



**CONTRACT DOCUMENTS AND
SPECIFICATIONS
FOR**

JACKIE ROBINSON TRAINING COMPLEX - VILLAS REMODEL

BID NO. 2022009

PROJECT NO. IRC-1914A

PREPARED FOR
THE BOARD OF COUNTY COMMISSIONERS
INDIAN RIVER COUNTY, FLORIDA

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SECTION 00100 – Advertisement for Bids

BOARD OF COUNTY COMMISSIONERS

1801 27th Street
Vero Beach, Florida 32960



**ADVERTISEMENT FOR BIDS
INDIAN RIVER COUNTY**

Sealed bids will be received by Indian River County until **2:00 P.M. on Thursday, September 30, 2021**. Each bid shall be submitted in a sealed envelope and shall bear the name and address of the bidder on the outside and the words "**Jackie Robinson Training Complex – Villas Remodel** and **Bid No. 2022009**". Bids should be addressed to Purchasing Division, Room B1-301, 1800 27th Street, Vero Beach, Florida 32960. All bids will be opened publicly and read aloud at 2:00 P.M. All bids received after 2:00 P.M., on the day specified above, will not be accepted or considered.

**INDIAN RIVER COUNTY PROJECT NO. IRC-1914A
INDIAN RIVER COUNTY BID NO. 2022009**

PROJECT DESCRIPTION: *Project consists of interior renovations to 57 existing hotel-style rooms located at Jackie Robinson Training Complex. These renovations include the removal and replacement of floor coverings, patching and selected replacement of dry wall ceilings, removal of popcorn ceilings, the removal and replacement of front windows, HEPA vacuum and clean all surfaces to rid space of mold. Project is also to include the removal of existing HVAC duct work above the ceiling, and installation of new insulated, fire rated attic access panels.*

All material and equipment furnished and all work performed shall be in strict accordance with the plans, specifications, and contract documents pertaining thereto. Detailed specifications are available at: www.demandstar.com or at www.ircgov.com/departments/budget/purchasing under "Current Solicitations".

All bidders shall submit one (1) original and one (1) copy of the Bid Proposal forms provided within the specifications. Please note that the questionnaire must be filled out completely including the financial statement. BID SECURITY must accompany each Bid, and must be in the form of an AIA Document A310 Bid Bond, properly executed by the Bidder and by a qualified surety, or a certified check or a cashier's check, drawn on any bank authorized to do business in the State of Florida. Bid Security must be in the sum of not less than **Five Percent (5%)** of the total amount of the bid, made payable to Indian River County Board of County Commissioners. In the event

Advertisement for Bids - 00100 - 1

the Contract is awarded to the Bidder, Bidder will enter in a Contract with the County and furnish the required 100% Public Construction Bond and certificates of insurance within the timeframe set by the County. If Bidder fails to do so, the Bid Security shall be retained by the County as liquidated damages and not as penalty.

The County reserves the right to delay awarding of the Contract for a period of **ninety (90)** days after the bid opening, to waive informalities in any bid, or reject any or all bids in whole or in part with or without cause/or to accept the bid that, in its judgement, will serve the best interest of Indian River County, Florida. The County will not reimburse any Bidder for bid preparation costs.

A (**MANDATORY**) Pre-Bid Conference will be held on **Wednesday, September 15, 2021 at 10:00 A.M.**, in the first-floor conference room of the Indian River County Administration Building located at 1801 27th Street, Vero Beach, Florida, 32960. ATTENDANCE AT THIS CONFERENCE IS REQUIRED. No bidder arriving after the meeting has begun will be allowed to sign in.

INDIAN RIVER COUNTY

By: Jennifer Hyde
Purchasing Manager

For Publication in the Indian River Press Journal

Date: **August 29, 2021**

For: Indian River Press Journal

Please furnish tear sheet and Affidavit of Publication to:

INDIAN RIVER COUNTY
PURCHASING DIVISION
1800 27th Street
Building "B"
Vero Beach, FL 32960

**** END OF SECTION ****

SECTION 00200 – Instructions to Bidders

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SECTION 00200 - Instructions to Bidders

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SECTION 00200 - Instructions to Bidders

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

- A. Bidder--The individual or entity who submits a Bid directly to OWNER.
- B. Issuing Office--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- C. Successful Bidder--The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.
- D. ENGINEER – References County Engineer or their designee.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids or Invitation to Bid may be obtained from the Issuing Office.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, within five days of OWNER's request Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
 - A. Bidder must have at least five years' experience in the construction of similar projects of this size and larger.
 - B. Bidder must have successfully constructed, as prime CONTRACTOR, at least three projects similar in scope to this project.
 - C. Bidder must have good recommendations from at least three clients similar to the OWNER.
 - D. The Bidder's superintendent and assistants must be qualified and experienced in similar projects in all categories.
 - E. Bidder must be able to provide evidence of authority to conduct business in the jurisdiction in which the project is located.

- 3.02 Each bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.
- 3.03 The OWNER reserves the right to reject bids from Bidders that are unable to meet the listed required qualifications.
- 3.04 Bidder must be registered with and use, at their sole expense, the Department of Homeland Security's E-Verify system (www.e-verify.gov) to confirm the employment eligibility of all newly hired employees, as required by Section 448.095, F.S.. Owner, contractor, and subcontractors may not enter into a contract unless each party to the contract registers with and uses the E-Verify system. Contractor is responsible for obtaining proof of E-Verify registration for all subcontractors. This requirement applies to any provider of services or goods.
- 3.05 Bidder must hold a current registration as a General Contractor in the State of Florida.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 Subsurface and Physical Conditions

A. The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Bidding Documents.
2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in paragraph 4.01.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in paragraph 4.02 of the General Conditions has been identified and established in paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

4.02 Underground Facilities

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by OWNERS of such Underground Facilities, including OWNER, or others.

4.03 Hazardous Environmental Condition

A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in paragraph 4.03.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in paragraph 4.06 of the General Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in paragraph 4.06 of the General Conditions.

4.05 Upon a request directed to the Purchasing Division (purchasing@ircgov.com or (772) 226-1416), OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.06 “This paragraph has been deleted intentionally”

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;

B. VISIT THE SITE AND BECOME FAMILIAR WITH AND SATISFY BIDDER AS TO THE GENERAL, LOCAL, AND SITE CONDITIONS THAT MAY AFFECT COST, PROGRESS, AND PERFORMANCE OF THE WORK;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;

D. carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and carefully study all reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions;

E. obtain and carefully study (or assume responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (overhead, surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder; and

J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01 The date, time, and location for the **MANDATORY** Pre-Bid conference, is specified in the Advertisement for Bids. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are **REQUIRED** to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 CONE OF SILENCE. Potential bidders and their agents shall not communicate in any way with the Board of County Commissioners, County Administrator or any County staff other than Purchasing personnel in reference or relation to this solicitation. This restriction shall be effective from the time of bid advertisement until the Board of County Commissioners meets to authorize award. Such communication may result in disqualification.

7.02 All questions about the meaning or intent of the Bidding Documents are to be submitted to PURCHASING (purchasing@ircgov.com) in writing. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties through the Issuing Office as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.03 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

ARTICLE 8 - BID SECURITY

8.01 Each Bid must be accompanied by Bid Security made payable to OWNER in the amount of five percent of the Bidder's maximum base bid price and in the form of a certified check; cashier's check; or an AIA Document A310 Bid Bond issued by a surety meeting the requirements of Paragraph 5.01 of the General Conditions. The Bid Bond shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. The Surety must be authorized to issue surety bonds in Florida. The Bidder shall require the attorney-in-fact who executes any Bond, to affix to each a current certified copy of their Power of Attorney, reflecting such person's authority as Power of Attorney in the State of Florida. Further, at the time of execution of the Contract, the Successful Bidder shall for all Bonds, provide a copy of the Surety's current valid Certificate of Authority issued by the United States Department of the Treasury under 31 United States Code sections 9304-9308. The Surety shall also meet the requirements of paragraphs 5.01 and 5.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be retained by the owner. The Bid Security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 91 days after the Bid opening, whereupon Bid Security furnished by such Bidders will be returned.

8.03 Bid Security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of calendar days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions and may be supplemented in the General Requirements.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 6.06 of the General Conditions.

12.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid form is included with the Bidding Documents. Only the bid form provided by OWNER is acceptable (Bidders are not to recreate the bid form). ***Bids not submitted on the bid form(s) shall be rejected, as will bids submitted on rewritten or recreated bid forms.***

13.02 All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturor in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.

13.10 The address and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number or county registration number for the state or county of the Project, if any, shall also be shown on the Bid form.

13.12 All supporting information requested in the Bid Form must be furnished. Do not leave any questions or requests unanswered.

13.13 In accordance with Florida Statutes Section 218.80, the "Public Bid Disclosure Act", Indian River County as OWNER is obligated to disclose all license, permit, impact, or inspection fees that are payable to Indian River County in connection with the construction of the Work by the accepted bidder. ***The anticipated cost of the permit fees due to the Indian River County Building Division have been paid by the Owner based on the Engineer's cost estimate. Any additional fees due when permit is picked up by the Contractor shall be the responsibility of the Owner.***

13.14 CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to perform additional work not covered on the Contract Drawings. The **FORCE ACCOUNT** is intended as a contingency for unforeseen work. Lump sum amount for **FORCE ACCOUNT** work is included in the bid schedule. The value of force account work will be determined in accordance with Article 12 of the General Conditions.

ARTICLE 14 - BASIS OF BID; EVALUATION OF BIDS

14.01 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

14.03 The Bidder's attention is called to the fact that any estimate of quantities of work to be done and materials to be furnished under the Specifications as shown on the Bid Schedule, or elsewhere, is approximate only and not guaranteed. The OWNER does not assume any responsibility that the final quantities shall remain in strict accordance with the estimated quantities, nor shall the Bidder plead misunderstanding or deception because of such estimate of quantities or of the character, location of the work, or other conditions pertaining thereto.

ARTICLE 15 - SUBMITTAL OF BID

15.01 The Bid form is to be completed and submitted with the Bid security and the following data:

- A. Sworn Statement under Section 105.08, Indian River County Code, on Disclosure of Relationships.
- B. Qualifications Questionnaire.
- C. List of Subcontractors.
- D. Certification Regarding Prohibition Against Contracting with Scrutinized Companies

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project Title and Bid Number (and, if applicable, the designated portion of the

Project for which the Bid is submitted), Bid Number, the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If mail or other delivery system sends a Bid, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to Indian River County, Purchasing Division, 1800 27th Street, Vero Beach, Florida, 32960.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - AWARD OF CONTRACT

19.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsive. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all technicalities and informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder. The County will not reimburse any Bidder for bid preparation costs. Owner reserves the right to cancel the award of any Contract at any time before the execution of such Contract by all parties without any liability to the Owner. For and in consideration of the Owner considering Bids submitted, the Bidder, by submitting its Bid, expressly waives any claim to damages, of any kind whatsoever, in the event the Owner exercises its right to cancel the award in accordance herewith.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

19.07 OWNER has no local ordinance or preferences, as set forth in FS 255.0991 (2) in place, therefore no preference prohibited by that section will be considered in the acceptance, review or award of this bid.

19.08 Any actual or prospective bidder or proposer who is aggrieved in connection with the bidding and/or selection process may protest to the OWNER's Purchasing Manager. The protest shall be submitted in writing to the Purchasing Manager within seven (7) calendar days after the bidder or proposer knows or should have known of the facts giving rise to the protest.

19.09 CONTRACTOR certifies that it and its related entities as defined by Florida law are not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 of the Florida Statutes, and are not engaged in a boycott of Israel. In addition, if this agreement is for goods or services of one million dollars or more, CONTRACTOR certifies that it and its related entities as defined above by Florida law are not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473 of the Florida Statutes and are not engaged in business operations in Cuba or Syria.

OWNER may terminate this Contract if CONTRACTOR is found to have submitted a false certification as provided under section 287.135(5), Florida Statutes, been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria, as defined by section 287.135, Florida Statutes.

OWNER may terminate this Contract if CONTRACTOR, including all wholly owned subsidiaries, majority-owned subsidiaries, and parent companies, that exist for the purpose of making profit, is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel as set forth in section 215.4725, Florida Statutes.

Accordingly, firms responding to this solicitation shall return with their response an executed copy of the attached "Certification Regarding Prohibition Against Contracting With Scrutinized Companies." Failure to return this executed form with submitted bid/proposal/statement of

qualifications will result in the response being deemed non-responsive and eliminated from consideration.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to Public Construction Bond and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by the required insurance certificate(s) and Bond, unless the Bond has been waived due to the total contract being less than \$100,000.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within fifteen (15) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER.

21.02 OWNER shall return one fully signed counterpart to Successful Bidder.

21.03 Should Bidder to whom the Contract has been awarded refuse or fail to complete the requirements of Article 21.01 above, the additional time in calendar days, required to correctly complete the documents will be deducted, in equal amount, from the Contract time. Or, the OWNER may elect to revoke the Award and the OWNER shall hold the Bid Bond for consequential damages incurred, and the Contract may be awarded as the OWNER desires.

*** * END OF SECTION * ***

SECTION 00300 – Bid Package Contents

THIS PACKAGE CONTAINS:

<u>SECTION TITLE</u>	<u>SECTION NUMBER</u>
Bid Form	00310
Bid Bond	00430
Sworn Statement on Disclosure of Relationships	00452
Qualifications Questionnaire	00456
List of Subcontractors	00458
Certification Regarding Prohibition Against Contracting with Scrutinized Companies	00460

SUBMIT ONE (1) ORIGINAL AND ONE (1) COPY OF THIS COMPLETE PACKAGE WITH YOUR BID

**** END OF SECTION ****

SECTION 00310 – Bid Form

PROJECT IDENTIFICATION:

Project Name: **JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL**

County Project Number: **IRC-1914A**

Bid Number: **2022009**

Project Address: **3901 26th Street, Vero Beach, FL. 32960**

Project Description: ***Project consists of interior renovations to 57 existing hotel-style rooms located at Jackie Robinson Training Complex. These renovations include the removal and replacement of floor coverings, patching and selected replacement of dry wall ceilings, removal of popcorn ceilings, the removal and replacement of front windows, HEPA vacuum and clean all surfaces to rid space of mold. Project is also to include the removal of existing HVAC duct work above the ceiling, and installation of new insulated, fire rated attic access panels.***

THIS BID IS SUBMITTED TO:

INDIAN RIVER COUNTY
1800 27th Street
VERO BEACH, FLORIDA 32960

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged.

Addendum Date

Addendum Number

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

[The remainder of page intentionally left blank]

ITEMIZED BID SCHEDULE

PROJECT NAME: JACKIE ROBINSON TRAINING COMPLEX - VILLAS REMODEL

PROJECT NO. IRC-1914A

BID NO. 2022009

BIDDER'S NAME _____

Item No.	Description	Unit	Unit Price	Quantity	Amount
1	MOBILIZATION	LS		1	
2	PUBLIC CONSTRUCTION BOND	LS		1	
3	REMOVE CLEAN, AND REINSTALL EXISTING FURNITURE, PROVIDE STORAGE AS NECESSARY	LS		1	
4	325 SF VILLA ROOM REMODEL - WORK INCLUDES CLEANING OF ALL HARD SURFACES, REMOVAL OF CARPET AND TILE IN LIVING AREA, FURNISH AND INSTALL LVT FLOORING, REMOVE AND REPLACE ANY MOLD OR WATER DAMAGED DRYWALL CEILINGS AND WALLS, AS INDICATED ON PLANS, PAINTING OF ALL WALLS, AND TEXTURING OF MAIN AREA CEILING	EA		2	
5	400 SF VILLA ROOM REMODEL - WORK INCLUDES CLEANING OF ALL HARD SURFACES, REMOVAL OF CARPET AND TILE IN LIVING AREA, FURNISH AND INSTALL LVT FLOORING, CUT EXISTING BULKHEADS DOWN TO 8" BELOW CEILING, REMOVE AND REPLACE ANY MOLD OR WATER DAMAGED DRYWALL CEILINGS AND WALLS, AS INDICATED ON PLANS, PAINTING OF ALL WALLS, AND TEXTURING OF MAIN AREA CEILING	EA		48	
6	620 SF VILLA SUITE REMODEL - WORK INCLUDES CLEANING OF ALL HARD SURFACES, REMOVAL OF CARPET AND TILE IN LIVING AREA AND BEDROOM, FURNISH AND INSTALL LVT FLOORING, CUT EXISTING BULKHEADS DOWN TO 8" BELOW CEILING, REMOVE AND REPLACE ANY MOLD OR WATER DAMAGED DRYWALL CEILINGS AND WALLS, AS INDICATED ON PLANS, PAINTING OF ALL WALLS, AND TEXTURING OF MAIN LIVING AREA AND BEDROOM CEILING	EA		7	
7	WINDOWS 6'-2" X 4'-0"	EA		90	
8	EXHAUST FAN	EA		52	
9	EXTERIOR DOOR WEATHER STRIPPING	EA		57	
10	REPAIR CRACKED AND SPALLED STUCCO AT DOOR THRESHOLDS	EA		20	
11	REPAIR RUSTESTED TAPCON SCREWS IN EXTERIOR DOOR FRAMES	PR		50	
12	REPLACE RUSTED FASTENERS AT DOOR CLOSERS WITH STAINLESS STEEL HARDWARE	EA		10	
13	INSULATION BAFFLES	EA		667	
14	SOFFIT VENTS	EA		667	
15	ATTIC ACCESS HATCH	EA		55	

PROJECT NAME: JACKIE ROBINSON TRAINING COMPLEX - VILLAS REMODEL

PROJECT NO. IRC-1914A

BID NO. 2022009

BIDDER'S NAME _____

Item No.	Description	Unit	Unit Price	Quantity	Amount
16	ABANDONED A/C DUCT WORK (REMOVE)	PR		44	
17	BLOWN IN INSULATION (R-27) IN ALL VILLA BUILDINGS	LS		1	
18	REMOVE A/C REGISTERS AND PATCH CEILING	EA		110	
19	REMOVE EXISTING T-111 SIDING FROM BELOW FRONT WINDOW, INSTALL INSULATION AND PROVIDE NEW VAPOR BARRIER	EA		87	
20	RECUALK EXISTING BATHROOM WINDOWS	EA		87	
21	REPAIR SPALLED STUCCO AND CONCRETE AT THRESHOLD	EA		20	
JRTC VILLAS REMODEL			SUB-TOTAL		
FORCE ACCOUNT					\$300,000.00
TOTAL BID AMOUNT (INCLUDING FORCE ACCOUNT)			TOTAL		

TOTAL PROJECT BID AMOUNT IN WORD _____

SF = Square Foot LS = Lump Sum EA = Each PR = Per Room

ALTERNATE "A" ASBESTOS ABATEMENT

Item No.	Description	Unit	Unit Price	Quantity	Amount
1A	REMOVE ASBESTOS CONTAINING POPCORN CEILING - 325 SF ROOM	PR		10	
2A	REMOVE ASBESTOS CONTAINING POPCORN CEILING - 400 SF ROOM	PR		67	
3A	REMOVE ASBESTOS CONTAINING POPCORN CEILING - 620 SF ROOM	PR		10	
SUB-TOTAL					
TOTAL OPTIONAL/ALTERNATE BID					

ALTERNATE "B" ASBESTOS ENCAPSULATION

Item No.	Description	Unit	Unit Price	Quantity	Amount
1A	APPLY SPECIAL PAINT TO ENCAPSULATE ASBESTOS CONTAINING POPCORN CEILING - 325 SF ROOM	PR		10	
2A	APPLY SPECIAL PAINT TO ENCAPSULATE ASBESTOS CONTAINING POPCORN CEILING - 400 SF ROOM	PR		67	
3A	APPLY SPECIAL PAINT TO ENCAPSULATE ASBESTOS CONTAINING POPCORN CEILING - 620 SF ROOM	PR		10	
SUB-TOTAL					
TOTAL OPTIONAL/ALTERNATE BID					

PROJECT NAME: JACKIE ROBINSON TRAINING COMPLEX - VILLAS REMODEL

PROJECT NO. IRC-1914A

BID NO. 2022009

BIDDER'S NAME _____

ALTERNATE "C" ASBESTOS ENCAPSULATION

Item No.	Description	Unit	Unit Price	Quantity	Amount
1A	COVER POPCORN CEILING WITH 1/4" THICK GYPSUM BOARD AND APPLY TEXTURE - 325 SF ROOM	PR		10	
2A	COVER POPCORN CEILING WITH 1/4" THICK GYPSUM BOARD AND APPLY TEXTURE - 400 SF ROOM	PR		67	
3A	COVER POPCORN CEILING WITH 1/4" THICK GYPSUM BOARD AND APPLY TEXTURE - 620 SF ROOM	PR		10	
SUB-TOTAL					
TOTAL OPTIONAL/ALTERNATE BID					

ALTERNATE "D" A/C CHANGE OUT

Item No.	Description	Unit	Unit Price	Quantity	Amount
1A	REMOVE EXISTING MINI-SPLIT A/C SYSTEM	EA		57	
2A	PATCH WALL AS REQUIRED BY A/C REMOVAL	LS		1	
3A	INSTALL PTAC A/C UNITS BELOW FRONT WINDOW	EA		57	
4A	INSTALL ELECTECTRIC FOR NEW PTAC (PACKAGED TERMINAL AIR CONDITIONER) UNITS	EA		57	
SUB-TOTAL					
TOTAL OPTIONAL/ALTERNATE BID					

NOTE: IF THERE IS A DISCREPANCY BETWEEN THE PLANS (SUMMARY OF PAY ITEMS) AND THE ITEMIZED BID SCHEDULE. THE BID SCHEDULE WILL BE UTILIZED FOR BIDDING PURPOSES.

5.01 Bidder shall complete the Work in accordance with the Contract Documents for the price(s) contained in the Bid Schedule:

- A. The Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- B. The Owner reserves the right to omit or add to the construction of any portion or portions of the work heretofore enumerated or shown on the plans. Furthermore, the Owner reserves the right to omit in its entirety any one or more items of the Contract without forfeiture of Contract or claims for loss of anticipated profits or any claims by the Contractor on account of such omissions.
- C. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided. The quantities actually required to complete the contract and work may be less or more than so estimated, and, if so, no action for damages or for loss of profits shall accrue to the Contractor by reason thereof.
- D. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

6.01 Bidder agrees that the Work will be substantially completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified, which shall be stated in the Agreement.

7.01 The following documents are attached to and made a condition of this Bid:

- A. Itemized Bid Schedule;
- B. Required Bid security in the form of _____;
- C. Sworn Statement under Section 105.08, Indian River Code, on Disclosure of Relationships;
- D. Qualifications Questionnaire;
- E. List of Subcontractors;
- F. Certification Regarding Prohibition Against Contracting with Scrutinized Companies

8.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on _____, 20__.

State Contractor License No. _____

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____
(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

Date of Qualification to do business is _____.

A Joint Venture

Joint Venture Name: _____ (SEAL)

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

Joint Venture Name: _____ (SEAL)

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

Phone and FAX Number, and Address for receipt of official communications:

(Each joint venturor must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

**** END OF SECTION ****

SECTION 00430 – Bid Bond

AIA DOCUMENT A310 BID BOND

The Contractor shall use the document form entitled “AIA Document A310 Bid Bond.”

END OF SECTION

SECTION 00452 – Sworn Statement on Disclosure of Relationships

**SWORN STATEMENT UNDER SECTION 105.08, INDIAN RIVER COUNTY CODE,
ON DISCLOSURE OF RELATIONSHIPS**

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement MUST be submitted with Bid, Proposal or Contract No. 2022009

for JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

2. This sworn statement is submitted by: _____

(Name of entity submitting Statement)

whose business address is:

3. My name is _____

(Please print name of individual signing)

and my relationship to the entity named above is _____

4. I understand that an “affiliate” as defined in Section 105.08, Indian River County Code, means:

The term “affiliate” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of the entity.

5. I understand that the relationship with a County Commissioner or County employee that must be disclosed as follows:

Father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, daughter-in-law, son-in-law, brother-in-law, sister-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, or grandchild.

6. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. [Please indicate which statement applies.]

_____ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, have any

relationships as defined in section 105.08, Indian River County Code, with any County Commissioner or County employee.

_____The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents, who are active in management of the entity have the following relationships with a County Commissioner or County employee:

Name of Affiliate or entity	Name of County Commissioner or employee	Relationship
<hr/>		
<hr/>		
<hr/>		

(Signature)

(Date)

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this _____ day of _____ 20____, by _____
(name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced _____ as identification.

SECTION 00456 – QUALIFICATIONS QUESTIONNAIRE

NOTICE: THE OWNER RETAINS THE DISCRETION TO REJECT THE BIDS OF NON-RESPONSIBLE BIDDERS.

Documentation Submitted with Project No: IRC-1914A

Project Name: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

1. Bidder's Name / Address: _____

2. Bidder's Telephone & FAX Numbers: _____

3. Licensing and Corporate Status:
 - a. Is Contractor License current? _____
 - b. Bidder's Contractor License No: _____
[Attach a copy of Contractor's License to the bid]
 - c. Attach documentation from the State of Florida Division of Corporations that indicates the business entity's status is active and that lists the names and titles of all officers.
4. Number of years the firm has performed business as a Contractor in construction work of the type involved in this contract: _____
5. What is the last project OF THIS NATURE that the firm has completed?

6. Has the firm ever failed to complete work awarded to you? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which the firm failed to complete the work.]
7. Has the firm ever been assessed liquidated damages? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which liquidated damages have been assessed.]
8. Has the firm ever been charged by OSHA for violating any OSHA regulations? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which OSHA violations were alleged.]
9. Has the firm implemented a drug-free workplace program in compliance with Florida Statute 287.087? _____

(In the case of a tie, preference will be given to businesses with drug-free workplace programs)

10. Has the firm ever been charged with noncompliance of any public policy or rules?

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project.]

11. Attach to this questionnaire, a notarized financial statement and other information that documents the firm's financial strength and history.

12. Has the firm ever defaulted on any of its projects? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which a default occurred.]

13. Attach a separate page to this questionnaire that summarizes the firm's current workload and that demonstrates its ability to meet the project schedule.

14. Name of person who inspected the site of the proposed work for the firm:

Name: _____ Date of Inspections: _____

15. Name of on-site Project Foreman: _____

Number of years of experience with similar projects as a Project Foreman: _____

16. Name of Project Manager: _____

Number of years of experience with similar projects as a Project Manager: _____

17. State your total bonding capacity: _____

18. State your bonding capacity per job: _____

19. Please provide name, address, telephone number, and contact person of your bonding company:

[The remainder of this page was left blank intentionally]

19. Complete the following table for SIMILAR projects:

Name of Project	Date Completed	Owner	Contact Person: Name/ Email Address/Phone	Original Contract Amount	Final Contract Amount

SECTION 00458 – List of Subcontractors

The Bidder **MUST** list below the name and address of each Subcontractor who will perform work under this Contract in excess of one-half percent of the total bid price, and shall also list the portion of the work which will be done by such Subcontractor. After the opening of Bids, additions, changes or substitutions will not be allowed unless approved by Indian River County after a request for such a change has been submitted in writing by the Contractor, which shall include reasons for such request. Subcontractors must be properly licensed and hold a valid Certificate of Competency.

Documentation Submitted with Project No. IRC-1914A for JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

	Work to be Performed	Subcontractor's Name/Address	Portion of Work (%)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Note: Attach additional sheets if required.

**** END OF SECTION ****

SECTION 00460 – CERTIFICATION REGARDING PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES

I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit have been placed on the Scrutinized Companies that Boycott Israel List created pursuant to s. 215.4725 of the Florida Statutes, or are engaged in a boycott of Israel.

In addition, if this solicitation is for a contract for goods or services of one million dollars or more, I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit are on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473 of the Florida Statutes, or are engaged in business operations in Cuba or Syria as defined in said statute.

