections		$ -	$ -
40 05 51	Common Requirements for Process Valves		$ -	$ -
40 05 57	Actuators for Process Valves and Gates		$ -	$ -
40 05 67	Specialized Pressure and Flow Control Valves		$ -	$ -
40 05 67.39	Pressure Relief Valves		$ -	$ -
40 05 73	Special Application Process Valves		$ -	$ -
40 05 73.16	Float Valves		$ -	$ -
40 05 82	Solenoid Valves for Process Service		$ -	$ -
40 05 93	Common Motor Requirements for Process Equipment		$ -	$ -
40 10 00	Gas and Vapor Process Piping and Ductwork		$ -	$ -
40 12 00	Compressed Air Process Piping		$ -	$ -
40 18 00	Vacuum Systems Process Piping		$ -	$ -
40 20 00	Liquids Process Piping		$ -	$ -
40 25 00	Liquid Acids and Bases Piping		$ -	$ -
40 25 10	Liquid Acids Piping		$ -	$ -
40 40 00	Process Piping and Equipment Protection		$ -	$ -
40 41 00	Process Piping and Equipment Heat Tracing		$ -	$ -
40 41 13	Process Piping Heat Tracing		$ -	$ -
40 42 00	Process Piping and Equipment Insulation		$ -	$ -
40 42 13	Process Piping Insulation		$ -	$ -
40 42 23	Process Equipment Insulation		$ -	$ -
40 60 00	Process Control and Enterprise Management Systems		$ -	$ -
40 61 00	Process Control and Enterprise Management Systems General Provisions		$ -	$ -
40 61 21	Process Control System Testing		$ -	$ -
40 67 00	Control System Equipment Panels and Racks		$ -	$ -
40 67 23	Control System Consoles		$ -	$ -
40 67 33	Panel Wiring		$ -	$ -
40 70 00	Instrumentation for Process Systems		$ -	$ -
40 71 00	Flow Measurement		$ -	$ -
40 72 00	Level Measurement		$ -	$ -
40 74 00	Temperature Measurement		$ -	$ -
40 76 00	Process Gas Analytical Measurement		$ -	$ -
40 77 00	Position and Motion Measurement		$ -	$ -
40 77 13	Acceleration Measurement Devices		$ -	$ -
40 77 19	Vibration Velocity Measurement Devices		$ -	$ -
40 79 00	Miscellaneous Instruments, Calibration Equipment, Instrument Valves, and Fittings		$ -	$ -
40 79 66	Instrument Valve Manifolds, Valves, and Fittings		$ -	$ -
40 90 00	Primary Control Devices		$ -	$ -
40 91 00	Primary Control Valves		$ -	$ -
	SUBTOTAL	$		-

DIVISION 41	**MATERIAL PROCESSING AND HANDLING EQUIPMENT**	**Quantity**	**Cost**	**Total**
41 01 00	Operation and Maintenance of Material Processing and Handling Equipment		$ -	$ -
41 10 00	Bulk Material Processing Equipment		$ -	$ -
41 11 00	Bulk Material Sizing Equipment		$ -	$ -
41 11 53	Bulk Material Shredders		$ -	$ -
41 12 00	Bulk Material Conveying Equipment		$ -	$ -
41 12 13.33	Reciprocating Bulk Material Conveyors		$ -	$ -
41 12 19	Pneumatic Conveyors		$ -	$ -

41 14 00	Batching Equipment		$ -	$ -
41 14 26	Blenders		$ -	$ -
41 14 33	Mixers		$ -	$ -
41 20 00	Piece Material Handling Equipment		$ -	$ -
41 21 00	Conveyors		$ -	$ -
41 21 23.33	Reciprocating Piece Material Conveyors		$ -	$ -
41 22 00	Cranes and Hoists		$ -	$ -
41 22 13	Cranes		$ -	$ -
41 22 13.23	Mobile Cranes		$ -	$ -
41 22 23	Hoists		$ -	$ -
41 23 00	Lifting Devices		$ -	$ -
41 23 23	Lifts		$ -	$ -
41 24 00	Specialty Material Handling Equipment		$ -	$ -
41 24 16	Bin Vibrators		$ -	$ -
41 24 29	Lubrication Systems		$ -	$ -
41 24 33	Magnetic Separators		$ -	$ -
41 30 00	Manufacturing Equipment		$ -	$ -
41 32 00	Forming Equipment		$ -	$ -
41 32 13	Bending Equipment		$ -	$ -
41 32 36	Forging Equipment		$ -	$ -
41 32 53	Pressing Equipment		$ -	$ -
41 32 56	Roll Forming Equipment		$ -	$ -
41 32 59	Shearing Equipment		$ -	$ -
41 33 00	Machining Equipment		$ -	$ -
41 33 29	Grinding Equipment		$ -	$ -
41 34 00	Finishing Equipment		$ -	$ -
41 34 46	Grinding Equipment		$ -	$ -
41 35 00	Dies and Molds		$ -	$ -
41 35 13	Dies		$ -	$ -
41 35 33	Molds		$ -	$ -
41 36 00	Assembly and Testing Equipment		$ -	$ -
41 36 19	Joining Equipment		$ -	$ -
41 36 19.33	Soldering Equipment		$ -	$ -
41 36 23	Cutting Equipment		$ -	$ -
41 36 26	Process Tools		$ -	$ -
41 36 29	Manufacturing Measurement and Testing Equipment		$ -	$ -
41 36 29.16	Penetrant Measurement and Testing Equipment		$ -	$ -
41 50 00	Material Storage		$ -	$ -
41 51 00	Automatic Material Storage		$ -	$ -
41 51 13	Automatic Storage/Automatic Retrieval Systems		$ -	$ -
41 52 00	Bulk Material Storage		$ -	$ -
41 52 13	Bins and Hoppers		$ -	$ -
41 52 13.33	Bulk Material Containers		$ -	$ -
41 52 19	Material Storage Tanks		$ -	$ -
41 52 19.33	Portable Material Storage Tanks		$ -	$ -
41 53 26	Mezzanine Storage Systems		$ -	$ -
41 60 00	Mobile Plant Equipment		$ -	$ -
41 61 00	Mobile Earth Moving Equipment		$ -	$ -
41 61 13	Backhoes		$ -	$ -
41 61 16	Bulldozers		$ -	$ -
41 61 19	Compactors		$ -	$ -
41 61 23	Excavators		$ -	$ -
41 61 26	Graders		$ -	$ -
41 61 29	Payloaders		$ -	$ -
41 61 33	Trenchers		$ -	$ -
41 62 00	Trucks		$ -	$ -
41 62 13	Cement Mixer Trucks		$ -	$ -
41 62 16	Dump Trucks		$ -	$ -
41 62 23	Forklift Trucks		$ -	$ -
41 63 16	Carts		$ -	$ -
41 65 00	Mobile Support Equipment		$ -	$ -
41 65 13	Mobile Air Compressors		$ -	$ -
41 66 00	Miscellaneous Mobile Equipment		$ -	$ -
41 66 13	Mobile Boring and Drilling Rigs		$ -	$ -
41 66 16	Mobile Lifts and Cherrypickers		$ -	$ -
41 66 19	Mobile Paving Equipment		$ -	$ -

41 66 23	Mobile Sweepers/Vacuums		$ -	$ -
41 67 00	Plant Maintenance Equipment		$ -	$ -
41 67 16	Plant Fall Protection Equipment		$ -	$ -
41 67 19	Plant Safety Equipment		$ -	$ -
41 67 23	Plant Maintenance Tools		$ -	$ -
	SUBTOTAL	$		-
DIVISION 42	**PROCESS HEATING, COOLING, AND DRYING EQUIPMENT**	**Quantity**	**Cost**	**Total**
42 01 00	Operation and Maintenance of Process Heating, Cooling, and Drying Equipment		$ -	$ -
42 10 00	Process Heating Equipment		$ -	$ -
42 11 00	Process Boilers		$ -	$ -
42 12 00	Process Heaters		$ -	$ -
42 12 26	Specialty Process Heaters		$ -	$ -
42 13 00	Industrial Heat Exchangers and Recuperators		$ -	$ -
42 14 00	Industrial Furnaces		$ -	$ -
42 14 19	Industrial Baking Furnaces		$ -	$ -
42 14 33	Industrial Melting Furnaces		$ -	$ -
42 14 33.13	Ceramics and Glass Melting Furnaces		$ -	$ -
42 15 00	Industrial Ovens		$ -	$ -
42 15 19	Industrial Specialty Ovens		$ -	$ -
42 20 00	Process Cooling Equipment		$ -	$ -
42 22 00	Process Chillers and Coolers		$ -	$ -
42 23 00	Process Condensers and Evaporators		$ -	$ -
42 23 13	Process Condensers		$ -	$ -
42 30 00	Process Drying Equipment		$ -	$ -
42 31 00	Gas Dryers and Dehumidifiers		$ -	$ -
42 31 16	Desiccant Equipment		$ -	$ -
	SUBTOTAL	$		-
DIVISION 43	**PROCESS GAS & LIQUING HANDLING, PURIFICATION, & STORAGE**	**Quantity**	**Cost**	**Total**
43 01 20.13	Liquid Pumps Maintenance and Rehabilitation		$ -	$ -
43 10 00	Gas Handling Equipment		$ -	$ -
43 11 00	Gas Fans, Blowers, Pumps, and Boosters		$ -	$ -
43 11 43	Gas handling Vacuum Pumps		$ -	$ -
43 13 00	Gas Process Equipment		$ -	$ -
43 15 00	Process Air and Gas Filters		$ -	$ -
43 20 00	Liquid Handling Equipment		$ -	$ -
43 21 00	Liquid Pumps		$ -	$ -
43 22 00	Liquid Process Equipment		$ -	$ -
43 27 00	Process Liquid Filters		$ -	$ -
43 30 00	Gas and Liquid Purification Equipment		$ -	$ -
43 31 00	Gas and Liquid Purification Filtration Equipment		$ -	$ -
43 40 00	Gas and Liquid Storage		$ -	$ -
43 42 00	Pressurized Tanks and Vessels		$ -	$ -
	SUBTOTAL	$		-
DIVISION 44	**POLLUTION AND WASTE CONTROL EQUIPMENT**	**Quantity**	**Cost**	**Total**
44 10 00	Air Pollution Control		$ -	$ -
44 11 00	Particulate Control Equipment		$ -	$ -
44 13 00	Gaseous Air Pollution Control Equipment		$ -	$ -
44 30 00	Odor Control		$ -	$ -
44 40 00	Water Pollution Control Equipment		$ -	$ -
44 50 00	Solid Waste Control and Reuse		$ -	$ -
44 53 00	Solid Waste Processing Equipment		$ -	$ -
44 53 26	Shredders and Grinders		$ -	$ -
	SUBTOTAL	$		-
DIVISION 45	**INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT**	**Quantity**	**Cost**	**Total**
45 15 00	Food Manufacturing Equipment		$ -	$ -
45 27 00	Printing and Related Manufacturing Equipment		$ -	$ -
	SUBTOTAL	$		-
DIVISION 46	**WATER AND WASTEWATER EQUIPMENT**	**Quantity**	**Cost**	**Total**
46 01 00	Operation and Maintenance of Water and Wastewater Equipment		$ -	$ -
46 07 00	Packaged Water and Wastewater Treatment Equipment		$ -	$ -
46 07 13	Packaged Water Treatment Equipment		$ -	$ -

46 07 53	Packaged Wastewater Treatment Equipment		$ -	$ -
46 20 00	Water and Wastewater Preliminary Treatment Equipment		$ -	$ -
46 24 00	Grinding and Shredding Equipment		$ -	$ -
46 25 00	Oil and Grease Separation and Removal Equipment		$ -	$ -
46 25 13	Coalescing Oil Water Separators		$ -	$ -
46 25 23	Grease Traps		$ -	$ -
46 30 00	Water and Wastewater Chemical Feed Equipment		$ -	$ -
46 40 00	Water and Wastewater Clarification and Mixing Equipment		$ -	$ -
46 50 00	Water and Wastewater Secondary Treatment Equipment		$ -	$ -
46 60 00	Water and Wastewater Advanced Treatment Equipment		$ -	$ -
46 61 00	Filtration Equipment		$ -	$ -
46 61 13	Filter Media		$ -	$ -
46 61 33	Microfiltration and Ultrafiltration Membrane Equipment		$ -	$ -
46 63 00	Demineralization Equipment		$ -	$ -
46 63 23	Reverse Osmosis and Nanofiltration Membrane Equipment		$ -	$ -
46 78 00	Thermal Treatment of Residuals		$ -	$ -
46 78 47	Waste Heat Recovery Boilers		$ -	$ -
46 78 49	Waste Heat Recovery Heat Exchangers		$ -	$ -
	SUBTOTAL	$		-

DIVISION 48	**ELECTRIC POWER GENERATION**	**Quantity**	**Cost**	**Total**
48 10 00	Electrical Power Generation Equipment		$ -	$ -
48 11 00	Fossil Fuel Plant Electrical Power Generation Equipment		$ -	$ -
48 11 13	Fossil Fuel Electrical Power Plant Boilers		$ -	$ -
48 11 19	Fossil Fuel Electrical Power Plant Steam Turbines		$ -	$ -
48 11 23	Fossil Fuel Electrical Power Plant Gas Turbines		$ -	$ -
48 13 00	Hydroelectric Plant Electrical Power Generation Equipment		$ -	$ -
48 14 00	Solar Energy Electrical Power Generation Equipment		$ -	$ -
48 14 13	Solar Energy Collectors		$ -	$ -
48 14 13.16	Plate Cell Solar Energy Collectors		$ -	$ -
48 14 13.19	Vacuum Tube Solar Energy Collectors		$ -	$ -
48 15 00	Wind Energy Electrical Power Generation Equipment		$ -	$ -
48 15 13	Wind Turbines		$ -	$ -
48 16 00	Geothermal Energy Electrical Power Generation Equipment		$ -	$ -
48 16 13	Geothermal Energy Heat Pumps		$ -	$ -
48 16 16	Geothermal Energy Condensers		$ -	$ -
48 70 00	Electrical Power Generation Testing		$ -	$ -
48 71 00	Electrical Power Generation Test Equipment		$ -	$ -
	SUBTOTAL	$		-

PROJECT SOV TOTAL	$	-

Lake Charles Ward 3 Recreation Schedule of Values Summary Sheet

PROJECT NAME:	Enos Derbonne Sports Complex Outdoor Pickleball Courts					PROJECT No.:	VSG# 2448		
ITEM ID	DESCRIPTION	TOTAL CONTRACT AMOUNT	PREVIOUSLY COMPLETED WORK	WORK COMPLETED THIS PERIOD	PRESENTLY STORED MATERIALS	COMPLETED TO DATE	% COMP	BALANCE TO FINISH	RETAINAGE BALANCE
Division 01	General Requirement	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 02	Existing Conditions	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 03	Concrete	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 04	Masonry	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 05	Metals	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 06	Wood, Plastics, and Composites	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 07	Thermal and Moisture Protection	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 08	Openings	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 09	Finishes	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 10	Specialties	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 11	Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 12	Furnishings	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 13	Special Construction	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 14	Conveying Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 21	Fire Suppression	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 22	Plumbing	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 23	Heating Ventilating and Air Conditioning	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 25	Integrated Automation	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 26	Electrical	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 27	Communications	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 28	Electronic Safety and Security	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 31	Earthwork	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 32	Exterior Improvements	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 33	Utilities	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 34	Transportation	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 35	Waterways and Marine Construction	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 40	Process Interconnections	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 41	Material Processing and Handling Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 42	Process Heating, Cooling, and Drying Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 43	Process Gas and Liquid Handling, Purification and Storage Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 44	Pollution Control Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 45	Industry-Specific Manufacturing Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 46	Water and Wastewater Equipment	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
Division 48	Electrical Power Generation	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -
TOTAL		$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -

Project Totals	TOTAL CONTRACT AMOUNT	PREVIOUSLY COMPLETED WORK	WORK COMPLETED THIS PERIOD	PRESENTLY STORED MATERIALS	COMPLETED TO DATE	% COMP	BALANCE TO FINISH	RETAINAGE BALANCE
	$ -	$ -	$ -	$ -	$ -	#DIV/0!	$ -	$ -

RECOMMENDATION OF ACCEPTANCE

TO: _____ Dated: _____

Project No.: VSG# 2448 Project Name: Enos Derbonne Sports Complex Outdoor Pickleball Courts

Architect/Engineer: Vincent-Shows-Gautreaux, Architects, APALLC

Contractor: _____

Using Agency: Lake Charles Ward 3 Recreation

I certify to the best of my knowledge and belief that this project is complete or substantially complete in accordance with the plans and specifications to the point where it can be used for the purpose which was intended. It is recommended that it be accepted.

Date of Acceptance by Architect/Engineer: _____

Contract Date of Completion: _____

Number of Days (Overrun) (Underrun): _____

Stipulated Damages Per Day Stipulated in Contract: _____

Value of Punch List (Attach Itemized List): _____

Was part of the project occupied prior to Acceptance? If so, portion occupied, attach Beneficial Occupancy Form.

Accepted:

_____
Architect/Engineer

Below Completed by Owner:

Contract accepted as substantially complete by the Lake Charles Ward 3 Recreation on _____.

_____
President

Not for Recordation

BENEFICIAL OCCUPANCY

Project Name: Enos Derbonne Sports Complex Outdoor Pickleball Courts

Project No.: VSG# 2448

Architect/Engineer: Vincent-Shows-Gautreaux, Architects, APALLC

Contractor: _____

OWNER: Lake Charles Ward 3 Recreation

The below described portion of subject project is, to the best of my knowledge and belief, complete to a point where the user desires to use in according with the Contract Documents.

The Owner's occupancy of any portion of this building does not violate any applicable warranties.

Date Occupied: _____

Architect/Engineer	Contractor
By:_____	By:_____
Date: _____	Date: _____

Lake Charles Ward 3 Recreation

By: _____

Date:_____

Punch List:

NONE _____

SPECIAL PROVISIONS

1. The Work shall be completed on or before **120** calendar days from the date of Notice to Proceed.

2. If the duration of the Work exceeds the total contract time, the amount of $500 per calendar day for each day of delinquent completion shall be deducted from payments due to the Contractor as stipulated damages.

3. Contractor shall have built at least 5 similar projects in the past three years and be in good standing with the (ASBA) American Sports Builders Association.

4. The post tension installer must have a minimum of 5 years experience and proof of previous installations of at least 5 pickle ball courts. Proof of previous experience in installing pickleball courts must be made available immediately after bidding for owner review and approval. No exceptions. Failure to provide this information will result in an unresponsive bid. The installer must also be an (ASBA) American Sports Builders Association Member.

REPORT OF

GEOTECHNICAL INVESTIGATION
LAKE STREET PARK RENOVATIONS
LAKE CHARLES, LOUISIANA

FOR

H. CURTIS VINCENT – STEVEN D. SHOWS
ARCHITECTS
SULPHUR, LOUISIANA

April 12, 2005

Mr. H. Curtis Vincent, AIA
H. Curtis Vincent – Steven D. Shows Architects
1502 South Huntington Street
Sulphur, Louisiana 70663

Re: Geotechnical Investigation
Lake Street Park Renovations
Lake Charles, Louisiana
STE File: 05-1034

Dear Mr. Vincent:

We have completed the geotechnical investigation for this project, and our findings, together with the analyses and conclusions based on them, are submitted in the attached report. This work was authorized by your acceptance of our proposal dated March 17, 2005.

The proposed structure is suitable for shallow foundation support, provided the anticipated settlements are tolerable. Shallow foundation design recommendations are provided in the attached report.

We will be pleased to discuss any questions you may have concerning this report. It has been a pleasure to work with you on this project and we look forward to serving you in the future.

Sincerely,
Soil Testing Engineers, Inc.

Jesse G. Rauser, E.I.
Project Engineer

Ching-Nien Tsai, Ph.D., P.E.
Chief Engineer

JGR/CNT/jgr

(1) bound original (2) bound copies, (1) unbound copy

APPENDIX A

FIELD AND LABORATORY PROCEDURES

The following paragraphs describe the field and laboratory procedures used for this investigation. Soil Boring Logs are included with this appendix. The boring logs provide the field and laboratory data collected.

1.0 FIELD EXPLORATION

Two soil borings were drilled for this project on April 1, 2005. The approximate locations of these borings are shown on the Boring Plan, Figure 1. The boring locations were established by the client.

1.1 Drilling Methods

The borings were drilled with buggy-mounted, rotary-type drilling equipment. The soil borings were advanced using a 4-inch diameter short flight auger. This technique allowed the proper borehole advancement to secure the appropriate samples (see "Sampling Procedures") and allowed the observation of the presence of free water in the boreholes. All borings were backfilled with soil cuttings from the drilling process.

1.2 Sampling Procedures

Two 24-foot borings were drilled to obtain an understanding of the subsurface conditions. Continuous sampling was conducted within the upper 10 feet, and at 5-foot increments thereafter.

In the cohesive and semi-cohesive soils, relatively undisturbed samples were secured using a three-inch diameter, thin-wall steel tube sampler. In this sampling procedure, the borehole is advanced to the desired level, and the tube is lowered to the bottom of the boring. It is then pushed about two feet into the undisturbed soil in one continuous stroke. The sample and tube are retrieved from the borehole and detached from the drill string.

The sample is extruded by a hydraulic piston onto a rigid sample catcher to minimize disturbance. The sample is then visually classified. The classification includes description of soil color, strength estimate, identification of structural conditions (layering, seams, etc), and variations (organics, oxide inclusions, etc.). A pocket penetrometer strength test is performed. Any disturbed portions are discarded, and the sample is sealed to minimize disturbance and moisture loss during transportation to the laboratory.

In the less cohesive materials, standard penetration tests were performed; these tests provide a measure of the in-situ characteristics of the soil and secure a disturbed sample. In this test, a two-inch OD, 1.37 ID, heavy-walled "split spoon" sampler is driven into the undisturbed soil at the bottom of the borehole with a drop hammer weighing 140 pounds and having a stroke of 30 inches. It is first seated 6 inches, then driven an additional three 6-inch increments. The "Penetration

Resistance" is the number of such blows required to drive the spoon the middle 12 inches. It is recorded on the boring log in the following manner:

22 b/f
7-10-12

where the numbers separated by hyphens indicate the number of blows required for each six-inch increment.

2.0 LABORATORY PROCEDURES

Certain samples from the various strata were tested in the laboratory to determine their pertinent physical characteristics. The samples and types of tests performed were selected by a geotechnical engineer to develop information necessary for appropriate analyses. The testing program conducted is described below.

2.1 Strength Tests

The strength characteristics of the various soil strata are important for geotechnical engineering analyses. Three unconfined compression tests (ASTM D 2166) and two triaxial unconsolidated undrained test (ASTM D 2850) were performed to develop this data. The testing procedure also includes determination of the moisture content and wet and dry density of the sample.

The results of the compression tests are tabulated in the laboratory data portion of the soil boring logs under the column heading "Compressive Strength." The moisture content and dry density data are tabulated in the subsequent two columns within the laboratory data portion of the logs.

2.2 Classification Tests

In order to classify the soils more definitely than can be done by field methods, three Atterberg limit determinations (ASTM D 4318) were made. The Atterberg limit data consist of Liquid Limit (LL), Plastic Limit (PL) and Plasticity Index (PI). The relationship among these variables is as follows:

$$PI = LL - PL$$

The Atterberg limit data are provided within the laboratory portion of the logs under the headings "LL" and "PI."

REPORT OF
GEOTECHNICAL INVESTIGATION
LAKE STREET PARK IMPROVEMENTS
LAKE CHARLES, LOUISIANA

The findings of this investigation are presented below, together with our evaluations and conclusions. The field and laboratory procedures used in this investigation are described in Appendix A.

1.0 SITE CONDITIONS

In a geotechnical investigation of this nature, various aspects of site conditions must be taken into consideration. Subsurface conditions (soil and ground water) have been investigated by performing a series of soil borings. An understanding of site topography and the geology of the area is based upon observations made during the soil boring program and review of information in our files. The following paragraphs provide a discussion of these various site conditions.

1.1 Location & Topography

The site is located in Lake Charles, Louisiana, off Lake Street and just west of the Lake Charles Memorial Airport. The site is currently improved with soccer fields, baseball fields, basketball courts, walkways, and parking areas. The location of the new gymnasium is currently a grassy area enclosed by a walkway. Ground cover consists primarily of grass, and the topography of the site is relatively flat.

1.2 Geology

Geologically, the site is underlain by the Prairie Terrace deposits of the Pleistocene age. These deposits consist of light gray to light brown clay, sandy clay, silt, sand, and some gravel.

1.3 Soil Conditions

Two 24-foot borings were drilled for this project. The boring locations were established and staked by the client to lie within the proposed building footprint. The Boring Plan, Figure 1, illustrates the boring locations.

The soil conditions encountered in the borings generally consist of medium silty clay to the 10-foot depth, followed by a silt/sand layer approximately to the 15-foot depth, followed by medium clay to the 24-foot boring termination depth. The description is meant solely as an aid in visualizing the subsurface conditions and does not define the continuity of strata between or away from the boring locations. For details of the conditions encountered at the boring locations, refer to the individual boring logs in Appendix A.

1.4 Ground Water

Initially, the soil borings were dry-augered in order to locate free water and observe its short-term rise characteristics. In boring B-1, free water was first encountered at the 10-foot depth, and rose to the 7-foot depth after a waiting period of 15 minutes. In B-2, free water was first encountered at the 8-foot depth, and rose to the 5 ½-foot depth after 15 minutes. The presence of and depth to groundwater can fluctuate with rainfall or other seasonal variations, and therefore should be verified prior to beginning any construction operations affected by groundwater.

2.0 PROJECT CONSIDERATIONS

This section provides information regarding the project that is pertinent to the geotechnical investigation. This information includes a description of the project as provided to this office, a statement of the limitations inherent to an investigation of this nature, and a brief statement of foundation considerations based upon our findings and the anticipated construction.

2.1 Project Description

It is our understanding that the project will consist of the construction of a new steel-framed gymnasium. The new building will measure approximately 120 feet by 125 feet and have anticipated column loads of 30 to 35 kips. We assume that less than two feet of fill will be used to achieve finished grade.

2.2 Limitations

The analyses and recommendations presented in this report are based on the aforementioned project information and the results of the investigation. While it is not too likely that conditions will differ greatly from those observed in the soil borings, it is always possible that variations can occur between or away from the boring locations. If it becomes apparent during construction that subsurface conditions differing significantly from those discussed in Sections 1.3 and 1.4 are being encountered, this office should be notified at once so that their effects can be determined and any remedial measures necessary be prescribed. Also, should the nature of the project change, these recommendations may have to be re-evaluated.

This report has been prepared for the exclusive use of H. Curtis Vincent – Steven D. Shows Architects and their consultants for the purpose of designing foundations for this project as generally described in Section 2.1 at the site described in Section 1.1. The recommendations provided are site-specific and are not intended for use at any other site or for any other facility. This report provides recommendations for design and construction; therefore, this report should not be used as construction specifications.

2.3 Foundation Considerations

The proposed structure is suitable for shallow foundation support, such as spread footings, provided the estimated settlements are tolerable. Recommendations for shallow foundations are presented in Section 3.0, floor slab recommendations are provided in Section 4.0, and earthwork considerations are addressed in Section 5.0.

3.0 SHALLOW FOUNDATIONS

Shallow foundations in the form of spread footings are commonly used where shallow subsurface conditions permit the foundations to be adequately supported without failure of the bearing strata in shear strength or by excessive displacement. Shallow foundations may be used provided that settlements are tolerable.

3.1 Bearing Capacity

Footings should bear at a depth of 2 feet below the existing grade into the natural undisturbed soil classified as medium silty clay. All footings should bear at the same elevation to minimize differential settlements. Footings placed in this manner may be designed for a net allowable bearing pressure of 1,900 psf for continuous (wall) footings and 2,500 psf for square footings.

These are net values in which the weights of backfill and concrete below grade have already been considered. They also contain an adequate safety factor of at least 2.5 against failure of the bearing strata. Even if computations indicate that smaller footing sizes could be used, it is recommended that minimum widths of 24 inches for square and 18 inches for continuous footings be observed.

Footing induced post-construction settlements are expected to be on the order of 1 inch for continuous footing and square footing widths not exceeding 18 inches and 54 inches, respectively, under 70% sustained net allowable pressures. Adjacent footings should be spaced at least two footing widths center to center to minimize overlapping stresses which can result in additional settlement. Differential settlements are expected to be less than an inch.

3.2 Rectangular Foundations and Overturning

Rectangular footings may be designed for a pressure computed from the formula:

$$q_r = q_w (1 + 0.2\ B/L)$$

Where:	q_r	=	Net Allowable Bearing Capacity for Rectangular Footings (lbs./sq.ft.)
	q_w	=	Net Allowable Bearing Capacity for Wall Footings (lbs./sq.ft.) given in Section 3.1
	B	=	Footing Width, feet
	L	=	Footing Length, feet

Note: $q_r > q_w$
$L > B$

For overturning (eccentric loading), footings should be sized by considering only that portion of the footing which is centered on the force to be effective as distributing load to the soil. The dimensions B' and L' of an equivalent concentric footing should be used as follows:

$$B' = B - 2e_b$$
$$L' = L - 2e_L$$

Where: e_b and e_L are the eccentricities in each respective direction
e = (overturning moment in representative direction)/(applied load)

3.3 Lateral Loads

Resistance to lateral loading will occur along the bottom of the footing by sliding resistance, and at the opposite side of the footing in passive soil pressure. The allowable sliding resistance over the base of the footing shall be taken as 500 psf. This value includes a safety factor of at least two.

Note that the sliding resistance will be reduced if a plastic moisture barrier is used. Where incomplete bearing exists, as in the case of overturning, only the effective footing area should be considered for sliding as defined in Section 3.2.

Footings may be designed to include passive earth pressure resistance for that portion of the footing (or shear key) extending to depths greater than one foot below final grade. An allowable net passive pressure minus active pressure of 1,000 psf may be used in design for the portion of the foundation deeper than 1 foot and less than 3 feet below final grade. The capacities may be increased by 33% to account for transient effects of wind.

3.4 Uplift

The soil's strength should not be relied upon to resist uplift forces. However, uplift forces should be resisted by the weight of the foundation and overlying soil. A density of 120 pcf is recommended for soil. In addition, a safety factor of 1.1 applied to the resisting weights is also recommended to account for variations in weight.

3.5 Inspection and Protection of the Bearing Surface

Inspection of footing excavations by a qualified geotechnical engineer should be performed prior to steel placement to ensure that the proper bearing surface is present. The soils that will form the bearing stratum will be clays and can undergo loss of strength when wetted. Traffic in the foundation excavations should be limited. Drainage should be provided away from the footings both during and after construction. Footing excavations should not be made during periods of inclement weather. Footings should not be allowed to stay open more than one day before concrete is placed. In the case of possible inclement weather, it is recommended that a "mudmat" consisting of lean concrete (mortar or slurry) be placed to protect the bearing surface until the structural concrete is placed.

4.0 FLOOR SLABS

For the building, the structural loads carried by the walls and columns will be transmitted to the supporting strata by shallow foundations. Floor loads are commonly distributed to grade (existing or finished soil grade) by a slab-on-grade; otherwise, a structural floor is used to carry

the floor loads independent of the grade. Common types of slabs-on-grade are reinforced slabs with or without interior ribs and post-tensioned slabs. The ribbed slab and post-tensioned slab provide rigidity against differential movement and minimize slab cracking.

A reinforced concrete slab-on-grade or ribbed floor slab supported on a minimum 12 inches of structural fill is recommended for the floor associated with the building. A sustained pressure of 200 psf over the entire floor is expected to produce approximately one to two inches of settlement. Recommendations for a ribbed slab and a post-tensioned slab are provided in the event they are preferred over the reinforced concrete slab. Standard construction practice of using a vapor barrier and capillary break should be included in the design of the slab if applicable.

4.1 Ribbed Floor Slab

The ribbed slab should be designed by a registered and qualified civil/structural engineer. The ribs should be arranged to coincide with interior walls (non-load bearing). A minimum beam width of 15 inches is recommended to allow adequate bearing area. The floor slab and interior grade beams should be a monolithic unit with no joints. If the concrete cannot be placed monolithically, it should be doweled for continuity and rigidity.

4.2 Post-Tensioned Floor Slab

An alternative to a reinforced ribbed slab foundation is post-tensioned reinforcement. Post-tensioning involves providing tensile steel reinforcement in the slab system by stressing high strength steel tendons after the concrete has achieved sufficient strength. A post-tensioned ribbed slab is a specialized structural design and should be designed by a qualified structural engineer.

5.0 EARTHWORK CONSIDERATIONS

At a minimum, the site will require earthwork associated with preparation for the new structure. The following paragraphs provide pertinent recommendations associated with potential earthwork activities:

5.1 Site Preparation

Significant site preparation problems will develop unless good drainage is provided throughout the project duration. Proper site drainage should be maintained during and after construction. Providing drainage during the construction process will facilitate construction by reducing the potential for compaction problems. Maintaining the drainage after construction will improve the life of the structure by avoiding water softening of the foundation soils. Earthwork activities should be performed during a period of dry weather.

In order to prepare the construction areas, the site should first be stripped of topsoil, vegetation, limestone, and deleterious material. At the location of boring B-2, clayey silt was encountered within the upper 12 inches. This material is susceptible to pumping problems when wetted, and should be removed and replaced with compacted fill where present. This layer thickness is

based on our field observations at the time of drilling. It should be noted that it is not unusual for the thickness of unsuitable soils to vary at different locations.

After the removal of these undesirable materials, the area should be proof-rolled with a heavy vehicle (e.g., a loaded 12-yard dump truck). The proof rolling should be observed by a qualified geotechnical engineer or his representative to detect pumping or yielding areas or other undesirable subgrade. Such conditions, if present, may require undercutting and replacement with more competent fill. An alternative to undercutting is to use geogrid (Tensar® BX1100 or approved equivalent) to stabilize the subgrade. Other alternatives include treating the subgrade with lime or soil cement.

These recommended procedures are intended to serve as an aid to construction and not as a method of providing "all weather" construction conditions. Higher treatment percentages may be necessary if soil moisture contents become elevated due to exposure during wet weather.

5.2 Structural Fill Materials

The following recommendations should be observed when selecting fill material: Cohesive fill materials should consist of silty or sandy clay with a plasticity index (PI) of 12 to 22 and a liquid limit (LL) of 30 to 42. The material should be classified as CL in accordance with the Unified Soil Classification System (USCS). Alternatively, fill material may consist of clayey sand having less than 30% passing the #200 sieve. This soil is classified as SC in accordance with the USCS. It should be noted that closer moisture control will be needed for the fine grained soils, especially those with low PI.

5.3 Fill Placement & Compaction

Cohesive fill should be placed in 6- to 8-inch loose lifts and compacted to a dry density at least equal to 95% of its maximum and at a moisture content between 0% and 3% of optimum, as determined by the standard Proctor compaction test (ASTM D 698), before another lift is added. This specification can be lowered to 90% in nonstructural (landscape, walkway) areas. Light scarification of each lift is recommended in order to provide proper bonding between lifts.

5.4 Quality Control

The use of the correct fill material and the proper placement and compaction are critical in any earthwork where subsequent construction of driveways, parking areas, or structures is planned. Construction monitoring by a qualified geotechnical engineer is recommended to document that proper fill construction has been accomplished. This function should also be performed by a qualified geotechnical engineer.

The responsibilities of the quality control representative generally include observation of excavations, proof rolling operations, documentation of material types, and fill placement and compaction techniques. The QC engineer or technician should make sure the fill should be of the proper material type, and be placed in the required manner. Any deviation, which includes different soil conditions, from the design should be reported to the design engineer.

6.0 CONSULTATION

Often during final design and/or construction, questions can arise which are not specifically covered in the report. These questions can normally be handled by a brief phone call or conference with the designers.