I understand and agree that the County may immediately terminate any contract resulting from this solicitation upon written notice if the undersigned entity (or any of those related entities of respondent as defined above by Florida law) are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Name of Respondent: _____

By: _____
(Authorized Signature)

Title: _____

Date: _____

BOARD OF COUNTY COMMISSIONERS



Month xx, 2020

via Email

Company

Attn:

Address

Address

Email address

NOTICE OF AWARD

Reference: *Indian River County Bid No. 2022009*

Project Name: **JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL**

Dear Mr./Ms. :

It is my pleasure to inform you that on [DATE] the Board of County Commissioners awarded the above-referenced project to your company. The following documents are required before the applicable County department can issue a "Notice to Proceed" letter.

1. Public Construction Bond (unrecorded) in the amount of **100%** of the award amount (**\$.....**).
2. Two Signed Copies of Enclosed Agreement.
3. Certificate of Insurance indicating coverage required by Article 5 of the General Conditions (section 00700 of the bid documents) and Supplemental Conditions (Section 00800 of the bid documents). Certificate(s) **must name Indian River County as additional insured** and must provide for a 30-day Notice of Cancellation.
4. W-9.

The Public Construction Bond must be executed in accordance with section 255.05(1)(a), Florida Statutes. Please submit the Bond, W-9, the Certificate(s) of Insurance and two fully-executed copies of the enclosed agreement to this office at the address provided below no later than [Due **DATE (15 days from award)**]. Failure to comply with the established deadline for submittal of required documents may be grounds for cancellation of award.

Thank you for your prompt attention and if you have any questions, please do not hesitate to contact our office.

Sincerely,

Jennifer Hyde
Purchasing Manager

cc: Michael Heller, Project Specialist

Office of Management and Budget • Purchasing Division
1800 27th Street, Vero Beach, Florida 32960 • (772) 226-1416 • Fax: (772) 770-5140
E-mail: purchasing@ircgov.com

Notice of Award - 00510-1

SECTION 00520 - Agreement (Public Works)

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SECTION 00520 - Agreement (Public Works)

THIS AGREEMENT is by and between INDIAN RIVER COUNTY, a Political Subdivision of the State of Florida organized and existing under the Laws of the State of Florida, (hereinafter called OWNER)

and _____
(hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Project consists of interior renovations to 57 existing hotel-style rooms located at Jackie Robinson Training Complex. These renovations include the removal and replacement of floor coverings, patching and selected replacement of dry wall ceilings, removal of popcorn ceilings, the removal and replacement of front windows, HEPA vacuum and clean all surfaces to rid space of mold. Project is also to include the removal of existing HVAC duct work above the ceiling, and installation of new insulated, fire rated attic access panels.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Project Name: **JACKIE ROBINSON TRAINING COMPLEX – VILLAS
REMODEL**
County Project Number: **IRC-1914A**
Bid Number: **2022009**
Project Address: **3901 26th St. Vero Beach, FL. 32960**

ARTICLE 3 - ENGINEER

3.01 The Indian River County Public Works Department is hereinafter called the ENGINEER and will act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion, Final Completion and Final Payment*

- A. The Work will be substantially completed on or before the **120** calendar day after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions on or before the **150** calendar day after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

- A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. Liquidated damages will commence for this portion of work. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER **\$1,694.00** for each calendar day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER **\$1,694.00** for each calendar day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents, an amount in current funds equal to the sum of the amounts determined pursuant to paragraph 5.01.A and summarized in paragraph 5.01.B, below:

- A. For all Work, at the prices stated in CONTRACTOR's Bid, attached hereto as an exhibit.
- B. THE CONTRACT SUM subject to additions and deductions provided in the Contract:

Numerical Amount: \$ _____

Written Amount: _____

ARTICLE 6 - PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions and the Contract Documents.

6.02 *Progress Payments.*

- A. The OWNER shall make progress payments to the CONTRACTOR on the basis of the approved partial payment request as recommended by ENGINEER in accordance with the provisions of the Local Government Prompt Payment Act, Florida Statutes section 218.70 et. seq. The OWNER shall retain five percent (5%) of the payment amounts due to the CONTRACTOR until final completion and acceptance of all work to be performed by CONTRACTOR under the Contract Documents.

6.03 *Pay Requests.*

- A. Each request for a progress payment shall be submitted on the application provided by OWNER and the application for payment shall contain the CONTRACTOR'S certification. All progress payments will be on the basis of progress of the work measured by the schedule of values established, or in the case of unit price work based on the number of units completed.

6.04 Paragraphs 6.02 and 6.03

do not apply to construction services work purchased by the County as OWNER which are paid for, in whole or in part, with federal funds and are subject to federal grantor laws and regulations or requirements that are contrary to any provision of the Local Government Prompt Payment Act. In such event, payment and retainage provisions shall be governed by the applicable grant requirements and guidelines.

6.05 *Acceptance of Final Payment as Release.*

- A. The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER from all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with the work under this Contract and for every act and neglect of the OWNER and others relating to or arising out of the work. Any payment, however, final or otherwise, shall not release the CONTRACTOR or its sureties from any obligations under the Contract Documents or the Public Construction Bond.

ARTICLE 7 - INDEMNIFICATION

7.01 CONTRACTOR shall indemnify OWNER, ENGINEER, and others in accordance with paragraph 6.20 (*Indemnification*) of the General Conditions to the Construction Contract.

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

- B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.
- E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto
- F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- K. Contractor is registered with and will use the Department of Homeland Security's E-Verify system (www.e-verify.gov) to confirm the employment eligibility of all newly hired employees for the duration of this agreement, as required by Section 448.095, F.S. Contractor is also responsible for obtaining proof of E-Verify registration for all subcontractors.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 00520-1 to 00520-9, inclusive);
2. Notice to Proceed (page 00550-1);
3. Public Construction Bond (pages 00610-1 to 00610-3, inclusive);
4. Sample Certificate of Liability Insurance (page 00620-1);
5. Contractor's Application for Payment (pages 00622-1 to 00622-6 inclusive);
6. Certificate of Substantial Completion (pages 00630-1 to 00630-2, inclusive);
7. Contractor's Final Certification of the Work (pages 00632-1 to 00632-2, inclusive);
8. Professional Surveyor & Mapper's Certification as to Elevations and Locations of the Work (page 00634-1);
9. General Conditions (pages 00700-1 to 00700-37, inclusive);
10. Supplementary Conditions (pages 00800-i to 00800-12, inclusive);
11. Specifications as listed in Division 1 (General Requirements) and Division 2 (Technical Provisions);
12. Drawings consisting of a cover sheet and sheets numbered A-1 through E-3, inclusive, with each sheet bearing the following general title: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL;
13. Addenda (if applicable _____);
14. Appendices to this Agreement (enumerated as follows):
 - Appendix A – Permits (IRC Building Permit)
 - Appendix B – Mold Remediation Protocol – by Wood Environment and Infrastructure Solutions, Inc.
 - Appendix C – Asbestos Survey
15. CONTRACTOR'S BID (pages 00310-1 to 00310-8, inclusive);
16. Bid Bond (page 00430-1);
17. Qualifications Questionnaire (page 00456-1 to 00456-3, inclusive);
18. List of Subcontractors (page 00458-1);
19. Sworn Statement Under Section 105.08, Indian River County Code, on Disclosure of Relationships (pages 00452-1 to 00452-2, inclusive);

20. Certification Regarding Prohibition Against Contracting with Scrutinized Companies (page 00460-1);

21. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

- a) Written Amendments;
- b) Work Change Directives;
- c) Change Order(s);

ARTICLE 10 - MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Venue*

- A. This Contract shall be governed by the laws of the State of Florida. Venue for any lawsuit brought by either party against the other party or otherwise arising out of this Contract shall be in Indian River County, Florida, or, in the event of a federal jurisdiction, in the United States District Court for the Southern District of Florida.

10.06 *Public Records Compliance*

A. Indian River County is a public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

- (1) Keep and maintain public records required by the County to perform the service.
- (2) Upon request from the County's Custodian of Public Records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119 or as otherwise provided by law.
- (3) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.
- (4) Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the Contractor or keep and maintain public records required by the County to perform the service. If the Contractor transfers all public records to the County upon completion of the contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the County, upon request from the Custodian of Public Records, in a format that is compatible with the information technology systems of the County.

B. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

(772) 226-1424

publicrecords@ircgov.com

Indian River County Office of the County Attorney

1801 27th Street

Vero Beach, FL 32960

C. Failure of the Contractor to comply with these requirements shall be a material breach of this Agreement.

[The remainder of this page was left blank intentionally]

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on _____, 2021 (the date the Contract is approved by the Indian River County Board of County Commissioners, which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR:

INDIAN RIVER COUNTY _____

By: _____
Joseph E. Flescher, Chairman

By: _____
(Contractor)

By: _____
Jason E. Brown, County Administrator

(CORPORATE SEAL)

Attest _____

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

By: _____
Dylan Reingold, County Attorney

Address for giving notices:

Jeffrey R. Smith, Clerk of Court and Comptroller

License No. _____
(Where applicable)

Attest: _____
Deputy Clerk

Agent for service of process: _____

(SEAL)

Designated Representative:
Name: James W. Ennis, P.E., PMP
Title: Assistant Public Works Director
1801 27th Street
Vero Beach, Florida 32960
(772) 226-1221
Facsimile: (772) 778-9391

Designated Representative:
Name: _____
Title: _____
Address: _____

Phone: _____
Facsimile: _____

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

**** END OF SECTION ****

SECTION 00550 - Notice to Proceed

Dated

TO:

(BIDDER)

ADDRESS:

Contract For:

JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

Project No: **IRC-1914A**

IRC Bid No. **2022009**

You are notified that the Contract Times under the above contract will commence to run on _____. By that date, you are to start performing your obligations under the Contract Documents. The contract has allocated **120** calendar days for Substantial Completion of this project and **150** calendar days for Final Completion. In accordance with Article 4 of the Agreement the date of Substantial Completion is _____ and the date of readiness for final payment is _____.

CONTRACTOR shall not commence work under this Contract until he has obtained all insurance required under Article 5 and such insurance has been delivered to the OWNER and approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective Work* in accordance with Article 13.

Also, before you may start any Work at the Site, you must:
(add other requirements, if applicable)

INDIAN RIVER COUNTY
(OWNER)

By: _____
(AUTHORIZED SIGNATURE)

(TITLE)

SECTION 00610 - Public Construction Bond

INSTRUCTION FOR PUBLIC CONSTRUCTION BOND

The front or cover page to the required public construction payment and performance bond shall contain the information required by Fla. Stat. 255.05(1)(a), and be substantially in the format shown on the first page following this instruction.

The Public Construction Bond shall be in the form suggested by Fla. Stat. 255.05(3) as shown on the second page following this instruction.

A Power of Attorney from a surety insurer authorized to do business in Florida, authorizing the signature of the Attorney in Fact who executes the Public Construction Bond shall accompany that Bond.

**Public Work
F.S. Chapter 255.05 (1)(a)
Cover Page**

THIS BOND IS GIVEN TO COMPLY WITH SECTION 255.05 OR SECTION 713.23 FLORIDA STATUTES, AND ANY ACTION INSTITUTED BY A CLAIMANT UNDER THIS BOND FOR PAYMENT MUST BE IN ACCORDANCE WITH THE NOTICE AND TIME LIMITATION PROVISIONS IN SECTION 255.05(2) OR SECTION 713.23 FLORIDA STATUTES.

BOND NO: _____

CONTRACTOR NAME: _____

CONTRACTOR ADDRESS: _____

CONTRACTOR PHONE NO: _____

SURETY COMPANY NAME: _____

SURETY PRINCIPAL
BUSINESS ADDRESS: _____

SURETY PHONE NO: _____

OWNER NAME: _____

OWNER ADDRESS: _____

OWNER PHONE NO: _____

OBLIGEE NAME: _____

(If contracting entity is different from
the owner, the contracting public entity)

OBLIGEE ADDRESS: _____

OBLIGEE PHONE NO: _____

BOND AMOUNT: _____

CONTRACT NO: _____

(If applicable)

DESCRIPTION OF WORK: _____

PROJECT LOCATION: _____

LEGAL DESCRIPTION: _____

(If applicable)

FRONT PAGE

All other bond page(s) are deemed subsequent to this page regardless of any page number(s) that may be printed thereon.

PUBLIC CONSTRUCTION BOND

Bond No. _____
(enter bond number)

BY THIS BOND, We _____, as Principal and _____, a corporation, as Surety, are bound to _____, herein called Owner, in the sum of \$ _____, for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the contract dated _____, _____, between Principal and Owner for construction of _____, the contract being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and
2. Promptly makes payments to all claimants, as defined in Section [255.05](#)(1), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the contract; and
3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a default by Principal under the contract; and
4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this bond is void; otherwise it remains in full force.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section [255.05](#)(2), Florida Statutes.

Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the contract or the changes does not affect Surety's obligation under this bond.

DATED ON _____,

(Name of Principal)

By _____
(As Attorney in Fact)

(Name of Surety)

SECTION 00620 - Sample Certificate of Liability Insurance

CERTIFICATE OF LIABILITY INSURANCE	
PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
	COMPANIES AFFORDING COVERAGE
INSURED	COMPANY A -
	COMPANY B -
	COMPANY C -
	COMPANY D -
	COMPANY E -

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED NOTWITHSTANDING ANY REQUIREMENT TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN THE INSURANCE ACCORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.							
INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/D/YY)	LIMITS		
A	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE - <input type="checkbox"/> OCCUR <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				EACH OCCURRENCE	\$ 1,000,000	
					FIRE DAMAGE (Any One Fire)	\$ 50,000	
					MED. EXP. (Any One Person)	\$ 5,000	
					PERSONAL & ADV INJURY	\$ 1,000,000	
					GENERAL AGGREGATE	\$ 1,000,000	
					PRODUCTS – COMP/OP AGG.	\$ 1,000,000	
						\$	
A	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> <input type="checkbox"/>				COMBINED SINGLE LIMIT (Ea. Occurrence)	\$ 1,000,000	
					BODILY INJURY (Per Person)	\$	
					BODILY INJURY (Per Accident)	\$	
					PROPERTY DAMAGE	\$	
	GARAGE LIABILITY <input type="checkbox"/> <input type="checkbox"/>				AUTO ONLY – EA ACCIDENT	\$	
					OTHER THAN	EA ACC	\$
					AUTO ONLY	AGG	\$
A	EXCESS LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$				EACH OCCURRENCE		
					AGGREGATE	\$	
						\$	
						\$	
A	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY THE PROPRIETOR/PARTNERS/ EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				<input type="checkbox"/> WC STATUTORY LIMITS		
					E.L. EACH ACCIDENT	\$	100,000
					E.L. DISEASE – EA	\$	500,000
					E.L. DISEASE-POLICY LIMIT	\$	100,000
	OTHER: BUILDER'S RISK				FULL REPLACEMENT COST OF THE WORK		
DESCRIPTION OF OPERATIONS/LOCATIONS VEHICLES/SPECIAL ITEMS							
CERTIFICATE HOLDER		ADDITIONAL INSURED; INSURER LETTER:		CANCELLATION			
ADDITIONAL INSURED: INDIAN RIVER COUNTY 1801 27 TH STREET, VERO BEACH, FL 32960-3388				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.			
				AUTHORIZED REPRESENTATIVE			

**SECTION 00622 - Contractor's Application for Payment
 JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL**

Application for Payment No. _____
 For Work Accomplished through the period of _____ through _____

To: Indian River County (OWNER)
 From: _____ (CONTRACTOR)

Project No.: IRC-1914A
 Bid No.: 2022009

1) Attach detailed schedule and copies of all paid invoices.

1.	Original Contract Price:	\$ _____
2.	Net change by Change Orders and Written Amendments (+ or -):	\$ _____
3.	Current Contract Price (1 plus 2):	\$ _____
4.	Total completed and stored to date:	\$ _____
5.	Retainage (per Agreement):	
	5% of completed Work:	
	_____ % of retainage:	\$ _____
	Total Retainage:	\$ _____
6.	Total completed and stored to date less retainage (4 minus 5):	\$ _____
7.	Less previous Application for Payments:	\$ _____
8.	DUE THIS APPLICATION (6 MINUS 7):	\$ _____

CONTRACTOR'S CERTIFICATION:

UNDER PENALTY OF PERJURY, the undersigned CONTRACTOR certifies that (1) the labor and materials listed on this request for payment have been used in the construction of this Work; (2) payment received from the last pay request has been used to make payments to all subcontractors, laborers, materialmen and suppliers except as listed on Attachment A, below; (3) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); (4) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective; and (5) If this Periodic Estimate is for a Final Payment to project or improvement, I further certify that all persons doing work upon or furnishing materials or supplies for this project or improvement under this foregoing contract have been paid in full, and that all taxes imposed by Chapter 212 Florida Statutes, (Sales and Use Tax Act, as Amended) have been paid and discharged, and that I have no claims against the OWNER.

Attached to or submitted with this form are:

1. Signed release of lien forms (partial or final as applicable) from all subcontractors, laborers, materialmen and suppliers except as listed on Attachment A, together with an explanation as to why any release of lien form is not included;

2. Updated Construction Schedule per [Specification Section 01310](#).

Dated _____

By: _____
(CONTRACTOR – must be signed by
an Officer of the Corporation)

Print Name and Title

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online
notarization, this _____ day of _____ 20____, by _____
_____ (name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced
_____ as identification.

Please remit payment to:

Contractor's Name: _____

Address: _____

[The remainder of this page was left blank intentionally]

SURETY'S CONSENT OF PAYMENT TO CONTRACTOR:

The Surety, _____

_____, a corporation, in accordance with Public Construction Bond Number _____, hereby consents to payment by the OWNER to the CONTRACTOR, for the amounts specified in this CONTRACTOR's APPLICATION FOR PAYMENT.

TO BE EXECUTED BY CORPORATE SURETY:

Attest:

Secretary

Corporate Surety

Business Address

BY: _____

Print Name: _____

Title: _____

(Affix Corporate SEAL)

STATE OF FLORIDA
COUNTY OF INDIAN RIVER

Before me, a Notary Public, duly commissioned, qualified, and acting, personally appeared _____, to me well known or who produced _____ as identification, who being by me first duly sworn upon oath, says that he/she is the _____ for and that he/she has been authorized by _____ it to approve payment by the OWNER to the CONTRACTOR of the foregoing Contractor's Application for Payment. Subscribed and sworn to before me this ____ day of _____, 20____.

Notary Public, State of _____

My Commission Expires: _____

[The remainder of this page was left blank intentionally]

CERTIFICATION OF PROJECT MANAGER:

I certify that I have reviewed the above and foregoing Periodic Estimate for Partial Payment; that to the best of my knowledge and belief it appears to be a reasonably accurate statement of the work performed and/or material supplied by the Contractor. I am not certifying as to whether or not the Contractor has paid all subcontractors, laborers, materialmen and suppliers because I am not in a position to accurately determine that issue.

Dated _____

SIGNATURE

CERTIFICATION OF INSPECTOR:

I have checked the estimate against the Contractor's Schedule of Amounts for Contract Payments and the notes and reports of my inspections of the project. To the best of my knowledge, this statement of work performed and/or materials supplied appears to be reasonably accurate, that the Contractor appears to be observing the requirements of the Contract with respect to construction, and that the Contractor should be paid the amount requested above, unless otherwise noted by me. I am not certifying as to whether or not the Contractor has paid all subcontractors, laborers, materialmen and suppliers because I am not in a position to accurately determine that issue.

Dated _____

SIGNATURE

[The Remainder of This Page Was Left Blank Intentionally]

ATTACHMENT A

1. List of all subcontractors, laborers, materialmen and suppliers who have not been paid from the payment received from the last Pay Request and the reason why they were not paid (attach additional pages as necessary):

2. List of all subcontractors, laborers, materialmen and suppliers for which a signed release of lien form (partial or final as applicable) is not included with this Pay Request, together with an explanation as to why the release of lien form is not included (attach additional pages as necessary):

PROJECT NAME: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

Project No. IRC-1914A

Payment Application No. _____

Item No.	Description	Unit	Quantity	WORK COMPLETED											
				SCHEDULED VALUE		PREVIOUS APPLICATION		THIS PERIOD		TOTAL COMPLETED		%	MATERIALS STORED	BALANCE TO FINISH	
				Unit Price	Amount	QUANTITY	TOTAL	QUANTITY	TOTAL	QUANTITY	TOTAL			QUANTITY	TOTAL
SUBTOTAL				SUBTOTAL	0.00		0.00		0.00		0.00		0.00		0.00
	FORCE ACCOUNT	1	LS												
GRAND TOTAL				TOTAL	0.00										

AMOUNT COMPLETED TO DATE	\$0.00
MATERIALS STORED TO DATE	\$0.00
SUB-TOTAL MATERIALS STORED AND COMPLETED TO DATE	\$0.00
RETAINAGE AT 5%	\$0.00
TOTAL COMPLETED AND STORED LESS RETAINAGE	\$0.00
LESS PREVIOUS PAYMENT	\$0.00
AMOUNT DUE CONTRACTOR	\$0.00

SECTION 00630 - Certificate of Substantial Completion

Date of Issuance: _____, 20____

OWNER: Indian River County
CONTRACTOR: _____
CONTRACT FOR: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL
Project No.: IRC-1914A

Project Description: ***Project consists of interior renovations to 57 existing hotel-style rooms located at Jackie Robinson Training Complex. These renovations include the removal and replacement of floor coverings, patching and selected replacement of dry wall ceilings, removal of popcorn ceilings, the removal and replacement of front windows, HEPA vacuum and clean all surfaces to rid space of mold. Project is also to include the removal of existing HVAC duct work above the ceiling, and installation of new insulated, fire rated attic access panels.***

OWNER's Bid No. **2022009**

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

To: _____
OWNER

And To: _____
CONTRACTOR

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within 30 calendar days of the above date of Substantial Completion.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

OWNER:

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on: _____ (Date).

ENGINEER: _____

By: _____
(Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on _____ (date).

CONTRACTOR: _____

By: _____
(Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on _____ (date).

OWNER: INDIAN RIVER COUNTY _____

By: _____
(Authorized Signature)

**** END OF SECTION ****

**SECTION 00632 - CONTRACTOR'S FINAL CERTIFICATION OF
THE WORK**
(TO ACCOMPANY CONTRACTOR'S FINAL APPLICATION FOR PAYMENT)

PROJECT NAME: **JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL**

PROJECT NO: **IRC-1914A**

STATE OF _____
COUNTY OF _____

Personally before me the undersigned officer, authorized by the laws of said state to administer oaths, comes _____, who on oath says: That he is the CONTRACTOR with whom Indian River County, Florida, a political subdivision of said state, did on the _____ day of _____, 20____, enter into a contract for the performance of certain work, more particularly described as follows:

UNDER PENALTY OF PERJURY, affiant further says that said construction has been completed and the Contract therefore fully performed and final payment is now due and that all liens of all firms and individuals contracting directly with or directly employed by such CONTRACTOR have been paid in full EXCEPT:

Name	Description/Amount
_____	_____
_____	_____

who have not been paid and who are due the amount set forth.

Affiant further says that:

1. CONTRACTOR has reviewed the Contract Documents.
2. CONTRACTOR has reviewed the Work for compliance with the Contract Documents.
3. CONTRACTOR has completed the Work in accordance with the Contract Documents.
4. All equipment and systems have been tested in the presence of the ENGINEER or his representative and are fully operational with no defects or deficiencies except as listed below.

- 5. The Work is complete and ready for final acceptance by the OWNER.
- 6. CONTRACTOR hereby certifies that it has no claims against the OWNER.

(Corporate Seal)

(Contractor)

By: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this _____ day of _____ 20____, by _____
_____ (name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced
_____ as identification.

+ + END OF SECTION + +

SECTION 00634 - PROFESSIONAL SURVEYOR AND MAPPER'S CERTIFICATION AS TO ELEVATIONS AND LOCATIONS OF THE WORK

(TO BE COMPLETED BY A FLORIDA PROFESSIONAL SURVEYOR AND MAPPER RETAINED BY THE CONTRACTOR AND TO ACCOMPANY CONTRACTOR'S FINAL APPLICATION FOR PAYMENT)

I CERTIFY that I am a Florida Professional Surveyor and Mapper retained by:

(Insert name of CONTRACTOR)

Who is the CONTRACTOR for the following Project:

PROJECT NAME: JACKIE ROBINSON TRAINING COMPLEX - VILLAS REMODEL

PROJECT # IRC-1914A

I FURTHER CERTIFY that I have personally performed the survey work for the preparation of Record Drawings for the CONTRACTOR for this project or that such work was performed under my direct control and supervision.

I FURTHER CERTIFY that all constructed elevations and locations of the Work are in conformance with the Contract Documents, except for discrepancies listed below.

[Attach additional sheets as necessary]

(SURVEYOR'S SEAL)

CERTIFIED BY: _____

Printed Name: _____

Florida Professional Surveyor and Mapper Registration Number: _____

Date Signed and Sealed by Professional Surveyor and Mapper: _____

Company Name: _____

Company Address: _____

Telephone Number: _____

STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other

relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other

CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

~~21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.~~

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including
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rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 *Terminology*

A. *Intent of Certain Terms or Adjectives*

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. *Day*

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does

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not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. *Furnish, Install, Perform, Provide*

~~1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.~~

~~2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.~~

~~3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.~~

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds*

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 *Copies of Documents*

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the ninetieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

~~C. Evidence of Insurance: Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.~~

2.06 Preconstruction Conference

~~A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.~~

2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a

workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER,

ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amend-

ment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: ~~(i) a Field Order~~; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER's furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such

lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is

entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER's Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or
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becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points

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and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible

creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created

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by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.E shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

~~A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.~~

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. ~~OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.~~

5.04 *CONTRACTOR's Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to

each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 OWNER's Liability Insurance

~~—A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.~~

5.06 Property Insurance

~~A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:~~

~~1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;~~

~~2. be written on a Builder's Risk "all risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and~~

~~equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;~~

~~3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);~~

~~4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;~~

~~5. allow for partial utilization of the Work by OWNER;~~

~~6. include testing and startup; and~~

~~7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.~~

~~B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.~~

~~C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.~~

D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of

CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

~~E. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.~~

5.07 Waiver of Rights

~~A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.~~

~~B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER,~~
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ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:

1. ~~loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and~~

2. ~~loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.~~

~~C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER's Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.~~

5.08 *Receipt and Application of Insurance Proceeds*

~~A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.~~

~~B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as~~

~~fiduciary shall give bond for the proper performance of such duties.~~

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

~~A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.~~

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of

construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required

tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "Or-Equal" Items: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or

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equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a

change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER's Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the General Conditions - 00700 - 15

provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR's Expense*: CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any

obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or

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ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 *Laws and Regulations*

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

6.10 *Taxes*

- A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.
- B. OWNER qualifies for state and local sales tax exemption in the purchase of all material and equipment.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or

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occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

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

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 Hazard Communication Programs

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 Shop Drawings and Samples

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER's Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such

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will not indicate approval of the assembly in which the item functions.

3. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. *Resubmittal Procedures*

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 *Continuing the Work*

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 *CONTRACTOR's General Warranty and Guarantee*

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or
2. normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract

Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;
2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;
4. use or occupancy of the Work or any part thereof by OWNER;
5. any acceptance by OWNER or any failure to do so;
6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;
7. any inspection, test, or approval by others; or
8. any correction of defective Work by OWNER.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and
2. is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in

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part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such individual or entity.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and
2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should

be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Replacement of ENGINEER*

A. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer to whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 *Furnish Data*

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 *Pay Promptly When Due*

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 *Insurance*

A. OWNER's responsibilities, if any, in respect of purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. OWNER's responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.09 *Limitations on OWNER's Responsibilities*

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *OWNER'S Representative*

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 *Visits to Site*

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER,

will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Clarifications and Interpretations*

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

9.05 *Authorized Variations in Work*

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ~~These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.~~

9.06 *Rejecting Defective Work*

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 *Shop Drawings, Change Orders and Payments*

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 *Determinations for Unit Price Work*

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of
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the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 *Limitations on ENGINEER's Authority and Responsibilities*

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and

approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 *Claims and Disputes*

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER's Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's

written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

~~1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.~~

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. CONTRACTOR's Fee: When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of

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Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. *CONTRACTOR's Fee*: The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;

b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment

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in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 *Delays Beyond CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 *Delays Within CONTRACTOR's Control*

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER's and CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any

Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or

2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

~~B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all~~

~~inspections, tests, or approvals required by the Contract Documents except:~~

~~1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;~~

~~2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and~~

~~3. as otherwise specifically provided in the Contract Documents.~~

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose,

or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 *OWNER May Stop the Work*

~~A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.~~

13.06 *Correction or Removal of Defective Work*

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 *Correction Period*

~~A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.~~

~~B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.~~

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final pay-

ment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CON-

TRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments*

1. At least 20 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. The conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Written Amendment or Change Orders;
- c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

~~d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.~~

C. *Payment Becomes Due*

~~1. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.~~

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. there are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 *CONTRACTOR's Warranty of Title*

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. ~~If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.~~

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of

Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final
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inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and

CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

~~1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.~~

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from

CONTRACTOR's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 OWNER May Suspend Work

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. ~~CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.~~

15.02 OWNER May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);

2. CONTRACTOR's disregard of Laws or Regulations of any public body having jurisdiction;

3. CONTRACTOR's disregard of the authority of ENGINEER; or

4. CONTRACTOR's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment, and machinery at the Site, and use the

same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 OWNER May Terminate For Convenience

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

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arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, ~~or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due~~, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, ~~or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due~~, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

**SECTION 00800 - SUPPLEMENTARY CONDITION TO THE
GENERAL CONDITIONS**

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+++ END OF THIS SUPPLEMENTARY CONDITIONS INDEX +++

Supplementary Conditions – 00800-1

SECTION 00800 - SUPPLEMENTARY CONDITIONS TO THE GENERAL CONDITIONS

SC-1.00 Introduction

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 Edition) and other provisions of the Contract Documents as indicated below. All provisions, which are not so amended or supplemented, remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions.

SC-1.01 Defined Terms

SC-1.01.A.20 *Add the following language to the end of GC 1.01.A.20.*

ENGINEERS's Consultant: Edlund, Dritenbas, Binkley Architects and Associates, P.A.

SC-1.01.A.21. Delete paragraph GC 1.01.A.21 in its entirety.

SC-1.02 Terminology

SC-1.02.D.1, 2, and 3 *Delete paragraphs GC-1.02.D.1, 2, and 3 in their entirety and insert the following paragraphs in their place:*

D. *Furnish, Install, Perform, Provide*

1. The word "furnish" shall mean to supply and deliver services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word "install" shall mean to put into use or place in final position services, materials, or equipment complete and ready for intended use.
3. The words "perform" or "provide" shall mean to furnish and install services, materials, or equipment complete and ready for intended use.

SC-2.05 Before Starting Construction

SC-2.05.C. *Delete paragraph GC 2.05.C in its entirety and insert the following paragraph in its place:*

- C. Evidence of Insurance: CONTRACTOR shall not commence work under this Contract until he has obtained all insurance required under Article 5 and such insurance has been delivered to the OWNER and approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective Work* in accordance with Article 13.

SC-2.06 Preconstruction Conference

SC-2.06 *Delete paragraph GC-2.06.A in its entirety and insert the following paragraph in its place:*

- A. Immediately after awarding the contract, but before the CONTRACTOR begins work, the Project Manager will call a preconstruction conference at a place the ENGINEER designates to establish an understanding among the parties as to the work and to discuss schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, and maintaining required records. Utility companies and others as appropriate will be requested to attend to discuss and coordinate work.
- B. Per the FDOT Standard Specifications for Road and Bridge Construction, the Contractor will certify to the Engineer the following:
 - 1. A listing of on-site clerical staff, supervisory personnel and their pro-rated time assigned to the contract,
 - 2. Actual Rate for items listed in Table 4-3.2.1 (see below),
 - 3. Existence of employee benefit plan for Holiday, Sick and Vacation benefits and a Retirement Plan, and,
 - 4. Payment of Per Diem is a company practice for instances when compensation for Per Diem is requested.

Such certification must be made by an officer or director of the Contractor with authority to bind the Contractor. Timely certification is a condition precedent to any right of the Contractor to recover compensations for such costs, and failure to timely submit the certification will constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to recover such costs. Any subsequent changes shall be certified to the Engineer as part of the cost proposal or seven calendar days in advance of performing such extra work.

FDOT Table 4-3.2.1	
Item	Rate
FICA	Rate established by Law
FUTA/SUTA	Rate established by Law
Medical Insurance	Actual
Holidays, Sick & Vacation Benefits	Actual
Retirement Benefits	Actual
Workers Compensation	Rates based on the National Council on Compensation Insurance basic rates tables adjusted by Contractor's actual experience modification factor in effect at the time of the additional work or unforeseen work
Per Diem	Actual but not to exceed State of Florida's rate
Insurance*	Actual
*Compensation for Insurance is limited solely to General Liability Coverage and does not include any other insurance coverage (such as, but not limited to, Umbrella Coverage, Automobile Insurance, etc.).	

SC-3.06 Coordination of Plans, Specifications, and Special Provisions

SC-3.06 *Add the following new paragraphs immediately after paragraph GC-3.05:*

SC-3.06 Coordination of Plans, Specifications, and Special Provisions

- A. In case of discrepancy, the governing order of the documents shall be as follows:
 - 1. Written Interpretations
 - 2. Addenda

3. Specifications
 4. Supplementary Conditions to the General Conditions
 5. General Conditions
 6. Approved Shop Drawings
 7. Drawings
 8. Referenced Standards.
- B. Written/computed dimensions shall govern over scaled dimensions.

SC-4.02 Subsurface and Physical Conditions

SC-4.02 Add the following new paragraphs immediately after paragraph GC-4.02.B:

- C. In the preparation of Drawings and Specifications, ENGINEER or ENGINEER's Consultants relied upon the following reports of explorations and tests of subsurface conditions at the Site: N/A

SC-5.01 Performance, Payment and Other Bonds

SC-5.01.A. Delete paragraph GC-5.01.A in its entirety and insert the following paragraphs in its place:

- Within fifteen (15) days of receipt of the Contract Documents for execution, the CONTRACTOR shall furnish a Public Construction Bond in an amount equal to 100% of the Contract Price.
1. In lieu of the Public Construction Bond, the CONTRACTOR may furnish an alternative form of security in the form of cash, money order, certified check, cashier's check, irrevocable letter of credit or a security as listed in Part II of F.S. Chapter 625. Any such alternative form of security shall be for the same purpose, and be for the same amount and subject to the same conditions as those applicable to the bond otherwise required. The determination of the value of an alternative form of security shall be made by the OWNER.
 2. Such Bond shall continue in effect for one (1) year after acceptance of the Work by the OWNER.
 3. The OWNER shall record the Public Construction Bond with the Public Record Section of the Indian River County Courthouse located at 2000 16th Avenue, Vero Beach, Florida 32960.

SC-5.03 Certificates of Insurance

SC-5.03 Delete the second sentence of paragraph GC-5.03 in its entirety.

SC-5.04 CONTRACTOR's Liability Insurance

SC-5.04 Add the following new paragraphs immediately after paragraph GC-5.04.B:

- C. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
1. Worker's Compensation: To meet statutory limits in compliance with the Worker's Compensation Law of Florida. This policy must include Employer Liability with a limit \$100,000 for each accident, \$500,000 disease (policy limit) and \$100,000 disease (each employee). Such policy shall include a

waiver of subrogation as against OWNER and ENGINEER on account of injury sustained by an employee(s) of the CONTRACTOR.

2. Commercial General Liability: Coverage shall provide minimum limits of liability of \$2,000,000 per occurrence Combined Single Limit for Bodily Injury and Property Damage. This shall include coverage for:
 - a. Premises/Operations
 - b. Products/Completed Operations
 - c. Contractual Liability
 - d. Independent Contractors
 - e. Explosion
 - f. Collapse
 - g. Underground.
 - h. Pollution
3. Business Auto Liability: Coverage shall provide minimum limits of liability of \$1,000,000 per occurrence Combined Single Limit for Bodily Injury and Property Damage. This shall include coverage for:
 - a. Owned Autos
 - b. Hired Autos
 - c. Non-Owned Autos.
4. Special Requirements:
 - a. Ten (10) days prior to the commencement of any work under this Contract, certificates of insurance and endorsement forms in the exact wording and format as presented in these Contract Documents will be provided to the OWNER's Risk Manager for review and approval.
 - b. "Indian River County Florida" will be named as "Additional Insured" on both the General Liability and Auto Liability.
 - c. The OWNER will be given thirty (30) days notice prior to cancellation or modification of any stipulated insurance. Such notification will be in writing by registered mail, return receipt requested and addressed to the OWNER's Risk Manager.
 - d. An appropriate "Indemnification" clause shall be made a provision of the Contract (see paragraph 6.20 of the General Conditions).
 - e. It is the responsibility of the CONTRACTOR to insure that all subcontractors comply with all insurance requirements.
 - f. It should be remembered that these are minimum requirements, which are subject to modification in response to high hazard operation.
 - g. Insured must be authorized to do business and have an agent for service of process in Florida and have Best's Rating of A-VII or better.

D. Additional Insureds:

1. In addition to "Indian River County, Florida," the following individuals or entities shall be listed as "additional insureds" on the CONTRACTOR's liability insurance policies:
 - a. Verotown, LLC.

SC-5.05 OWNER's Liability Insurance

SC-5.05 *Delete paragraph GC-5.05.A in its entirety.*

SC-5.06 Property Insurance

SC-5.06 *Delete paragraphs GC-5.06.A, B, and C in their entirety and insert the following paragraphs in their place:*

- A. CONTRACTOR shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof. This insurance shall:
 - 1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
 - 2. be written on a Builder's Risk "All Risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 - 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 - 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER; and
 - 5. allow for partial utilization of the Work by OWNER;
 - 6. include testing and startup; and
 - 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.
- B. CONTRACTOR shall be responsible for any deductible or self-insured retention.
- C. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this paragraph SC-5.06 shall comply with the requirements of paragraph 5.06.C of the General Conditions.

SC-5.06.E *Delete paragraph GC-5.06.E in its entirety and insert the following in its place:*

- E. Additional Insureds:

1. The following individuals or entities shall be listed as “additional insureds” on the CONTRACTOR’s property insurance policies:
 - a. Indian River County, Florida
 - b. Verotown, LLC.

SC-5.07 Waiver of Rights

SC-5.07 Delete GC-5.07 (paragraphs A, B, and C) in its entirety.

SC-5.08 Receipt and Application of Insurance Proceeds

SC-5.08 Delete GC-5.08 (paragraphs A and B) in its entirety.

SC-5.09 Acceptance of Bonds and Insurance; Option to Replace

SC-5.09 Delete GC-5.09(paragraph A)in its entirety.

SC-6.02 Labor; Working Hours

SC-6.02.B. Add the following paragraphs immediately after paragraph GC-6.02.B:

1. Regular working hours are defined as Monday through Friday, excluding Indian River County Holidays, from 7 a.m. to 5 p.m.
2. Indian River County Holidays are: New Year’s Day, Martin Luther King, Jr. Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, Christmas Eve and Christmas Day. Working on these days will not be permitted without prior written permission and approval from the Construction Coordination Manager.
3. The CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of eight hours in any one calendar day or 40 hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing.
4. All costs of inspection and testing performed during overtime work by the CONTRACTOR, which is allowed solely for the convenience of the CONTRACTOR, shall be borne by the CONTRACTOR, and a credit given to the OWNER to deduct the costs of all such inspection and testing from any payments otherwise due the CONTRACTOR.
5. All costs of OWNER’s employees and costs of ENGINEER’s Consultant resulting from overtime work by the CONTRACTOR, which is allowed solely for the convenience of the CONTRACTOR, shall be borne by the CONTRACTOR, and a credit given to OWNER to deduct all such costs from any payments otherwise due the CONTRACTOR.
6. No work shall commence before 7 a.m. or continue after 5 p.m. except in case of emergency upon specific permission of the ENGINEER.

SC-6.06 Concerning Subcontractors, Suppliers, and Others

SC-6.06.C. Add the following sentence at the end of paragraph GC-6.06.C:

OWNER or ENGINEER may furnish to any such Subcontractor, Supplier, or other individual or entity, to the extent practicable, information about amounts paid to CONTRACTOR on account of Work performed for CONTRACTOR by a particular Subcontractor, Supplier, or other individual or entity.

SC-6.08 Permits

SC-6.08 *Add the following paragraphs immediately after paragraph GC-6.08.A:*

1. The OWNER has applied and paid the following permits;
Indian River County Building Permit #2021080692
2. The CONTRACTOR shall obtain all required permits and licenses. The CONTRACTOR shall provide copies of the permits to the OWNER and ENGINEER and shall comply with all conditions contained in the permits at no extra cost to the OWNER.
3. The CONTRACTOR shall be familiar with all permit requirements during construction and shall be responsible for complying with these requirements. The cost of this effort shall be included in the pay item in which the work is most closely associated with.

SC-9.05 Authorized Variations in Work

SC-9.05.A. *Delete the second sentence in paragraph GC-9.05.A in its entirety.*

SC-11.01 Cost of the Work

SC-11.01.A.1. *Delete paragraph GC-11.01.A.1 in its entirety, and insert the following sentences in its place:*

1. CONTRACTOR will receive payment for actual costs of direct labor and burden (see SC-2.06.B) for the additional or unforeseen work. Labor includes foremen actually engaged in the work; and will not include project supervisory personnel nor necessary on-site clerical staff, except when the additional or unforeseen work is a controlling work item and the performance of such controlling work item actually extends completion of the project due to no fault of the Contractor. Compensation for project supervisory personnel, but in no case higher than a Project Manager's position, shall only be for the pro-rata time such supervisory personnel spent on the contract. In no case shall an officer or director of the Company, nor those persons who own more than 1% of the Company, be considered as project supervisory personnel, direct labor or foremen hereunder. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

SC-13.03 Test and Inspections

SC-13.03.B. *Delete paragraph GC-13.03.B in its entirety, and insert the following sentences in its place:*

- B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all initial inspections, tests, or approvals required by the Contract Documents except those inspections, tests, or approvals listed immediately below. Subsequent inspections, tests, or approvals required after initial failing inspections, tests, or approvals shall be paid for by the CONTRACTOR by back charge to subsequent applications for payment. The CONTRACTOR shall arrange, obtain, and pay for the following inspections, tests, or approvals:
 1. inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;
 2. costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B;

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3. tests otherwise specifically provided in the Contract Documents.

SC-13.05 OWNER May Stop the Work

SC-13.05.A. *Delete paragraph GC-13.05.A in its entirety and insert the following paragraph in its place:*

- A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to comply with permit requirements, or fails to comply with the technical specifications, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

SC-13.07 Correction Period

SC-13.07 A. *Delete the first sentence of paragraph GC-13.07.A in its entirety and insert the following sentence in its place*

- A. If within one year after the date of Final Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

SC-13.07 B. *Delete paragraph GC-13.07.B in its entirety and insert the following sentence in its place*

- B. In special circumstances where a particular item of equipment is placed in continuous service before Final Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

SC-14.02 Progress Payments

SC-14.02.B.5. *Delete paragraph GC-14.02.B.5.d in its entirety and insert the following paragraph in its place:*

- d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A; or

SC-14.02.B.5. *Add the following sentences at the end of paragraph GC-14.02.B.5:*

- e. OWNER has been required to pay ENGINEER additional compensation because of CONTRACTOR delays or rejection of defective Work; or

- f. OWNER has been required to pay an independent testing laboratory for subsequent inspections, tests, or approvals taken after initial failing inspections, tests, or approvals.

SC-14.02.C.1. *Delete paragraph GC-14.02.C.1 in its entirety and insert the following paragraph in its place:*

D. Payment Becomes Due

1. Payment shall be made by OWNER to CONTRACTOR according to the Local Government Prompt Payment Act. F.S. 218.70 et. seq.

SC-14.04 Substantial Completion

SC-14.04A. *After the third sentence in paragraph GC-14.04A of the General Conditions, delete the remainder of paragraph 14.04A in its entirety and replace with the following:*

“If Engineer considers the Work substantially complete, Engineer will prepare and deliver to Owner a tentative certificate of Substantial Completion that shall fix the date of Substantial Completion. In accordance with the provisions of Florida Statutes section 208.735(7)(a)(2005), upon receipt of the tentative certificate of Substantial Completion from Engineer, the Owner, the Engineer, and the Contractor shall conduct a walk-through inspection of the Project to document a list of any items required to render the Work on the Project complete, satisfactory, and acceptable under this Agreement (herein the “Statutory List”). The Statutory List shall be reduced to writing and circulated among the Owner, the Engineer, and the Contractor by the Owner or the Engineer within 30 calendar days after substantial completion. The Owner and Contractor acknowledge and agree that: 1) the failure to include any corrective work, or pending items that are not yet completed, on the Statutory List does not alter the responsibility of the Contractor to complete all of the Work under this Agreement; 2) upon completion of all items on the Statutory List, the Contractor may submit a pay request for all remaining retainage except as otherwise set forth in this Agreement; and 3) any and all items that require correction under this Agreement and that are identified after the preparation of the Statutory List remain the obligation of the Contractor to complete to the Owner’s satisfaction under this Agreement. After receipt of the Statutory List by the Contractor, the Contractor acknowledges and agrees that it will diligently proceed to complete all items on the Statutory List and schedule a final walk-through in anticipation of final completion on the Project.”

SC-14.04B *Add the following new paragraph immediately after paragraph GC 14.04B:*

C. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees

SC-14.07 Final Payment

SC-14.07.C.1. *Delete paragraph GC-14.07.C.1 in its entirety and insert the following paragraph in its place:*

E. Payment Becomes Due

1. Payment shall be made by OWNER to CONTRACTOR according to the "Local Government Prompt Payment Act", Florida Statutes section 218.70, et. seq.

SC-15.01 OWNER May Suspend Work

SC-15.01.A *Delete the last sentence in paragraph GC-15.01.A and insert the following in its place:*

CONTRACTOR shall be allowed an extension of the Contract Times, directly attributable to any such suspension if CONTRACTOR makes a Claim for an extension as provided in paragraph 10.05. CONTRACTOR shall not be allowed an adjustment of the Contract Price and CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such Work suspension.

SC-15.02 OWNER May Terminate For Cause

SC-15.02.A.5 and SC-15.02.A.6 *Add the following new paragraphs immediately after paragraph GC-15.02.A.4:*

5. CONTRACTOR's violation of Section 02225 – "Erosion Control and Treatment of Dewatering Water From the Construction Site."
6. CONTRACTOR's failure to make payment to Subcontractors or Suppliers for materials or labor in accordance with the respective agreements between the CONTRACTOR and the Subcontractors or Suppliers.
7. CONTRACTOR certifies that it and its related entities as defined by Florida law are not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 of the Florida Statutes, and are not engaged in a boycott of Israel. In addition, if this agreement is for goods or services of one million dollars or more, CONTRACTOR certifies that it and its related entities as defined above by Florida law are not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473 of the Florida Statutes and are not engaged in business operations in Cuba or Syria.

OWNER may terminate this Contract if CONTRACTOR is found to have submitted a false certification as provided under section 287.135(5), Florida Statutes, been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria, as defined by section 287.135, Florida Statutes.

OWNER may terminate this Contract if CONTRACTOR, including all wholly owned subsidiaries, majority-owned subsidiaries, and parent companies, that exist for the purpose of making profit, is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel as set forth in section 215.4725, Florida Statutes.

SC-15.04 CONTRACTOR May Stop Work or Terminate

SC-15.04 *Delete the following text from the first sentence of paragraph GC-15.04.A:*

~~or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due,~~

SC-15.04 *Delete the following text from the second sentence of paragraph GC-15.04.A:*

~~or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due,~~

SC-16 Dispute Resolution

SC-16.02 Mediation

SC-16 *Add the following new paragraph immediately after paragraph GC-16.01.*

SC-16.02 Mediation

- A. OWNER and CONTRACTOR agree that they shall submit any and all unsettled Claims or counterclaims, disputes, or other matters in question between them arising out of or relating to the Contract Documents or the breach thereof, to mediation by a certified mediator of the 19th Judicial Circuit in Indian River County unless delay in initiating mediation would irrevocably prejudice one of the parties. The mediator of any dispute submitted to mediation under this agreement shall not serve as arbitrator of such dispute unless otherwise agreed.

SC-17 Miscellaneous

SC-17.06 Liens

Add the following new paragraphs immediately after paragraph GC17.05:

SC-17.06 Liens

- A. This project is a "Public Works" under Chapter 255, Florida Statutes. No merchant's liens may be filed against the OWNER. Any claimant may apply to the OWNER for a copy of this Contract. The claimant shall have a right of action against the CONTRACTOR for the amount due him. Such action shall not involve the OWNER in any expense. Claims against the CONTRACTOR are subject to timely prior notice to the CONTRACTOR as specified in Florida Statutes Section 255.05. The CONTRACTOR shall insert the following paragraph in all subcontracts hereunder:

"Notice: Claims for labor, materials and supplies are not assessable against Indian River County and are subject to proper prior notice to (CONTRACTOR'S Name) and to (CONTRACTOR Surety Company Name), pursuant to Chapter 255 of the Florida Statutes. This paragraph shall be inserted in every sub-subcontract hereunder." The payment due under the Contract shall be paid by the OWNER to the CONTRACTOR only after the CONTRACTOR has furnished the OWNER with an affidavit stating that all persons, firms or corporations who are defined in Section 713.01, Florida Statutes, who have furnished labor or materials, employed directly or indirectly in the Work, have been paid in full. The OWNER may rely on said affidavit at face value. The CONTRACTOR does hereby release, remiss and quit-claim any and all rights he may enjoy perfecting any lien or any other type of statutory common law or equitable lien against the job.

++END OF SUPPLEMENTARY CONDITIONS++

SECTION 00942 - Change Order Form

No. _____

DATE OF ISSUANCE: _____

EFFECTIVE DATE: _____

OWNER: Indian River County

CONTRACTOR _____

Project: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

OWNER'S Project No. IRC-1914A

OWNER'S Bid No. 2022009

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

CHANGE IN CONTRACT PRICE:	
Description	Amount
Original Contract Price	\$ _____
Net Increase (Decrease) from previous Change Orders No. _____ to _____:	\$ _____
Contract Price prior to this Change Order:	\$ _____
Net increase (decrease) of this Change Order:	\$ _____
Contract Price with all approved Change Orders:	\$ _____

CHANGE IN CONTRACT TIMES	
Description	Time
Original Contract Time:	(days or dates)
Substantial Completion:	_____
Final Completion:	_____
Net change from previous Change Orders No. _____ to _____:	(days)
Substantial Completion:	_____
Final Completion:	_____
Contract Time prior to this Change Order:	(days or dates)
Substantial Completion:	_____
Final Completion:	_____
Net increase (decrease) this Change Order:	(days or dates)
Substantial Completion:	_____
Final Completion:	_____
Contract Time with all approved Change Orders:	(days or dates)
Substantial Completion:	_____
Final Completion:	_____

ACCEPTED:
By:
CONTRACTOR (Signature)
Date:

RECOMMENDED:
By:
ENGINEER (Signature)
Date:

APPROVED:
By:
OWNER (Signature)
Date:

SECTION 00948 - Work Change Directive

No. _____

DATE OF ISSUANCE: _____

EFFECTIVE DATE: _____

OWNER: Indian River County

CONTRACTOR _____

Project: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

OWNER's Project No. IRC-1914A

OWNER'S Bid No. 2022009

You are directed to proceed promptly with the following changes:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

If OWNER or CONTRACTOR believe that the above change has affected Contract Price any Claim for a Change Order based thereon will involve one or more of the following methods as defined in the Contract Documents.

Method of determining change in Contract Prices

- Unit Prices
- Lump Sum
- Other: _____
- By Change Order:

Estimated increase (decrease) of this Work Change Directive
\$ _____

If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

Method of determining change in Contract Times

- Contractor's Records
- Engineer's Records
- Other: _____
- By Change Order:

Estimated increase (decrease) in Contract Times:

Substantial Completion: _____ days;
Ready for Final Completion: _____ days.

If the change involves an increase, the estimated time is not to be exceeded without further authorization.

ACCEPTED:
By:
CONTRACTOR (Signature)
Date:

RECOMMENDED:
By:
ENGINEER (Signature)
Date:

APPROVED:
By:
OWNER (Signature)
Date:

**** END OF SECTION ****

DIVISION 1 - GENERAL REQUIREMENTS

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01009 - SPECIAL PROVISIONS

SECTION 01024 - FORCE ACCOUNT

SECTION 01050 - FIELD ENGINEERING AND LAYOUT

SECTION 01091 - REFERENCE STANDARDS

SECTION 01215 - GENERAL QUALITY CONTROL

SECTION 01220 - PROGRESS MEETINGS

SECTION 01310 - CONSTRUCTION SCHEDULES

SECTION 01340 - SUBMITTAL OF SHOP DRAWINGS

SECTION 01520 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

SECTION 01550 - ACCESS ROADS, PARKING AREAS AND USE OF PUBLIC STREETS

SECTION 01610 - TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

SECTION 01611 - STORAGE OF MATERIAL AND EQUIPMENT

SECTION 01630 - SUBSTITUTIONS

SECTION 01710 - SITE CLEANUP AND RESTORATION

SECTION 01820 - POST FINAL INSPECTION

SECTION 01009 - SPECIAL PROVISIONS

1.1 GENERAL

- A. Visits to the construction site may be made by representatives of permitting or governing bodies. Submit details of all instructions from the above to the ENGINEER immediately. The Work will not be accepted by the OWNER until final acceptance has been received from the various Regulatory Agencies having jurisdiction.
- B. Furnish sufficient labor, construction equipment and materials, and work such hours, including night shifts and overtime operations, as may be necessary to insure the prosecution of the work in accordance with the approved progress schedule. If, in the opinion of the ENGINEER, the CONTRACTOR falls behind the progress schedule, take such steps as may be necessary to improve progress, all without additional cost to the OWNER. The ENGINEER shall be compensated for his overtime services in accordance with the Supplementary Conditions, SC-6.02.
- C. All salvageable material and equipment for which specific use, relocation or other disposal is not specifically noted, shall remain the property of the OWNER and shall be delivered to the OWNER at the following location: 4550 41st Street, at the CONTRACTOR's expense. All material and equipment not in salvageable condition, as determined by the ENGINEER and the OWNER, shall be disposed of by the CONTRACTOR, at the CONTRACTOR's expense.
- D. In addition to these Specifications all work must comply with the requirements of the local governing agency, St. Johns River Water Management District, Department of Environmental Protection, Army Corps of Engineers, Indian River Farms Water Control District, and all other applicable State or Federal agencies' specifications and permits. In the event of a conflict, the more stringent specification or requirement shall govern.
- E. Before performing any work outside the designated limits of the work site, secure any necessary permits and authorization from the applicable owner, or verify in writing that such has been previously obtained. Follow all requirements of any said permits or authorization. Give the ENGINEER and appropriate owner ten (10) days minimum notice before commencing construction operations outside the designated limits of the work site.

++ END OF SECTION ++

SECTION 01024 - FORCE ACCOUNT

1.1 GENERAL

- A. CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to perform additional work not covered on the Contract Drawings. The force Account is intended as a contingency for unforeseen work.

1.2 PAYMENT

- A. Lump sum amount for force account work is included in the bid schedule. The value of force account work will be determined in accordance with Article 12 of the General Conditions.