Lake Street Park Renovations
Lake Charles, LA

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.
Sheet 1 of 1

File: 05-1034
Date: 04/01/05
Logged by: B. Singleton
Driller: D. Robinson
Rig: Ardco K-1000

Vincent-Shows Architects
Sulphur, LA

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			1.5 (P)									Medium to stiff gray and tan SILTY CLAY (CL)
			2.0 (P)	0.75t1	21	103	41	14	27			-- w/sand seams and lenses
	5		3.5 (P)									
▽			2.5 (P)	1.67	19	111	34	15	19			-- w/organic stains
			0.75 (P)									-- w/sand layer
▽	10											
			2 b/f 1-1-1									Very loose brown CLAYEY SILT (ML) w/6-inch brown silty sand layer
	15											
			2.25 (P)	0.56t2	22	100						Medium tan and gray CLAY (CH)
	20											-- w/silt seams
			1.5 (P)									-- w/shell fragments
	25											Boring completed at 24 ft.
	30											
	35											
	40											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 13 ft.
4" Dia. Rotary Wash:
13 to 24 ft.

Boring Abandonment Method

Borehole backfilled with soil upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1: Lateral Pressure = = 20.0 psi
t2: Lateral Pressure = 13.1 psi

Strata Boundaries May Not Be Exact

LOG01 051034.GPJ LOG01.GDT 04/12/05

Lake Street Park Renovations
Lake Charles, LA

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.
Sheet 1 of 1

File: 05-1034
Date: 04/01/05
Logged by: B. Singleton
Driller: D. Robinson
Rig: Ardco K-1000

Vincent-Shows Architects
Sulphur, LA

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			No (P)									Brown CLAYEY SILT (ML) becoming gray and tan SILTY CLAY (CL)
			1.5 (P)									Medium tan and gray SILTY CLAY (CL)
▽	5		1.0 (P)	0.91	22	104	43	14	29			-- w/ferrous nodules
			1.0 (P)									-- w/organic stains
▽			12 b/f 4-6-6									Firm red and tan SILTY SAND (SM)
	10											
			0.25 (P)	0.68	29	94						Medium red and brown CLAY (CH) -- w/silt seams
	15											
			1.25 (P)									-- w/sand layers
	20											
			1.25 (P)									-- w/shell fragments
	25											Boring completed at 24 ft.
	30											
	35											
	40											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 9.5 ft.
4" Dia. Rotary Wash:
9.5 to 24 ft.

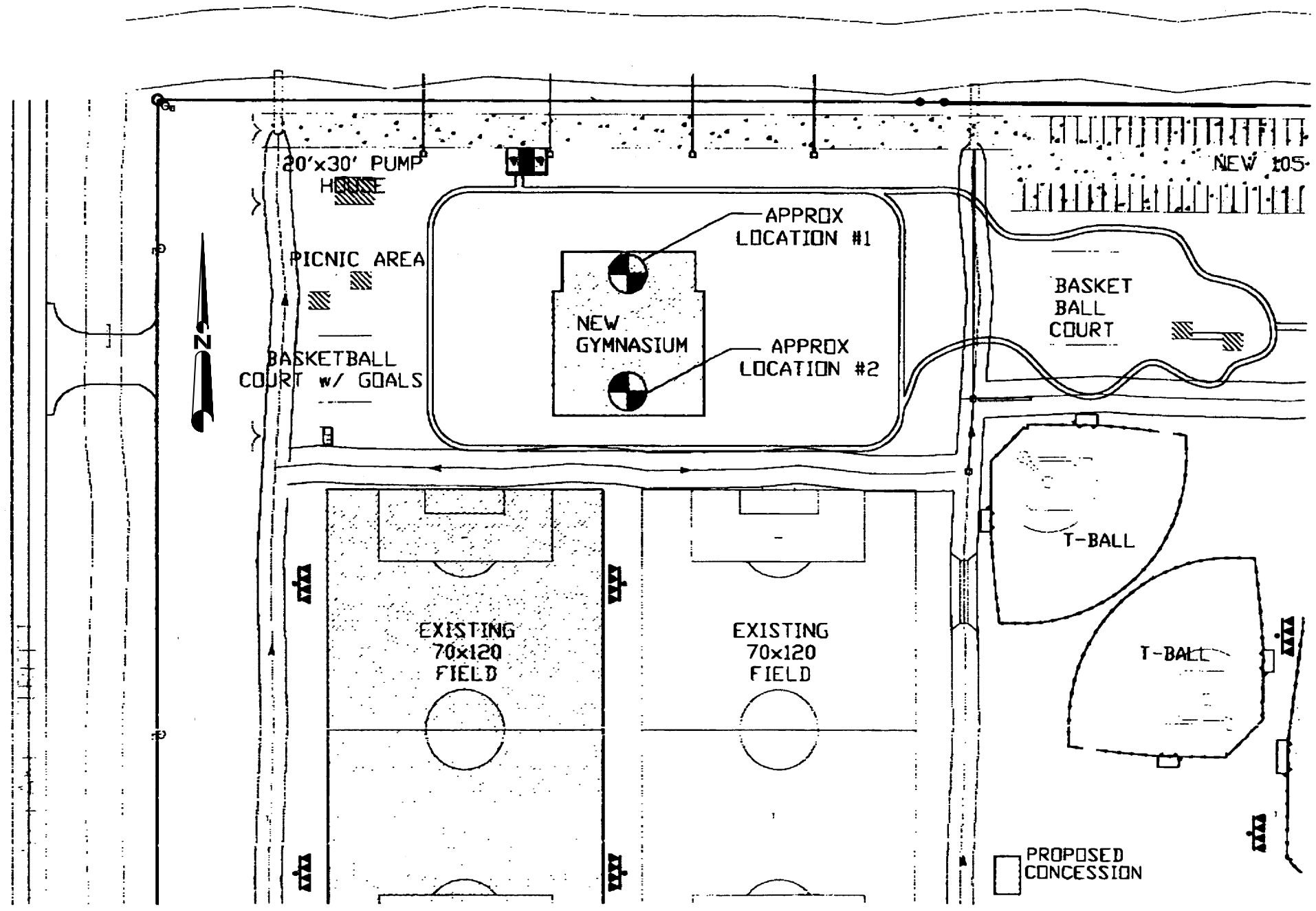
Boring Abandonment Method

Borehole backfilled with soil upon completion

Notes

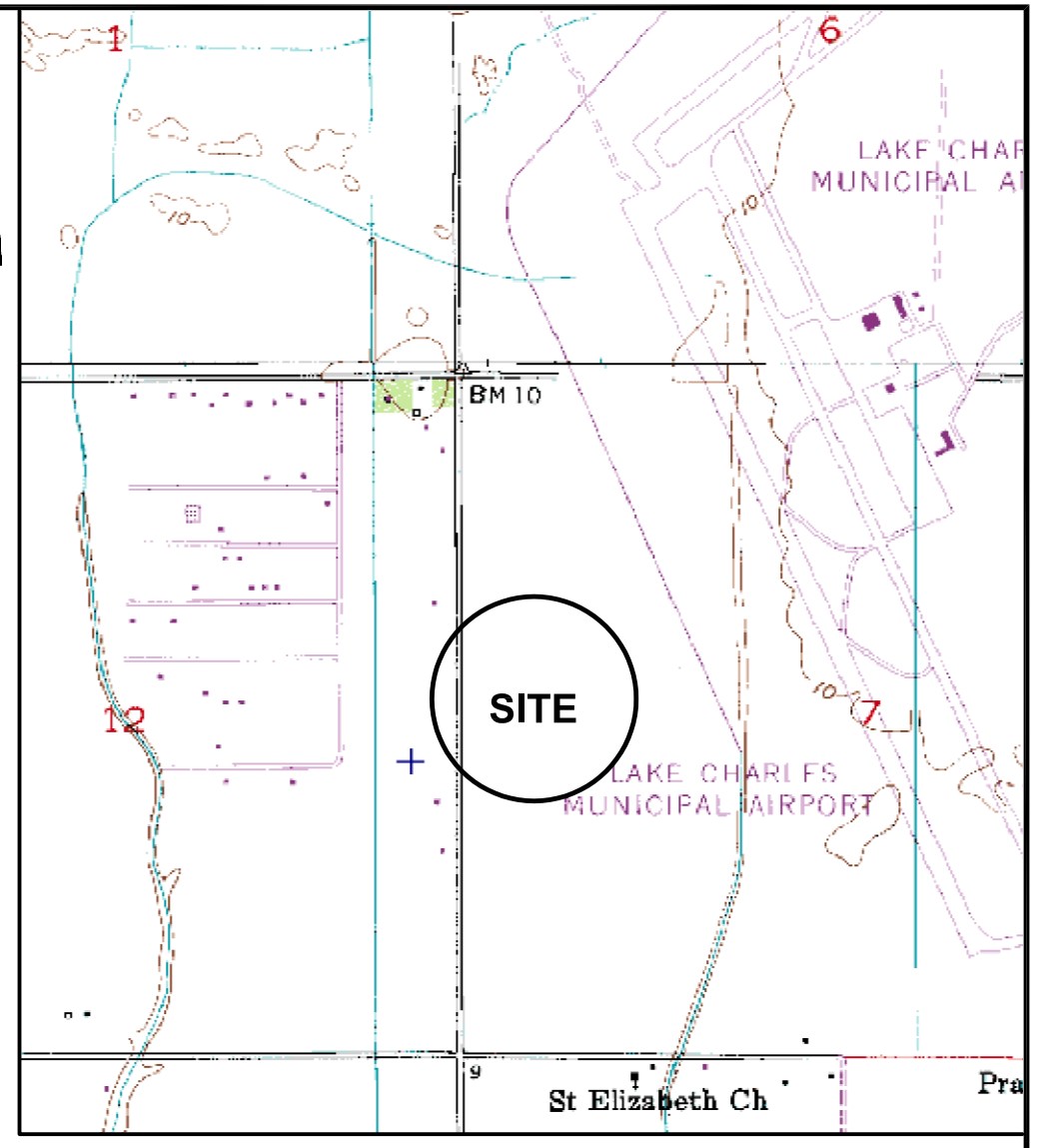
Strata Boundaries May Not Be Exact

LOG01 051034.GPJ LOG01.GDT 04/12/05



NOT TO SCALE

REFERENCE:
Site layout provided by others.



VICINITY MAP

NOT TO SCALE

REFERENCE:
USGS Quadrangle Map of Lake Charles SW, LA, 1975 edition.

LAKE STREET PARK RENOVATIONS

LAKE CHARLES, LOUISIANA

for

VINCENT-SHOWS ARCHITECTS
SULPHUR, LOUISIANA

STE
Soil Testing Engineers, Inc.
Baton Rouge, LA Jefferson, LA Biloxi, MS

Project Engineer:	Drawn by:	Checked by:
J. Rauser	DMS	
File No.:	Date:	Figure No.:
05-1034	4-12-05	1

Title:

BORING PLAN

Apr 12, 2005 - 10:03am

P:\2005\05-1034\cadd\051034-1 Boring Plan.dwg

SECTION 011000 - 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. Work by Owner.
4. Contractor-furnished, Owner-installed products.
5. Access to site.
6. Coordination with occupants.
7. Work restrictions.
8. Specification and Drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification: Enos Derbonne Sports Complex Outdoor Pickleball Courts.

1. Project Location: 7903 Lake Street, Lake Charles, Louisiana 70605.

B. Owner: Lake Charles Ward 3 Recreation.

1. Owner's Representative: Kip Texada, Executive Director

C. Architect: Vincent-Shows-Gautreaux, Architects, APALLC

Project Architect: Justin Gautreaux, AIA.

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

1. Civil and Structural Engineer: Simpson Sports Engineering, LLC
2. Electrical Engineer: D. Hicks Consulting, Inc.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. Scope of Work:
- Remove existing trees from area to receive new pickleball courts.
- Prepare earthwork for foundation of pickleball courts and bleacher canopy.
- Reshape area for positive drainage that leads to existing drainage system.
- Provide and install post-tension concrete foundation for (4) outdoor pickleball courts.
- Provide and install (1) bleacher canopy between pickleball courts. Bleachers to be included as described.
- Provide and install 10’-0” high chain link fence with full height windscreen along North and South edges of courts.
- Provide and install 4’-0” high chain link fence along West and East edges of courts.
- Provide and install sports lighting system and electrical outlets as described on electrical drawings.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 ACCESS TO SITE

A. Use of Site: Limit use of Project site to areas within the Contract limits as indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to area as indicated on construction drawings.
2. The General Contractor will be responsible for repairing any damage to the existing site that is caused from construction equipment. Any damage shall be repaired by and at the cost of the contractor with no modification of the construction contract.
3. Driveways, Walkways and Entrances: Keep driveways, parking areas, 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.

B. 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. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction

operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's 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 authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than two days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

C. Restricted Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

D. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

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. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. 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 published as part of the U.S. National CAD Standard and scheduled on Drawings.
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 011000

SECTION 012500 - 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 016000 "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 and proposed by Contractor.

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 in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify 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 facsimile of form provided in Project Manual.
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. 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.
j. Cost information, including a proposal of change, if any, in the Contract Sum.
k. 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.
l. 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 ten (10) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) 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 fifteen (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: Architect will consider requests for substitution if received within sixty (60) days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

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 offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.

f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

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 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

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 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 012500 "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 a 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.

1.7 WORK CHANGE DIRECTIVE

A. Work Change Directive: Architect may issue a Work Change Directive on EJCDC Document C-940. Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Work 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 Work 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 012600

SECTION 012900 - 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. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Section 013200 "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 (7) 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 011000 "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. Name of Architect.
    c. Architect's Project number.
    d. Contractor's name and address.
    e. 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: Include total cost and proportionate share of general overhead and profit for each line item.

9. Overhead Costs: 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. 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.
11. 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 Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts 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.

E. 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.

F. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. 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. Submittal schedule (preliminary if not final).
5. Copies of building permits.
6. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
7. Certificates of insurance and insurance policies.
8. Performance and payment bonds.
9. Data needed to acquire Owner's insurance.

H. 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.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. 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. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Evidence that claims have been settled.
5. 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.
6. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 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. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:

1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 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.

1.4 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 fifteen (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 and 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, in temporary field office and in prominent location in built facility. Keep list current at all times.

1.5 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 and scheduled activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

1.6 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 so as 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. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. 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: AIA Document G716.

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 (7) working 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 012600 "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 ten (10) 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 monthly. 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.
9. Identification of related Field Order, Work 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 seven (7) days if Contractor disagrees with response.

1.7 PROJECT MEETINGS

A. General: 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 10 working 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 and Architect, within three (3) days of the meeting.

B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner, 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. Procedures for processing field decisions and Change Orders.
    h. Procedures for RFIs.
    i. Procedures for testing and inspecting.
    j. Procedures for processing Applications for Payment.
    k. Distribution of the Contract Documents.
    l. Submittal procedures.
    m. Sustainable design requirements.
    n. Preparation of Record Documents.
    o. Use of the premises.
    p. Work restrictions.
    q. Working hours.
    r. Owner's occupancy requirements.
    s. Responsibility for temporary facilities and controls.
    t. Procedures for moisture and mold control.
    u. Procedures for disruptions and shutdowns.
    v. Construction waste management and recycling.
    w. Parking availability.
    x. Office, work, and storage areas.
    y. Equipment deliveries and priorities.
    z. First aid.
    aa. Security.
    bb. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than ninety (90) 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, 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 preparing operations and maintenance data.
f. Requirements for delivery of material samples, attic stock, and spare parts.
g. Requirements for demonstration and training.
h. Preparation of Contractor's punch list.
i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
j. Submittal procedures.
k. Coordination of separate contracts.
l. Owner's partial occupancy requirements.
m. Installation of Owner's furniture, fixtures, and equipment.
n. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

D. Progress Meetings: Conduct progress meetings at biweekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, 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.

E. Coordination Meetings: Conduct Project coordination meetings at regular 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, 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 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013300 - 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 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
3. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
4. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
5. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
6. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
7. Section 017900 "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 SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal Category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.
    g. Scheduled dates for purchasing.
    h. Scheduled date of fabrication.
    i. Scheduled dates for installation.
    j. Activity or event number.

1.5 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Construction Manager.
5. Name of Contractor.
6. Name of firm or entity that prepared submittal.
7. Names of subcontractor, manufacturer, and supplier.
8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
9. Category and type of submittal.
10. Submittal purpose and description.

11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
12. Drawing number and detail references, as appropriate.
13. Indication of full or partial submittal.
14. Location(s) where product is to be installed, as appropriate.
15. Other necessary identification.
16. Remarks.
17. 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. Paper Submittals:

1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Action Submittals: Submit three (3) paper copies of each submittal unless otherwise indicated. Architect will return two (2) copies.
4. Informational Submittals: Submit two (2) paper copies of each submittal unless otherwise indicated. Architect will not return copies.
5. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
6. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using standard transmittal form.

E. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

F. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

1.6 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.

2. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
3. Paper: Prepare submittals in paper form, and deliver to Architect.

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 ten (10) 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 ten (10) days for review of each resubmittal.

4. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow ten (10) days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

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.

1.7 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 concurrent 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.

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.

2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.

a. Two (2) opaque (bond) copies of each submittal. Architect will return one (1) copy.

C. Samples: Submit Samples for review of kind, 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. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
6. 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.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

7. 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 (1) 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.

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 Welding Procedure Specification and Procedure Qualification Record 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 primers and substrate preparation needed for adhesion.
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.

1.8 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 and Construction Manager 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 it.

    1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.

    2. Paper Submittals: Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

3. Submittals by Web-Based Project Software: Architect will indicate, on Project software website, 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 013300

SECTION 014000 - 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.
4. Specific test and inspection requirements are not specified in 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 (5) 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: 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 trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

D. Mockups: Full-size physical assemblies that are constructed on-site either as freestanding temporary built elements or as part of permanent construction. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed and tested at testing facility to verify performance characteristics.
2. Integrated Exterior Mockups: Mockups of the exterior envelope constructed on-site as part of permanent construction, consisting of multiple products, assemblies, and subassemblies.
3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes; doors; windows; millwork; casework; specialties; furnishings and equipment; and lighting.

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.

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: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as 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.

1.5 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be 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 ACTION SUBMITTALS

A. Shop Drawings: For integrated exterior mockups.

1. Include plans, sections, and elevations, indicating materials and size of mockup construction.
2. Indicate manufacturer and model number of individual components.
3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

B. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, 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.