+ + END OF SECTION + +

SECTION 01050 - FIELD ENGINEERING AND LAYOUT

1.1 GENERAL

- A. The CONTRACTOR will furnish all construction staking for the project. All staking from control will be under the supervision of a Florida Registered Land Surveyor.
- B. Develop and make all detail surveys and measurements needed for construction including but not limited to, slope stakes, batter boards, piling layouts and all other working lines, elevations and cut sheets.
- C. Keep a transit and leveling instrument on the site at all times and a skilled instrument man available whenever necessary for layout of the Work.
- D. Provide all material required for benchmarks, control points, batter boards, grade stakes, and other items.
- E. Be solely responsible for all locations, dimensions and levels. No data other than written orders of the ENGINEER shall justify departure from the dimensions and levels required by the Drawings.
- F. Safeguard all points, stakes, grademarks, monuments and benchmarks made or established on the Work, and reestablish same, if disturbed. Rectify all Work improperly installed because of not maintaining, not protecting or removing without authorization such established points, stakes, marks and monuments.
- G. When requested by the ENGINEER, provide such facilities and assistance as may be necessary for the ENGINEER to check line and grade points placed by the CONTRACTOR. Do no excavation or embankment work until all cross-sectioning necessary for determining pay quantities has been completed and checked by the ENGINEER.
- H. The cost of performing engineering and layout work described above shall be included in the contract unit prices for the various items of work to which it is incidental. No separate payment will be made for surveying or engineering.

1.2 SURVEY WORK AND QUALIFICATIONS OF SURVEYOR

- A. Prior to commencing work, the CONTRACTOR shall satisfy himself as to the accuracy of all survey and existing site information as indicated in the Contract Documents. Immediately notify the ENGINEER upon discovery of any errors, inaccuracies or omissions in the survey data. The commencing of any of the work by the CONTRACTOR shall be held as the CONTRACTOR's acceptance that all survey or existing site information is correct and accurate, without any reasonably inferable errors, inaccuracies or omissions.

- B. The CONTRACTOR shall carefully preserve all control stakes, benchmarks, reference points and property corners and will be responsible for any mistake or loss of time caused by their unnecessary loss or disturbance. If the loss or disturbance of the stakes or marks cause a delay in the Work, the CONTRACTOR shall have no claim for damages or extension of time. Control stakes, benchmarks, reference points and property corners disturbed by the CONTRACTOR's work shall be replaced by a Florida Registered Land Surveyor and Mapper, at the CONTRACTOR's expense. In the event the Owner must provide the services of the Florida Registered Surveyor and Mapper to perform this replacement work, the cost of the surveying services will be deducted from any sums due the CONTRACTOR for the work performed under this Contract.

- C. All survey work shall be performed under the guidance and direction of a Florida Registered Surveyor and Mapper.

- D. All survey work for Record Drawings shall be performed by a Florida Registered Surveyor and Mapper.

1.3 STATION BOARDS

- A. CONTRACTOR shall erect and maintain white/black standard FDOT station markers every 100 feet.

1.4 LAYOUT OF STRIPING

- A. Establish by instrument, and mark the finished surface, the points necessary for striping finished roadway in conformance with Section 5-7 of FDOT Standard Specifications.

+ + END OF SECTION + +

SECTION 01091 - REFERENCE STANDARDS**1.1 GENERAL**

- A. Whenever reference is made to the furnishing of materials or testing thereof to conform to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the date of advertisement for bids, unless noted otherwise in the Technical Specifications or on the Drawings. When a reference standard is specified, comply with requirements and recommendations stated in that standard, except when they are modified by the Contract Documents, or when applicable laws, ordinances, rules, regulations or codes establish stricter standards. The list of specifications presented in Paragraph B is hereby made a part of the Contract, the same as if repeated herein in full.
- B. Reference to a technical society, organization, or body may be made in the Specifications by abbreviations, in accordance with the following list:

AASHTO	The American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWWA	American Water Works Association
AWS	American Welding Society
FED.SPEC.	Federal Specifications
CRSI	Concrete Reinforcing Steel Institute
FDEP/DEP	Florida Department of Environmental Protection
DNR	Department of Natural Resources
NCPI	National Clay Pipe Institute
NEMA	National Electrical Manufacturers Association
NEC	National Electric Code
NSPE	National Society of Professional Engineers
OSHA	Occupational Safety and Health Administration

PCI	Prestressed Concrete Institute
FDOT/DOT	Florida Department of Transportation
U. L., Inc.	Underwriter's Laboratories, Inc.
SSPC	Steel Structures Painting Council
SJRWMD	St. Johns River Water Management District

- C. When no reference is made to a code, standard or specification, the standard specifications of ASTM, FDOT, or ANSI shall govern.
- D. In the event of a conflict between the specifications prepared by the ENGINEER and the above referenced specifications and standards, or any other regulatory specification or standard, the more stringent requirement prevails.

+ + END OF SECTION + +

SECTION 01215 - GENERAL QUALITY CONTROL

1.1 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Specific quality control requirements for the work are indicated throughout the Contract Documents. The requirements of this section are primarily related to the performance of the work beyond the furnishing of manufactured products. The term "Quality Control" includes, but is not necessarily limited to, inspection and testing and associated requirements. This section does not specify or modify the OWNER and ENGINEER duties relating to quality review and Contract surveillance.

1.2 RESPONSIBILITY FOR INSPECTIONS AND TESTS

- A. Residual OWNER Responsibility: The OWNER will employ and pay for the services of independent testing laboratories to perform those required inspections and tests.
- B. CONTRACTORS General Responsibility: No failure of test agencies, whether engaged by the OWNER or CONTRACTOR, to perform adequate inspections of tests or to properly analyze or report results, shall relieve the CONTRACTOR of responsibility for the fulfillment of the requirements of the Contract Documents. It is recognized that the required inspection and testing program is intended to assist the CONTRACTOR, OWNER, ENGINEER, and governing authorities in the nominal determination of probable compliance with requirements for certain crucial elements of work. The program is not intended to limit the CONTRACTOR in his regular quality control program, as needed for general assurance of compliance.

1.3 QUALITY ASSURANCE

- A. General Workmanship Standards: It is a requirement that each category of tradesman or installer performing the work be pre-qualified, to the extent of being familiar with the applicable and recognized quality standards for his category of work, and being capable of workmanship complying with those standards.

1.4 PRODUCT DELIVERY-STORAGE-HANDLING

Handle, store and protect materials and products, including fabricated components, by methods and means which will prevent damage, deterioration and losses (and resulting delays), thereby ensuring highest quality results as the performance of the work progresses. Control delivery schedules so as to minimize unnecessary long-term storage at the project site prior to installation.

1.5 PROJECT PHOTOGRAPHS/VIDEOS

- A. The CONTRACTOR shall make provisions, at his expense, for photographs and video tapes of all work areas just prior to construction, and for unusual conditions during construction. The photographs and videos shall show pertinent physical features of each rooms.
- B. Pre-Construction Photographs and Video:
1. Contractor shall provide the Owner with photographs and video record and one copy of the existing conditions prior to construction. These photographs and videos shall be a standard DVD format and shall be narrated.
 2. The photographs and video shall include, but not be limited to, the following items shown in a clear manner:
 - 1) Interior and exterior of all rooms
 3. Detail of the photographs and video shall be such that the following examples shall be clear and visible:
 - 1) Cracks in walls.
 - 2) Condition of planted areas and types of vegetation.
 - 3) Condition of sodded areas.
 - 4) Conditions of sprinkler systems and associated controls and wiring.
 - 5) Condition of signs.
 - 6) Conditions of lighting, exterior and interior.
 - 7) Conditions of room furnishings ie. tv's, furniture, bathroom fixtures, windows etc..
 - 8) These photographs and video record shall be presented and approved by the Owner prior to the Notice to Proceed. A copy shall be kept in the Contractor's field office.
 - 9) Payment – No additional payment will be made for this work.

+ + END OF SECTION + +

SECTION 01220 - PROGRESS MEETINGS

1.1 SCOPE

- A. Date and Time:
 - 1. Regular Meetings: As mutually agreed upon by ENGINEER and CONTRACTOR.
 - 2. Other Meetings: On call.
- B. Place: CONTRACTOR'S office at Project site or other mutually agreed upon location.
- C. ENGINEER shall prepare agenda, preside at meetings, and prepare and distribute a transcript of proceedings to all parties.
- D. CONTRACTOR shall provide data required and be prepared to discuss all items on agenda.

1.2 MINIMUM ATTENDANCE

- A. CONTRACTOR
- B. SUBCONTRACTOR:
When needed for the discussion of a particular agenda item, CONTRACTOR shall require representatives of Subcontractors or suppliers to attend a meeting.
- C. CONSTRUCTION COORDINATION MANAGER
- D. OWNER'S representative, if required.
- E. Utility Representatives
- F. Others as appropriate.
- G. Representatives present for each party shall be authorized to act on their behalf.

1.3 AGENDA

Agenda will include, but will not necessarily be limited to, the following:

- 1. Transcript of previous meeting.
- 2. Progress since last meeting.
- 3. Planned progress for next period.
- 4. Problems, conflicts and observations.
- 5. Change Orders.
- 6. Status of Shop Drawings.
- 7. Quality standards and control.
- 8. Schedules, including off-site fabrication and delivery schedules. Corrective measures, if required.
- 9. Coordination between parties.
- 10. Safety concerns.
- 11. Other business.

++ END OF SECTION ++

SECTION 01310 - CONSTRUCTION SCHEDULES

1.1 GENERAL REQUIREMENTS

- A. No partial payments shall be approved by the ENGINEER until there is an approved construction progress schedule on hand.
- B. Designate an authorized representative who shall be responsible for development and maintenance of the schedule and of all progress and payment reports. This representative shall have direct project control and complete authority to act on behalf of the CONTRACTOR in fulfilling the commitments of the CONTRACTOR's schedules.

1.2 REVISIONS TO THE CONSTRUCTION SCHEDULES

When the ENGINEER requires the CONTRACTOR to submit revised (updated) progress schedules on a monthly basis the CONTRACTOR shall:

- A. Indicate the progress of each activity to the date of submission.
- B. Show changes occurring since the previous submission listing:
 - 1. Major changes in scope.
 - 2. Activities modified since the previous submission.
 - 3. Revised projections of progress and completion.
 - 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
 - 1. Problem areas, anticipated delays, and the impact on the schedule.
 - 2. Corrective action recommended and its effect.
 - 3. The effect of changes on schedules of other prime contractors.

1.3 SUBMISSION OF THE CONSTRUCTION SCHEDULES

On or before the tenth day after the effective date of the Agreement, submit the initial schedules to the ENGINEER. The ENGINEER will review the schedules and return a review copy to the CONTRACTOR within 21 days after receipt. If required by the ENGINEER, resubmit revised schedules on or before the seventh day after receipt of the review copy. If required by the ENGINEER, submit revised monthly progress schedules with that month's application for payment.

1.4 DISTRIBUTION OF THE CONSTRUCTION SCHEDULES

- A. After receiving approval by the ENGINEER, distribute copies of the approved initial schedule and all reviewed revisions (updated) to:
 - 1. Job site file.
 - 2. Subcontractors.
 - 3. Other concerned parties.
 - 4. OWNER (two copies).
 - 5. ENGINEER

- B. In the cover letter, instruct recipients to report promptly to the CONTRACTOR, in writing, any problems anticipated by the projections shown in the schedules.

+ + END OF SECTION + +

SECTION 01340 - SUBMITTAL OF SHOP DRAWINGS

1.1 SCOPE

- A. Submit shop drawings, product data and samples as required by or inferred by the Drawings and Specifications. Submittals shall conform to the requirements of Article 6.17 of the General Conditions, Section 00700, and as described in this Section.

1.2 SHOP DRAWINGS

- A. Shop drawings are original drawings, prepared by the CONTRACTOR, a subcontractor, supplier, or distributor, which illustrate some portion of the work; showing fabrication, layout, setting, or erection details. Shop drawings are further defined in Article 6.17, Section 00700.
- B. Shop drawings shall be prepared by a qualified detailer and shall be identified by reference to sheet and detail numbers on the Contract Drawings.

1.3 PRODUCT DATA

- A. Product data are manufacturer's standard schematic drawings and manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Product data are further defined in Article 6.17, Section 00700.
- B. Modify standard drawings to delete information which is not applicable to the project and supplement them to provide additional information applicable to the project.
- C. Clearly mark catalog sheets, brochures, etc., to identify pertinent materials, products, or models.

1.4 SAMPLES

- A. Samples are physical examples to illustrate materials, equipment, or workmanship and to establish standards by which work is to be evaluated. Samples are further defined in Article 6.17, Section 00700.

1.5 CONTRACTOR'S RESPONSIBILITIES FOR SUBMITTAL OF SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. The CONTRACTOR's responsibilities for submittal of shop drawings, product data, and samples are set forth in paragraph 6.17 of the General Conditions and as further explained herein.
- B. Prior to submission, thoroughly check shop drawings, product data, and samples for completeness and for compliance with the Contract Documents, verify all dimensions and field conditions, and coordinate the shop drawings with the requirements for other related work. Also review each shop drawing before submitting it to the ENGINEER to determine that it is acceptable in terms of the means, methods, techniques, sequences and operations of construction, safety precautions and programs incidental thereto, all of which are the CONTRACTOR's responsibility.
 - 1. It is CONTRACTOR'S responsibility to review submittals made by his suppliers and Subcontractors before transmitting them to ENGINEER to assure proper coordination of the Work and to determine that each submittal is in accordance with its desires and that there is sufficient information about materials and equipment for ENGINEER to determine compliance with the Contract Documents.
 - 2. Incomplete or inadequate submittals will be returned for revision without review.
- C. The CONTRACTOR's responsibility for errors and omissions in submittals is not relieved by the ENGINEER's review of submittals. The CONTRACTOR shall approve the shop drawings based on his in-the-field measurements, prior to submittal to the ENGINEER for his review.
- D. Notify the ENGINEER, in writing at the time of submission, of deviations in submittals from the requirements of the Contract Documents. The CONTRACTOR's responsibility for deviations in submittals from the requirements of the Contract Documents is not relieved by the ENGINEER's review of submittals, unless the ENGINEER gives written acceptance of specific deviations.
- E. Begin no work, which requires submittals until return of submittals with the ENGINEER's stamp and initials or signature indicating the submittal has been reviewed.

1.6 SUBMITTAL REQUIREMENTS AND ENGINEER'S REVIEW FOR SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Submit to:
Indian River County
Engineering Division
1801 27th Street
Vero Beach, FL 32960
- B. A letter of transmittal shall accompany each submittal. If data for more than one Section of the Specifications is submitted, a separate transmittal letter shall accompany the data submitted for each Section.
- C. At the beginning of each letter of transmittal, provide a reference heading indicating the following:
1. OWNER'S Name
 2. Project Name
 3. Project Number
 4. Transmittal Number
 5. Section Number
- D. All submittals shall have a title block with complete identifying information satisfactory to the ENGINEER. The following is a sample Submittal Form that the CONTRACTOR may use:

[The remainder of this page has been left blank intentionally]

CONTRACTOR SUBMITTALS

SUBMITTAL NO.

Contractor:

Date Sent to County _____

No. Copies Sent to County _____

Original Submittal Re-Submittal

Project Name: JACKIE ROBINSON TRAINING COMPLEX – VILLAS REMODEL

Project No.: IRC-1914A

Shop Drawing Cut Sheet Other _____

Description: _____

Sub-Contractor: _____

Remarks: _____

*

Reviewing Agency: (As checked below)

Date Received Date Returned No. Copies Ret'd

I R C Engineering Div. _____

I R C Utilities Services _____

Remarks: _____

*

IRC Engineering Division

Date Rec'd from Contractor _____

Date Ret'd to Contractor _____

1801 27th Street
Vero Beach, Fl. 32960

No. Copies Ret'd _____

Remarks: _____

Distribution of Copies:

IRC Engineering Division

Office File

Field Office File

- E. All submittals shall bear the stamp of approval and signature of CONTRACTOR as evidence that they have been reviewed by CONTRACTOR. Submittals without this stamp of approval will not be reviewed by the ENGINEER and will be returned to CONTRACTOR.
- F. Assign a number to each submittal starting with No. 1 and thence numbered consecutively. Identify resubmittals by the original submittal number followed by the suffix "A" for the first resubmittal, the suffix "B" for the second resubmittal, etc.
- G. Initially submit to ENGINEER a minimum of two (2) copies of all submittals that are on 11-inch by 17-inch or smaller sheets (no less than 8 1/2-inch x 11-inch).
- H. After ENGINEER completes his review, Shop Drawings will be marked with one of the following notations:
 - 1. Approved
 - 2. Approved as Noted
 - 3. NOT Approved - Resubmit
- I. If a submittal is acceptable, it will be marked "Approved" or "Approved as Noted". One (1) electronic copy of the submittal will be returned to CONTRACTOR.
- J. Upon return of a submittal marked "Approved" or "Approved as Noted", CONTRACTOR may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.
- K. If a submittal is unacceptable, one (1) copy will be returned to CONTRACTOR with following notation, "NOT Approved - Resubmit".
- L. Upon return of a submittal marked "NOT Approved - Resubmit", make the corrections indicated and repeat the initial approval procedure. Upon return of a submittal so marked, repeat the initial approval procedure utilizing acceptable material or equipment.
- M. Work shall not be performed nor equipment installed without an ENGINEER "Approved" or "Approved as Noted" Shop Drawing.
- N. Submit Shop Drawings well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. CONTRACTOR shall assume the risk for all materials or equipment which is fabricated or delivered prior to the approval of Shop Drawings. Materials or equipment requiring Shop Drawings which have not yet received approval by the ENGINEER shall not be installed on the project. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.

- P. ENGINEER will review and process all submittals promptly, but a reasonable time should be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to CONTRACTOR.
- Q. Furnish required submittals with complete information and accuracy in order to achieve required approval of an item within three submittals. All costs to ENGINEER involved with subsequent submittals of Shop Drawings, Samples or other items requiring approval, will be back-charged to CONTRACTOR in accordance with the General Conditions and the Supplementary Conditions. If the CONTRACTOR requests a substitution for a previously approved item, all of ENGINEER'S costs in the reviewing and approval of the substitution will be back-charged to CONTRACTOR unless the need for such substitution is beyond the control of CONTRACTOR.

+ + END OF SECTION + +

SECTION 01520 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.1 SCOPE

- A. Provide all construction equipment and facilities and temporary controls required to satisfactorily complete the work represented on the Drawings and described in the Specifications.

1.2 RESPONSIBILITY

- A. All construction facilities and temporary controls remain the property of the Contractor establishing them and shall be maintained in a safe and useful condition until removed from the construction site.
- B. All false work, scaffolding, ladders, hoistways, braces, pumps, roadways, sheeting, forms, barricades, drains, flumes, and the like, any of which may be needed in construction of any part of the work and which are not herein described or specified in detail, must be furnished, maintained and removed by the CONTRACTOR, who is responsible for the safety and efficiency of such work and for any damage that may result from their failure or from their improper construction, maintenance or operation.
- C. In accepting the Contract, the CONTRACTOR assumes full responsibility for the sufficiency and safety of all hoists, cranes, temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the OWNER and ENGINEER from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provision.

1.3 TEMPORARY UTILITIES AND SERVICES

- A. **TEMPORARY WATER**
 - 1. Provide a temporary water service as required for all construction purposes and pay for all water used.
 - 2. Furnish potable drinking water in suitable dispensers and with cups for use of all employees at the job.
 - 3. Provide all temporary piping, hoses, etc., required to transport water to the point of usage by all trades.
 - 4. When temporary water service is no longer required, remove all temporary water lines.

B. TEMPORARY SANITARY FACILITIES

1. Provide temporary toilet facilities separate from the job office. Maintain these during the entire period of construction under this Contract for the use of all construction personnel on the job. Provide enough chemical toilets to conveniently serve the needs of all personnel. Properly seclude toilet facilities from public observation.
2. Chemical toilets and their maintenance shall meet the requirements of State and local health regulations and ordinances. Immediately correct any facilities or maintenance methods failing to meet these requirements. Upon completion of work, remove the facilities from the premises.

1.4 SECURITY

Full time watchmen will not be specifically required as a part of the Contract, but the CONTRACTOR shall provide inspection of work area daily and shall take whatever measures are necessary to protect the safety of the public, workmen, and materials, and provide for the security of the site, both day and night.

1.5 TEMPORARY CONTROLS

Take all necessary precautions to control dust and mud associated with the work of this Contract. In dry weather, spray dusty areas daily with water in order to control dust. Take necessary steps to prevent the tracking of mud onto adjacent streets and highways.

1.6 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

Remove the various temporary facilities, services, and controls and legally dispose of them as soon as the work is complete. The areas of the site used for temporary facilities shall be properly reconditioned and restored to a condition acceptable to the OWNER.

++ END OF SECTION ++

SECTION 01550 - ACCESS ROADS, PARKING AREAS AND USE OF PUBLIC STREETS

1.1 GENERAL

- A. Provide all temporary construction roads, walks and parking areas required during construction and for use of emergency vehicles. Design and maintain temporary roads and parking areas so they are fully usable in all weather conditions.
- B. Prevent interference with traffic and the OWNER's operations on existing roads. Indemnify and save harmless the OWNER from any expenses caused by CONTRACTOR's operations over these roads.
- C. Roadways damaged by CONTRACTOR shall be restored to their original condition by the CONTRACTOR subject to approval of the OWNER or ENGINEER.
- D. Remove temporary roads, walks and parking areas prior to final acceptance and return the ground to its original condition, unless otherwise required by the Contract Documents.

1.2 USE OF PUBLIC STREETS

The use of public streets and alleys shall be such as to provide a minimum of inconvenience to the public and to other traffic. Any earth or other excavated material spilled from trucks shall be removed immediately by the CONTRACTOR and the streets cleaned to the satisfaction of the Owner.

1.3 USE OF PUBLIC STREETS FOR HAUL ROADS

- A. Prior to construction, the CONTRACTOR shall designate all proposed haul roads to be used during the life of the project. Any earth or other materials spilled from trucks shall be removed by the CONTRACTOR and streets cleaned to the satisfaction of the Owner. He further shall be responsible for repairs to any damages caused by his operations, prior to final payment.
- B. All trucks carrying earth shall be covered while moving with an appropriate tarpaulin. Should trucks hauling earth fail to cover their loads, the CONTRACTOR will be given two (2) written warnings, after which the CONTRACTOR shall pay a fine of \$50 per uncovered truck to the Owner when invoked by the Owner to Owner's Engineer. All cleanup shall be the responsibility of the CONTRACTOR.
- C. All trucks/moving equipment shall have backup warning horns in proper working order while on the job site.

+ + END OF SECTION + +

SECTION 01610 - TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

1.1 GENERAL

- A. Make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work.
- B. Shipments of materials to CONTRACTOR or Subcontractors shall be delivered to the site only during regular working hours. Shipments shall be addressed and consigned to the proper party giving name of Project, street number and city. Shipments shall not be delivered to OWNER except where otherwise directed.
- C. If necessary, to move stored materials and equipment during construction, CONTRACTOR shall move or cause to be moved materials and equipment without any additional compensation.

1.2 DELIVERY

- A. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate the following:
 - 1. Work of other contractors, or OWNER.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. OWNER'S use of premises.
- C. Do not have products delivered to project site until related Shop Drawings have been approved by the ENGINEER.
- D. Do not have products delivered to site until required storage facilities have been provided.
- E. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep ENGINEER informed of delivery of all equipment to be incorporated in the Work.
- F. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts, and to facilitate assembly.
- G. Immediately on delivery, Contractor shall inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are properly protected and undamaged.

1.3 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

+ + END OF SECTION + +

SECTION 01611 - STORAGE OF MATERIAL AND EQUIPMENT

1.1 GENERAL

- A. Store and protect materials and equipment in accordance with manufacturer's recommendations and requirements of Specifications.
- B. Make all arrangements and provisions necessary for the storage of materials and equipment. Place all excavated materials, construction equipment, and materials and equipment to be incorporated into the Work, so as not to injure any part of the Work or existing facilities, and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Keep materials and equipment neatly and compactly stored in locations that will cause a minimum of inconvenience to other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- C. Areas available on the construction site for storage of material and equipment shall be as shown or approved by the ENGINEER.
- D. Store materials and equipment which are to become the property of the OWNER to facilitate their inspection and insure preservation of the quality and fitness of the Work, including proper protection against damage by extreme temperatures and moisture.
- E. Do not use lawns, grass plots or other private property for storage purposes without written permission of the OWNER or other person in possession or control of such premises.
- F. CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- G. Do not open manufacturers containers until time of installation unless recommended by the manufacturer or otherwise specified.
- H. When appropriate store materials on wood blocking so there is no contact with the ground.

+ + END OF SECTION + +

SECTION 01630 - SUBSTITUTIONS

1.1 GENERAL

- A. Requests for review of a substitution shall conform to the requirements of Article 6.05, "Substitutes and Or-Equals," of the General Conditions, and shall contain complete data substantiating compliance of the proposed substitution with the Contract Documents.

1.2 CONTRACTOR'S OPTIONS

- A. For materials or equipment (hereinafter products) specified only by reference standard, select product meeting that standard by any manufacturer, fabricator, supplier or distributor (hereinafter manufacturer). To the maximum extent possible, provide products of the same generic kind from a single source.
- B. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named which complies with Specifications.
- C. For products specified by naming one or more products or manufacturers and stating "or equivalent," submit a request for a substitution for any product or manufacturer which is not specifically named.
- D. For products specified by naming only one product or manufacturer and followed by words indicating that no substitution is permitted, there is no option and no substitution will be allowed.
- E. Where more than one choice is available as a CONTRACTOR's option, select product which is compatible with other products already selected or specified.

1.3 SUBSTITUTIONS

- A. During a period of 15 days after date of commencement of Contract Time, ENGINEER will consider written requests from CONTRACTOR for substitution of products or manufacturers, and construction methods (if specified).
 - 1. After end of specified period, requests will be considered only in case of unavailability of product or other conditions beyond control of CONTRACTOR.
- B. Submit 5 copies of Request for Substitution. Submit a separate request for each substitution. In addition to requirements set forth in Article 6.05 of General Conditions, include in the request the following:
 - 1. For products or manufacturers:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with product description, performance and test data, and reference standards.
 - c. Samples, if appropriate.

- d. Name and address of similar projects on which product was used, and date of installation.
 2. For construction methods (if specified):
 - a. Detailed description of proposed method.
 - b. Drawings illustrating method.
 3. Such other data as the ENGINEER may require to establish that the proposed substitution is equal to the product, manufacturer or method specified.
- C. In making Request for Substitution, CONTRACTOR represents that:
1. CONTRACTOR has investigated proposed substitution, and determined that it is equal to or superior in all respects to the product, manufacturer or method specified.
 2. CONTRACTOR will provide the same or better guarantees or warranties for proposed substitution as for product, manufacturer, or method specified.
 3. CONTRACTOR waives all claims for additional costs or extension of time related to a proposed substitution that subsequently may become apparent.
- D. A proposed substitution will not be accepted if:
1. Acceptance will require changes in the design concept or a substantial revision of the Contract Documents.
 2. It will delay completion of the Work, or the work of other contractors.
 3. It is indicated or implied on a Shop Drawing and is not accompanied by a formal Request for Substitution from CONTRACTOR.
- E. If the ENGINEER determines that a proposed substitute is not equal to that specified, furnish the product, manufacturer, or method specified at no additional cost to OWNER.
- F. Approval of a substitution will not relieve CONTRACTOR from the requirement for submission of Shop Drawings as set forth in the Contract Documents.
- G. The procedure for review by Engineer will include the following:
1. Requests for review of substitute items of material and equipment will not be accepted by Engineer from anyone other than CONTRACTOR.
 2. Upon receipt of an application for review of a substitution, Engineer will determine whether the review will be more extensive than a normal shop drawing review for the specified item.
 3. If the substitution will not require a more extensive review, Engineer will proceed with the review without additional cost to CONTRACTOR.
 4. If the substitution requires a more extensive review, Engineer will proceed with the review only after CONTRACTOR has agreed to reimburse Owner for the review cost.
 5. Engineer may require CONTRACTOR to furnish at CONTRACTOR's expense additional data about the proposed substitute.