1.7 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. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.

2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

D. 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.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

F. Reports: Prepare and submit certified written reports and documents as specified.

G. 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.

1.8 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within ten (10) days of Notice to Proceed, and not less than five (5) days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.

B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including Subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and

inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.

2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
3. Owner-performed tests and inspections indicated in the Contract Documents.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 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 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 whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

1.10 QUALITY ASSURANCE

A. General: 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. Professional Engineer Qualifications: A professional 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 are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy the qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to 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 installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

    a. Provide test specimens representative of proposed products and construction.
    b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    f. When testing is complete, remove test specimens and test assemblies, and mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups of size indicated.
2. Build mockups in location indicated or, if not indicated, as directed by Architect.
3. Notify Architect seven (7) days in advance of dates and times when mockups will be constructed.
4. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed to perform same tasks during the construction at Project.
5. Demonstrate the proposed range of aesthetic effects and workmanship.

6. Obtain Architect's approval of mockups before starting corresponding work, fabrication, or construction.

    a. Allow seven (7) days for initial review and each re-review of each mockup.

7. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
8. Demolish and remove mockups when directed unless otherwise indicated.

L. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph.

M. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections.

1.11 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. Payment for these services will be made from testing and inspection allowances, as authorized by Change Orders.
3. 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.

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 shall 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 and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect 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 013300 "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. Associated Contractor 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. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. 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.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's Construction Schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

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 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 017300 "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 014000

SECTION 014100- TESTING LABORATORY SERVICES

PART 1- GENERAL

1.01 SECTION INCLUDES

A. Coordination with Owner-elected laboratory as required for material and construction testing.

1.02 LABORATORY SELCTION AND PAYMENT

A. The Owner shall engage and pay for the services of an independent testing laboratory to perform inspection and tests of materials and construction as defined in the General Conditions, except that in the event of a test failure the Contractor shall pay for re-testing.

1.03 QUALITY ASSURANCE

A. With the approval of the Owner and Engineer, the Testing Laboratory will recommend the type and number of tests to be performed on the project. The Contractor shall be advised of the number and type of tests to be performed by the Testing Laboratory. The Contractor is responsible for supplying concrete that meets the concrete design mixes specified under Division 3 of the Contract Documents.

PART 2- PRODUCTS

Not used

PART 3- EXECUTION

3.01 FIELD QUALITY CONTROL

A. The Contractor shall cooperate with the laboratory and:
    a. Make available, without costs, samples of all materials to be tested in accordance with applicable standard specifications
    b. Furnish such nominal labor and sheltered working space as necessary to obtain samples at the project.
    c. Advise the laboratory of the identity of materials sources and instruct the supplier to allow test of inspections by the laboratory.
    d. Notify the laboratory sufficiently in advance of operations to allow for completion of initial tests and assignment of inspection personnel.
    e. Notify the laboratory sufficiently in advance of cancellation of required testing operation. The Contractor shall be responsible to the laboratory for charges due to failure to notify if requirements for testing are cancelled.
B. Test Methods: Test and inspections shall be conducted in accordance with the latest standards or ASTM or other recognized authorities.

END OF SECTION 014100

SECTION 014200 - 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.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

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. Industry Organizations: 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. The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).

27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformite Europeenne; http://ec.europa.eu/growth/single-market/ce-marking/.
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.pbmdf.com.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csagroup.com.
65. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
67. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).

70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHI - Door and Hardware Institute; www.dhi.org.
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; www.eciaonline.org.
75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; www.eima.com.
77. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); www.intertek.com.
81. EVO - Efficiency Valuation Organization; www.evo-world.org.
82. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
85. FM Approvals - FM Approvals LLC; www.fmglobal.com.
86. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
88. FSA - Fluid Sealing Association; www.fluidsealing.com.
89. FSC - Forest Stewardship Council U.S.; www.fscus.org.
90. GA - Gypsum Association; www.gypsum.org.
91. GANA - Glass Association of North America; www.glasswebsite.com.
92. GS - Green Seal; www.greenseal.org.
93. HI - Hydraulic Institute; www.pumps.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
96. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
97. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
98. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
99. IAS - International Accreditation Service; www.iasonline.org.
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
113. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.

114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
118. ISO - International Organization for Standardization; www.iso.org.
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; www.itu.int/home.
121. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
122. LMA - Laminating Materials Association; (See CPA).
123. LPI - Lightning Protection Institute; www.lightning.org.
124. MBMA - Metal Building Manufacturers Association; www.mbma.com.
125. MCA - Metal Construction Association; www.metalconstruction.org.
126. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
127. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
128. MHIA - Material Handling Industry of America; www.mhia.org.
129. MIA - Marble Institute of America; www.marble-institute.com.
130. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
131. MPI - Master Painters Institute; www.paintinfo.com.
132. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
133. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
134. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
135. NADCA - National Air Duct Cleaners Association; www.nadca.com.
136. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
137. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
138. NBI - New Buildings Institute; www.newbuildings.org.
139. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
140. NCMA - National Concrete Masonry Association; www.ncma.org.
141. NEBB - National Environmental Balancing Bureau; www.nebb.org.
142. NECA - National Electrical Contractors Association; www.necanet.org.
143. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
144. NEMA - National Electrical Manufacturers Association; www.nema.org.
145. NETA - InterNational Electrical Testing Association; www.netaworld.org.
146. NFHS - National Federation of State High School Associations; www.nfhs.org.
147. NFPA - National Fire Protection Association; www.nfpa.org.
148. NFPA - NFPA International; (See NFPA).
149. NFRC - National Fenestration Rating Council; www.nfrc.org.
150. NHLA - National Hardwood Lumber Association; www.nhla.com.
151. NLGA - National Lumber Grades Authority; www.nlga.org.
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
153. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
154. NRCA - National Roofing Contractors Association; www.nrca.net.
155. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
156. NSF - NSF International; www.nsf.org.
157. NSPE - National Society of Professional Engineers; www.nspe.org.

158. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
160. NWFA - National Wood Flooring Association; www.nwfa.org.
161. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
162. PDI - Plumbing & Drainage Institute; www.pdionline.org.
163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
164. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
165. RFCI - Resilient Floor Covering Institute; www.rfci.com.
166. RIS - Redwood Inspection Service; www.redwoodinspection.com.
167. SAE - SAE International; www.sae.org.
168. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
169. SDI - Steel Deck Institute; www.sdi.org.
170. SDI - Steel Door Institute; www.steeldoor.org.
171. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
173. SIA - Security Industry Association; www.siaonline.org.
174. SJI - Steel Joist Institute; www.steeljoist.org.
175. SMA - Screen Manufacturers Association; www.smainfo.org.
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
177. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
178. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
179. SPIB - Southern Pine Inspection Bureau; www.spib.org.
180. SPRI - Single Ply Roofing Industry; www.spri.org.
181. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
182. SSINA - Specialty Steel Industry of North America; www.ssina.com.
183. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
184. STI - Steel Tank Institute; www.steeltank.com.
185. SWI - Steel Window Institute; www.steelwindows.com.
186. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
187. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
188. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
189. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
190. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
192. TMS - The Masonry Society; www.masonrysociety.org.
193. TPI - Truss Plate Institute; www.tpinst.org.
194. TPI - Turfgrass Producers International; www.turfgrasssod.org.
195. TRI - Tile Roofing Institute; www.tileroofing.org.
196. UL - Underwriters Laboratories Inc.; www.ul.com.
197. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
198. USAV - USA Volleyball; www.usavolleyball.org.
199. USGBC - U.S. Green Building Council; www.usgbc.org.
200. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
201. WA - Wallcoverings Association; www.wallcoverings.org.

202. WASTEC - Waste Equipment Technology Association; www.wastec.org.
203. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
204. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
205. WDMA - Window & Door Manufacturers Association; www.wdma.com.
206. WI - Woodwork Institute; www.wicnet.org.
207. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
208. WWPA - Western Wood Products Association; www.wwpa.org.

C. 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. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

D. 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. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

E. 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.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State 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. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - 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 011000 "Summary" for work restrictions and limitations on utility interruptions.
2. Section 312000 "Earth Moving" for disposal of ground water at Project site.

1.3 USE CHARGES

A. General: Installation and removal of 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, Owner's construction forces, Architect, occupants of Project, 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.

E. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

F. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 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.

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.

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.

C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

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 (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts, bases to be securely anchored in place.

B. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

A. 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 ten (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- (1.2-m-) square tack and marker boards.
3. Drinking water.
4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
5. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.

B. 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 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 and clean HVAC system as required in Section 017700 "Closeout Procedures."

C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

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 011000 "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. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash 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.

D. 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.

E. 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.

F. 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. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines that is noncombustible according to 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. 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.

C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

D. 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.

E. 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.

    a. Provide temporary, directional signs for construction personnel and visitors.

3. Maintain and touch up signs so they are legible at all times.

F. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

G. 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 017300 "Execution."

H. 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 011000 "Summary."

C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.

4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

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. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.

G. 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.

H. 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.

I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

J. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

K. 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.

L. 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 according to 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.

3.6 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: 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 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.

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 72 hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, 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.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. 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 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - 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 012500 "Substitution Procedures" for requests for substitutions.
2. Section 014200 "References" for applicable industry standards for products specified.

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. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process 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. 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.

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, if applicable.

1.4 ACTION SUBMITTALS

A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.

    a. Form of Architect's Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 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.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

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-connected 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 identification requirements.

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 to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

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 warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for 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 with the Specifications, 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 017700 "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.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Evaluation of "or equal" product status is by the Architect, whose determination is final.

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. 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 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 012500 "Substitution Procedures" for substitutions for convenience.

C. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or 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 these 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. Detailed comparison of significant qualities of proposed product with those named in the Specifications. 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.
2. Evidence that proposed product provides specified warranty.
3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
4. Samples, if requested.

B. Submittal Requirements: 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 016000

SECTION 017300 - EXECUTION

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 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. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "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.

1.3 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.

1.4 PREINSTALLATION MEETINGS

A. Cutting and Patching Conference: Conduct conference at Project site.

1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting

and patching work. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:

a. Contractor's superintendent.
b. Trade supervisor responsible for cutting operations.
c. Trade supervisor(s) responsible for patching of each type of substrate.
d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affecting by cutting and patching operations.

2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

C. Cutting and Patching Plan: Submit plan describing procedures at least ten (10) days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

E. Certified Surveys: Submit two (2) copies signed by land surveyor.

F. Final Property Survey: Submit two (2) copies showing the Work performed and record survey data.

1.6 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. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:

    a. Primary operational systems and equipment.
    b. Fire separation assemblies.
    c. Air or smoke barriers.
    d. Fire-suppression systems.
    e. Plumbing piping systems.
    f. Mechanical systems piping and ducts.
    g. Control systems.
    h. Communication systems.
    i. Fire-detection and -alarm systems.
    j. Conveying systems.
    k. Electrical wiring systems.
    l. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

    a. Water, moisture, or vapor barriers.
    b. Membranes and flashings.
    c. Exterior curtain-wall construction.
    d. Sprayed fire-resistive material.
    e. Equipment supports.
    f. Piping, ductwork, vessels, and equipment.
    g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

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, 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.
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 caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "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. If discrepancies are discovered, notify the Architect promptly.

B. General: Engage a land surveyor to lay out the Work using 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. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two (2) 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.

D. 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.

E. 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. General: 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.

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 the best possible results. 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.

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: Where possible, 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.

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. Fit exposed connections together to form hairline joints.

J. Repair or remove and replace damaged, defective, or nonconforming Work.

1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

A. General: 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 (27 deg C).
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.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

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 in Finished Areas: 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 015000 "Temporary Facilities and Controls." Section 017419 "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.

3.8 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 014000 "Quality Requirements."

3.9 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. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

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

END OF SECTION 017300

SECTION 017419 - 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 311000 "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. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.

C. 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.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

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

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within thirty (30) days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. 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. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

C. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

D. 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.

E. 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. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent may serve as Waste Management Coordinator.

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

C. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of each contractor and waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements in this Section. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
1. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

PART 2 - PRODUCTS (Not Used)

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 015000 "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. 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 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 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. Burning: Do not burn waste materials.

C. Disposal: Remove waste material from Owner’s property and legally dispose of it. Contractor to provide to the Architect, all delivery tickets for waste material sent to certified land fill.

END OF SECTION 017419

SECTION 017700 - 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.
5. Repair of the Work.

B. Related Requirements:

1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
3. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 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.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 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 ten (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 maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.

5. Submit testing, adjusting, and balancing records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of ten (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 017900 "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 ten (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.

1.7 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 according to Section 012900 "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.
4. Submit pest-control final inspection report.

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.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

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 and proceeding to interior spaces.
2. Organize items applying to each space by major element, including categories for ceiling, 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.

1.9 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. Partial Occupancy: Submit properly executed warranties within fifteen (15) days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

D. 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 on digital media acceptable to Architect.

E. 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.

F. 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.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

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, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. 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. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
j. 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.
k. Remove labels that are not permanent.
l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.

1) Clean HVAC system in compliance with NADCA ACR. Provide written report on completion of cleaning.

p. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
q. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls." Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.

2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017823 - 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 documentation directory manuals.
2. Emergency manuals.
3. Systems and equipment operation manuals.
4. Systems and equipment maintenance manuals.
5. Product maintenance manuals.

B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Section 019113 "General Commissioning Requirements" for verification and compilation of data into 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 on digital media acceptable to Architect. Enable reviewer comments on draft submittals.
2. Submit three (3) paper copies. Architect will return two (2) copies.

C. Initial Manual Submittal: Submit draft copy of each manual at least thirty (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 fifteen (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 fifteen (15) days of receipt of Architect's comments and prior to commencing demonstration and training.

E. Comply with Section 017700 "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, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. 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 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.

1.7 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. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

I. 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.

J. 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.

1.8 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 017823

SECTION 017839 - 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 017300 "Execution" for final property survey.
2. Section 017700 "Closeout Procedures" for general closeout procedures.
3. Section 017823 "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 one (1) set of marked-up record prints.
2. Number of Copies: Submit copies of record Drawings as follows:

a. Initial Submittal:

1) Submit one (1) paper-copy set of marked-up record prints.
2) Submit PDF electronic files of scanned record prints and one (1) of file prints.
3) Submit record digital data files and one (1) set of plots.
4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:

1) Submit three (3) paper-copy sets of marked-up record prints.

2) Submit PDF electronic files of scanned record prints and three (3) sets of prints.
3) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit one paper copy and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one paper copy and annotated PDF electronic files and directories of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one paper copy and annotated PDF electronic files and directories of each submittal.

E. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

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 sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
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 with comment function enabled.
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 013100 "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 with comment function enabled.
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. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file.

1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders and record Drawings where applicable.

C. Format: Submit record Product Data as annotated PDF electronic file.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.7 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

PART 3 - EXECUTION

END OF SECTION 017839

SECTION 017900 - 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. Qualification Data: For facilitator.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two (2) copies within seven (7) 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 and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
3. 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.
4. 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 017823 "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 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

C. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.

D. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

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 017823 "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.

1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
2. Owner will furnish an instructor to describe Owner's operational philosophy.
3. Owner will furnish Contractor with names and positions of participants.

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 (7) 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. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.

F. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017900

SECTION 021000 - SITE PREPARATION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. WORK to be performed under this section shall consist of clearing and grubbing the site within the limits of the approved Development Drawings and disposal of all waste materials.

B. WORK also included under this section shall include the erection of temporary fences.

C. Definitions

1. Clearing: The removal and disposal of all exposed objectionable matter such as: trees, brush, logs, buildings, fences, poles, rubbish, loose boulders and other debris resting on or protruding through the ground surface.

2. Grubbing: The removal and disposal of all objectionable matter such as: logs, poles, stumps, structures, boulders, rubbish, and other debris which is embedded in the soil.

1.2 REGULATORY REQUIREMENTS

A. Conform to applicable code for disposal of debris.

B. Conform to local Fire Department Codes for burning debris on site. CONTRACTOR shall obtain all necessary permits prior to burning on site.

PART 2 PRODUCTS

2.1 MATERIALS

A. Materials used for protection of trees and vegetation to remain during clearing operations shall be at CONTRACTOR’S option. Materials chosen shall be approved by the Engineer prior to installation and upon installation shall be approved by the Engineer to ensure maximum protection to vegetation.

B. Materials used for the repair of trees and vegetation damaged outside clearing limits shown on Drawings shall be at CONTRACTOR’S option but must be approved by the Engineer prior to use.

C. Wound paint shall be a standard bituminous product.

D. Herbicides shall not be used unless written approval is given by the OWNER.

E. Explosives shall not be used unless written approval is given by the OWNER.

F. Materials used for the replacement or relocation of existing fences shall be of equal or superior quality to those fence materials existing prior to construction unless specified otherwise on the plans.

PART 3 EXECUTION

3.1 CLEARING

A. No tree, shrub, or other landscaping plants shall be removed unless absolutely necessary for the construction of the proposed improvements. All shrubs or landscaping plants removed or damaged during construction shall be replaced by the CONTRACTOR at his expense, with landscaping approved by the OWNER.

B. Limits of clearing shall be contained within the areas within Right-of-way, Easement and Construction limits as shown on the approved Development Drawings.

C. Fences that cannot be reused shall be removed to such a distance to allow construction activity and shall be replaced with new materials similar to existing fences upon completion of construction.

3.2 GRUBBING

A. The limits of grubbing shall be contained within Right-of-way, Easement and Construction limits as shown on the approved Development Drawings.

B. Stumps and roots shall be grubbed and removed to a depth not less than 2 feet below existing grade or bottom of foundation structure.

C. All holes or cavities which extend below the subgrade elevation of proposed WORK shall be filled with crushed rock or other suitable material and compacted to the project specifications.

3.3 PROTECTION

A. Streets, roads, adjacent property, and other works to remain shall be protected throughout the work in accordance with local laws and ordinances.

B. CONTRACTOR shall make every effort to protect existing bench marks, R/W markers, monuments, iron pins, property corner markers, etc. If any are disturbed or destroyed, CONTRACTOR shall provide services of a registered land surveyor to replace the markers. C. No trees shall be cut outside of areas designated without specific approval of the OWNER, and any trees designated shall be protected from damage by CONTRACTOR’S construction operations.