- H. Any redesign of structural members shall be performed by, and the plans signed and sealed by, a Professional Engineer registered in the State of Florida. The redesign shall be at the CONTRACTOR's expense. Any redesign will require an extensive review by the Engineer. The CONTRACTOR must agree to reimburse the Owner for the review cost prior to the Owner's Engineer proceeding with the design review. The ENGINEER's estimated cost of review shall be provided to the CONTRACTOR prior to proceeding with the review to allow the CONTRACTOR the opportunity to rescind the request.
- I. Engineer will be allowed a reasonable time within which to evaluate each proposed substitution. Engineer will be the sole judge of acceptability and shall have the right to deny use of any proposed substitution. The CONTRACTOR shall not order, install, or utilize any substitution without either an executed Change Order or Engineer's notation on the reviewed shop drawing. Owner may require CONTRACTOR to furnish at CONTRACTOR's expense a special manufacturer's performance guarantee(s) or other surety with respect to any substitute and an indemnification by the CONTRACTOR. ENGINEER will record time required by Engineer and Engineer's consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not a proposed substitute is used, CONTRACTOR shall reimburse Owner for the charges of Engineer and Engineer's consultants for evaluating each proposed substitute.
- J. Substitute materials or equipment may be proposed for acceptance in accordance with this Section. In the event that substitute materials or equipment are used and are less costly than the originally specified material or equipment, than the net difference in cost shall benefit the Owner and CONTRACTOR in equal proportions. This cost difference shall not be reduced by any failure of the CONTRACTOR to base his bid on the named materials or equipment.

+ + END OF SECTION + +

SECTION 01710 - SITE CLEANUP AND RESTORATION

1.1 SCOPE

Furnish all labor, equipment, appliances, and materials required or necessary to clean up and restore the site after the construction is completed.

1.2 REQUIREMENTS

- A. During the progress of the project, keep the work and the adjacent areas affected thereby in a neat and orderly condition. Remove all rubbish, surplus materials, and unused construction equipment. Repair all damage so that the public and property owners will be inconvenienced as little as possible.
- B. Provide onsite containers for the collection of waste materials, debris, and rubbish and empty such containers in a legal manner when they become full.
- C. Where material or debris has been deposited in watercourses, ditches, gutters, drains, or catch-basins as a result of the CONTRACTOR's operations, such material or debris shall be entirely removed and satisfactorily disposed of during the progress of the work, and the ditches, channels, drains, etc., shall be kept clean and open at all times.
- D. Before the completion of the project, unless otherwise especially directed or permitted in writing:
 - 1. Tear down and remove all temporary buildings and structures;
 - 2. Remove all temporary works, tools, and machinery, or other construction equipment furnished;
 - 3. Remove all rubbish from any grounds occupied; and
 - 4. Leave the roads, all parts of the premises, and adjacent property affected by construction operations, in a neat and satisfactory condition.
- E. Restore or replace any public or private property damaged by construction work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of the operations. To this end, the CONTRACTOR shall restore all highway, roadside, and landscaping work within any right-of-way, platted or prescriptive. Acceptable materials, equipment, and methods shall be used for such restoration.
- F. Thoroughly clean all materials and equipment installed and on completion of the work, deliver the facilities undamaged and in fresh and new-appearing condition.
- G. It is the intent of the Specifications to place the responsibility on the CONTRACTOR to restore to their original condition all items disturbed, destroyed, or damaged during construction. Particular attention will be placed on restoration of canals to equal or better condition than prior to construction.

- H. When finished surfaces require cleaning with cleaning materials, use only those cleaning materials which will not create hazards to health or property and which will not damage the surfaces. Use cleaning materials only on those surfaces recommended by the manufacturer. Follow the manufacturer's directions and recommendations at all times.
- I. Keep the amount of dust produced during construction activities to a minimum. At CONTRACTOR's expense, spray water or other dust control agents over the areas, which are producing the dust. Schedule construction operations so that dust and other contaminants will not fall on wet or newly coated surfaces.

1.3 SITE CLEANUP AND RESTORATION

Prior to final completion, the OWNER, ENGINEER, and CONTRACTOR shall review the site with regards to site cleanup and restoration. Clean and/or restore all items determined to be unsatisfactory by the OWNER or ENGINEER, at no additional expense.

+ + END OF SECTION + +

SECTION 01820 - POST FINAL INSPECTION

1.1 GENERAL

- A. Approximately one year after Final Completion, the OWNER will make arrangements with the Construction Coordination Manager and the CONTRACTOR for a post final inspection and will send a written notice to said parties to inform them of the date and time of the inspection.
- B. Corrections of defective work noted by OWNER and Construction Coordination Manager shall comply with the applicable sections of Article 13, General Conditions.
- C. After the inspection, the OWNER will inform the CONTRACTOR of any corrections required to release the performance and payment bonds.

+ + END OF SECTION + +

Project:

Jackie Robinson Training Complex-Villas Remodel

Located at:

**Historic Dodgertown, 3901 26th St
Vero Beach, FL 32960**

PROJECT MANUAL / TECHNICAL SPECIFICATIONS

Prepared By:

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AR #AAC000886**

**Architect's Commission Number
#120120VB**

OWNER:

**Indian River County
1801 27th Street
Vero Beach, FL 32960**

DATE: 13 July 2021

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SECTION 03100 - CONCRETE FORMWORK

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

A. Qualifications of Workmen:

1. Provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed, the referenced standards, and the requirements of this work, and who shall direct all work performed under this Section.

B. Codes and Standards:

1. Comply with applicable provisions of the latest edition of Building Code that has jurisdiction and Occupational Safety and Health Act.
2. Where provision of pertinent codes and standards conflict with the requirements of this Section of these Specifications, the more stringent provisions shall govern.
3. Product Standard PS 1-83 for Construction and Industrial Plywood.
4. American Concrete Institute Standard recommended practice for concrete formwork, ACI 347-latest edition.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

A. Form Lumber:

1. All form lumber in contact with exposed concrete shall be new except as allowed for under Re-use of Forms in Part 3 of this Section of the Specifications. All form lumber shall be one of the following, a combination thereof, or an equal approved in advance by the Engineer.
 - a. "Plyform", Class I 5/8" or 3/4" PS 1066, C-D exterior plywood, bearing the label of the Douglas Fir Plywood Association.
 - b. Douglas Fir-Larch, number two grade, seasoned, surfaced four (4) sides.

2.02 OTHER MATERIALS

- A. All other materials, not specifically described but required for proper completion of concrete formwork, shall be as selected by the Contractor subject to the advance approval of the Engineer.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

- A. Inspection and Soil Treatment:
 - 1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is completed to the point where this installation may properly commence.
 - 2. Verify that forms may be constructed in accordance with all pertinent codes and regulations, the referenced standards, and the original design.
 - 3. Treat underlying soil to prevent vegetation growth and insect infestation.

3.02 CONSTRUCTION OF FORMS

- A. General:
 - 1. Construct all required forms to be substantial, sufficiently tight to prevent leakage of mortar, and able to withstand pressures without excessive deflection when filled with wet concrete.
- B. Embedded Items:
 - 1. Set all required steel frames, angles, grilles, bolts, inserts, and other such items required to be anchored in the concrete before the concrete is placed.
- C. Bracing:
 - 1. Properly brace and tie the forms together so as to maintain position and shape and to ensure safety to personnel.
 - 2. Construct all bracing and supporting members of amply size and strength to safely carry, without excessive deflection, all dead and live loads to which they may be subjected.
 - 3. Space the forms the proper distance apart and securely tie them together, using metal spreader ties that provide positive tying and accurate spreading.

3.03 RE-USE OF FORMS

A. General:

1. Re-use of forms shall be subject to advance written approval of the Structural Engineer or his designer.

B. Requirements:

1. Except as specifically approved in advance by the Structural Engineer, re-use of forms shall in no way delay or change the schedule of placement of concrete from the schedule obtainable if all form were new.
2. Except as specifically approved in advance by the Structural Engineer, re-use of forms shall in no way impart less structural stability to the forms no less acceptable appearance to finished exposed concrete.

3.04 REMOVAL OF FORMS

A. General:

1. Minimum periods to form removal after concrete placement shall be as follows:

Slabs and curbs	24 hours
Vertical walls (4'-0" Ht.)	36 hours
Vertical walls (over 4'-0" Ht.)	7 days
2. Removal of formwork may be extended if deemed necessary by the Structural Engineer.

B. Removal:

1. Remove metal spreader ties on exposed concrete by removing or snapping off inside the wall surface and point up and rubbing the resulting pockets to match the surrounding areas.
2. Flush all holes resulting from the use of spreader rods and sleeve nuts, using water, and then solidly pack throughout the wall thickness with cement grout applied under pressure by means of a grouting gun; grout shall be one (1) part Portland cement and two and one-half (2-1/2) parts sand; apply grout immediately after removing forms.

*****END OF SECTION*****

SECTION 03200 - CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.02 QUALITY ASSURANCE

A. Qualifications of Workmen

1. Provide at least one person who shall be present at all times during execution of this portion of the Work and who shall be thoroughly familiar with the type of materials being installed and the best methods for their installation and who shall direct all Work performed under this Section.

B. Codes and Standards

1. Comply with applicable provisions of the latest edition of the Florida Building Code that has jurisdiction.
2. Where provisions of pertinent codes and standards conflict with this Specification, the more stringent provisions shall govern.

1.03 SUBMITTALS

A. Shop Drawings

1. Refer to Section 01340 of the General Requirements.
2. Do not fabricate and/or deliver concrete reinforcement to the job site until receipt of Shop Drawings review and approval from the Architect.

1.04 PRODUCT HANDLING

A. Protection

1. Use all means necessary to protect concrete reinforcement before, during, and after installation and to protect the installed work and materials of all other trades.
2. Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond-breaking coatings.

B. Placements

In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 CONCRETE REINFORCEMENT

- A. All concrete reinforcement materials shall be new, free from rust, and complying with the following reference standards unless otherwise specified on the drawings.
1. Bars for reinforcement: "Specifications for Deformed Billet-Steel Bars for Concrete Reinforcement", ASTM A-615, latest editions, Grade 60.
 2. Wire for reinforcement: "Specifications for Cold-Drawn Steel Wire for Concrete Reinforcement", ASTM A-82.
 3. Wire fabric: "Specifications for Wire Fabric for Concrete Reinforcement", ASTM A-185, latest edition. Carefully review the structural drawings for sizes of specified wire fabrics. Do not confuse standard 6X6 10/10 WWF (a rolled product) with specific 6X6 6/6 "road mesh" (a sheet product).

2.02 OTHER MATERIALS

- A. All other materials, not specifically described but required for a complete and proper installation of concrete reinforcement, shall be as selected by the Contractor subject to the approval of the Architect.

2.03 LEED REQUIREMENTS FOR RECYCLED MATERIAL

- A. All reinforcing steel shall be a minimum of 90% recycled as manufactured by utilizing an electric arc furnace (EAF). Manufacturer shall provide documentation clarifying the percentages of post-consumer and pre-consumer recycled content. Manufacturer shall be located within 500 miles of the site.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection

1. Prior to installation of the Work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

2. Verify that concrete reinforcement may be installed in strict accordance with all pertinent codes and regulations, the approved Shop Drawings, and the original design.

B. Discrepancies

1. In the event of discrepancy, immediately notify the Architect.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 BENDING

A. General

1. Fabricate all reinforcement in strict accordance with the approved Shop Drawings and ASTM A-615.
2. Do not use bars with kinks or bends not shown on the Drawings or on the approved Shop Drawings.
3. Do not bend or straighten steel in a manner that will injure the material.

3.03 PLACING

A. General

1. Before the start of concrete placement, accurately place all concrete reinforcement, positively securing and supporting by means of approved metal chairs, spacers, and metal hangers.

B. Clearance

1. Preserve clear space between bars of not less than one and one-half (1-1/2) times the nominal diameter of round bars.
2. Provide minimum concrete covering of reinforcement as shown or noted on the Structural Drawings.

3.04 CLEANING REINFORCEMENT

- A. Steel reinforcement, at the time concrete is placed around it, shall be free from rust scale loose mill scale, oil paint, and all other coatings which will destroy or reduce the bond between steel and concrete.

*****END OF SECTION*****

SECTION 03300 - CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A.	Concrete Formwork	Section 03100
B.	Concrete Reinforcement	Section 03200
C.	Unit Masonry	Section 04200
D.	Underslab Vapor Retarder	Section 07160
E.	Metal Building Systems	Section 13122
F.	Plumbing	Section 15000
G.	Electrical	Section 16000

1.02 QUALITY ASSURANCE

A. ASTM Standards (Latest Editions):

1. C-31 Standard Method of Making and Curing Concrete Test Specimens in the Field
2. C-33 Standard Specification for Concrete Aggregates
3. C-39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
4. C-42 Standard Method of Obtaining and Testing Drilled cores and Sawed Beams of Concrete
5. C-94 Standard Specification for Ready Mixed Concrete
6. C-143 Standard Test Method for Slump of Portland Cement Concrete
7. C-150 Standard Specification for Portland Cement
8. C-172 Standard Method of Sampling Freshly Mixed Concrete

B. ACI standards (Latest Editions):

1. ACI-318, Building Code Requirements for Structural Concrete
2. Concrete work shall conform to all requirements of ACI-301 (Latest Editions), Specifications for Structural Concrete for Buildings, except as modified by the supplemental requirements herein.
3. ACI 318 Detailing Standards.

4. ACI 315 Specifications for structural Concrete for Buildings
5. CRSI 347R Recommended Practice for Placing reinforcing bars.

1.03 TESTS AND INSPECTIONS

- A. All tests shall be made in accordance with ASTM recommendations referred to herein.
- B. Tests shall be performed by an independent laboratory approved by the Architect.
- C. Contractor will pay for testing, including tests which indicated failure; in which case that test and all costs incurred as a result thereof, shall be paid for by the Contractor.
- D. Standard slump tests shall be taken of the concrete sample for each strength test and whenever consistency of concrete appears to vary. The maximum slump of concrete shall be 4" plus/minus 1", unless specifically otherwise noted.
- E. Concrete that fails by test shall be replaced at no cost to Owner.
- F. Test for strength shall be made as follows:
 1. **Slump Test:** One test for each load of concrete at the point of discharge taken out of a wheelbarrow and not out of the chute. Maximum slump measurements as stated above.
 2. **Compressive Strength Test:** Randomly test cylinders taken at each major pour; footings, floor slabs, columns and tie-beams. Two (2) specimens are to be tested at 7 days and two (2) specimens tested at 28 days. Hold one cylinder for future use if test does not comply at 28 days.
 3. All test results are to be reported, in writing, to the Owner, and the Architect. Test results should stipulate the day the tests were performed.
 4. Samples for testing shall be taken at 1/4 and 3/4 points of the load discharged from the mixer.
 5. If necessary, comply with Architect or Engineer's request for additional cylinders, slump or load test.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. Cement shall be Portland cement, ASTM C-150.
- B. Aggregates for normal weight concrete shall meet the requirements of ASTM C-33.
- C. Mixing water for concrete shall be potable and meet the requirements of ASTM C-94.

2.02 ACCESSORIES

- A. Anchor slots, reglets and inserts of type, size and spacing required by trades involved, and shown on plans.
- B. Vapor Barrier: 6 mil Polyethylene Film, such as “visqueen”. Refer to the Building Plan Sections for specific applications.
- C. Vapor Retarder: 10 mil vapor retarder such as Perminator by WJ Meadows. Refer to the Building Plan Sections for specific applications.
- D. Chemical Curing Compound: Application of a curing compound shall be made to all slabs and such application shall conform to ASTM C-309. The compound shall be applied in accordance with the recommendations of the manufacturer immediately after any water sheen which may develop after finishing has disappeared from the concrete surface. It shall not be used on any surface against which additional concrete or other material is to be bonded unless it is proven that the curing compound will not prevent bond, or unless positive measures are taken to remove it completely from areas to receive bonded applications.

Acceptable materials shall be one of the following:

- | | |
|---------------------|--------------------|
| 1. Burke Company | Aqua resin Cure |
| 2. Sika Corporation | Sikagard Cure/Hard |
| 3. Sonneborn | Hydrocide |
- E. Expansion Joint Water Stops: Continuous, pre-formed, finned, center bulb type, polyvinyl chloride, of sufficient width to provide 3" minimum embedment in concrete each side. Equal to Greenstreak #703.
 - F. Pre-molded Joint Filler: Bituminous Fiber Type, ASTM D-1751-83 and D 545-77 equal to “Celotex Flexcell” of thickness and width indicated or required.

- G. Reinforcement shall be cleaned of all scale and excessive rust. All reinforcement shall be set with the standard accessories as per ACI 315-74. Minimum coverage of reinforcement shall be as follows:
1. Footings – 3” minimum.
 2. Slabs – 3/4” minimum.
 3. Beams and Columns – 1-1/2” minimum.

PART 3 - EXECUTION

3.01 PROPORTIONING AND MIXING

A. Concrete Mix:

1. All cast-in-place concrete shall be ready mixed and in accordance with ASTM Specifications C-94 (Latest Edition).
2. Minimum 5 bags cement per yard of concrete.

B. Concrete Strength:

1. Unless specifically noted otherwise, all concrete shall have a minimum compressive strength of $f'c = 3000$ psi.
2. A design mix shall be prepared by a Florida Registered Professional Engineer employed by the concrete supplier.
3. The Contractor shall submit to the Architect/Engineer the concrete materials and the concrete mix designs proposed for use with a written request for acceptance. This submittal shall include the results of all testing performed to qualify the materials and to establish the mix designs.

C. Job Tempering:

1. All Concrete shall be placed within 1½ hours after introduction of water to the mix.
2. Under no condition may additional water be added that exceeds the allowable gallons stipulated on the batch ticket.
3. Submit time stamped batching tickets on delivery of concrete to job site.
4. All concrete where water has been added will be removed and replace with proper concrete at no cost to the Owner.

5. When air temperature is between 85 and 90 degrees **F**, reduce mixing and delivery time to 75 minutes. When air temperature is higher than 90 degrees, reduce mixing and delivery time to 60 minutes.

3.02 PLACING OF CONCRETE

- A. Review: No concrete shall be placed until all reinforcing steel, pipes, sleeves, inserts, etc. have been set in place and reviewed by the Owner's representative. **Contractor shall notify the Architect of scheduled pours 24 hours prior to pouring.**
- B. Placing: Concrete shall be placed in properly cleaned and prepared forms in accordance with the requirements of ACI-301. Concreting should be carried on at such a rate that the concrete is at all times plastic.
- C. Conveying: Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of ingredients and in a manner which will assure that the required quality of the concrete is maintained. All other requirements of ACI-301 shall be followed.
- D. Depositing: Concrete shall be deposited continuously or in layers of such thickness that no concrete will be deposited on concrete which is hardened sufficiently to cause the formation of seams or planes of weakness within the section.
- E. Consolidation: All concrete shall be consolidated by vibration, spading, rodding, or forking so that the concrete is thoroughly worked around the reinforcement, around embedded items, and into corner of forms eliminating all air or stone pockets which may cause honeycombing, pitting, or planes of weakness.
- F. All slabs on grade are to be Regular $\frac{3}{4}$ rock concrete at 3000 psi ultimate strength at 28 days. **NO PUMP MIX (pea rock) WILL BE ACCEPTED** for any slab on prepared grade. This does not prohibit the pumping of the regular $\frac{3}{4}$ rock mix.

3.03 JOINTS

- A. Construction Joints:
 1. Locate as shown on the drawings or near points of minimum shear and as approved by Architect/Engineer for beam or slabs. Construction joints shall be straight saw-cut by a walk behind motorized saw, tooled, mechanical or actual cold joints as called out on the plans.
 2. Locate joints in vertical members, walls at underside of floors or beams, and at tops of footings.

3. Floor slabs keyed joints maximum spacing 20' plus or minus each direction unless otherwise noted.

A. Expansion Joints:

1. Locate as shown on drawings.
2. Joints in walkways maximum at 20' o.c., snap lines and saw-cut 1/8" wide by 1" deep between expansion joints in equal bays at not over 5' o.c., within 24 hours of concrete placement or until concrete is trafficable with power saw.
3. Joints shall be straight and smooth. They shall have hardened before fresh concrete is deposited against them.
4. Do not place expansion joints where slabs are up against the exterior of masonry walls, unless otherwise detailed on plans. Do not place any expansion material on the inside face of masonry walls where slabs are poured against same walls.
5. After concreting has been started, it should be carried on as a continuous operation until placing of a panel or section, as determined by its boundaries or joints, is completed.

3.04 CURING

- A. Begin curing of concrete as soon as practicable after placing, but not more than 3 hours thereafter. Provide a total wet cure time of 7 days minimum at 50 degrees F minimum temperature.
- B. Curing of structural members shall begin immediately after removal of forms.
- C. Apply curing compounds as specified above, clear for exposed slabs. Compound used on floors that are to receive tile or other additional finish shall be compatible with adhesives and finish materials. Apply first coat of curing compound as soon as possible after pouring.

3.05 FINISHES

A. Formed Surfaces:

1. Finishes - Defined:

- a. Rough Form Finish: Reasonable true to line and place. Tie holes and defects shall be patched and fins exceeding 1/4" in height shall

be chipped off or rubbed off. Otherwise, surfaces may be left with the texture imparted by the forms.

- b. Smooth Form Finish: The form facing material shall produce a smooth, hard, uniform texture on the concrete. It may be plywood, tempered concrete-form-grade hardboard, metal, or other material capable of producing the desired finish. The arrangement of the facing material shall be orderly and symmetrical, with the number of seams kept to the practical minimum. It shall be supported by studs or other backing capable of preventing excessive deflection. Material with raised grain, torn surfaces, worn edges, patches, dents, or other defects which will impair the texture of the concrete surface shall not be used. Tie holes and defects shall be patched. All fins shall be completely removed. It is the intention of this surface to produce an Architectural Surface suitable for public view as a completed surface to receive paint. Strict quality control of this surface shall be required. See ACI 301.
 - c. Smooth Rubbed Finish: To be applied to all smooth form finishes. (All work will conform with ACI Standard 301-latest edition) to produce a smooth architectural effect.
2. Finishes - Unspecified Buildings: If the finish is unspecified, the following finishes shall be used as applicable.
- a. Rough Form Finish: For all concrete surfaces not exposed to public view, including concrete to receive stucco.
 - b. Smooth Form Finish: For all concrete surfaces exposed to view.
 - c. Smooth Rubbed Finish: Concrete shall have a Smooth Rubbed Finish applied to produce an architectural effect.
3. Patching: Immediately after stripping forms patch all defective areas with mortar similar to the concrete mix except that coarse aggregate shall be omitted. Bulges, minor honeycomb and other minor defects, as designated by the Architect, shall be patched only where exposed to view. Clean, dampen, and fill tie holes with patching mortar. All patching shall follow procedures and conform to ACI 301.
- a. Major defective areas, as judged by the Owner's representative including those resulting from leakage of forms, excessive honeycomb, large bulges and large offsets at form joints, shall be

chipped away down to sound concrete. The patching mortar shall be pressed in for a complete bond and finished to match adjacent areas, or where defective areas impair the strength of the member in question, as judged by the Owner's representative, the member shall be removed or united as determined by the Owner's representative.

- b. Minor defective areas, as judged by the Owner's representative including honeycomb, air bubbles, holes resulting from removal of ties, and those resulting from leakage of forms shall be patched with grout without resorting to chipping. Minor bulges and offsets at form joints shall be finished as specified herein below.

B. Uniform Surfaces – Flatwork:

1. General: Grade and screed the surfaces to the exact elevation, or slope shown or required. Make proper allowances for setting beds for ceramic tile. After screeding tamp mixture thoroughly to drive the coarse aggregate down from the surfaces and apply the applicable finish specified hereinafter. Always slope exterior walks away from the building at 1/8" per foot. Uncovered walks slope at 1/8" per foot or crown. Covered walks between buildings always slope to drain to the exterior and away from the buildings. At cross intersections of the walks, and at exterior doors, warp the surfaces to drain water from the walls. Provide control joints as indicated on drawings. Follow the requirements and procedures of ACI 301.
2. Finishes - Definitions (See also ACI 301):
 - a. Scratched Finish: After concrete has been placed, struck off, consolidated and leveled to a Class B tolerance, surface shall be roughened with stiff brush, rates or metal lath roller, before final set.
 - b. Floated Finish: After concrete has been placed, struck off, consolidated and leveled, concrete shall not be worked further until water sheen has disappeared and/or when mix has stiffened sufficiently to permit proper operations of a power driven float. Consolidate with power driven float, check trueness of surface, fill low spots and cut down high spots to achieve Class B tolerance. Then, re-float to uniform, smooth, granular texture.
 - c. Troweled Finish: Finish same as above for floated finish and in addition, steel trowel the surface by hand to produce a smooth, glassy, impervious surface free of trowel marks to a Class A tolerance. On surfaces intended to support floor coverings, defects of sufficient magnitude to show through the floor covering shall be removed by grinding.

- d. Broom Finish: Finish same as above for floated finish to a Class B tolerance and then draw a broom or burlap belt across surface transversely.

Finishes - Unspecified

1. When type of finish is not specified, the following shall be applicable:
 - a. Scratched Finish: For surfaces to receive bonded cementitious application, i.e. ceramic tile, single ply epoxy flooring etc., refer to drawings for locations of specific floor coverings.
 - b. Troweled Finish: For surfaces intended as smooth walking surfaces or for receipt of floor coverings.
 - c. Broom Finish: For exterior walks, loggias, curbs and where indicated on drawings.
 - d. Float Finish: Exterior platforms, steps, stairways, landings, and ramps.

Specific Finish Locations:

1. Slab areas to receive ceramic tile, resilient floor coverings, specialized gymnasium flooring, or slabs within a minimum of 2 feet each side of accordion doors shall be "dead level" - Class A. All other slab areas - Class B.

Tolerances for finishes as specified shall be as follows:

1. Class A - True planes within 1/8" in 10 ft.
2. Class B - True planes within 1/4" in 10 ft.

NOTE: Tolerances shall be measured by placing a 10-ft. straightedge anywhere in any direction.

*****END OF SECTION*****

SECTION 03420 - PRECAST CONCRETE LINTELS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

Furnish and install all required Precast Lintels and Door Headers in the locations called out on the architectural and structural drawings as manufactured by WEKIWA CONCRETE PRODUCTS, INC. or an approved equal. Lintels available through CSR Rinker (Cemex Corp.).

1.02 RELATED WORK SPECIFIED ELSEWHERE

Concrete Formwork	Section 03100
Concrete Reinforcement	Section 03200
Cast in place Concrete	Section 03300

1.03 QUALITY ASSURANCE

A. ASTM Standards (Latest Editions):

1. ASTM A615 (Grade 60) for reinforcing bars.
2. ASTM A416, 7 wire for prestress strands.

B. ACI Standards (Latest Editions):

1. ACI 315, Detail Reinforcement.
2. Concrete Operations shall comply with ACI Standards.
3. Design and Construction shall conform to the specification of the national concrete masonry association and ACI 530.
4. ACI 318-95, Building Code Requirements for Structural Concrete.

C. Florida Building Code, latest edition.

D. American Society of Civil Engineers minimum design loads for Buildings and Other Structures (ASCE 7-95).

PART 2 - PRODUCTS

2.01 CONCRETE

A. Concrete Compressive Strength at 28 days:

1. Pre-cast w/standard reinforcement- 3500 PSI.
2. Pre-cast w/prestress reinforcement- 5000 PSI.
3. Concrete Fill (placed in field)- 3000 PSI.

2.02 MASONRY

- A. Minimum masonry unit strength fm 1500 PSI.
- B. Mortar shall be type-M.

2.03 REINFORCING MATERIALS

- A. Reinforcing bars: ASTM A615 (grade 60).
- B. Prestress Strands: ASTM A416, 7-wire.
- C. Steel is placed in the precast lintel at time of fabrication.
- D. Minimum coverage of steel to be 3/4 inch for top bars and 1.5 inches for bottom bars.

PART 3 - EXECUTION

3.01 DELIVERY, STORAGE, AND HANDLING

- A. Deliver precast concrete units to project site in such quantities and at such times to assure continuity of installation.
- B. Store units at project site to ensure against cracking, distortion, staining, or other physical damage, and so that markings are visible.

3.02 INSTALLATION

- A. Lift and support units at designated lift points. Shoring of precast units shall be installed and removed solely by the contractor under the direct supervision of the manufacturer.
- B. Minimum bearing required at each end is 4 inches. Bearing preferred is 8 inches.
- C. Do not install any damaged units.

3.03 DEFECTIVE WORK

- A. Precast concrete units which do not conform to specified requirements, including strength, tolerances, and finishes, shall be replaced with precast concrete units that meet requirements of this section. The contractor shall also be responsible for the cost of corrections to any other work affected by or resulting from corrections to precast lintels.

*****END OF SECTION*****

SECTION 05400 - LIGHT GAGE METAL FRAMING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS IN OTHER SECTIONS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work specified in this section.

1.02 DESCRIPTION OF WORK

Extent of lightgage metal framing (LtGMFrm) is shown on drawings.
Types of lightgage metal framing units include the following: "C" shaped steel studs.

1.03 QUALITY ASSURANCE

- A. Components Design: Compute structural properties of studs and joists in accordance with AICS "Specification for design of Cold-Formed Steel Structural Members".
- B. Fire-Rated Assemblies: Where framing units are components of assemblies indicated for a fire-resistance rating, including those required for compliance with governing regulations, provide units which have been approved by governing authorities having jurisdiction.
- C. Manufacturers offering products complying with requirements for lightgage metal framing components include the following:
 - Shaped load bearing studs, 1-5/8" flange:
 - Alabama Metal Industries
 - Marino Ware
 - Dietrick
 - Roll Form Products, Inc.
 - U.S. Steel Corp.
 - Wheeling Corrugating Co.

1.04 SUBMITTALS

- A. Products data: Submit manufacturer's product information and installation instructions for each items of lightgage framing and accessories.
- B. Shop Drawing: Submit shop drawings for special components and installations not fully dimensioned or detailed in manufacturer's product data. Signed and sealed Shop Drawings required by a Florida Registered Structural Engineer. Include placing drawings for framing members showing size and gage designations, number, type, locations and spacing. Indicate supplemental strapping, bracing, splices, accessories, and details required for proper installation.

1.05 DELIVERY AND STORAGE

- A. Protect metal framing units from rusting and damage. Deliver to protect site in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade. Store off ground in a dry ventilated space or protect with suitable waterproof coverings.

PART 2 - PRODUCTS

2.01 METAL FRAMING

- A. System Components: With each type of metal framing required, provide manufacturer's standard steel runners, tracks, blocking, lintels, clip angles, shoes, reinforcements, fasteners and accessories recommended by manufacturer for applications indicated as needed to provide a complete metal framing system.
- B. Materials and Finishes
For 16 gage and heavier units, fabricate metal framing components of structural quality steel sheet with a minimum yield point of 40,000 psi; ASTM A 446, A 570, or A 611.

For 18 gage and lighter units, fabricate metal framing components of commercial quality steel sheet with a minimum yield point of 33,000 psi; ASTM A 466, A 570, Or A 611. Provide galvanized finish to metal framing components complying with ASTM A 525 for minimum G 60 coating at exterior wall panel studs. Provide prime coated finish with one coat of shop-applied red oxide, zinc-chromate, or other similar rust-inhibitive primer for interior studs. "C"-Shape Studs: Manufacturer's standard load-bearing steel studs of size shape, and as located on the drawings with 1-5/8" (1.625") flange and flange return to lip.

GAGES AS DETERMINED BY THE FOLLOWING CHART:

(Interior Framing: Limiting Heights - ST Style Studs. Stud gages apply for single and double layers of gypsum application on walls using L/360 allowable deflection) with no midspan wall blocking, cats, lateral bracing, or cold rolled channel bracing run through stud perforations. Allowable heights can be exceeded by 20% when continuous wall bracing or blocking is provided.

<u>STUD WIDTH</u> <u>GA</u>	<u>STUD SPACING</u>	<u>MAX. HGT. 25 GA</u>	<u>MAX. HGT. 22 GA</u>	<u>MAX. HGT. 20</u>
3-5/8"	16" o/c	10'-0"	12'-0"	14'-0"
3-5/8"	24" o/c	8'-0"	10'-0"	12'-0"
6"	16" o/c	15'-0"	17'-0"	19'-0"
6"	24" o/c	13'-0"	15'-0"	17'-0"

2.02 FABRICATION

- A. General: Framing components may be prefabricated into panels prior to erection. Fabricate panels plumb, square, true to line and braced against racking with joints welded. Perform lifting of prefabricated panels in a manner to prevent damage or

- distortion. Stud panels to be rechecked for plumbness after installation.
- B. Fastenings: Attach similar components by welding. Attach dissimilar components by welding, bolting, or screw fasteners, as standard with manufacturer.

PART 3 - EXECUTION

3.01 INSPECTION AND PREPARATION

Pre-Installation Conference: Prior to start of installation of metal framing systems, meet at project site with installers of other work including metal panels, door and window frames and mechanical and electrical work. Review areas of potential interference and conflict, and coordinate layout and support provisions for interfacing work.

3.02 INSTALLATION

- A. Manufacturer's Instructions: Install metal framing systems in accordance with manufacturer's printed or written instructions and recommendation, and Engineered Shop Drawings, unless otherwise indicated.
- B. Runner Tracks: Install continuous tracks sized to match studs. Align tracks accurately to layout at base and tops of studs. Secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24" o.c. spacing for nail or power-driven fasteners, nor 16" o.c. for other types of attachment. Spacing of studs at metal wall panels to be as per panel manufacturers request. Provide fasteners at corners and ends of tracks.
- C. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
- D. Where stud system abuts structural columns or walls, including masonry walls, anchor ends of stiffeners to supporting structure.
- E. Install supplementary framing, wood blocking and bracing at metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishing, wall mounted door stops, bathroom grab bars and similar work requiring attachment to the wall or partition. Where type of supplementary support is not otherwise indicated, comply with stud manufacturer's recommendations and industry standards in each case, considering weight or loading resulting from item supported.
- F. Installation of Wall Stud System: Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges.
- G. Frame wall openings larger than 2'-0' square with double stud at each jamb of frame except where more than 2 are either shown or indicated in manufacturer's instructions. Install runner tracks and jack studs above and below wall openings.

Anchor tracks to jamb studs with stud shoes or by welding, and space jack studs same as full height studs of wall. Secure stud system wall opening frame in manner indicated.

*****END OF SECTION*****

SECTION 07460 – HARDIEBOARD PRODUCTS

ARCHITECTURAL SPECIFICATIONS

Hardiplank® Lap Siding
Hardipanel® Vertical Siding
Hardishingle™ Cladding
Harditrim® Fascia and Moulding

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Work under this section is subject to the provisions of the contract documents which in any way affect the work specified herein.

1.02 SCOPE

Furnish and install Hardiplank, Hardipanel and Hardishingle fiber-cement siding, Harditrim fascia and moulding and accessories where shown on drawings or as specified herein. Coordinate this section with interfacing and adjoining work for proper sequence of installation.

Work in other sections affecting this work.

Unit Masonry 04200
Lightgauge Metal Framing 05400
Rough Carpentry 06100
Finish Carpentry 06200
Drip Flashings 07715
Joint Sealers 07900
Painting 09900

1.03 QUALITY ASSURANCE

Submittals: within sixty (60) days of owner's notice

Submit three 6 inch x 6 inch pieces of Hardiplank / Hardipanel / Hardishingle claddings in texture and widths shown and specified herein.

Submit three copies of specifications, installation data and other pertinent manufacturer's literature.

1.04 PRODUCT HANDLING

Stack Hardiplank / Hardipanel / Hardishingle claddings on edge or lay flat on a smooth, level surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing.

1.05 JOB CONDITIONS

A. Installation on wood framing:

Nominal 2 X 4 or 2 X 6 inch wood framing selected for minimal shrinkage and complying with local building codes, including the use of weather-resistive barriers and/or vapor barriers where called out on the wall sections. Minimum 1½ inch face and straight, true, of uniform dimensions and properly aligned.

Install weather-resistive barriers and claddings to dry surfaces as called for on the drawings. Repair any punctures or tears in the weather-resistive barrier prior to the installation of the siding.

Protect siding from other trades.

B. On metal studs:

Minimum 20 gauge 3-5/8 inch C-Stud 16 inch maximum on center or 16 gauge 3-5/8 inch C-Stud 24 inch maximum on center metal framing complying with local building codes, including the use of weather-resistive barriers and/or vapor barriers where called out on the wall sections. Minimum 1½ inch face and straight, true, of uniform dimensions and properly aligned.

Install weather-resistive barriers and claddings to dry surfaces.

Repair any punctures or tears in the weather-resistive barrier prior to the installation of the siding.

Protect siding from other trades.

C. On masonry walls:

Minimum of nominal 5/4 X 3 P.T. or 2 X 4 P.T. vertical furring at 16 inches on center maximum behind wall panels or siding as called out on the wall sections and details. Provide solid backing at all top and bottom edges. Include the use of weather-resistive barriers and/or vapor barriers where called out on the wall sections. Minimum of actual 2 5/8 inch face and straight, true, of uniform dimensions and properly aligned.

1.06 WARRANTY

James Hardie's limited product warranty against manufacturing defects in Hardiplank lap and Hardipanel vertical siding for 50 years, Hardishingle for 30 years and HardiTrim for 10 years.

Workmanship: application limited warranty for one year.

PART 2 - PRODUCTS

2.01 HARDIPLANK / HARDIPANEL / HARDISHINGLE CLADDING / HARDITRIM FASCIA AND MOULDING, James Hardie Building Products, 1-800-9-HARDIE

Non-asbestos fiber-cement siding to comply with ASTM Standard Specification C1186 Grade II, Type A.

Siding to meet the following building code compliance National Evaluation Report No. NER 405 (BOCA, ICBO, SBCCI); City of Los Angeles, Research Report No. 24862; Metro Dade County, Florida Acceptance No. 94-1234.04; US Department of Housing and Urban Development Materials Release 1263a; California DSA PS-019; and City of New York MEA 223-93-M. Non-asbestos fiber-cement siding to be non-combustible when tested in accordance with ASTM test method E136.

Type: TYPE: Profiles manufactured by James Hardie Building Products, Inc. Refer to the Working Drawings to determine the specific product and profile required.

(Smooth 5¼" W / 4" EXP), (Smooth 6¼" W / 5" EXP), (Smooth 8¼" W / 7" EXP), (Smooth 9½" W / 8¼" EXP), (Smooth 12" W / 10¾" EXP), (Cedarmill 5¼" W / 4" EXP), (Cedarmill 6¼" W / 5" EXP), (Cedarmill 8¼" W / 7" EXP), (Cedarmill 9½" W / 8¼" EXP), (Cedarmill 12" W / 10¾" EXP), (Cedarmill Select 5¼" W / 4" EXP), (Cedarmill Select 6¼" W / 5" EXP), (Cedarmill Select 8¼" W / 7" EXP), (Cedarmill Select 9½" W / 8¼" EXP), (Cedarmill Select 12" W / 10¾" EXP), (Smooth Beaded 8¼" W / 7" EXP), (Cedarmill Beaded 8¼" W / 7" EXP), (Colonial Smooth 8" W / 6¾" EXP), (Colonial Roughsawn 8" W / 6¾" EXP), (Hardishingle 6", 8" and 12" width with 8" Exposure), (Smooth Vertical siding panel 4' x 8'), (Smooth Vertical siding panel 4' x 9'), (Smooth Vertical siding panel 4' x 10'), (Stucco Vertical siding panel 4' x 8'), (Stucco Vertical siding panel 4' x 9'), (Stucco Vertical siding panel 4' x 10'), (Sierra 4" Vertical siding panel 4' x 8'), (Sierra 4" Vertical siding panel 4' x 9'), (Sierra 4" Vertical siding panel 4' x 10'), (Sierra 8" Vertical siding panel 4' x 8'), (Sierra 8" Vertical siding panel 4' x 9'), (Sierra 8" Vertical siding panel 4' x 10')

Trim Types are as called out on the sections and details on the working drawings.

2.02 FASTENERS

NOTE TO SPECIFIER: REFER TO APPLICABLE BUILDING CODE COMPLIANCE REPORTS FOR MAXIMUM BASIC WIND SPEED FOR EXPOSURE CATEGORY AND/OR APPLICABLE SHEAR VALUES AND SELECT ONE FASTENER, DELETE ALL THAT DO NOT APPLY:

Hardiplank and Hardipanel on 5/8" exterior rated plywood on wood studs at 16" on center:

6d small round head ring shank stainless steel.
Hardiplank nail pattern is 6 inches at edges and laps and 12 inches in the field. Nails to be applied over structural sub-members only. No nails in unbacked open field of plywood.

Hardiplank on PT 5/4 or PT 2 X 4 stripping applied to masonry at 16" on center:

1 1/4" small round head ring shank stainless steel. Fasteners applied to top edge of plank. Stripping applied to masonry with case hard nails or tap-con screws at 12" on centered staggered.

Hardiplank and Hardipanel applied to 5/8" exterior rated plywood on 20 gauge metal framing at 16" on center:

1 5/8" No. 8-18 x 0.323" head self-drilling, stainless steel, S-12 ribbed buglehead screws.

PART 3 - EXECUTION

3.0 SURFACE CONDITIONS

Correct conditions detrimental to timely and proper completion of work.

3.01 INSTALLATION – HARDITRIM FASCIA and MOULDING

Install flashing around all wall openings as called out on the plan details.

Fasten through trim into structural framing or code complying sheathing. Fasteners must penetrate minimum 3/4 inch or full thickness of sheathing. Additional fasteners may be required to ensure adequate security.

Place fasteners no closer than 3/4 inch and no further than 2 inch from side edge of trim board and no closer than 1 inch from end. Fasten maximum 16 inch on center. Maintain clearance between trim and adjacent finished grade. Trim inside corner with single board.

Install single board of outside corner board then align second corner board to outside edge of first corner board. Do not fasten Harditrim board to Harditrim board.

Allow 1/8 inch gap between trim and siding. Seal gap with high quality, paintable silicone or polyurethane sealant.

Shim frieze board as required to align with corner trim. Install Harditrim fascia over structural subfascia.

****OR****

Overlay siding with Harditrim moulding at windows, doors and inside corners.

Fasten through overlapping boards. Do not nail between lap joints.
Overlay siding with single board of outside corner board then align second corner board to outside edge of first corner board. Do not fasten Harditrim boards to Harditrim boards.
Shim frieze board as required to align with corner trim.
Install Harditrim fascia over structural subfascia.

3.02 INSTALLATION – HARDIPLANK SIDING

The manufacturer recommends the use of a "building paper type" weather-resistive barrier in all siding applications. Utilize a minimum of 30# organic felt underlayment or an approved vapor barrier such as TYVEK may also be used.

Hardiplank siding, up to 9½ inch siding, may be face nailed on minimum 5/8 inch exterior rated plywood or equivalent sheathing.

Starting: Install a minimum ¼ inch thick lath starter strip at the bottom course of the wall. Apply planks horizontally with minimum 1¼ inch wide laps at the top. The bottom edge of the first plank overlaps the starter strip.

Allow minimum 1 inch vertical clearance between roofing and bottom edge of siding.
Align vertical joints of the planks over framing members. Maintain a minimum of 2 inch clearance between siding and adjacent finished grade.

Locate splices at least one stud cavity away from windows, building corners and door openings. Apply so vertical joints occur only over solid framing members or backing. Stagger all subsequent course splices at minimum 32 inch intervals when located on the same wall face.

Wind Resistance: Where a specified level of wind resistance is required Hardiplank lap siding is installed to framing members and secured with fasteners described in Table No. 2 in National Evaluation Service Report No. NER-405.

Wind Resistance: Where a specified level of wind resistance is required Hardiplank lap siding is installed to framing members and secured with fasteners described in Table No. 2 in National Evaluation Service Report No. NER-405.

3.03 INSTALLATION – HARDIPANEL SIDING

The manufacturer recommends the use of a "building paper type" weather-resistive barrier in all siding applications. Utilize a minimum of 30# organic felt underlayment or an approved vapor barrier such as TYVEK may also be used.

Block framing between studs where Hardipanel siding horizontal joints occur.
Place fasteners no closer than 3/8 inch from panel edges and 2 inch from panel corners.

Allow minimum 1 inch vertical clearance between roofing and bottom edge of siding.
Maintain clearance between siding and adjacent finished grade.

Specific framing and fastener requirements refer to Tables 2 and 3 in National Evaluation Service Report No. NER-405.

3.04 INSTALLATION – HARDISHINGLE CLADDING

The manufacturer recommends the use of a "building paper type" weather-resistive barrier in all siding applications. Utilize a minimum of 30# organic felt underlayment or an approved vapor barrier such as TYVEK may also be used.

Substrate: Install Hardishingle cladding over minimum 7/16 inch thick OSB wall sheathing or equivalently braced walls complying with the applicable building code.

Starting: Install a minimum ¼ inch thick lath starter strip at the bottom course of the wall.
Maintain clearance between siding and adjacent finished grade.

Apply starter course of 10 inch Hardishingle shingles or 9½ inch Hardiplank lap siding overlapping the starter strip.

Apply subsequent courses horizontally with a minimum 10 inch overlap at the top and minimum 2 inch sidelap. The bottom edge of the first two courses overlaps the starter strip.

Fasten between ½ to 1 inch in from of the shingle side edge and between 8½ to 9 inch from the shingle bottom edge.

Maintain minimum 1 inch vertical clearance between roofing and bottom edge of shingle.
Ensure vertical joints of overlapping shingle courses do not align.

Wind Resistance: Where a specified level of wind resistance is required Hardishingle cladding is installed to substrate and secured with minimum two fasteners described in Table No. 6, 7, and 8 in National Evaluation Service Report No. NER-405.

3.05 FINISHING

Finish unprimed siding with minimum one coat high quality, alkali-resistant primer and two coats high quality, alkali-resistant, 100% acrylic or latex, exterior grade topcoat within 90 days of installation. Follow paint manufacturer's written product recommendation and written application instructions.

*****END OF SECTION*****

SECTION 07600 - FLASHING & SHEET METAL

PART 1 - FABRICATED SHEET METAL

1.01 GENERAL

- A. Conform to profiles and sizes shown on plans, and comply with “Architectural Sheet Metal Manual” by SMACNA, for each general category of work required.
- B. Drip Edge – bent to the configuration and dimensions shown on the drawings. Finish as defined on the wall section. If Aluminum Drip, utilize ESP White. If Galvanized Drip prime and paint per Section 09900. If a manufactured metal roofing supplier drip assembly, the metal drip color shall match the metal roofing specified.
- C. Seal all seams with epoxy, metal seam cement and, where required for strength, rivet seams and joints.
- D. Coat backside of flashing with 15-mil sulfur-free bituminous coating, FS TT-C 494, where required to separate metals from corrosive substrates including cementitious materials, wood or other absorbent materials; or provide other permanent separation.
- E. Provide for thermal expansion of running metal work, by overlaps or expansion joints in fabricated work. Where required for watertight construction, provide hooked flanges filled with polyisobutylene mastic for 1" embedment of flanges. Space joints at intervals of not more than 30' for aluminum. Conceal expansion provisions where possible.

1.02 INSTALLATION REQUIREMENTS:

- A. Anchor work in place with non-corrosive fasteners, adhesives, setting compounds, tapes and other materials and devices as recommended by manufacturer of each material or system. Provide for thermal expansion and building movements. Comply with recommendations of “Architectural Sheet Metal Manual” by SMACNA.
- B. Seal moving joints in metal work with elastomeric sealants, complying with FS SS-T-00227 - 00230, or 001543.
- C. Clean metal surfaces of soldering flux and other substances which could cause corrosion.
- D. Performance: Water-tight/weatherproofing performance of flashing is required.
- E. Do not install metal flashings over any pressure treated wood without first separating the two with 15# or 30# felt secured with stainless or monel staples.

1.03 SUBMITTALS

- A. Contractor to submit manufacturers catalog cuts or shop drawings of all flashing systems as called out on the drawings, for approval by the Architect.

*****END OF SECTION*****

SECTION 07900 - JOINT SEALANTS AND ADHESIVES

PART 1- 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 joint sealants for the following applications, including those specified by reference to this Section: following applications:
1. Interior joints in the following vertical surfaces and horizontal non-traffic surfaces:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Tile control and expansion joints.
 - d. Vertical joints on exposed surfaces of interior unit masonry concrete walls and partitions.
 - e. Perimeter joints between interior wall surfaces and frames of interior doors windows and elevator entrances.
 - f. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - g. Other joints as indicated.
 2. Interior joints in the following horizontal traffic surfaces:
 - a. Control and expansion joints in tile flooring.
 - b. Other joints as indicated.
 3. Exterior joints in the following vertical surfaces and horizontal traffic surfaces:
 - a. Control and expansion joints at Structural Control Joints in masonry wall coursing and in combination with stucco accessories as detailed on the Architectural and Structural plans.
 - b. Control and expansion joints in concrete decking as detailed on the Architectural and Structural plans.
- B. Related Sections include the following:
1. Division 8 Section "Glass and Glazing" for glazing sealants.
 2. Division 9 Section "Gypsum Drywall" for sealing perimeter joints of gypsum board partitions to reduce sound transmission.

3. Division 9 Section "Ceramic Tile Work" for sealing tile joints.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Delete paragraph above or below if not applicable. Revise wording to reflect performance required for both interior and exterior joints. Add specific applications where watertight or water-resistant performance may not be required or attainable with products selected.
- C. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.
- D. All sealants and adhesives **used on the interior of the building** (i.e. inside of the weatherproofing system and applied on-site) must comply with the following requirements as applicable to the project scope:
- E. **Adhesives, Sealants and Sealant Primers** must comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. Volatile organic compound (VOC) limits listed in the table (see the last page of this spec section) correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Delete paragraph above if colors are preselected and specified or scheduled. Retain first paragraph below with or without above.
- D. Samples for Verification: For each type and color of joint sealant required, provide samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- E. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.
- G. SWRI Validation Certificate: For each elastomeric sealant specified to be validated by SWRI's Sealant Validation Program.

- H. Coordinate paragraph below with qualification requirements in Division 1 Section "Quality Requirements" and as supplemented in "Quality Assurance" Article.
- I. Qualification Data: For Installer.
- J. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.
- K. Field Test Report Log: For each elastomeric sealant application.
- L. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.
- M. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period preceding the Notice to Proceed with commencement of the Work.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
 - 2. If retaining subparagraph below, also retain "Product Test Reports" Paragraph in "Submittals" Article.
 - 3. Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.
 - 4. Test elastomeric joint sealants according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.
 - 5. Test other joint sealants for compliance with requirements indicated by referencing standard specifications and test methods.
- D. Pre-construction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each application indicated below:
 - a. Each type of elastomeric sealant and joint substrate indicated.
 - b. Each type of nonelastomeric sealant and joint substrate indicated.
3. Notify Architect seven days in advance of dates and times when test joints will be erected.
4. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
5. Evaluation of Pre-construction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. When warranties are required, verify with Owner's counsel that special warranties stated in this Article are not less than remedies available to Owner under prevailing local laws. Coordinate with Division 1 Section "Product Requirements."
- B. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 2. Disintegration of joint substrates from natural causes exceeding design specifications.

3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. See Editing Instructions No. 1 and No. 2 in the Evaluations for cautions about naming manufacturers and products and in coordinating requirements in this Section with other Part 2 articles.

Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

D Single-Component Nonsag Polysulfide Sealant:

1. Available Products:

- a. Pacific Polymers, Inc.; Elastoseal 230 Type I (Gun Grade).
- b. Polymeric Systems Inc.; PSI-7000.
2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 25.
4. Use Related to Exposure: NT (nontraffic).
5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

2.4 LATEX JOINT SEALANTS

A. Latex Sealant: Comply with ASTM C 834, Type P, Grade NF.

B. Available Products:

1. Pecora Corporation; AC-20+.
2. Sonneborn, Division of ChemRex Inc.; Sonolac.
3. Tremco; Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

A. Acoustical Sealant for Concealed Joints: Manufacturer's standard, nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1. Available Products:

- a. Pecora Corporation; BA-98.
- b. Tremco; Tremco Acoustical Sealant.

2.6 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance. Backing rods used in combination with silicone sealants shall be soft rod "open cell" to prevent off-grassing bubbles in the cured surface. All other backing rods shall be "closed cell".

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self adhesive tape where applicable.

D. When proposing paintable silicones using acrylic latex paints make special consideration that these products must be painted within seven days of placement of sealants. Refer to manufacturer's literature for proper sequence of applications.

2.7 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.

B Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- D. Install sealant backings of type indicated to support sealants during application and at

position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

F. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

G. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
4. Provide flush joint configuration where indicated per Figure 5B in ASTM C 1193.
5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 5C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

H. Install sealants to size and shape shown on drawings, or, if not shown, with slightly concave surfaces.

- a. The minimum opening should be 1/4".
- b. The opening should be at least 4 times the maximum movement of the sealant.
- c. The sealant should be more than 1/4" and less than 1/2" deep.
- d. The depth of the sealant should be no greater than the width.
- e. No joint to receive sealant should be less than 1/4" deep.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed elastomeric sealant joints as follows:
 - a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each type of elastomeric sealant and joint substrate.
 - b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per each floor per elevation.
2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab in Appendix X1 in ASTM C 1193, as appropriate for type of joint-sealant application indicated.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; do this by extending cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
3. Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field-adhesion-test log.
4. Inspect tested joints and report on the following:
 - a. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
 - b. Whether sealants filled joint cavities and are free of voids.
 - c. Whether sealant dimensions and configurations comply with specified requirements.
5. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
6. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

Architectural Applications	VOC Limit (g/L less water)	Specialty Applications	VOC Limit (g/L less water)
Indoor carpet adhesives	50	PVC welding	510
Carpet pad adhesives	50	CPVC welding	490
Wood flooring adhesives	100	ABS welding	325
Rubber floor adhesives	60	Plastic cement welding	250
Subfloor adhesives	50	Adhesive primer for plastic	550
Ceramic tile adhesives	65	Contact adhesive	80
VCT and asphalt adhesives	50	Special purpose contact adhesive	250
Drywall and panel adhesives	50	Structural wood member adhesive	140
Cove base adhesives	50	Sheet applied rubber lining operations	850
Multipurpose construction adhesives	70	Top and trim adhesive	250
Structural glazing adhesives	100		
Substrate Specific Applications	VOC Limit (g/L less water)	Sealants	VOC Limit (g/L less water)
Metal to metal	30	Architectural	250
Plastic foams	50	Roadway	250
Porous material (except wood)	50	Other	420
Wood	30		
Fiberglass	80		
Sealant Primers	VOC Limit (g/L less water)		
Architectural, nonporous	250		
Architectural, porous	775		
Other	750		
This table excludes adhesives and sealants integral to the water-proofing system or that are not building related.			

Aerosol Adhesives	VOC Limit
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

*** END OF SECTION ***

SECTION 08520 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The Contractor for this section shall furnish all labor, materials and equipment necessary to deliver and install all windows as specified and/or as indicated on Drawings. Shop drawings are required for this portion of the work.

1.02 QUALITY CRITERIA

A. Aluminum windows shall be manufactured by one of the following:

1. Superior Window Corporation
2. Windor Corp.
3. E.S.P. Window Corporation
4. C.G.I. Construction Glass Industries, Miami
5. Alcan Building Products
6. Alenco Windows
7. Kinco, Inc.
8. P.G.T. Progressive Glass Technologies
9. T.M. Windows
10. Sol-A-Trol Aluminum Products

B. All manufacturer's windows shall comply with the following:

HC-110 Rated with 3/16" glass (non-impact)
HC-70 Rated with Sentryglas (impact resistant)
HC-90/120/220 Rated with Saflex Laminated glass (impact resistant)
DH-HC-50 AAMA Rating
ANSI/AAMA Specification 302.9 -- 1977
C1201 (Safety glaze certain fixed lights)
ASTME 283073, E330-70, E331-70
ASTMC6P3CB & A (insulated glass)
AAMA Specification DHB1HP96 and HSB2HP63
No water infiltration at 16.5 PSF of positive pressure
Air Infiltration = .07 CFM/SQ.FT. (Or les) at pressure differential of 6.24 PSF
Products must have current Dade County (or equivalent testing) approval

1.03 MATERIALS

A. Frames, sash and vent members shall be constructed of extruded 6063-T6 aluminum alloy, unless otherwise specified. Glazing beads shall be extruded 6063-T5 aluminum alloy.