D. Existing trees and other vegetation to remain shall be protected as directed by the OWNER: 1 Trees shall be protected by fencing, barricades, or wrapping. 2 Shrub and bushes shall be protected by fencing, barricades, or wrapping. Wrapping of bushes and shrubs with plastic film will not be permitted. 3 Shallow-rooted plants shall be protected at ground surface under and in some cases outside the spread of branches by fencing, barricades, or ground cover protection.

E. In the event that archaeological resources are uncovered, CONTRACTOR shall notify the owner prior to proceeding with WORK.

F. It shall be the responsibility of the CONTRACTOR to inspect the site, determine the amount of work required, and include this work in his proposal.

3.4 DISPOSAL

A. CONTRACTOR shall remove and dispose of all excess material resulting from clearing or site preparation operations. CONTRACTOR shall dispose of such materials in a manner acceptable to the OWNER at an approved location where such materials can be lawfully disposed.

B. CONTRACTOR may, at no cost, retain any materials of value from clearing operations for his own use or disposal by sale unless otherwise stated in these Specifications. Such material shall be removed from construction area before completion of WORK. The Owner assumes no responsibility for protection or safekeeping of any materials so retained by CONTRACTOR.

C. Materials will not be disposed of by burying unless approved by OWNER.

D. Burning will NOT be permitted. Cleared material shall be reduced to mulch by chipping/grinding. Mulch from grinding operations may be utilized as an aid to temporary erosion control. Excess mulch must be removed from the site at no additional cost to Owner. Permanent ground cover requirements remain.

E. Material to be removed from site shall be removed as it accumulates to prevent any unsightly spoil areas.

END OF SECTION 021000

SECTION 022000 – EXCAVATING AND BACKFILLING

PART 1 - GENERAL

1.1 Related Work Specified Elsewhere

A. Cast in Place Concrete – Section 033000

B. Geotechnical Report

1.2 Description

A. The Contractor shall furnish all materials, labor and equipment necessary to remove all earth, rock, water, debris and other materials to the extent required for the construction of the improvements shown on the Drawings. Also included is the preparation of the subgrade and base and the backfilling and compaction around the improvements to the lines and grades established on the Drawings.

1.4 Excavation

A. Excavation shall extend to the width and depth shown on the Drawings or as specified.

1.5 Backfilling

A. The bottom of the excavation shall be firm, dry, and in all respects, acceptable. The contractor shall be required to place suitable select backfill in accordance with these specifications, to the proper grade prior to stabilizing the base course.

1.6 Clearing and Grubbing

A. Clearing and grubbing shall consist of cutting, removing and disposal of all trees, tree stumps, brush, grass, roots and other organic material within areas to be subject to earthwork and/or occupied by proposed structures or facilities. If clearing and grubbing limits are indicated, those lines shall define the extent of clearing and grubbing activity on the site.

B. Fill depressions caused by clearing and grubbing operations with fill material in accordance with excavation and backfill requirements contained herein.

PART 2 - PRODUCTS

2.1 Select Backfill

A. As per geotechnical report and details

2.2 Suitable Excavated Sub-Base

A. Good sound base material excavated and found to be free from waste, rubbish, objectionable organic matter, large rocks, waste concrete, or other unstable or unsuitable material.

2.3 Native Material

A. Good sound earth as determined by the geotechnical engineer, free from waste, rubbish, objectionable organic matter, large rocks, waste concrete, or other unstable or unsuitable material.

PART 3 - EXECUTION

3.1 Excavation

A. In case the excavation is carried below the required depth as shown in the details due to an error by the Contractor not for the purpose of removing stumps, roots, logs, etc., the Contractor shall fill and compact the bottom of the excavation up to grade with base material in a manner acceptable to the Engineer, without additional compensation for the materials, excavation or the backfilling.

B. All material excavated shall be placed so as to minimize interference with public travel and to permit proper access for inspection of the work.

3.2 Disposal of Materials

A. All excess excavated material not required for regrading shall be removed from the site of the work by the Contractor and disposed of at a legally approved off-site area at no cost to the Owner.

3.3 Over-Excavation to Remove Stumps, Roots, Logs

A. Stumps, roots, and logs which are encountered within the excavation area shall, as directed by the Engineer, be cut to a depth of one (1) foot below the bottom of the base course. The Contractor shall fill this excavated space with compacted backfill material.

B. When so required by the Engineer, the Contractor shall probe one (1) foot below the established bottom of the base course. If any stump, roots, logs, etc., are discovered by this probing, the Contractor shall cut them out just as if they had been visible.

C. Blasting will not be allowed for the removal of stumps.

3.04 Backfilling

A. Low areas shall be filled with suitable based material. All fill shall be placed in layers thoroughly compacted to 95% of maximum dry density in accordance with ASTM D-1557. Maximum lifts shall be 8 inches.

B. Under nonpaved areas, native material shall be placed. Fill in excess of available native material shall consist of select backfill. All fill shall be placed in layers not exceeding 8 inches deep and compacted to approximate density of the adjacent material to eliminate voids.

C. Broken paving shall not be placed in backfill.

3.05 Restoring Adjacent Surfaces

A. The surface of disturbed areas shall be restored by the Contractor to a condition at least equal to that existing before work began.

END OF SECTION 022000

SECTION 023000 – EARTHWORK

PART 1 - GENERAL

1.1 GEOTECHNICAL REPORT SITE PREP REQUIREMENTS

A. In order to prepare the construction areas, the site should first be stripped of topsoil, vegetation, limestone, and deleterious material. At the location of boring B-2 (which is near this site construction), clayey silt was encountered within the upper 12 inches. This material is susceptible to pumping problems when wetted, and should be removed and replaced with compacted fill where present. This layer thickness is based on our field observations at the time of drilling. It should be noted that it is not unusual for the thickness of unsuitable soils to vary at different locations. After the removal of these undesirable materials, the area should be proof-rolled with a heavy vehicle (e.g., a loaded 12-yard dump truck). The proof rolling should be observed by a qualified geotechnical engineer or his representative to detect pumping or yielding areas or other undesirable subgrade. Such conditions, if present, may require undercutting and replacement with more competent fill. An alternative to undercutting is to use geogrid (Tensar® BX1100 or approved equivalent) to stabilize the subgrade. Other alternatives include treating the subgrade with lime or soil cement.

1.2 RELATED DOCUMENTS

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

1.3 SUMMARY

A. This Section includes the following:
   1. Drainage course for slabs-on-grade.
   2. Base and subbase course for concrete parking and drive pavements.
   3. Subsurface drainage backfill for walls and trenches.
   4. Excavating and backfilling for utility trenches.

B. Related Sections include the following:
   1. Division 1 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
   2. Section 311000 "Site Clearing" for temporary erosion and sedimentation control measures, site stripping, grubbing, stripping topsoil, and removal of above- and below-grade improvements and utilities.

1.4 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

G. Fill: Soil materials used to raise existing grades.

H. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

I. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.5 SUBMITTALS

A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D 2487 of each on-site and borrow soil material proposed for fill and backfill.
2. Laboratory compaction curve according to ASTM D 698 for each soil material proposed for fill and backfill.

1.6 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified to conduct soil paid by owner and coordinated with by contractor.

1.7 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Owner's Representative and then only after arranging to provide temporary utility services according to requirements indicated.

1. Notify Owner's Representative not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's Representative's written permission.
3. Contact utility-locator service for area where Project is located before excavating.

B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Reference geotechnical report.

C. Drainage Course: Reference geotechnical report.

2.2 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in section 311000 "Site Clearing."

C. Protect and maintain erosion and sedimentation controls, which are specified in Section 311000 "Site Clearing," during earthwork operations.

D. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

3.2 EXCAVATION, GENERAL

A. Classified Excavation: Excavate to subgrade elevations. Material to be excavated will be classified as earth.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.

a. Blasting is strictly prohibited.

3.3 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.4 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.Re: Elec specifications for required depths.

3.5 SUBGRADE INSPECTION

A. Notify Owner’s Representative when excavations have reached required subgrade.

B. If Owner's Representative determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

3.6 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.7 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, damp proofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.8 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

D. Backfill voids with satisfactory soil while installing and removing shoring and bracing.

E. Place and compact final backfill of satisfactory soil to final subgrade elevation.

F. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.9 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.
3. Under steps and ramps, use engineered fill.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.10 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction as per geotechnical report.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. The moisture content during compaction should be maintained within -2% to +5% of its optimum as determined by the standard Proctor compaction test (ASTM D 698). Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content

3.11 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:

1. Under pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material to 95% of the Standard Proctor Compaction (ASTM D698).
2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 (Standard Proctor) percent.
3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 88 percent standard proctor.
4. For utility trenches, compact each layer of initial and final backfill soil material at 88 percent standard proctor.

3.12 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2”.
4. Parking lot islands:
    a. Remove all concrete debris.
    b. Provide compacted top soil to top of curb and crown fill in middle for 1.5% slope.

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.13 SUBSURFACE DRAINAGE

A. Subdrainage Pipe: Specified in Division 2 Section "Subdrainage."

B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with 1 layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.

1. Compact each filter material layer to 85 percent of maximum dry unit weight according to ASTM D 698 with a minimum of two passes of a plate-type vibratory compactor.
2. Place and compact impervious fill over drainage backfill in 6-inch- thick compacted layers to final subgrade.

3.14 DRAINAGE COURSE

A. Place drainage course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
1. Place drainage course 6 inches or less in compacted thickness in a single layer.
2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.15 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.

B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 3,000sf
2. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 150 feet or less of trench length, but no fewer than 2 tests.

D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.16 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Owner’s Representative; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 023000

SECTION 024000 - GRADING

PART 1 - GENERAL

This section includes all grading work required for the construction of the outdoor pickleball courts shown on the Drawings within the project area. Grading operations shall include rough and finish grading as indicated on the Drawings to provide adequate drainage for the project area. Grading operations shall also include rough and finish grading of ditches/swales to provide positive drainage from pipe invert to pipe invert.

1.1 Related Work Specified Elsewhere

A. Excavating, Backfilling and Compacting for Pavement – Section 023000 “Earthwork”.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 Site shall be graded to meet existing contours on adjacent to the construction site so as to provide positive drainage into existing catch basins or other drainage structures.

3.2 Finish grading shall include excavating, stockpiling, and placing approved native material as required to cover entire site to an elevation appropriate for the placing of sod or seed as required elsewhere in these specifications and as shown on the drawings.

Required fill material in excess of available native material shall be select backfill in accordance with Section 023000 “Earthwork”.

3.3 Ditch/swale Bottom Grading

1. Grading shall include excavating, and placing approved native material as required to obtain positive drainage from pipe invert to pipe invert. The ditch/swale bottom shall be free of voids and pockets.

2. Excess excavated material from ditches shall become the property of the Contractor and shall be disposed of off site, at the Contractor’s expense, all in accordance with local codes and ordinances governing locations and safety laws.

3. Ditches requiring reshaping shall have maximum side slopes of 1 vertical on 3 horizontal.

END OF SECTION 024000

SECTION 028000 – SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Related Requirements:
1. Section 011000 "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 022300 "Site Clearing" for site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.

C. Remove `and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

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

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PRE-INSTALLATION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.

3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:
1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.

C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.

D. Pre-demolition Photographs or Video: Submit before Work begins.

E. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 FIELD CONDITIONS

A. Owner will occupy portions of property immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical. Before selective demolition, Owner will remove items to be salvaged.

C. Notify the Owner’s Representative of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. If suspected hazardous materials are encountered, do not disturb; immediately notify Owner’s Representative and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities, such as underground power lines and field water supply, to remain in service and protect them against damage during selective demolition operations and construction.

G. Maintain fire-protection facilities in service during selective demolition operations.

1.9 WARRANTY

A. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to the Engineer. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or videos.

F. Inventory and record the condition of items to be removed and salvaged.

G. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
   1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary of Work."

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
   2. Arrange to shut off indicated utilities with utility companies.
   3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
      a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
      b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
      c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
      d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
      e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary 6’ high chain link fence and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of structures and/or buildings.
   2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Dispose of demolished items and materials promptly.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner's Representative, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
   1. Do not allow demolished materials to accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials and dispose of at designated spoil areas on Owner's property.

D. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 028000

SECTION 032000 – PICKLEBALL COURT EQUIPMENT AND ACCESSORIES

1.0 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Pickleball court equipment and accessories

1.3 SUBMITTALS

A. Product Data: Include, for each product, technical data and tested physical and performance properties.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
B. Store materials in a clean, dry, protected location and within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.5 PROJECT CONDITIONS

A. Install accessories only when conditions specified by Manufacturer are met.

2.0 PRODUCTS

2.1 DESCRIPTION

A. MANUFACTURERS
   1. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with all ASBA Pickleball Courts Construction and Maintenance Manual and Adaptive/Wheelchair Pickleball requirements. Contractor may submit equals for approval by Owner or Engineer:

      All Star Tennis Supply, P.O. Box 787 Mandeville, LA 70470
      Telephone: 985-898-5828 or 866-546-2386 Fax: 360-285-9209
      Email: sales@allstartennissupply.com

      Douglas Sports, 3441 S 11th Ave Eldridge, IA 52748
      Telephone: 800-553-8907 Email: sales@douglas-sports.com

Tennis Supplies and Equipment
https://tennissuppliesandequipment.com/
Spartan Athletic Co. P.O. Box #255 Oaks, PA 19456
Telephone: 800-571-2890 Email: orders@tennissuppliesandequipment.com

Tennis Court Supply
https://www.tenniscourtsupply.com/
3115 East Lion Lane, Unit 220 Salt Lake City, UT. 84121
Telephone: 877-504-5657 Email: sales@tenniscourtsupply.com

B. PICKLEBALL COURT EQUIPMENT AND ACCESSORIES

1. Pickleball Posts (4 sets of post required):
   Pickleball Premier™ RD Posts
   Premier™ RD Green (Item # 63070) or Black (Item # 63071)
   https://douglas-sports.com/product/premier-rd-36-pickleball-qs-tennis-posts-3-od
   or other Owner approved equal

2. Pickleball Posts Corresponding Ground Sleeves (4 sets of post required):
   Pickleball Premier™ RD Post Ground Sleeves 24" Steel (GS-24)
   (Item # 63424)
   https://douglas-sports.com/product/gs-24rd-galvanized-steel-ground-sleeves-24-long-for-3-od-posts
   or other Owner approved equal

3. Pickleball Nets (4 sets required):
   Douglas® Pickleball Nets
   These Douglas® nets meet the USAPA's requirements for
   boast the same features as our Douglas® tennis nets and carry a 4 year warranty.
   Custom sizes are available. JTN-30 36"h x 21'9"l (Item # 20105)
   https://douglas-sports.com/product/jtn-30-pickleball-qs-tennis-net-36-x-219
   or other Owner approved equal

4. Pickleball Windscreens (2 – approximately 87' x 9' required)
   (2 - approximately 73' x 3' required)
   Douglas® Windscreens/SportScreens
   VCP Max™ with **AVR Vents** The Douglas® AVR vents are rectangular sewn cut outs that measure 8 inches wide by 10 inches high. These vents are perimeter hemmed with polyester webbing and are placed at 10 ft intervals on center.
   Fabric: 16 x 17 weave
   Windbreak: Open - 85%
   Weight per square yard: Open - 10 oz.
   Tensile Strength: Open - 395 x 401
   Colors:
   Standard Colors: Dark Green, Black or
   Open Tournament Blue

Warranty: 4-Year Limited
https://douglas-sports.com/product/douglas-vcp-max-windscreen
or other Owner approved equal

5. Court Caddy Set (Quantity of 4 required)
   Court Caddy Set Basket Only
   Green (Item #34745) Green (Item # 34746)
   Black (Item #34744 Black (Item # 34746B)
   A shelf and receptacle combo that keeps personal items in its place and trash where it belongs. Assembly clamp. Constructed of durable plastic. Receptacle hangs from the court caddy tray attachment.
   https://douglas-sports.com/?s=34744

6. Court Numbers (Quantity of 4 required)
   Court Numbers (Item # 34756)
   Durable dark green plastic court signs with white printing. Sign measure 8" x 10". Choose from numbers 1 to 20. See Page 15 for Vinyl Court Signs.

7. Court Dry Water Removers

   Courtdry II (Item # 34734)
   Includes SR-D RR-36 (Item # 34742)
   (Gray roller is 3/4" thick seamless polyurethane.)
   The tough PVA foam roller quickly absorbs and pushes away water. Powder coated stainless-steel frame has a T-socket that securely holds the roller and handle in place during use.

8. Adjustable Center Straps
   All straps to be made from heavy-duty 2" polyester white webbing, nickel plated web slides and snaps.
   Deluxe (Item # 20600)
   Two non-slip reverse web slides with swivel loop bolt snap
   Center Pipe Anchor
   (Item # 63428)
   1.9" OD Galvanized Steel

9. Scoreboard for Pickleball
   SKU: CELOSKP
   LoveOne Scoreboard for Pickleball with dimensions: 6" wide x 25" high x 1/2" thick
   https://oncourtoffcourt.com/loveone-scoreboard-for-pickleball/?gad_source=1&gad_campaignid=17424249563&gbraid=0AAAADMixNixc0mHSJEjoGjGTS7VMfsCZ&gclid=CjwKCAjw7_DEBhAeEiwAWKiCC90gvTnDUENU8oqE9UuOYwP9Gi_qAbVsvnHFQg_Kykw1_eGmWZlEKhoCNeIQAvD_BwE

END OF SECTION 032000

SECTION 032310 – FENCES AND GATES

1. SCOPE

The work shall consist of furnishing and installing 4 foot tall and 10 foot tall chain link fencing complete with all posts, braces, gates and all other appurtenances as specified in the Project Summary of Work and Construction Plans.

2. MATERIALS

The materials for the chain link fence shall be as follows:

Galvanized

Chain link fence fabric shall conform to the requirements of ASTM A 392, 1-3/4-inch mesh, and 9-gauge galvanized steel wire. Zinc coating shall be Class 2.

Posts and fence framework shall conform to the requirements of ASTM F 1043 Group 1A, for Heavy Industrial Fence. Coatings shall be a Type A galvanized coating for both internal and external surfaces. Steel pipe posts shall conform to the requirements of ASTM F 1043 and F 1083.

Fence fittings shall conform to the requirements of ASTM F 626. Fittings shall be galvanized steel. Wire ties and clips shall be 9-gauge.

Gates, gate posts and gate accessories shall conform to the requirements of ASTM F 900. Coating shall be the same as selected for adjoining fence and framework.

Galvanized Coating

Chain link fence fabric shall conform to the requirements of ASTM F 668 for Class 2a or 2b, 1-3/4-inch mesh, and 9-gauge galvanized steel wire.

Posts and fence framework shall conform to the requirements of ASTM F 1043 Group 1A, for Heavy Industrial Fence. Coatings shall be a Type A galvanized coating for both internal and external surfaces.

Fence fittings shall conform to the requirements of ASTM F 626. Fittings shall be galvanized steel.

Any damage to the coating shall be repaired in accordance with the manufacturer's recommendations or the damaged fencing material shall be replaced. The Contractor shall provide the Engineer a copy of the manufacturer's recommended repair procedure and materials prior to correcting damaged coatings.

3. INSTALLING FENCE POSTS

Unless otherwise specified in the construction plans, line posts shall be placed at intervals of nine (9) feet measured from center to center of adjacent posts. In determining the post spacing, measurement will be made parallel with the ground surface.

Posts shall be set in concrete backfill in the manner shown on the drawings.

Posts set in the tops of concrete walls shall be grouted into preformed holes to a depth of 48-inches.

All corner posts, end posts, gate posts, and pull posts shall be embedded, braced and trussed as shown on the drawings or in accordance with appropriate industry practice if not otherwise shown or specified.

4. INSTALLING WIRE FABRIC

Fencing fabric shall not be stretched until at least four (4) days after the posts are grouted into walls or seven (7) days after the posts are set in the concrete backfill.

Fencing fabric shall be installed on the side of the posts designated on the drawings.

The fabric shall be stretched taut and securely fastened, by means of tie clips, to the posts at intervals not exceeding 15-inches and to the top rails or tension wires at intervals not exceeding two (2) feet.

Care shall be taken to equalize the fabric tension on each side of each post.

END OF SECTION 032310

SECTION 033000 - CONCRETE WORK

PART 1 GENERAL

1.01 SUMMARY

A. This section includes the following:

1. This section complements Standard Specifications, where applicable, for concrete work associated with building construction. Whenever reference is made to “Standard Specifications”, such reference is to the 2006 Edition or latest revision thereof of “Standard Specifications for Roads and Bridges”, by the Office of Highways, Department of Transportation and Development, State of Louisiana.

1.02 SUBMITTALS

A. Product Data: Submit data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, dry-shake finish materials, and others as requested by Architect.

B. Shop Drawings; Reinforcement: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, and arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.

C. Samples: Submit samples of materials as specified and as otherwise requested by Architect, including names, sources, and descriptions.

D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design test as specified.

1.03 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. ACI 301 "Specifications for Structural Concrete for Buildings".

2. ACI 318 "Building Code Requirements for Reinforced Concrete".

3. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice".

B. Concrete Testing Service: Owner to engage and pay a testing laboratory acceptable to Architect to perform material evaluation tests and to design concrete mixes.

C. Materials and installed work may require testing and retesting, as directed by Architect, at anytime during progress of work. Allow free access to material stockpiles and facilities. Retesting of rejected materials for installed work shall be done at Contractor's expense.

PART 2 PRODUCTS

2.01 FORM MATERIALS

A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

1. Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class I.

B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

C. Forms for Textured Finish Concrete: Form textured finish concrete surfaces with units of face design, size, arrangement, and configuration as shown on drawings or as required to match Architect's control sample. Provide solid backing and form supports to ensure stability of textured form liners.

D. Forms for Cylindrical Columns and Supports: Form round-section members with metal, fiberglass reinforced plastic, or paper or fiber tubes. Construct paper or fiber tubes of laminated plies using water-resistant adhesive with wax-impregnated exterior for weather and moisture protection. Provide units with sufficient wall thickness to resist loads imposed by wet concrete without deformation.

E. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.02 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Steel Wire: ASTM A 82, plain, cold-drawn steel.

C. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.

D. Welded Deformed Steel Wire Fabric: ASTM A 497.

E. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications, unless otherwise acceptable.

1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

2.03 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I, unless otherwise acceptable to Architect.

B. Use one brand of cement throughout project, unless otherwise acceptable to Architect.

C. Fly Ash or Slag: Not permitted.

D. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.

1. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.

2. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Architect.

E. Water: Drinkable.

F. Air-Entraining Admixture: ASTM C 260 - Coordinate use with Ashford Formula.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

a. "Sika Aer"; Sika Corp.

b. "MB-VR or MB-AE"; Master Builders.

c. "Darex AEA"; W. R. Grace.

d. "Edoco 2001 or 2002"; Edoco Technical Products.

G. Water-Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1 percent chloride ions.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

a. "Eucon WR-75"; Euclid Chemical Co.

b. "Pozzolith 344"; Master Builders.

c. "Plastocrete 160"; Sika Chemical Corp.

d. "Chemtard"; Chem-Masters Corp.

H. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C 494, Type F or Type G and containing not more than 0.1 percent chloride ions.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
    a. "WRDA 19"; W. R. Grace.
    b. "PSP"; Protex Industries Inc.
    c. "Super P"; Anti-Hydro.
    d. "Sikament"; Sika Chemical Corp.
    e. "Mighty 150"; ICI Americas Corp.
    f. "Eucon 37"; Euclid Chemical Co.
    g. "PSI Super"; Gifford-Hill.
    h. "Pozzolith 400"; Master Builders.

I. Water-Reducing, Non-Chloride Accelerator Admixture: ASTM C 494, Type E, and containing not more than 0.1 percent chloride ions.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
    a. "Accelquard 80"; Euclid Chemical Co.
    b. "Pozzolith 500"; Master Builders.

J. Water-Reducing, Retarding Admixture: ASTM C 494, Type D, and containing not more than 0.1 percent chloride ions.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
    a. "Edoco 20006"; Edoco Technical Products.
    b. "Pozzolith 300-R"; Master Builders.
    c. "Eucon Retarder 75"; Euclid Chemical Co.
    d. "Daratard"; W.R. Grace.
    e. "Plastiment"; Sika Chemical Co.

K. Calcium Chloride or admixtures containing more than 0.1% chloride ions are not permitted.

2.04 RELATED MATERIALS

A. Waterstops: Provide flat, dumbbell type or centerbulb type waterstops at construction joints and other joints as indicated, unless noted otherwise. Size to suit joints.

B. Rubber Waterstops: Corps of Engineers CRD-C 513.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
    a. The Burke Co.

b. Progress Unlimited.

c. Williams Products.

d. Edoco Technical Products.

e. Cetco

C. Polyvinyl Chloride Waterstops: Corps of Engineers CRD-C 572.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

a. AFCO Products.

b. The Burke Co.

c. Edoco Technical Products.

d. Greenstreet Plastic Products.

e. Harbour Town Products.

f. W. R. Meadows.

g. Progress Unlimited.

h. Schleigel Corp.

i. Vinylex Corp.

D. Vapor Retarder (Under Slab): Shall conform to ASTM E 1745, Class C or better and shall have a maximum water vapor permeance of 0.04 perms when tested in accordance with ASTM E96. Vapor retarder component no less than 10 mils thick in accordance with ACI 302, 1R-96. Products: STEGO WRAP VAPOR BARRIER (10 mil) by Stego Industries, Griffolyn T-85 by Reef Industries, or Rufco D16WB by Raven Industries or approved equal.

E. Non-Shrink Grout: CRD-C 621, factory pre-mixed grout.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

a. Metallic:

1) "Vibrofoil"; A.C. Horn, Inc.

2) "Metallic Spec. Grout"; The Burke Co.

3) "Embeco 636"; Master Builders.

4) "Ferrolith"; Sonneborn-Contech.

5) "Firmix"; Euclid Chemical Co.

6) "Kemox G"; Sika Chemical Co.

7) "Ferrogrout"; L & M Const. Chemical Co.

b. Non-metallic:

1) "Masterflow 713"; Master Builders.

2) "Sonogrout"; Sonneborn-Contech.

3) "Euco-NS"; Euclid Chemical Co.
4) "Crystex"; L & M Const. Chemical Co.
5) "Sure-Grip Grout"; Dayton Superior Corp.
6) "Horngrout"; A.C. Horn, Inc.

F. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

1. Waterproof paper.

2. Polyethylene film.

3. Polyethylene-coated burlap.

G. Liquid Membrane-Forming Curing Compound: Liquid type membrane- forming curing compound complying with ASTM C 309, Type I, Class A unless other type acceptable to Architect. Moisture loss not more than 0.055 gr./sq. cm. when applied at 200 sq. ft./gal.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following.

a. "Kurez DR"; Euclid Chemical Co. - or other approved equal.

H. Bonding Compound: Polyvinyl acetate or acrylic base, rewettable type.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

a. "J-40 Bonding Agent"; Dayton Superior Corp.

b. "Weldcrete"; Larsen Products.

c. "Everbond"; L & M Construction Chemicals.

d. "EucoWeld"; Euclid Chemical Co.

e. "Hornweld"; A.C. Horn.

f. "Sonocrete"; Sonneborn-Contech.

g. "Acrylic Bondcrete"; The Burke Co.

I. Epoxy Adhesive: ASTM C 881, two component material suitable for use on dry or damp surfaces. Provide material "Type", "Grade", and "Class" to suit project requirements.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

a. "Epoxtite"; A.C. Horn, Inc.

b. "Edoco 2118 Epoxy Adhesive"; Edoco Technical Prod.

c. "Sikadur Hi-Mod"; Sika Chemical Corp.

d. "Euco Epoxy 463 or 615"; Euclid Chemical Co.

e. "Patch and Bond Epoxy"; The Burke Co.

f. "Sure-Poxy"; Kaufman Products Inc.

2.05 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.

B. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.

C. Design mixes to provide normal weight concrete with the properties as indicated on the structural drawings.

D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.

2.06 CONCRETE MIXES

A. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.

B. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

1. When air temperature is between 85 deg. F (30 deg. C) and 90 deg. F (32 deg. C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg. F (32 deg. C), reduce mixing and delivery time to 60 minutes.

2.07 ADMIXTURES

A. Use water-reducing admixture or high range water-reducing admixture (super plasticizer) in concrete as required for placement and workability.

B. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 deg. F (10 deg. C).

C. Use admixtures for water-reducing and set-control in strict compliance with manufacturer's directions.

D. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

1. Ramps, slabs, and sloping surfaces: Not more than 3".

2. Reinforced foundation systems: Not less than 1" and not more than 4".

3. Concrete containing HRWR admixture (super-plasticizer): Not more than 8" after addition of HRWR to site-verified 2"-3" slump concrete.

4. Other concrete: Not more than 4".

PART 3 EXECUTION

3.01 FORMS

A. Design, erect, support, brace, and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position.

B. Design formwork to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.

C. Construct forms to sizes, shapes, lines, and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

F. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Form Ties: Factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

1. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is 1" inside concrete and will not leave holes larger than 1" diameter in concrete surface.

H. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.

I. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retightening forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

3.02 PLACING REINFORCEMENT

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

3.03 JOINTS

A. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect.

B. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs, and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.

C. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints, except as otherwise indicated.

D. Waterstops: Provide waterstops in construction joints as indicated. Install waterstops to form continuous diaphragm in each joint. Make provisions to support and protect exposed waterstops during progress of work. Fabricate field joints in waterstops in accordance with manufacturer's printed instructions.

1. Joint filler and sealant materials are specified in Division-7 sections of these specifications.

E. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground as shown on structural drawings.

3.04 INSTALLATION OF EMBEDDED ITEMS

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto.

B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.05 PREPARATION OF FORM SURFACES

A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.

B. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

C. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

3.06 CONCRETE PLACEMENT

A. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.

B. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

C. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as herein specified.

D. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

E. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

F. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 309.

G. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

H. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

I. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

J. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.

K. Maintain reinforcing in proper position during concrete placement operations.

L. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

M. When air temperature has fallen to or is expected to fall below 40 deg. F (4 deg. C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg. F (10 deg. C), and not more than 80 deg. F (27 deg. C) at point of placement.

N. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

O. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

P. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

Q. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg. F (32 deg. C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.

R. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.

S. Fog spray forms, reinforcing steel, and subgrade just before concrete is placed.

T. Use water-reducing retarding admixture (Type D) when required by high temperatures, low humidity, or other adverse placing conditions.

3.07 FINISH OF FORMED SURFACES

A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, painting, or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.

C. Smooth Rubbed Finish: Provide smooth rubbed finish to scheduled concrete surfaces, which have received smooth form finish treatment, not later than one day after form removal.

D. Moisten concrete surfaces and rub with carborundum brick or other abrasive until a uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

E. Grout Cleaned Finish: Provide grout cleaned finish to scheduled concrete surfaces which have received smooth form finish treatment.

F. Combine one part portland cement to 1-1/2 parts fine sand by volume, and mix with water to consistency of thick paint. Proprietary additives may be used at Contractor's option. Blend standard portland cement and white portland cement, amounts determined by trial patches, so that final color of dry grout will match adjacent surfaces.

G. Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.

H. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.08 MONOLITHIC SLAB FINISHES

A. Scratch Finish: Apply scratch finish to monolithic slab surfaces that are to receive concrete floor topping or mortar setting beds for tile, portland cement terrazzo, and other bonded applied cementitious finish flooring material, and as otherwise indicated.

B. After placing slabs, plane surface so that depressions between high spots do not exceed 1/2" under a 10' straightedge. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff brushes, brooms, or rakes.

C. Float Finish: Apply float finish to monolithic slab surface to receive trowel finish and other finishes as hereinafter specified, and slab surfaces which are to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo, and as otherwise indicated.

D. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane so that depressions between high spots do not exceed 5/16" under a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

E. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint, or other thin film finish coating, system.

F. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance. The finish slab shall meet Fl 25 and Ff 25 requirements as defined by ACI 302. Grind smooth surface defects which would telegraph through applied floor covering system.

G. Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply trowel finish as specified, then immediately follow with slightly scarifying surface by fine brooming.

H. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.

I. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

J. Non-slip Aggregate Finish: Apply non-slip aggregate finish to concrete stair treads, platforms, ramps, sloped walks, and elsewhere as indicated.

K. After completion of float finishing, and before starting trowel finish, uniformly spread 25 lbs. of dampened non-slip aggregate per 100 sq. ft. of surface. Tamp aggregate flush with surface using a steel trowel, but do not force below surface. After broadcasting and tamping, apply trowel finishing as herein specified.

L. After curing, lightly work surface with a steel wire brush, or an abrasive stone, and water to expose non-slip aggregate.

3.09 CONCRETE CURING AND PROTECTION

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

D. Curing Methods: Perform curing of concrete by curing and sealing compound, by moist curing, by moisture-retaining cover curing, and by combinations thereof, as herein specified.

E. Provide moisture curing by following methods:

1. Keep concrete surface continuously wet by covering with water.

2. Continuous water-fog spray.

3. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.

F. Provide moisture-cover curing as follows:

1. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape of adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

G. Provide curing and sealing compound to interior slabs with resilient flooring, carpet over cushion, or left exposed; and to exterior slabs, walks and curbs, as follows:

1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.

H. Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener, waterproofing, dampproofing, membrane roofing, flooring (such as ceramic or quarry tile, glue-down carpet), painting, and other coatings and finish materials, unless otherwise acceptable to Architect.

I. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs, and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

J. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of appropriate curing method.

K. Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture-retaining cover, unless otherwise directed.

L. Sealer and Dustproofer: Apply a second coat of specified curing and sealing compound only to surfaces given a first coat.

3.10 REMOVAL OF FORMS

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joists, slabs, and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.

C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.11 RE-USE OF FORMS

A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

3.12 MISCELLANEOUS CONCRETE ITEMS

A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

D. Grout base plates and foundations as indicated, using specified non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.

3.13 CONCRETE SURFACE REPAIRS

A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.

B. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.

C. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

D. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.

E. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

F. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness using a template having required slope.

G. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.

H. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.

I. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.

J. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

K. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

L. Perform structural repairs with prior approval of Architect or Structural Engineer for method and procedure, using specified epoxy adhesive and mortar.

M. Repair methods not specified above may be used, subject to acceptance of Architect.

3.14 FIELD QUALITY CONTROL

A. The Owner shall employ and pay a testing laboratory to perform tests and to submit test reports. Contractor shall pay for retesting of all failed tests.

B. Sampling and testing for quality control during placement of concrete may include the following, as directed by Architect.

C. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.

2. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each day's pour of each type of air- entrained concrete.

3. Concrete Temperature: Test hourly when air temperature is 40 deg. F (4 deg. C) and below, and when 80 deg. F (27 deg. C) and above; and each time a set of compression test specimens made.

4. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.

5. Compressive Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yds. plus additional sets for each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.

6. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

7. When total quantity of a given class of concrete is less than 50 cu. yds., strength test may be waived by Architect if, in his judgement, adequate evidence of satisfactory strength is provided.

8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

9. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.

D. Test results will be reported in writing to Architect, Structural Engineer and Contractor within 24 hours that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.

F. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

END OF SECTION

SECTION 033800 - POST TENSIONED CONCRETE COURT

SCOPE

The work contained in this section shall cover the building of new post tensioned concrete courts. To ensure that these courts are built to the highest industry standards and meet USTA and American Sports Builders guidelines for tennis court construction, only a professional license court builder shall build the PT slabs, install the fencing, install the surfacing, and furnish and install the accessories required for the courts. The court builder must have a minimum of 5 years of experience building post-tension concrete courts. The court builder must provide references for 5 similar post tensioned concrete court facilities it has built. Court builder must be a member in good standing with the American Sports Builders Association.

SUBMITTALS AND QUALIFICATIONS

Court contractor shall furnish an Engineered Shop Drawing for the Post tensioned slab, from a licensed Engineer, licensed in the state that work is to be done in. Slab shall be engineered to meet 125 PSI residual compressive strength and shall follow the recommendations provided in the Geo-technical report.