1.04 CONSTRUCTION

- A. Frame members shall have a minimum depth of 1-3/4" inches and a wall thickness of .080 at frame, .090 at vent and .045 at glazing bead through the main members of the vertical frame jambs.

1.05 HARDWARE

- A. Windows shall be provided with adjustable spiral sash balances or block and tackle balances. Suitable latches shall be provided to maintain the sash secure when in a closed position. Louver sash must also have an integrally extruded hand lift for manually opening or closing the lower sash.

1.06 WEATHER STRIPPING

- A. The vertical portion of all sash members shall be provided with wool pile fabric weather stripping on both the interior and exterior faces to properly contact main frame. All joints between frame jambs and sill shall be sealed with butyl compound.

1.07 GLAZING

- A. All sash members shall be glazed with specified glass and shall be back bedded with butyl glazing compound. Glass shall be retained by extruded bead. Finish to match window finish.

1.08 SCREENS

- A. Screens shall be fabricated from extruded aluminum with minimum wall thickness of .040. Screen frames shall be furnished to match window finish.

1.09 FINISH

- A. All exposed surfaces shall be free from unsightly scratches and blemishes. Aluminum sections shall be coated with one of the following options.
 - 1. Anodized material:
shall be given a caustic etch followed by an anodic oxide treatment and the color shall be one of the following:
 - a. Dark Bronze AA M12 C22 A42/44
 - b. Medium Bronze AA M12 C22 A40
 - c. Clear AA M12 C22 A21
 - d. Black AA M12 C22 A44

2. Powder coated material:
shall be given an acidic wash and etch and coated with one of the following:
 - a. ARCHKOTE 6000 - 6 YEAR WARRANTY MEETS OR EXCEEDS AAMA 605.2-85
 - b. TIGER DRYLAC - SERIES 19, 6 YEAR WARRANTY

Electrostatically sprayed and baked on enamel and the color shall be as Selected by the Architect.
3. Clear Anodized Finish on factory Aluminum.
4. Natural Mill Finish aluminum.

B. The option and color selected for this project is: **Single hung windows with ESP Bronze frames, with impact rated glass. Manufacturer per window schedule with gray tint exterior pane and clear interior pane. Utilize manufacturer's NOA approved tracks and frames and type 316 stainless steel hardware.**

1.10 GRILLES

- A. When called for, shall be constructed of extruded aluminum and are snapped in place, or fixed, on either the inside face and/or outside face of the glass. The color of the grilles shall match the window frames.

2.01 INSTALLATION

- A. Shall be in accordance with approved testing data and in accordance with the Architect's details for adjacent sealants, jamb, head and sill waterproofing per FBC current edition, and interior and exterior finishes.
- B. Fasteners shall be of the type and locations as called out in the product testing data.

*****END OF SECTION*****

SECTION 08800 - GLASS AND GLAZING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. **Definition:** “glass includes prime glass, processed glass, and fabricated glass. “Glazing” includes glass installation and materials used to install glass. Types of work in this section include glass and glazing for:
- Window units, sidelites, transoms
 - Window wall
 - Entrances and other doors, not indicated as “preglazed”.
- B. **Packaged mirror units** are specified as “accessories” in section 10800.

1.03 QUALITY ASSURANCE

- A. **Prime Glass Manufacturer:** One of the following for each type/color/pattern of glass:
- ASG Industries. Inc.
 - Guardian Industries Corporation
 - Ford Glass Company
 - Libbey-Owens-Ford Company
 - PPG Industries, Inc.
 - Visteon
- B. **Certificate:** Submit certificates from respective manufacturers attesting that glass and glazing materials furnished for project comply with requirements.
- C. **Glazing Standards:** Comply with recommendations of Flat Glass Marketing Assoc. (FGMA) “Glazing Manual” and “Sealant Manual” except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.
- D. **Installer Qualifications:** Installation contractor specializing in glazing, with a minimum of 5 years experience on projects of similar size and also being an approved installer for the glazing product supplier.

PART 2 - PRODUCTS

2.01 GLASS PRODUCTS

Clear Heat-Treated Float Glass: Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), fully tempered. Other glass products for impact resistance are called out on the drawings and may include, but are not limited to, safety laminate heat strengthened glass with an .090 inner liner. Thicknesses of laminated glass vary from 3/8 inch to 9/16 inch. Frames to receive the glass vary to achieve various levels of impact resistance per local and state codes. **Refer to the drawings for a description of glazing and SHGC requirements.**

2.02 GLAZING SEALANTS AND COMPONENTS

- A. General: provide color of exposed sealant/compound indicated or if not otherwise indicated, as selected by Architect from manufacturer's standard colors, or black if no color is as selected. Comply with manufacturer's recommendations for selection of hardness, depending upon the location of each application, conditions at time of installation, and performance requirements as indicated. Select materials, and variations or modifications, carefully for compatibility with surfaces contacted in the installation.
- B. 2-Part Polysulfide Glazing Sealant (2Ps-GS): Elastomeric polysulfide sealant complying with FS TTS-227, Class A, Type 2; specially compounded and tested to show a minimum of 20-years resistance to deterioration in normal glazing applications. Use for exterior applications.
- C. Acrylic-Emulsion Glazing Sealant (AcEm-GS): Emulsion of acrylic, with or without latex rubber modification; compounded specifically for glazing; non-hardening, non-staining, and non-bleeding. Use for interior applications.

2.03 GLAZING GASKETS

- A. Polyvinyl Chloride Glazing Gaskets (PVC-GG): Extruded, flexible PVC gaskets of the profile and hardness shown, or as required for watertight construction; comply with ASTM D 2287.
- B. Cellular Neoprene Glazing Gaskets (PVC-GG): Extruded/molded, closed-cell, integral-skinned neoprene of profile required to maintain watertight seal; comply with ASTM C509, Type II, black.
- C. Vinyl Foam Glazing Tape (VF-GT): Closed cell flexible, self-adhesive, non-extruding, polyvinyl chloride foam tape; recommended by manufacturer for exterior, exposed, watertight installation of glass, with only nominal pressure in the glazing channel; comply with ASTM C 1667.

2.04 MISCELLANEOUS GLAZING MATERIALS

- A. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.
- B. Setting Blocks: Neoprene or EPDM, 70-90 durometer hardness, with proven compatibility with sealants used.
- C. Spacers: Neoprene or EPDM, 40-50 durometer hardness with proven compatibility with sealants used.
- D. Compressed Filler (Rod) Ccp-FR: Closed cell or waterproof jacketed roof stock of synthetic rubber or plastic foam, proven to be compatible with sealants used, flexible and resilient, with 5-10 psi compression strength for 25% deflection.

PART 3 - EXECUTION

3.01 STANDARDS AND PERFORMANCE

- A. Watertight and airtight installation of each glass product is required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash and doors), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.
- B. Protect glass from edge damage during handling and installation, and subsequent operation of glazed components of the work. During installation, discard units with significant edge damage or other imperfections.
- C. Glazing channel dimensions as shown are intended to provide for necessary bite on glass, minimum edge clearance, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.
- D. Comply with combined recommendations and technical reports by manufacturers of glass and glazing products as used in each glazing channel, and with recommendations of Flat Glass Market Assoc. "Glazing Manual", except where more *stringent* requirements are indicated.

3.02 PREPARATION FOR GLAZING

- A. Clean glazing channel and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrate. Remove lacquer from metal surfaces where elastomeric sealants are used.
- B. Apply primer or sealant to joint surfaces where recommended by sealant manufacturer.

3.03 GLAZING

- A. Install setting blocks of proper size in still rabbit, located 1/4 of glass width from each corner. Set blocks in thin course of heel-bead compound, if any.
- B. Provide spacers inside and out, or proper size and spacing, for glass sizes larger than 50 united inches, except where gaskets or preshimmed tapes are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape used thickness slightly less than final compressed thickness of tape.
- C. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- D. Voids and Filler Rods: Prevent exudation of sealant or compound by forming voids or installing filler rods in channel at heel of jambs and head (do not leave voids in sill channels), except as otherwise indicated and depending on light size, thickness and Type of glass, and complying with manufacturer's recommendations.
- E. Force sealants into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- F. Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- G. Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminated stains and discolorations.
- H. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement. Anchor gasket to stop with matching ribs, or by proven adhesives, including embedment of gasket tail in cured heel bead.
- I. Gasket Glazing: Miter cut and bond ends together at corners where gaskets are used for channel glazing, so that gaskets will not pull away from corners and result in voids or leaks in glazing system.
- J. Structural Gasket Glazing: Cut zipper strips slightly long, to ensure tight closure. Lubricate zipper strip and use special tool to install zipper. Do not lubricate glazing channel or anchorage rabbet. Comply with details as shown and manufacturer's instructions, including possible use of liquid sealants and weep holes.

3.03 CURE, PROTECTION AND CLEANING

- A. Protect exterior glass from breakage immediately upon installation, by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces. Cure sealants for high early strength and durability.
- B. Remove and replace glass which is broken, chipped, cracked, etched, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- C. Wash and polish glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Comply with glass product manufacturer's recommendations for final cleaning. Sub-contractors performing glass and window cleaning must be fully insured to replace damaged glass as a direct result of their negligence. The general contractor is ultimately responsible for replacing all damaged glass.

*****END OF SECTION*****

SECTION 09250 - GYPSUM DRYWALL

1.01 GENERAL

- A. Gypsum Board Standard: ASTM C 840
- B. As manufactured in the United States by one of the following approved companies:
 - 1. United States Gypsum Co.
 - 2. National Gypsum Co.
 - 3. Georgia-Pacific Gypsum Co.

1.02 MATERIALS

- A. Drywall Materials: Exposed Gypsum Board ASTM C 36
 - 1. Long Edges: Standard taper
 - a. ½" Gypsum Drywall (Regular).
 - b. ½" Moisture-Resistant Gypsum Drywall.
 - c. 5/8" Gypsum Drywall (Regular).
 - d. 5/8" Moisture-Resistant Gypsum Drywall.
 - e. 5/8" Type-X Fire Resistant Gypsum Drywall.
 - f. 5/8" Vandal Resistant (High Impact) Gypsum Drywall.
- B. Trim Accessories: Provide manufacturer's standard metal trim accessories, of the beaded type with face flanges for concealment in joint compound except where semi-finishing or exposed type is indicated. See plans and details for specific locations and conditions.
- C. Provide corner beads at external corners. Install with nails or screws at minimum of 16" on center. No crimp bead will be accepted unless in combination with nails or screws. As an alternate use Ultratrim-Outside 90 as manufactured by No-Coat. 1-888-662-6281
- D. Provide edge trim of the shape indicated where edge of gypsum board would otherwise be exposed or semi-exposed; L-type for abutment at edges, other U-type except special kerfed-type where kerf is provided in adjoining work. See plans and details for specific locations and conditions.
- E. Gypsum Board Fasteners: Self drilling, self-tapping, bugle head, screws.
- F. Joint tape: ASTM C 475, performed, Type II.
- G. Joint Compound: ASTM 475, Type I.
- H. Provide water-resistant type MR manufactured by United States Gypsum

Company for use with water-resistant backing board and cementitious substrate backing board.

1.03 DRYWALL INSTALLATION AND FINISHING

- A. Install gypsum boards in lengths and directions which will minimize number of end joints, and avoid end joints in central area of ceilings. Install walls and partitions with exposed gypsum boards vertical, with joints offset on opposite sides of partitions. Otherwise, install boards with edges perpendicular to supports, with end joints staggered over supports, except where recommended in a different arrangement by manufacturer. Install as per UL#U305 for 1-hour rating when utilizing rated panels or as specified on the Life Safety Plans.
- B. Form "Floating": Construction for gypsum boards at internal corners, except where special isolation or edge trim is indicated.
- C. Screw gypsum boards to supports.
- D. Drywall Finishing: Except as otherwise indicated, apply joint tape and joint compound at joints (both directions) between gypsum boards. Apply compound at accessory flanges, penetrations, fasteners heads and surface defects.
- E. Apply compound in three (3) coats (plus prefill of cracks where recommended by manufacturer); sand after last two (2) coats to achieve a **Level 4 or Level 5 finish** per U.S. Gypsum Corporation guidelines. Refer to the **Room Finish Schedule** for level of finish required for this project.
- F. Ceiling Finish as per **Finish Schedule** on the Construction Plans. Where a textured ceiling is called for on the drawings the drywall finisher shall provide a 24" X 24" sample board for approval by the Owner prior to applying any finished ceiling textures.
- G. The drywall installer shall notify the General Contractor of walls out of plumb in the vertical or horizontal direction, as well as the absence of proper wall, soffit, overhead deadwood blocking, pipe and wire plate protectors prior to installing drywall. Finished walls shall be no more than 3/16" out of dead straight within any (six) 6-foot direction. Walls not conforming to this standard shall be removed and replaced at the General Contractors expense.
- H. The drywall contractor shall remove all debris associated with his portion of the work and remove all dried finishing compound from the floors. All scrap drywall sections must be taken to a scrap yard by the subcontractor for recycling of the gypsum product.

END OF THIS SECTION

SECTION 09650 - RESILIENT FLOORING AND BASE

PART I - General

1.01 RELATED DOCUMENTS:

The Bidding and Contract Documents, General Requirements and Addenda as may be issued prior to bidding, shall govern the work under this section.

1.02 DESCRIPTION:

- A. Provide resilient flooring, vinyl or rubber base, and related items and their installation. Refer to Finish Schedule for description of base being utilized.
- B. Related Work Specified Elsewhere:
 - 1. Section 09680 & 09681- Carpeting.

1.03 QUALITY ASSURANCE:

Acceptable Manufacturer - Select product of the following manufacturers or equal:

- B. Tarkett Floor Products
- C. Congoleum
- D. Mannington
- E. Armstrong: Azrock
- F. VPI Premium Wall Base
- G. Roppe Rubber Corporation: Wall Base
- H. Burke Mercer: Rubber or Vinyl Wall Base
- I. Johnsonite Wall base
- J. Marley: Flexco
- K. Armstrong: Vinyl or Rubber Base
- L. Allstate: Rubber Base and Flooring

1.04 SUBMITTALS:

- A. Literature: Submit manufacturers specifications and installation instructions for each type of material specified.
- B. Samples: Submit 12" X 12" samples of all materials specified in this Section for approval and color section.
- C. Maintenance Data: Furnish list of recommended maintenance products and recommended maintenance methods and procedures.

1.05 PRODUCT HANDLING:

Deliver and store on the site in original containers with seals unbroken and labels intact until time of use.

1.06 ENVIRONMENTAL REQUIREMENTS:

Temperature of the rooms shall be 70 F. (21 C.) Minimum for 24 hours prior to installation, during installation, and for 48 hours after installation.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Vinyl Composition Tile (VCT): Provide tile complying with FS-SS-T-312B, Type IV, Composition 1 (asbestos free). Colors as selected by Architect, 15% of which shall be feature tile and strips. Size of tile: 12" x 12" x 1/8".
- B. Inlaid Commercial Sheet Vinyl Flooring: Inlaid composite with compression-resistant vinyl chips on flexible backing, with an approved mildew protection throughout all layers. Static load limit of 125 p.s.i., Nominal thickness of 0.085 inch; Wear layer thickness 0.050 inch, roll width 6, 8, 9, or 10 feet, Pattern to be omnidirectional, color as selected by the Architect and approved by Owner. Meet Federal Specification SS-T-312B, Type III, Vinyl.
- C. Vinyl or Rubber Base: 4" high x 1/8" thick **roll stock only**, (see finish schedule for different locations and types of base).
- D. Low-Emitting Adhesive: Provide waterproof stabilized type as recommended by the flooring manufacturer and as outlined in its Technical Manual complying with Specifications Section 07900 Sealants and Adhesives.
- E. Concrete Slab Primer: Non-staining type as recommended by the flooring manufacturer.
- F. Wax: As recommended by the flooring manufacturer.
- G. Reducer Strips: Beveled edge, 1" wide, 1/8" thick tapered.
- H. Feature Strip: Provide where no threshold or saddle is scheduled between rooms, with flooring of same type and manufacturer, in a different color and width to match door jamb.

PART 3 - INSTALLATION

3.01 PREPARATION OF SURFACE:

- A. The contractor is to carefully examine substrate and conditions to which the VCT tile is to be applied. Any conditions detrimental to work under this Contract shall be reported to the General Contractor in writing. Failure in this respect shall constitute an acceptance of the base to which his work is to be applied and any further corrections to be made in his work will be done at this contractor's expense, insofar as his work is concerned. This Contractor will only be required to patch

minor holes or cracks, with suitable materials, before applying the resilient flooring.

- B. Do not commence work until other trades have completed their work.
- C. Fill all cracks, holes, etc. in concrete sub-floor with fillers as recommended by manufacturer of resilient flooring.

3.02 INSTALLATION:

- A. Apply primer, if recommended by the resilient material manufacturer, prior to application to adhesive.
- B. Resilient Flooring shall be installed in accordance with the manufacturer, prior to application of adhesive. Wood floor faces shall be fully sanded to receive adhesive.
- C. Install reducer strips where VCT abuts concrete floor.
- D. Centering:
 - 1. Establish center lines for tile patterns both ways with respect to principal walls in areas or rooms. Start laying tile from center lines; keep joints parallel to principal walls.
 - 2. Where field pattern is not a whole number of units, lay out the pattern so that the edge units are not smaller than half units (except corner pieces).
- E. Uniformity: If vinyl composition tile, use tile from contents of at least two different containers so that pattern will be uniform and not spotty due to the variance that may be found in different containers. Use tile from one mill run.
- F. Application of Adhesive
 - 1. Evenly spread approved adhesive on prepared surfaces as recommended by manufacturer; within the time recommended by manufacturer; embed each tile firmly in place to assure proper bond. In wet areas, such as toilet rooms, or rooms with floor drains, utilize a waterproof adhesive complying with the Low-Emitting requirements per Specification Section 07900- Sealants and Adhesives.
 - 2. Cover only that amount of area which can be covered by resilient flooring within recommended working time of the adhesive.
- G. Laying Vinyl Composition Tile
 - 1. Lay tile with grain in all tile running in the same direction (generally parallel with the short wall of the room).

2. Where necessary, cut tiles neatly and snugly around pipes and at other vertical projections.
3. Provide hairline joints, cut straight and true. Seal tile joints at pipes with waterproof cement.
4. Provide tiles level and flush with the surface of adjoining tiles.
5. Immediately remove stains, spots and smears of adhesive.

H. Installing Base

1. Do not install base until plaster, painting or other backing materials has thoroughly dried. Install bases on walls, including walls behind movable equipment.
2. Extend bases into closets offsets and adjoining areas scheduled to receive base.
3. Firmly cement bases to previously prepared surfaces, using an approved recommended adhesive.
4. Fit base joints tight and align top and bottom edged in firm contact with walls and floors throughout its entire length.
5. Install base in carpet areas after carpet has been installed.
6. Provide factory exterior and interior corners where clearance is available.

I. Installing Edge Strips:

1. Install edge strips with adhesive wherever exposed tile edges occur.
2. Where tile stops at doorways, set edge strips directly under doors.

3.03 CLEANING AND FINISHING:

- A. After flooring has been laid and adhesive is thoroughly cured, clean and finish resilient floors as recommended by tile manufacturer. Install two coats of wax and machine buff.
- B. Keep traffic off finished floors. Protect all floors as necessary with reinforced Kraft building paper and tape joints. Maintain this paper cover and otherwise protect floor until acceptance.
- C. Provide 20 square feet of extra stock of each color used. Provide 8 linear feet of extra stock of each color and size of base used. Each product to be left with General Contractor for delivery to Owner at completion of the job.

END OF SECTION

SECTION 09900 - PAINTING

1.01 GENERAL

1. Submittals:

- a. In addition to manufacturer's data, application instructions, and label analysis for each coating material, submit samples for Architect's review of color and texture only. Resubmit samples if requested until required sheen, color and texture is achieved. Submittals must also include material requirements data per Article 1.08.
- b. On 8" x 8" hardboard, provide two (2) samples of each color and material, with texture to simulate finish conditions.
- c. On wood surfaces provide two (2) 4" x 8" samples for natural and stained wood finish.
- d. On actual wall surfaces and other building components, duplicate painted finishes of acceptable samples, for approval by the Architect.

1.02 DESCRIPTION OF WORK

1. Painting and finishing of interior and exterior items and surfaces, unless otherwise indicated.
2. Paint exposed surfaces, except as otherwise indicated, whether or not colors are designated. If not designated, colors will be selected by Architect from standard colors available for the coatings required.
3. Work Not Included: Unless otherwise indicated, shop priming of ferrous metal items and fabricated components are included under their respective trades. Unless otherwise indicated, painting not required on surfaces of concealed areas. Finished metals such as anodized aluminum, stainless steel, bronze, and specialty metals will not be painted. Do not paint any moving parts of operating units, or over any equipment identification, performance rating, name or nomenclature plates or code-required labels.

1.03 DELIVERY AND STORAGE

1. Deliver materials to job site in new, original, and unopened containers bearing manufacturer's name, trade name, and label analysis. Store where indicated in accordance with manufacturer's instructions.

1.04 PROTECTION:

1. Protect work of other trades. Correct any painting related damage, by cleaning, repairing or replacing, and refinishing, as directed by Architect.

1.05 PROJECT CONDITIONS:

1. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 98 degrees. Do not apply paints in rain, fog or mist; when relative humidity exceeds 95 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
2. Provide finish coats which are compatible with prime paints used. Provide barrier coats over incompatible primers where required. Notify Architect in writing of anticipated problems using specified coatings with substrates primed by others.
3. Surface Conditions: Apply paint and coatings when the following surface conditions have been met:
 - a. Interior Drywall - 12% maximum moisture content.
 - b. Exterior Stucco and Cementitious Wall Panels- 12% maximum moisture content.
 - c. Exposed Wood, Wood Doors, Wood Trim- 15% maximum moisture content.

1.06 EXTRA MATERIALS:

1. Provide a *minimum* of 1 gallon of each material and color of paint as materials applied that are packaged and stored with identification labels describing contents.

1.07 SURFACE PREPARATION:

1. Perform preparation and cleaning procedures in strict accordance with coating manufacturer's instructions of each substrate condition.
2. Remove hardware and accessories, machined surfaces, plates, lighting fixtures and similar items in place that are not to be finish-painted or provide surface-applied protection. Re-install removed items and remove protective coverings at completion of work.
3. Seal all wood required to be job-painted. Prime edges, ends, face, undersides and backsides of counters, cases, fascias, soffits, cabinets, counters, etc.

4. Back-prime with one coat on interior paneling only where masonry, plaster, or other wall construction occurs on backside.
5. Seal tops, bottoms, and cut-outs of wood doors with heavy coat of quick drying sealer immediately upon delivery to job. Do not paint door UL Labels.

1.08 MATERIAL REQUIREMENTS:

1. Paints and coatings used on the interior of the building (i.e., inside of the weatherproofing system and applied on site) must comply with the following criteria as applicable to the project scope:
 - a. Architectural paints and coatings applied to interior walls and ceilings must not exceed the volatile organic compound (VOC) content limits established in Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993.
 - b. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd Edition, January 7, 1997.
 - c. Clear wood finishes, floor coatings, stains, primers, sealers and shellacs applied to interior elements must not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.

1.09 MATERIAL PREPARATION:

1. Mix, prepare, and store painting and finishing materials in accordance with manufacturer's directions.

1.10 APPLICATION:

1. Apply painting and finishing materials in accordance with manufacturer's directions. Use applicators, and techniques best suited for materials and surfaces to which applied, but in no case will spray application be used unless approved by Architect.
2. Apply additional coats when undercoats, stains, or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
3. Paint surfaces behind movable equipment same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment with prime coat only before equipment is installed.
4. Finish exterior doors on tops, bottoms and edges same as exterior faces, unless otherwise indicated. Do not paint door UL Labels.
5. Sand lightly between succeeding enamel, urethane or varnish coats.

6. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise specified.
7. Apply prime coat to material which is required to be painted or finished, and which has not been prime coated by others.
8. Apply each material at not less than the manufacturer's recommended spreading rate, to provide a total dry film to thickness of not less than 4.0 mils for entire coating system of prime and finish coats for (3) coat work.
9. Provide a total dry film thickness of not less than 2.5 mils for entire coating system of prime and finish coat for two (2) coat work.

1.11 COMPLETED WORK:

1. Match approved samples for color, texture and coverage. Remove, finish or repaint work not in compliance with specified requirements.

1.12 TOUCHING UP AND CLEANING:

1. Upon completion, all touching up as required shall be done and paint removed from all surfaces which are not specified to receive paint.

1.13 PAINT, GENERAL:

1. Material Compatibility:
 - a. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - b. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

1.14 PAINTING SCHEDULE

The following paints specified shall be manufactured by one of the following manufacturer's or an approved, comparable product:

Benjamin Moore Paints
Sherwin Williams Paints
Porter Paints
Devoe Paints
MAB Paints
ICI Paints

Armourcoat, USA

NOTE: Color selections to be by the Owner, the Architect, and/or the Interior Designer. See Finishes Schedule on the plans for location of paint. When more than five (5) colors are selected for interior or for exteriors, a painting upcharge shall be negotiated prior to application of paints.

- A. Exterior wood Trim, Wood Siding, Wood Fascias & Soffits, Etc.: One (1) coat sealer primer on all faces and edges
Two (2) coats Benjamin Moore Exterior Acrylic Latex paint on exposed surfaces.
- B. Interior Drywall: Two (2) coats Benjamin Moore Regal AquaVelvet Eggshell (319) over base sealer coat. Specialty finishes may apply also.
- C. Galvanized Metal: One (1) coat Benjamin Moore Galvanized Iron Primer. Two (2) coats Benjamin Moore Meta-lastic Paint.
- D. Metal Surfaces: Structural Steel Beams & Columns, Wall girts, Roof purlins, Fire Sprinkler Riser Assemblies, Steel Trusses, Steel Tanks:

Exterior Exposed – Two (2) coats Benjamin Moore Retard-X Rust Inhibitive Latex Primer 162 over the shop delivered primer, welds and bolts. Allow a minimum of 4 hours between coats. Finish with two (2) coats Benjamin Moore Eggshell alkyd house paint 108.

Interior Exposed – Same applications but one (1) coat only of latex Primer 162.

NOTE: All galvanized metal to be washed with mineral spirits to remove any oil.

- E. Exterior Stucco and Cementitious Wall Panels: One (1) coat Benjamin Moore Masonry sealer. Two (2) coats Benjamin Moore Latex, or Acrylic Latex paint. Flat finish.
- F. Steel Doors & Frames: Spot prime any scratches in factory primer with Benjamin Moore Iron Clad Rust Inhibiter Red Oxide. Finish with (2) coats Benjamin Moore oil based or water based enamel, (semi-gloss).
- G. Wood Doors and (When Finish Schedule calls for Painted): Trim (Interior) One (1) coat sealer primer. Two (2) coats Benjamin Moore oil based enamel, (semi-gloss).
- H. Wood Doors and (When Finish Schedule calls for Sealed): Trim (Interior) Three coats of Satin Finish clear urethane, lightly sanded between coats.
- I. Interior Aluminum or Steel Handrails: One coat metal primer and two coats shop applied industrial enamel, or factory powder coating, (both gloss finish).

- J. Exposed finish Grade Concrete Block: One coat block filler and sealer primer. Specialty Paint, two (2) coats acrylic latex, over primer in accordance with the Manufacturers Specifications.
- K. Exterior Aluminum Tubing, Handrails, Guardrails, Caps, Cast Trim and Frames: Powder coated after completed fabrication and assembly and prior to installation. Powder Coat RAL standard color as specified on Architectural Details.
- L. Exterior Architectural Masonry Units (such as decorative split faced, split ribbed, and smooth faced colored block, and any manufactured stone such as Herpel), including the mortar used to set the units, shall be sealed with a water repellent-anti graffiti coating after installation and cleaning of all block faces.
EXCEPTION: If the block manufacturer supplies an integral water repellent admixture in their block and a water repellent is added to the grout (mortar) during installation, then no exterior sealer is required.
- M. Toilet Room Walls: Apply water base epoxy coating full height on the wall materials scheduled in toilet rooms/bathrooms, to achieve an impervious finish.