Court contractor must provide proof that it carries the correct license for building sports courts.
Court contractor must provide proof of its membership in good standing with the ASBA.
Court contractor must provide a list of 5 similar court projects including PT slabs, court fencing, court lighting, court surfacing and court accessories that it has installed.

PURPOSE

The work contained in this section consists of the furnishing and placing of Portland cement concrete for specified structures in complete accordance with these specifications and the applicable drawings . The preferred method of concrete court construction is the post-tensioned concrete slab. This system allows for a much larger single monolithic pour, eliminates the need for expansion joints and minimizes reflective and surface cracking.

CONCRETE QUALITY AND STRENGTH

Concrete shall have a minimum compressive strength of 3,500 psi at 28 days. Minimum cement content shall be 5.5 sacks per cubic yard. No Fly-Ash or Slag is allowed in the concrete. Fly-Ash prevents the adhesion of the court surfacing materials.

COURT ORIENTATION, SLOPE AND ELEVATION REQUIREMENTS

All courts should be oriented North to South. All excavating, filling, grading and compacting work of the sub-base should be performed so that the finished sub-grade is 4″-6″ above the surrounding ground. The grade around the court should slope away from the court. No water shall be allowed to drain across or back up onto the court. The slope of the court shall not be less than 0.83% (1:120). Each court must slope in a true plane, preferably from side to side (but from end to end is also acceptable), or in the shortest direction for good drainage and water runoff. The court should never be sloped from the net line to the baseline, from the baseline to the net-line, from the sides to the centerline or from the centerline to the sides.

BASE PREPARATION

Refer to Geo-technical report for base preparation.

MOISTURE/VAPOR BARRIER

A vapor barrier consisting of (2) layers of 6 mil. polyethylene shall be installed in prior to installation of any steel and/or cables. Overlap polyethylene sheets at least 12″ and tape joints. Once in place no vehicular traffic should be allowed on the moisture/vapor barrier nor any other object which could puncture the barrier or otherwise compromise the integrity of the surface. All concrete shall be placed using a concrete pump-truck.

CONCRETE THICKNESS

Concrete work shall be 5″ thick.

POST TENSIONING

Slab shall be engineered to meet 125 psi residual compressive strength. Post-tensioning material should consist of seven wire stress–relieved strands, conforming to ASTM A 416, with an ultimate strength of 270 KSI. Strands should be coated with a permanent rust preventative lubricant and wrapped with plastic sheathing. If strand sheathing is damaged or removed, it is to be repaired by taping. A maximum of 6″ exposed strand is permitted at the anchor. End anchorage devices will conform to Post-Tensioning Institute (PTI) specifications. All dead-end anchorages must be power seated. All strands are to be supported on chairs and tied at all intersections or securely supported in beams to prevent vertical and horizontal movement during concrete placement. Cables should be laid out in grids no greater than 3.5′ on center. The Court builders must provide a stamped engineered shop drawing for the PT slab for submittal. Slab shall be engineered to meet 125 psi residual compressive strength. Concrete must be well consolidated, especially in the vicinity of strand anchorages. Strands should be anchored at 28.9 KIPS but may be initially stressed at 33 KIPS. A 9” diameter centered on the strand axis by a 36″ length should be allowed for stressing equipment clearance. The stressing process generates tremendous pressures and extreme care should be taken to prevent injury from operator error or failure of equipment or materials. All structural materials shall be designed using acceptable engineering practices in accordance with the geotechnical and structural engineers recommendations.

FORMS

Forms should be set accurately to the lines and grades indicated on drawings and secured to prevent settlement or movement during placing of concrete. Forms should remain in place until concrete has taken its final set.

CONCRETE PROPORTIONING AND MIXING

The concrete should have a compressive strength of not less than 3,500 psi at 28th day after casting. Ready-mixed concrete should be mixed and delivered in accordance with ASTM C 94, Specification for Ready-Mixed Concrete with a 4″ maximum slump. Midrange water reducer shall be used to chemically increase the slump +/- 1.5" – 2" without the need for adding additional water on site.

PLACING AND FINISHSING

Concrete shall be placed by pumping method. One full court should be placed in one continuous operation without intervening joints of any kind. Concrete shall be spread, consolidated, screeded, bull-floated and finished in accordance with Section 7.2 of ACI (American Concrete Institute) Standard 302, Recommended Practice for Concrete Floor and Slab Construction. When concrete is sufficiently set to withstand foot pressure with only about 1/4″ indentation and the water sheen has left the surface, the slab should be uniformly finished by power floating and troweling. The final finish texture should be a light broom finish unless otherwise specified by the surface manufacturer. No curing compounds should be used at any time.

SURFACE TOLERANCES

The finished surface of the court should not vary more than 1/8″ in 10′ when measured in any direction.

CURING

Immediately after finishing, the concrete should be kept continuously moist for 7 days by covering with polyethylene film or waterproof curing paper, or by sprinkling or ponding or other acceptable coverings. No curing compounds should be used at any time. Curing time should be in accordance with surfacing system manufacturer's recommendations. Timing is critical on all of the above due to the possibility of disturbing the finished surface.

END OF SECTION 033800

SECTION 16100 - ELECTRICAL GENERAL CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The General Conditions and all pertinent sections are a part of this specification and the Contractor shall consult them in detail for instructions pertaining to work included under this Division.

B. Contractor shall consult all other sections of these specifications to determine any additional Division 16 requirements relative to other Divisions.

1.2 SCOPE OF WORK

A. The work contemplated under this specification comprises the furnishing of all labor and materials required and necessary for the complete electrical installation.

B. All work shall be in accordance with the latest edition of the National Electrical Code and all local codes and ordinances.

C. Electrical materials shall be new and unused, and shall be listed and labeled for the service intended by Underwriters' Laboratories, Inc., where such labeling service is available.

D. The specifications are intended to describe a complete workable system and bidders shall report any discrepancies or omissions preventing such workability prior to submission of bids.

E. The work covered by this specification shall be as indicated on the plans and called for herein, and shall be comprised generally of the following:

1. Furnish and install all conduit and wiring, raceways, panels, conductors, disconnects, etc.
2. Furnish and install all general-purpose power equipment.
3. Furnish and install feeders and branch circuits.
4. Furnish and install Sports Lighting system.

F. All equipment installed by this contractor shall be installed in strict accordance with instructions of the manufacturer.

G. Contractor shall visit the project site prior to bidding to determine existing conditions and assume all responsibility and bear all expenses in allowing for these conditions in the bid.

H. The Contractor is referred to the Architectural and Structural details for information in regards to the Architectural details. His work shall be done in strict accordance with local and state ordinances governing this class of work.

I. Because of the small scale of the Drawings, it is not possible to indicate all of the offsets, fittings, and accessories required. Contractor shall investigate the structural and finish

conditions affecting work under this Division and shall arrange such work accordingly, furnishing fittings, bends, junction boxes, pull boxes, access panels, and accessories required to meet such conditions.

J. Mounting heights of devices and equipment shall be as indicated on the plans or as noted in other sections of the specification.

a. Unless indicated otherwise, all mounting heights shall be measured from the finished floor to the centerline of the device.
b. Unless indicated otherwise, wiring devices shall be mounted to meet the requirements of the Americans with Disabilities Act (ADA): receptacles shall be mounted at 18” AFF and all types of switches shall not be mounted higher than 48” to the CL of the operating mechanism (i.e switch handle or knob).
c. Unless indicated otherwise, fire alarm manual initiation devices and fire alarm audio/visual devices shall be mounted to meet the requirements of the Americans with Disabilities Act (ADA) and NFPA 72.

1.3 REJECTED WORK AND MATERIALS

A. Should contractor introduce any materials different from those called for and described in specifications or shown on plans, it must, on notification from the engineers, be immediately removed from building or premises.

1.4 SHOP DRAWINGS

A. Before proceeding with work and/or within thirty (30) days award of the General Contract for this work, Contractor shall furnish to the Architect, complete shop and working drawings of such apparatus, equipment, controls, insulation, etc. to be provided in this project. These drawings shall give dimensions, weights, mounting data, performance curves, and other pertinent information. Shop drawings to be submitted as listed below:

1. Panels/ Panelboards
2. Disconnect Switches
3. Wiring Devices
4. Conduit and Fittings
5. Wiring and cables
6. Sports Lighting System

B. The contractor may be required to submit shop drawings on any other material he supplies in construction of this project. These drawings shall be submitted at time requested by Architect/Engineer.

C. Whenever manufacturers or trade names are mentioned in these plans or specifications, the words "or approved equivalent" shall be assumed to follow whether or not so stated. Manufacturers or trade names are used to establish a standard of quality only and should not in any way be construed to infer a preference. Equivalent products which meet the Engineer's approval will be accepted. Submit shop drawings on all items of equipment for approval as specified.

D. The Engineer's approval of shop drawings shall not relieve the Contractor from the responsibility of incorrectly figured dimensions or any other errors that may be contained in these drawings. The omissions from the shop drawings, or specifications, even though approved by the Engineer, shall not relieve this Contractor from furnishing and erecting same.

1.5 TRANSMITTAL OF ELECTRONIC DRAWING FILES

A. Electronic copies of drawing files may be transmitted to the contractor for convenience and use in the preparation of shop drawings.

B. Contractor will be required to sign a contract for transmittal of the electronic files. A service fee of $200 (One-Hundred dollars) per sheet shall be remitted to Engineer prior to delivery of the electronic files.

1.6 PRIOR APPROVALS

A. It is the contractor’s responsibility to provide equivalent fixtures to those specified. Prior approval is not required unless noted in Division 1 of these specifications.

B. Where required by the contract documents, prior approval submittals shall be submitted within ten (10) days of the bid date and in accordance with the requirements of Division 1 of these specifications.

C. Prior approval submittals will be reviewed for general conformance only. Listing of the fixtures in an addendum as “Prior Approved” does not guarantee that the fixtures will be acceptable for installation on the project.

1.7 ADDITIONS AND CHANGES

A. The contract documents are diagrammatic and show approximate location of feeders, branch circuits, light and power circuits, etc., except where specific routing or dimensions are indicated. The Architect reserves the right to make reasonable changes in locations indicated before roughing-in without additional cost to the Owner.

1.8 GUARANTEE

A. The Contractor shall be required to keep the work installed in repair and perfect working order for one year from date of completion and final acceptance; said guarantee shall be based on defective materials and substandard workmanship. Contractor shall furnish, free of cost to owner, all materials and labor necessary to comply with this guarantee.

1.9 LAWS, PERMITS AND INSPECTIONS

A. This contractor shall at his own cost obtain and pay for all necessary permits, inspections, connection charges, fees, insurance, bond, and licenses; pay all legal fees and charges; and comply with all state and municipal building and safety laws, ordinances and regulations relating to the building and the public health and safety, including NEC, NFPA, and OSHA.

B. The work shall be inspected before being permanently concealed by concrete slabs, walls, etc.

C. Contractor shall comply with L.R.S. 40:1749.13 which states that no person shall excavate or demolish without first ascertaining the location of underground utilities by serving telephonic notice to a regional notification program. In the State of Louisiana, the a regional notification program is Louisiana One Call. In order to serve notice of excavation, this program can be reached by calling 1-800-272-3020.

1.10 TESTS

A. After installation is complete and at such time as the Engineer/Architect may direct, Contractor shall conduct an operating test for approval. Equipment shall be demonstrated to operate in accordance with requirements of this specification.

B. The test shall be performed in the presence of Engineer/Architect. Contractor shall furnish all instruments and personnel required for the test.

1.11 CUTTING AND PATCHING

A. Contractor shall do all cutting and patching where necessary at his own expense with approval of the Engineers as to cutting of any structural beams or joists, but all patching shall be done by other crafts whose work is involved. After initial surfacing has been done, all further cutting, patching, and painting shall be done at contractor's expense.

1.12 SAFETY PRECAUTIONS

A. Contractor shall furnish and place proper guards for prevention of accidents. He shall provide and maintain any other necessary construction required to secure safety of life or property, including maintenance of sufficient lights during all night hours to secure such protection.

1.13 TEMPORARY ELECTRICAL SERVICE

A. Contractor shall provide and install temporary electrical service for job construction.

B. Contractor shall be responsible for acquiring the temporary electrical service from the power company and shall be responsible for all charges incurred.

1.14 SUPERVISION

A. Contractor shall personally, or through an authorized and competent representative, constantly supervise the work done from beginning to completion and final acceptance. To the best of his ability he shall keep the same foreman and workmen throughout the project duration.

B. During the progress of the work, it shall be subject to inspection by the representatives of the Engineers, and at these times, the contractor shall furnish the required information.

1.15 INSERTS AND OPENINGS

A. This contractor shall furnish and install all inserts and hangers required to support conduit, cables, wireways, disconnect switches, etc.

1.16 OPENINGS THROUGH WALLS AND FLOORS

A. Provide all slots, sleeved holes and other openings necessary through walls and floors, and through any other parts of the structure.

B. Where conduits pass through walls which are intended as rated fire walls, leave-outs, penetrations or sleeves shall be sealed so as not to interfere with the rating of the wall.

C. Where conduits pass through exterior walls, slabs on grade, or roofs; leave-outs, penetrations or sleeves shall be sealed watertight.

1.17 AS-BUILT DRAWINGS

A. The Contractor shall maintain a set of prints of the original bidding documents at the site.

D. If the Contractor elects to vary from the contract documents and secures prior approval from the architect/engineer for any phase of the work, he shall record in a neat and readable manner ALL such variances on the prints in red.

C. All deviations from sizes, locations and from all other features of the installations shown in the Contract Documents shall be recorded.

D. In addition, it shall be possible using these drawings to correctly and easily locate, identify and establish sizes of all piping, directions, and the like, as well as other features of work which will be concealed underground and/or in the finished building.

E. For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases this may be by dimension. In others, it may be sufficient to illustrate the work on the drawings in relation to the spaces in the building near which it was actually installed. Architect's/Engineer's decision in this matter will be final.

F. At the end of construction, the set of plans indicating all deviations/variances from the original design shall be returned to the Engineer for documentation. The Engineer/Architect shall be responsible for transferring the marked-up variances to the final AutoCad “As-Built” record file.

1.18 EQUIPMENT MANUALS

A. Before the date of substantial completion, Contractor shall furnish to the Architect three (3) bound sets of descriptive, dimensional, and parts data on all major items of electrical equipment and material including those items listed above under “Shop Drawings.”

B. This submittal shall also include by the final Electrical Inspection Certificate from the authority having jurisdiction and the Statement of Inspection from the State Fire Marshal's Office.

1.19 EQUIPMENT IDENTIFICATION

A. Each major item of electrical equipment shall include an engraved identification nameplate. Equipment requiring engraved identification nameplate shall include as a minimum:
- Panelboards
- Disconnect Switches
- Lighting Control Panels

B. Identification nameplates shall include the following:
- Equipment Identification as noted on the contract drawings
- Utilization Voltage of the equipment
- Where the equipment is fed from (i.e. Source of Supply)

1.20 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

B. Warning label and sign shall include, but are not limited to, the following legends:

a. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR X." The value of X shall be as required by NEC Table 110.34A.

b. Arch Flash Hazard Warning (refer to NEC 110.16 and NFPA 70E).

1.21 SYSTEMS STUDIES

A. The following electrical studies shall be performed for the project:
a. Short Circuit Study
b. Time Current Curve Study to set circuit breaker settings for optimum low arc flash performance at each item of major electrical equipment.
c. Arc Flash Study

B. The arc-flash study shall be performed for the work required under this project to produce the information required for the arc flash labels.
a. Arc Flash Labels, with energy levels, arc flash boundaries, etc. shall be installed at each item of major electrical equipment.

END OF SECTION

SECTION 16200 — BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Contractor shall provide and install all materials for complete and operational systems as listed below.

PART 2 - PRODUCTS

2.1 RACEWAYS AND FITTINGS

A. Metal raceways acceptable for use on this project shall be:
   1. Galvanized rigid steel conduit
   2. Electrical metallic tubing
   3. Intermediate metal conduit (IMC)
   4. Flexible metal conduit.
   5. Liquidtite flexible metal conduit

B. Conduit and electrical metallic tubing shall be hot dipped galvanized.

C. Non-metallic raceways acceptable for use on this project shall be:
   1. Rigid nonmetallic conduit (Schedule 40 PVC)
   2. Rigid nonmetallic conduit (Schedule 80 PVC).

2.2 WIRING

A. All conductors shall be 90 deg C THW or THHN/THWN 600 V copper. No aluminum conductors shall be installed on project.

B. All conductors #10 and smaller used for feeder and branch circuits shall be solid conductors. All conductors #8 or larger shall be stranded.

C. Connectors shall be wirenuts sized in accordance with the size and number of conductors being connected. All conductors shall be copper.

D. Splice and tap connectors shall be compatible with the conductor material and shall have mechanical strength and insulation rating equivalent to conductor.

2.3 POWER CABLING SYSTEMS

A. Pre-manufactured armored cable assemblies (i.e. BX, AC, MC, etc.) shall not be installed for branch circuits or feeders on this project.

2.4 RECEPTACLES

A. Duplex receptacles shall be NEMA 5-20R and shall be Hubbell, Leviton, GE or equivalent.

B. GFI type receptacles shall be rated 20 amperes and shall be as manufactured by Hubbell, Leviton, GE, or equivalent.

2.5 DEVICES AND COVERS

A. The colors of all devices shall be as per the Architect's selection.

B. Outdoor weatherproof covers shall be Taymac surface mount, deep cover enclosures marked “Suitable For Wet Locations While In Use.” Covers shall be specifically suited for the wiring device or combinations used.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All work shall conform to National Electric Code.

3.2 PROTECTION OF MATERIAL AND EQUIPMENT

A. All work, equipment and materials shall be protected at all times to prevent obstruction, damage or breakage. All conduit openings shall be covered and protected against dirt, water, chemical, or mechanical injury. At the completion of the work, all equipment shall be thoroughly cleaned and the entire system shall be delivered in a perfect, unblemished condition.

3.3 PAINTING

A. Equipment: All equipment shall be delivered to the job with suitable factory finish. Should the finish be marred in transit or during installation, it should be finished to present a neat, workmanlike appearance.

B. For existing buildings where new surface mounted raceways are installed, the new raceways shall be painted to match the finish of the adjacent surface on which it is secured.

3.4 CLEANING UP

A. Removal of Trash, Equipment, Etc.: Upon completion of their work, the contractor shall remove all rubbish and excess material accumulated as a result of construction; also, contractor shall remove all tools, machinery, equipment, etc.

3.5 CLEANING OF INSTALLED EQUIPMENT

A. All equipment installed under this contract shall be wiped clean of dust and debris prior to final acceptance.

3.6 RACEWAY INSTALLATION

A. Electrical metallic tubing (EMT) shall not be installed outdoors.

B. EMT fittings and connectors shall be compression type.

C. Non-metallic conduit shall not be installed indoors.

D. Non-metallic conduit shall not be installed outdoors above grade.

E. Raceway for underground wiring shall be Schedule 40 or Schedule 80 PVC.

F. Exterior conduit run above grade shall be rigid galvanized steel conduit or intermediate metal conduit with threaded fittings.

G. All empty conduits shall include a pull string.

H. Transitions between nonmetallic raceway run underground and metal conduit above grade in exterior locations shall be made underground.

3.7 WIRING METHODS

A. All wiring and cabling systems shall be installed in raceway.

B. A green insulated, copper, equipment grounding conductor sized in accordance with NEC Article 250.122 shall be included in each feeder and branch circuit conduit.

C. Conductor splices shall be kept to a minimum and no splices shall be allowed in any feeder.

D. Conductors shall be identified at all access points by color coding. On larger conductors painted or taped bands shall be used. In no case shall tags be acceptable.

END OF SECTION

SECTION 16300 — ELECTRICAL DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. Contractor shall provide all materials, labor, etc., required for a complete installation of all power wiring.

B. Contractor shall coordinate carefully with other trades to insure proper power requirements are adhered to.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Power distribution equipment shall be as manufactured by Square D, Cutler-Hammer, LS Electric, ABB, or equivalent.

B. All power distribution equipment (panelboards, transformers, disconnect switches, etc.) shall be of the same manufacturer.

2.2 ENCLOSURES

A. Enclosures for panelboards, electrical gear, transformers, etc. shall be Nema 1 for interior locations, and Nema 3R for exterior locations, unless noted otherwise.

2.3 PANELBOARDS

A. Panelboards shall be dead front, bolt-on circuit breaker type with copper bus, full rated neutral, and equipped with ground bus.

B. Circuit breakers shall be as indicated on the Contract Documents.

C. All panelboard circuits and circuit modifications shall be legibly identified as to purpose or use on a circuit directory in accordance with NFPA 70:408.4.

D. Identification: Each panelboard shall include a nameplate indicating the panelboard ID, voltage, phase, and source of supply (i.e switchboard and circuit number). Nameplate shall be affixed with stainless steel screws.

2.4 DISCONNECT SWITCHES

A. Disconnect switches shall be heavy duty type, fused or non-fused (NF) as indicated, 250 volt or 600 volt, as required by voltage of the utilizing circuit.

B. Fuses shall be Class RK5 dual element time delay for 600 amperes rating or less.

C. Identification: Each disconnect switch shall include a nameplate indicating the load served, voltage, phase, and source of supply (i.e panelboard and circuit number). Nameplate shall be affixed with stainless steel screws.

2.5 GROUNDING

A. Ground rods shall be 3/4" diameter x 10' copper clad steel.

B. Equipment grounding conductors shall be copper with 600V, THHN/THWN insulation.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The entire installation shall be in accordance with the National Electric Code.

B. Contractor shall comply with all established local codes, ordinances, etc.

3.2 GROUNDING

A. Grounding shall be in accordance with the NEC.

B. All external grounding connections made at ground rods shall be made by an exothermic welding process, Cadweld or equivalent. All other grounding connections may be made with mechanical type connectors.

C. All electrical equipment enclosures and conductor enclosures shall be grounded.

D. A separate equipment grounding conductor, sized in accordance with NEC Table 250.122, shall be provided in the conduit with all branch and feeder circuits. Conduit runs shall be increased in size where necessary to accommodate the grounding conductor.

E. Where isolated ground type receptacles are installed, a separate isolated grounding conductor shall also be run in the branch circuit raceway. The isolated grounding conductor shall be green with a yellow stripe.

F. Main electric service shall be effectively grounded in accordance with NEC Art. 250.

3.3 ELECTRIC SERVICE

A. Electric service voltage characteristics shall be as indicated on the contract drawings.

B. Contractor shall install new service in accordance with the Contract Documents and with requirements of the local utility.

C. Contractor shall include all electric utility service costs in the project bid price.

D. Contractor shall contact the utility prior to bidding and include all equipment, costs, etc. as required by the utility for the project.

END OF SECTION

SECTION 16450 – EXTERIOR ATHLETIC LIGHTING

PART 1 – GENERAL

1.1 SUMMARY

A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.

B. The purpose of these specifications is to define the lighting system performance and design standards for South Beauregard using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.

C. The sports lighting will be for the following venues:

1. Pickleball

D. The primary goals of this sports lighting project are:

1. Guaranteed Light Levels: Selection of appropriate light levels impacts the safety of players and the enjoyment of spectators. Therefore, light levels are guaranteed to not drop below specified target values for a period of 25 years.
2. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to players, spectators, and neighbors.
3. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.

1.2 LIGHTING PERFORMANCE

A. Illumination Levels and Design Factors: Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting Calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty

Area of Lighting	Average Target Illumination Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Pickleball	50 Footcandles	2:1	63	10’ x 10’

B. Color Temperature: The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.

C. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mountings heights shall be as described below. Higher mounting heights may be required based on photometric report and ability to ensure the top of the field angle is a minimum of 10 degrees below horizontal.

# of Poles	Pole Designation	Pole Height
3	P1-P3	50’

1.3 ENVIRONMENTAL LIGHT CONTROL

A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers, and external shields. No symmetrical beam patterns are accepted.

B. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

	Maximum
Horizontal Footcandles	.001 fc
Vertical Footcandles	.01 fc
Candela	320 cd

C. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be provided in 30-foot intervals along the boundary line. Readings shall be taken with he meter orientation at both horizontal and aimed towards the most intense bank of lights. Illumination level shall be measured in accordance with eh IESNA LM-5-04 after 1 hour warm up.

D. Sample Photometry: The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer’s laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.

PART 2 – PRODUCT

2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION

A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.

B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical

components enclosure.

C. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and cross-arm assembly.
2. Non-approved pole technology:
    a. Square static cast concrete poles will not be accepted.
    b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
    a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
    b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-enforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
4. Manufacturer will supply all drivers and supporting electrical equipment.
    a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral drivers are not allowed.
    b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.
5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
7. Control cabinet to provide remote on-off control and monitoring features of the lighting system. See Section 2.3 for further details.
8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.
    a. Integrated grounding via concrete encased electrode grounding system.
    b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780.The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.
9. Enhanced corrosion protection package: Due to the potentially corrosive environment for this project, manufacturers must provide documentation that their products meet the following

enhanced requirements in addition to the standard durability protection specified above:

a) Exposed carbon steel horizontal surfaces on the crossarm assembly shall be galvanized to no less than a five (5) mil average thickness.

b) Exposed die cast aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.

c) Exposed extruded aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.

D. Safety: All system components shall be UL listed for the appropriate application.

2.2 ELECTRICAL

A. Electric Power Requirements for the Sports Lighting Equipment:
1. Electric power: 240 Volt, 1 Phase
2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

B. Energy Consumption: The kW consumption for the field lighting system shall be 12 kW, or less.

2.3 CONTROL

A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.

B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.

C. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, email)

D. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute “early off” commands by phone. Scheduling tool shall be capable of setting curfew limits.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

E. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).

F. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS and Android devices.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field

lighting system that is readily accessible to the owner.

1. Cumulative hours: shall be tracked to show the total hours used by the facility.
2. Report hours saved by using early off and push buttons by users.

G. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years.

H. Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.

2.4 STRUCTURAL PARAMETERS

A. Wind Loads: Wind loads shall be based on the 2021 International Building Code. Wind loads to be calculated using ASCE 7-16, an ultimate design wind speed of 130 and exposure category C.

B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2013 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).

C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report. If no geotechnical report is available the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2021 IBC Table 1806.2.

D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

A. It shall be the Contractor’s responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner’s approval / payment for additional costs associated with:

1. Providing engineered foundation embedment design by a registered engineer in the State of Louisiana for soils other than specified soil conditions;
2. Additional materials required to achieve alternate foundation;
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

A. Delivery Timing Equipment On-Site: The equipment must be on-site 8-10 weeks from receipt of approved submittals and receipt of complete order information.

3.3 FIELD QUALITY CONTROL

A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.

B. Field Light Level Accountability

1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.

C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.

B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

PART 4 – DESIGN APPROVAL

4.1 PRE-BID SUBMITTAL REQUIREMENTS (Non-Musco)

A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.0.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.

B. Approved Product: Musco's Light-Structure System™ with TLC for LED® is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.

C. All listed manufacturers not pre-approved shall submit the information at the end of this section at least 10 days prior to bid. An addendum will be issued prior to bid; listing approved lighting manufacturers and the design method to be used.

D. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner's representative. Bids received that do not utilize an approved system/design, will be rejected.

Enos Derbonne Sports Complex Outdoor Pickleball Courts
Lake Charles Ward 3 Recreation
Lake Charles, Louisiana

REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS PRIOR TO BID

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. ***Submit checklist below with submittal.***

Yes / No	Tab	Item	Description
	A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
	B	Equipment Layout	Drawing(s) showing field layouts with pole locations
	C	On Field Lighting Design	Lighting design drawing(s) showing: a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaries, total kilowatts, average tilt factor; light loss factor.
	D	Off Field Lighting Design	Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights.
	E	Photometric Report	Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience.
	F	Performance Guarantee	Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed to not fall below target levels for warranty period.
	G	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of Louisiana, if required by owner.
	H	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system. They will also provide ten (10) references of customers currently using proposed system in the state of Louisiana.
	I	Electrical Distribution Plans	Manufacturer bidding an alternate product must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of Louisiana.
	J	Warranty	Provide written warranty information including all terms and conditions. Provide ten (10)

			references of customers currently under specified warranty in the state of Louisiana.
	K	Project References	Manufacturer to provide a list of 10 projects where the technology and specific fixture proposed for this project has been installed in the state of Louisiana. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number.
	L	Product Information	Complete bill of material and current brochures/cut sheets for all products being provided.
	M	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.
	N	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.

The information supplied herein shall be used for the purpose of complying with the specifications for South Beauregard. By signing below, I agree that all requirements of the specifications have been met and that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in the Non-Compliance section.

Manufacturer: _____ **Signature:** _____

Contact Name: _____ **Date:** _____/_____/_____

Contractor: _____ **Signature:** _____

SECTION 321824 – CONCRETE TENNIS COURT SURFACE COATING

PART 1 - GENERAL

1.1 GENERAL

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

1.2 SUMMARY

A. Work Included

1. This work includes furnishing and installing New Acrylic surfacing and striping for concrete or asphalt tennis courts and basketball courts.

B. Description of System and General Conditions

1. This Specification shall define the Color Coating system application and striping applications for outdoor concrete or asphalt tennis courts and basketball courts. All work required for Sub-base construction, drainage, fencing, and concrete is outlined in the specification of the American Sports Builders Association, (USTC & TBA). All courts must be applied by method of squeegee and must be applied by an experienced installer. Each coat must be fully cured before applying additional coats. The result will be a durable, resilient, all-weather surface.

1.3 CODES AND STANDARDS

1. Codes and Standards follow the current guidelines set forth by the National Federation of State High School Associations (NFSHSA), the National Collegiate Athletic Association (NCAA), International Tennis Federation (ITF), and the American Sports Builders Association (ASBA)

1.4 CONTRACTORS PRE-QUALIFICATION REQUIREMENTS

A. Contractor must have been in business for minimum of (5) years, must have experience with similar projects, and must provide Owner with list of at least (5) similar jobs completed within the last 5 years.
B. Contractor must be a member in good standing with the American Sports Builders Association. (ASBA) This is to ensure that the contractor has met the requirements set forth to be able to perform this specialty work.
C. Contractor must be licensed in the state in which the work is to be performed and entitled to practice the following classifications: Tennis courts and Athletic tracks.
D. The synthetic surfacing material manufacturer shall submit a letter stating that the surfacing contractor is qualified to install its synthetic surface products and systems.

1.5 CONTRACTORS RESPONSIBILITY

A. Furnish owner with an estimated start date.
B. Start and complete project in a timely manner as specified in the contract documents

C. Furnishing all labor, materials, equipment and taxes to fully execute job.
D. Furnish and maintain temporary flagging and barricades as required to protect employees and public at all times.
E. Daily clean-up of trash and debris.
F. Contractor must carry proper insurance. (A 30-day cancellation notification shall apply to all policies).

1.6 WARRANTY

A. All surfacing materials and labor shall be warranted for a period of no less than one (1) year.

1.7 APPROVED MANUFACTURER/INSTALLER

A. Quality Court Industries
5661 Brownfields Dr.
Baton Rouge, LA 70811
225-774-9974 – Phone
225-774-9984 – Fax
www.qualitycourt.com

PART 2 - MATERIALS FOR COLOR COATING SYSTEM

2.1 APPROVED MATERIALS

A. Epoxy Primer
B. Concrete Primer
C. Patch Binder – (Latex cement additive)
D. Acrylic Crack filler
E. Acrylic Resurfacer
F. Color Concentrate – (paint)
G. Textured Line Paint
H. Silica Sand – 80 - 120 Mesh
I. Water – Clean and Fresh

PART 3 - SURFACING PROCEDURES

3.1 SURFACE PREPARATION

1. The surface to be coated must be sound, have adequate drainage, and must be washed to remove any dirt, grease, dust, and or any delaminated areas. All patching must be completed before surfacing materials are applied. All concrete must be cured for a period of 30 days prior to surfacing. Surface drainage must be. minimum of 0.56% (1” per 15’ slope) up to a maximum of 0.83% (1” per 10’).

3.2 ACID ETCHING

1. NEW Concrete slabs must be etched with Phosphoric or Muriatic Acid. Acid must be mixed properly and applied with a broom to ensure proper etching. Acid shall remain on slab until all etching is complete. Acid shall be completely pressure washed off immediately after etching.

3.3 FLOODING AND PATCHING

1. Slab must be flooded to expose birdbaths (areas that hold water). Flood slab, then allow slab to drain for 1 hour in warm sunny conditions, more time must be allowed during colder overcast conditions. After proper draining, mark all birdbaths that are greater than 1/8" (nickel depth). All birdbaths must be patched using approved Court Patch Binder Mix. All areas that need patching shall be primed first. Adequate parts of patch binder, silica sand, and Portland cement shall be blended together and applied for a resilient patch. All patches shall blend into existing slab. Some sanding may be required for blending. Fill all cracks with approved tennis court crack filler. Bad cracks may need to be coated with Acrylic Re-surfacer before surfacing materials are applied.

3.4 PRIME COAT (ON NEW SLABS) – AS PER MANUFACTURES RECOMMENDATIONS

A. All typical slabs must be primed by mixing 1part concrete primer to 2 parts water. Primer must be applied with a broom to ensure proper priming. Primer should not Be allowed to puddle. All non typical slabs that do not have a moisture barrier, or That do not have a broom textured finish, or that have flyash In the concrete mix design, must use an epoxy primer. Epoxy Primer must be applied with a roller, or spray applied using An airless sprayer.

3.5 ACRYLIC RESURFACER - BASE COAT (ONE COAT NEW CONCRETE COURTS, OR EXISTING COURTS. TWO COATS REQUIRED FOR ALL NEW ASPHALT COURTS OR EXTREMELY ROUGH COURTS).

A. Apply one coat of Acrylic Resurfacer – as per manufactures recommendations, to improve the look and planarity of the slab, provide a tight blemish free base, and to provide better adhesion for the paint surface. Adequate parts of sand, water, and Acrylic Resurfacer shall be blended together to provide a resilient base. Acrylic Resurfacer shall be applied by method of squeegee at a rate of .04 - .06 gallons per sq./yd. for the purpose of filling in small pits and covering small voids. (Slab shall be scraped between all coats to remove trash that may collect while applying)
IMPORTANT: (2) COATS OF ACRYLIC RESURFACER MAY BE REQUIRED ON NEW ASPHALT COURTS, OR ON ANY COURT THAT HAS A ROUGH TEXTURE. THE OWNER SHALL DECIDE HOW MANY COATS ARE REQUIRED PRIOR TO BID.

3.6 PAINT SURFACING

A. Apply two coats of Color Concentrate (Tennis Court Paint). Adequate parts of sand, water, and Color Concentrate shall be blended together to provide a resilient surface. Paint shall be applied by method of squeegee at a rate of .04 - .05 gallons per sq/yd for the purpose of filling in small pits and covering small voids. Allow enough time for paint coats to thoroughly dry before recoating. (Slab may need to be scraped before applying second coat of paint)

3.7 LINE STRIPING

A. Apply two coats of textured line paint after final surfacing coat is thoroughly dried. Lines must be 2” in width and shall conform to the regulations set forth by the American Sports Builders Association (USTC & TBA).

3.8 LOGOS AND GRAPHICS

A. Install new logos on court as per drawings.

PART 4 - COLOR

4.1 COLOR OF COURTS.

A. Standard Colors are as follows: Dark Green, Medium Green, Grass Green, Red, Beige, Dark Blue, Light blue, Pro blue, Burgundy. See QCI color chart. Specialty colors can be made upon request. Color will be chosen by owner or owner’s representative and must be made a minimum of 72 hours before bid date.

4.2 COLOR LAYOUTS AND SCHEME

A. Owner to choose prior to bid

PART 5 - LIMITATIONS

5.1 MATERIAL LIMITATIONS

A. Surfacing materials shall not be applied when temperatures are below 50`F or if temperatures are above 130`F. Do not apply material if slab is wet or if rain is apparent. Do not install materials if Freezing weather is apparent. Do not store materials in direct sunlight. Do not allow material to freeze. Keep containers sealed until use.

END OF SECTION 321824