NOTE: DO NOT APPLY EPOXY PAINTS TO ANY INTERIOR FACES OF BARE BLOCK AT MASONRY EXTERIOR WALLS. UTILIZE LATEX PAINTS WITH BREATHABILITY OF 1 PERM OR GREATER.

- 1. **ON INTERIOR MASONRY** - Semigloss Finish using Sherwin Williams Paints.
 - a. **1st coat:** S-W KEM CATI-COAT EPOXY FILLER/SEALER B42 WA8/B42 WA9 (87-108 sq. ft./gal @ 8-10 mild dry).
 - b. **2nd coat:** S-W Water Based Catalyzed Epoxy B70/B60 V25.
 - c. **3rd coat:** S-W Water Based Catalyzed Epoxy B70/B60 V25, (8mils wet, 3 mils wet per coat).
- 2. **ON DRYWALL** - Semi-Gloss Finish using Sherwin Williams Paints.
 - a. **1st coat:** S-W PrepRite 200 Latex Primer, B28W200, (4 mils wet, 1.2 mils dry).
 - b. **2nd coat:** S-W Heavy Duty Epoxy, B67 Series/B60 V3. (3 mils dry per coat)
 - c. **3rd coat:** S-W Heavy Duty Epoxy, B67 Series/ B60 V3. (3 mils dry per coat)

- N. Stained Concrete Floors when called for on Finish Schedule: Two coats solid color stain material as per Specification Section 09940. Apply over a clean, cured, dry, dirt and dust free, lightly broomed finished concrete slab. Color as selected by the Architect. Make a special effort to never apply concrete sealers to any surface to receive concrete stains.

- O. Specialty Coatings, when scheduled on the Interior Finish Schedule, shall be placed in accordance with manufacturer's specification for application and protected until the project is occupied by the end user.

- P. Specialty coatings approved, when scheduled on the interiors include:
 - a. Amourcoat
 - b. Polymix

***** END OF THIS SECTION*****

SECTION 10200 - LOUVERS AND VENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including general and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. Extent of louvers and vents is indicated on drawings, including indications of sizes and locations.
- B. Types of louvers and vents include the following: Extruded aluminum louvers.
- C. Sealants including installation are specified in Division 7.
- D. Air-handling louvers connected to ductwork are specified in Division 15.
- E. Louvers in hollow metal doors and frames are specified in Division 8.

1.03 QUALITY ASSURANCE

- A. Performance Requirements: Provide louvers with AMCA Certified Ratings Seal evidencing that product complies with AMCA Standard 500.
- B. Comply with SMACNA "Architectural Sheet Metal Manual" recommendations for fabrication, construction details and installation procedures, except as otherwise indicated.
- C. Field Measurements: Verify size, location and placement of louver units prior to fabrication, wherever possible.
- D. Shop Assembly: Coordinate field measurements and shop drawings with fabrication and shop assembly to minimize field adjustment, splicing, mechanical joints and field assembly of unit. Preassemble units in shop to greatest extent possible and disassemble as necessary for shipping and handling limitations.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications; certified test data, where applicable; and installation instructions for required products, including finishes.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of louver units and accessories. Include plans, elevations and details of sections and connections to

adjoining work. Indicate materials, finishes, fasteners, joinery and other information to determine compliance with specified requirements.

- C. Samples: Submit 6" square samples of each required finish. Prepare samples on metal of same gauge and alloy to be use in work. Where normal

Color and texture variations are to be expected include 2 or more units in each sample showing limits of such variations.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
1. Airline Products Co.
 2. The Airolite Co.
 3. American Warming & Ventilating Co.
 4. Construction Specialties, Inc.
 5. Industrial Louvers, Inc.
 6. Ruskin Mfg. Co.
 7. DOWCO Products Group, Cicero, IL

2.02 MATERIALS

- A. Aluminum Sheet: ASTM B 209, ALLOY 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer to provide required finish.
- B. Aluminum Extrusions: ASTM B 221, Alloy 6063-T52.
- C. Fastenings: Use 3/8" diameter stainless steel machine screws. Provide, gages and lengths to suit unit installation conditions. Use Phillips flat-head machine screws for exposed fasteners.
- D. Anchors and Inserts: Cadmium plated steel, self-drilling type.
- E. Bituminous Paint: SSPC-Paint 12 (cold-applied asphalt mastic).

2.03 FABRICATION - GENERAL

- A. Provide louvers and accessories of design, materials, sizes, depth, arrangement, and metal thicknesses indicated.
- B. Fabricate frames including integral sills to suit adjacent construction with tolerances for installation, including application of sealants in joints between louvers and

adjoining work.

- C. Include supports, anchorages, and accessories required for complete assembly.
- D. Provide vertical mullions of type and at spacings indicated but not further apart than recommended by manufacturer or 72" o.c., provide horizontal mullions except where continuous vertical assemblies are indicated.
- E. Provide sill extensions and loose sills made of same material as louvers, where required for drainage to exterior and to prevent water penetrating to interior.
- F. Join frame members to one another and to stationary louver blades by welding, except where indicated otherwise or where field bolted connections between frame members are made necessary by size of louvers. Maintain equal blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.

2.04 STATIONARY EXTRUDED ALUMINUM WALL LOUVERS

- A. Horizontal Drainable Blade Louvers: Dual drain recessed mullion type. Units designed to collect and drain water to exterior at sill by means of gutters in front edges of blades, and channels in jambs and mullions. Furnish units with extrusions not less than 0.081" thick, of depth, and sizes indicated, equal to C/S Model 6155.
 - 1. Free Area: Not less than 50% for a 48" x 48" size.
 - 2. Static Pressure Loss: Not more than 0.15" of water gage at an airflow of 1050 fpm free area velocity in intake direction.
 - 3. Water Penetration: Not more than 0.05 oz. Per sq. Ft. of free area at an airflow of 1000 fpm free area velocity.
 - 4. AMCA Certification: Furnish units bearing AMCA Certified Ratings Seal.
 - 5. Continuous Horizontal Blades: Conceal supporting framework from vision on outside face of louver by placing braces, mullions and brackets on inside face; with close fitting, field-made splice joints in blades designed to permit expansion and contraction without deforming blades or framework.

2.05 LOUVER SCREENS:

- A. Provide removable screens for exterior louvers.
- B. Fabricate extruded aluminum screen frames of same finish as louver units to which secured.

- C. Use bird screens of the following: 1/2" sq. Mesh, 0.063" aluminum or stainless steel wire.
- D. Use insect screens of the following: 18 X 16 X .011 grey fiberglass mesh.
- E. Locate screens on inside face of louvers.
- F. Secure screens to louver frames with stainless machine screws, spaced at each corner and at 12" o.c. between.

2.06 METAL FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. Apply finishes in factory after products are assembled. Protect finishes on exposed surfaces with protective covering, prior to shipment. Remove scratches and blemishes from exposed surfaces which will be visible after completing finishing process.
- B. Provide Colors or color matches as selected by Architect.
- C. Aluminum Finishes:
 - 1. Baked Enamel Finish: AA-C12C42R1x (cleaned with inhibited chemicals, conversion coated with an acid-chromate-fluoride-phosphate treatment, and painted with organic coating specified below). Apply where factory painted finish is indicated, in strict compliance with paint manufacturer's specifications.
 - 2. Organic Coating: Manufacturer's standard thermosetting acrylic enamel, 0.8 mil minimum dry fill thickness.

PART 3 - EXCUTION

3.01 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions and directions for installation of anchorages which are to be imbedded in concrete or masonry construction. Coordinate delivery of such items to project site.

3.02 INSTALLATION:

- A. Locate and place louver units plumb, level and in proper alignment with adjacent work.
- B. Use concealed anchorages wherever possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight

connection.

- C. Form tight joints with exposed connections accurately fitted together. Provide reveals and openings for sealants and joint fillers, as indicated.
- D. Repair finishes damaged by cutting, welding, soldering and grinding operations require for fitting and jointing. Restore finishes so there is no evidence of corrective work. Return items which cannot be refinished in field to shop, make required alterations, and refinish entire unit, or provide new units, at Contractor's option.
- E. Provide concealed gaskets, flashings, joint fillers, and insulations, and install as work progresses to make installations weathertight.
- F. Refer to Division-7 sections for sealants in connection with installations of louvers.

*****END OF SECTION*****

SECTION 15010 - GENERAL MECHANICAL PROVISIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 SCOPE OF DIVISION

- A. Work shall include all materials, equipment and labor necessary for a complete and properly functioning mechanical installation in accordance with all applicable codes, and contract drawings and specifications. Work shall include all work specified in Division-15 Mechanical, Section numbers 15000 through 15999.
- B. Pay for all required licenses, fees, inspections and permits.

1.3 RELATION TO OTHER WORK

- A. Work Not in Division-15: Related work not included in this division consists of requirements given in the following as may be included in the contract documents:
 - 1. Other divisions which may include work (such as concrete, steel, painting, ceiling systems, structure and other work) related to the work of Division-15.
- B. Work of Division-15: Any or all sections of Division-15 may include a paragraph or paragraphs under the heading, "Relation to other Work". Where such a paragraph is indicated and work directly related to the section is listed or described, such work shall be considered as relating directly to the indicated section. Any related work (directly related or otherwise) which may be omitted by reference from the "Relation to Other Work" paragraph of such section(s), shall be provided as necessary and required whether or not such work is included by reference. Such listing or description of related work within a section is given only as a convenience to the Contractor; omission of other related sections or described work does not in any way exclude the provision of such work.

1.4 CODES

- A. Install all work in accordance with the latest edition of all applicable regulations and governing codes, including the regulations of the utility companies serving the project.
- B. Where a conflict in code requirements occurs the more stringent requirement shall govern.

1.5 STANDARDS

- A. All equipment and devices shall bear U.L. label, the label of an industry recognized approved testing agency or A.G.A. certification for said item of equipment or device.
- B. All electrical devices must be U.L. approved.

1.6 DRAWINGS

- A. Architectural and structural drawings take precedence over mechanical drawings with reference to the building construction. Mechanical drawings are diagrammatic and indicate the general arrangement and extent of work. Architectural drawings indicate more exactly the desired relationship between diffusers, registers, lighting fixtures, equipment, electric panels and devices, plumbing fixtures, and other items which remain exposed in the completed building. Exact locations and arrangement of materials and equipment shall be determined, with the acceptance of the Architect/Engineer, as work progresses to conform in the best possible manner with the surroundings and with the adjoining work of other trades. Where locations of equipment, devices or fixtures are controlled by architectural features, establish such locations by referring to dimensions on Architectural drawings and not by scaling drawings.

1.7 DISCREPANCIES

- A. In case of differences between drawings and specifications, or where drawings and specifications are not clear or definite, the subject shall be referred to Architect/Engineer for clarification and instructions.

1.8 ELECTRICAL PROVISIONS

- A. Work of Division-15 shall include the electrical requirements which are indicated to be integral with mechanical work and which can be summarized to include (but not necessarily be limited to) the following:
 - 1. Motors.
 - 2. Motor starters.
 - 3. Wiring from mechanical equipment to electrical work termination (junction box or disconnect switch).
 - 4. Control switch, pilot lights, interlocks and similar devices.
 - 5. Electrical heating coils and similar elements in mechanical equipment.
 - 6. Electrical work specified in Division-15 for the HVAC control system.
 - 7. Drip pans to protect electrical work.
- B. Motors, Starters, Switches: Provide with all motorized mechanical equipment unless otherwise indicated.
- C. Drip Pans: Where possible, do not run mechanical piping directly above electrical (or electronic) equipment which is sensitive to moisture; otherwise provide drip pans under mechanical piping. Locate pan below piping, and extend 6" on each side of piping and lengthwise 18" beyond equipment. Fabricate pans 2" deep, of reinforced sheet metal with rolled edges and soldered or welded seams; 20 gage copper, or 16 gage steel with 2 oz. zinc finish hot dipped after fabrication. Provide 3/4" copper drainage piping, properly discharged.
- D. Motors: Unless specifically specified otherwise in the section covering the driven equipment (or the equipment drives), motors shall comply with the following:
 - 1. Three Phase: NEMA design B, three-phase, squirrel cage induction type designed for 1800 rpm synchronous speed for operation in 40°C ambient at 1.15 service factor at constant speed on the scheduled voltage. Motors shall be insulated with Class B

insulation material and shall be cast iron, drip proof, horizontal foot mounted type with ball bearings. Two speed motors shall be provided as scheduled and shall be two winding type.

2. Single Phase: Squirrel cage induction type designed for 1800 rpm synchronous speed for operation in 40°C ambient at 1.15 service factor at constant speed on the scheduled voltage. Motors shall be insulated with Class B insulation materials and shall be two winding capacitor start type with steel enclosure, drip proof, horizontal foot mount and ball bearings.
 3. Electric motors which are designated to be high efficiency type shall also comply with the section describing high efficiency motors.
- E. Scheduled Horsepower: The horsepowers scheduled or specified are those nominal sizes estimated to be required by the equipment when operating at specified duties and efficiencies. In the case of pumps, these horsepowers are non-overloading and may also include provisions for future planned impeller changes. If the actual horsepower for the equipment furnished differs from that specified or shown on the drawings, it shall be the Contractor's responsibility to insure that proper size feeders, breakers, starters, etc. are provided at no change in contract price.
- F. Any TEFC motors shall have Class F insulation.
- G. Drip proof protected motors shall have Class B insulation.
- H. Manufacturer: Electric motors, complying with the requirements of this Section and the installation and performance requirements of the plans, by the following manufacturers are acceptable:
1. Reliance Electric
 2. Gould Electric
 3. General Electric
 4. Westinghouse

1.9 ELECTRICAL/MECHANICAL WORK

- A. Definitions: Definitions for the purpose of mechanical/electrical control and power coordination are as follows: (Note: The use of the words, "Provide", "furnish" and "install" are intended only for use in describing the coordination indicated by this paragraph and do not necessarily have the same definitions when used outside of the context of this paragraph.) Any items which do not fall within the scope of this paragraph shall be coordinated as individually specified.
1. "Furnish" means to procure an item and to deliver it to the project for installation.
 2. "Install" means to determine (in coordination with others as necessary) the appropriate intended location of an item and to set and connect it in place.
 3. "Provide" means to both furnish and install.
 4. Power Circuit: Circuit which carries main electric power to apparatus to which the power circuit is connected.
 5. Control Circuit: Circuit which carries electrical signals directing the performance of a controller but which does not carry the main electric power. (See NEC, Section 430-71.) Such circuits shall also include those which serve a dual control and power function (e.g., a line voltage thermostat circuit which both activates and powers a small fan motor).

6. Controller: A device, or group of devices, which serves to govern, in some predetermined manner, electric power delivered to apparatus to which the controller is connected and includes any switch or device normally used to start and stop a motor. (See NEC, Article 100, Definitions, "Controller", and Section 430-81(a).)
7. Control Device: A device which reacts to an operating condition (pressure, temperature, flow, humidity, etc.) and which initiates transmission of an electrical control signal which causes operation of a controller or which causes operation of pressure switches, etc.
8. Auxiliary Control Device: A device (such as a low voltage control transformer, electric relay, etc.) which is located in a control circuit and which carries or responds to (but does not initiate) an electrical control signal initiated by a control device.

B. Work of Division-15 includes (but is not necessarily limited to):

1. Provide:

- a. All controllers which are generally manufactured or shipped as integral with Division-15 equipment (such as starters packaged with air cooled chillers, etc.).
- b. All electric motors and other electrical power consuming equipment (such as electric air heating coils, electric boilers, electric hot water heaters, etc.) which are specified in Division-15.
- c. All control circuits (including conduit and boxes) from the Division-16 panels to point of use including the necessary circuit breakers.
- d. All other control circuits, including conduit and boxes.
- e. All control connections to equipment.
- f. All control connections to controllers, switches, motors and other mechanical systems electrical power consuming equipment (such as electric air heating coils, electric boilers, electric hot water heaters, etc.).
- g. Auxiliary control devices.
- h. All control devices (thermostats, pressure switches, flow switches, humidistats, etc.) and make control circuit connections thereto.
- i. Any and all pneumatic and electronic and electric control devices and electric or pneumatic connections thereto.

2. Furnish:

- a. All controllers which are generally manufactured and/or shipped as separate but companion items to Division-15 equipment (such as centrifugal chiller starters which are matched with the chillers but are not physically an integral part of the chiller assembly.)

C. Work of Division-16 includes (but is not necessarily limited to):

1. Provide:

- a. All power circuits, including conduit and boxes.
- b. All power connections to controllers, switches, motors and other mechanical systems electrical power consuming equipment (such as electric air heating coils, electric boilers, electric hot water heaters, etc.).
- c. All remote motor disconnects (remote from the related controller) at all locations required by NEC and connections thereto except those disconnects which are specified in Division-15 to be provided as part of the equipment itself.

- d. All controllers (except those which are generally manufactured or shipped as separate but companion items to Division-15 equipment such as centrifugal chiller starters).

2. Install:

- a. All controllers which are generally manufactured and/or shipped as separate but companion items to Division-15 equipment (e.g., chiller starters).

1.10 AUXILIARIES AND ACCESSORIES

- A. Include all auxiliaries and accessories for complete and properly operating systems.

1.11 INVESTIGATION OF SITE

- A. Check site and existing conditions thoroughly before bidding. Advise Architect/Engineer of discrepancies or questions noted before bidding.

1.12 ASBESTOS

- A. Should asbestos, or any other hazardous waste material, be encountered during the execution of the work, or should the presence of asbestos or any other hazardous material be suspected, immediately notify the Owner and suspend all work in the affected area. The Owner will activate an assessment study to determine the presence of asbestos, or other hazardous material, and evaluate what condition it is in. Removal of asbestos, or other hazardous material, if required, will be conducted by a qualified Contractor, and will be done under separate contract.

1.13 COORDINATION

- A. Provide all required coordination and supervision where work of this division connects to or is affected by work of others.

1.14 PROVISIONS FOR OPENINGS

- A. Provide all openings required for work performed under Division-15. Provide sleeves or other approved methods to allow passage of items installed under any Section of Division-15.

1.15 INTERRUPTION OF EXISTING SERVICES

- A. Any interruption of existing services shall be coordinated in advance with the Owner's Representative. Shutdown time and duration of critical services shall be decided by the Owner. Contractor shall provide shutoff valves at point of tie-in to minimize downtime.

1.16 CLEANING AND PROTECTION

- A. Ductwork: Keep the interior of the duct system free from dirt and rubbish and other foreign matter. All fan motors, switches, and other items, shall also be protected from dirt, rubbish and other foreign matter during building construction. Thoroughly clean all components of the ductwork and remove all dirt, scale, oil and other foreign substances which may have accumulated during the installation process.

- B. Equipment: All mechanical equipment provided shall be thoroughly cleaned of all dirt, oil, concrete, etc. Any dents, scratches or other visible blemishes shall be corrected and the appearance of the equipment made "like new" and to the satisfaction of the Architect/Engineer.
- C. Upon completion, and before final acceptance of the work, all debris, rubbish, leftover materials, tools and equipment shall be removed from the site.
- D. Protection of Work Until Final Acceptance: Protect all materials and equipment from damage, entrance of dirt and construction debris from the time of installation until final acceptance. Any materials and equipment which are damaged shall be repaired to "as new" condition or replaced at the direction of the Architect/Engineer. Where factory finishes occur and damage is minor, finishes may be touched up. If, in the opinion of the Architect/Engineer the damage is excessive, factory finish shall be replaced to "new" condition.

1.17 SHOP DRAWINGS

- A. Submit shop drawings for all items, services and systems included in the project.
- B. Shop drawings shall clearly show the following:
 - 1. Technical and descriptive data in detail equal to or greater than the data given in the item specification. Indicate all characteristics, special modifications and features. Where performance and characteristic data is shown on the drawings or specified, submitted data shall be provided in a degree which is both quantitatively and qualitatively equal to that specified and shown so that comparison can be made. Present data in detail equal to or greater than that given in item specification and include all weights, deflections, speeds, velocities, pressure drops, operating temperatures, operating curves, temperature ranges, sound ratings, dimensions, sizes, manufacturers' names, model numbers, types of material used, operating pressures, full load amperages, starting amperages, fouling factors, capacities, set points, chemical compositions, certifications and endorsements, operating voltages, thicknesses, gauges and all other related information as applicable to particular item.
 - 2. Exceptions to or deviations from the contract documents. Should Architect/Engineer accept any items having such deviations which are not clearly brought to Architect/Engineer's attention, in writing, on item submittal, then Contractor is responsible for correction of such deviations regardless of when such deviations are discovered.
- C. Additional Requirements: See specific sections of the Specifications for any additional requirements.

1.18 SHOP DRAWINGS TECHNICAL INFORMATION BROCHURE

- A. Submit within thirty days after Notice to Proceed. Each brochure shall consist of an adequately sized, hard-cover, 3-ring binder for 8-1/2" x 11" sheets. Provide correct designation on outside cover and on spine of binder, i.e., mechanical. All shop drawings shall be submitted at one time; partial submittals will not be accepted.

- B. First sheet in the brochure shall be a photocopy of the "Division-15 Index" for these specifications. Second sheet shall be prepared by the Contractor and shall list Project addresses for this Project for Contractor and all major subcontractors and suppliers.
- C. Provide reinforced separation sheets tabbed with the appropriate specifications section reference number and typed index for each section.
- D. Shop drawing technical and descriptive data shall be inserted in the brochure in proper order on all items. Mark the appropriate specification section or drawing reference number in the right hand corner of each item. Provide complete information, including, but not limited to, wiring and control diagrams, scale drawings showing that proposed substitute equipment will fit into allotted space (indicate all service access, connections, etc.), test data, and other data required to determine if equipment complies fully with the specifications. All typewritten pages shall be on contractor or equipment manufacturer printed letterhead.
- E. At the end of the brochure, provide and insert a copy of the specifications for Division-15 and all addenda applicable to this Division.
- F. Submit not less than six brochures. Provide separate tag marking on an individual copy for the Owner, Architect, Engineer, Contractor, Subcontractor (two copies).
- G. Contractor shall review the brochure before submitting. Submittal information on each item in each brochure shall bear the Contractor's stamp of approval, initials of checker and date checked by him. No request for payment of or substitutions will be considered until brochure has been reviewed by the Contractor and submitted for checking.

1.19 SHOP DRAWINGS FOR PIPING SYSTEMS AND DUCT SYSTEMS

- A. Shop drawings for piping systems and duct systems shall be done on reproducible transparencies and shall be of sufficient scale to verify clearances and equipment locations. Shop drawings shall show all required maintenance and operational clearances required. Cost of shop drawing preparation and reproduction shall be borne by the Contractor. Title drawings shall include identification of project and names of Architect, Engineer, Contractor, subcontractor and/or supplier, date, be numbered sequentially and shall indicate the following:
 - I. Architectural and structural (as required) backgrounds with room names and numbers, etc., including but not limited to plans, sections, elevations, details, etc.
 - a. Fabrication and Erection dimensions.
 - b. Arrangements and sectional views.
 - c. Necessary details, including complete information for making connections with other work.
 - d. Kinds of materials and finishes.
 - e. Descriptive names of equipment.
 - f. Modifications and options to standard equipment required by the contract.
 - g. Leave blank area, size approximately 4 by 2-1/2 inches, near title block (for Engineer's shop drawing stamp imprint).

- B. In order to facilitate review of drawings, insofar as practicable, they shall be noted, indicating by cross reference the contract drawings, note, and/or specification paragraph numbers where item(s) occur in the contract documents.
- C. Also provide shop drawings, using sepias of the architectural reflected ceiling plans, which indicate locations of the following (to be verified by Contractor): Air distribution devices, sprinkler heads, lights and access panels.
- D. See specific sections of specifications for further requirements.

1.20 AIR HANDLING UNIT AND DUCTWORK CONFIGURATION SHOP DRAWINGS

- A. Contractor shall submit a shop drawing for each air handling unit. Such shop drawings shall meet the following requirements:
 - 1. Be drawn at not less than a scale of 1/4" = 1'-0". Contractor may elect to use a larger scale if he desires (i.e., if drawing of unit is at 1/4" = 1'-0", 1/2" = 1'-0" may be used.).
 - 2. Clearly show all proposed ductwork configuration changes (sizes, routing, and similar differences) which are different in any respect from the Drawings. Extent of shop drawings shall show all ductwork to and from each unit beginning with and terminating at those points where ductwork is intended to remain unchanged as shown on Drawings.
 - 3. Where proposed changes affect any other work such as structure, housekeeping pads, piping, equipment, electrical work or any other work, shop drawings shall clearly show those proposed changes.
 - 4. Proposed changes shall be at no additional change in contract price.
 - 5. Where Drawings show units in plan only, shop drawings shall show proposed units in plan and also in elevation.
 - 6. Shop drawings shall also show exact locations of related work (such as bar joists, columns, beams, sound attenuators, and like items) which affect the proposed ductwork routing and unit location and configuration.
 - 7. Each section of each air handling unit shall be clearly identified (i.e., coil section, fan section, filter section, mixing box section, etc.).
- B. Failure to submit these shop drawings together at the same time with the air handling unit shop drawings will result in total disapproval of the proposed air handling units. Time delays or other reasons will not be considered.

1.21 ELECTRONIC FILES

- A. CADD files will be available on a limited basis to qualified firms at the Architects prerogative. Recipients are cautioned that these files may not accurately show actual conditions as constructed. Users are responsible to verify actual field conditions. These files are not intended to be used as shop drawings.

1.22 OPERATING INSTRUCTIONS

- A. Submit for checking a specific set of written operating instructions on each item which requires instructions to operate. After acceptance, insert information in each Technical Information Brochure. Refer also to other sections which may describe operating instructions.

1.23 MAINTENANCE INFORMATION

- A. Submit for acceptance Maintenance Information consisting of manufacturer's printed instruction and parts lists for each major item of equipment. After acceptance, insert information in each Technical Information Brochure. Refer also to other sections which may describe maintenance.

1.24 MANUFACTURER'S CHECK-OUT

- A. Check out by Manufacturer's Representative (for major items of equipment): At completion of construction and after performance verification information as above-mentioned has been gathered, submitted and accepted, provide one copy of this information to the manufacturer's representative. Work required under this section shall include having the representative examine the performance verification information, check the equipment in the field while it is operating, and sign a Check-Out Memo for record. Submit a copy of the memo on each major item of equipment for each brochure. Accepted memos shall be inserted on each brochure with the performance verification information and submittal data. Memos shall be submitted and accepted before Instruction in Operation to Owner or a request for final inspection.

1.25 SYSTEM GUARANTEE

- A. The work required under Division-15 shall include a one year guarantee. This guarantee shall be by the Contractor to the Owner to replace for the Owner any defective workmanship, equipment, or material which has been furnished under this Contract at no cost to the Owner for a period of one year from the date of acceptance of the System. This guarantee shall also include reasonable adjustments of the system required for proper operation during the guarantee period. Explain the provisions of guarantee to Owner at the "Instruction in Operation Conference".

1.26 INSTRUCTION TO OWNER

- A. Submit all required items for checking one week before final inspection of the building is scheduled. When all items are accepted and placed in the proper brochures, the Contractor shall give notice in writing that he is ready to give the Owner an "Instruction in Operation Conference". After the above mentioned request is received the Contractor will be notified of the time the conference can be held with the Owner. At the conference, the Contractor shall review with the Owner all appropriate information. At the end of the conference, seven copies of a memo certifying Instruction in Operation and Completed Demonstration shall be signed by the Contractor, Subcontractor and Owner and one copy inserted in each brochure.

1.27 MATERIALS AND EQUIPMENT

- A. Each bidder represents that his bid is based upon the materials and equipment described in this division of the specifications.
 - 1. Submittal shall include the name of the material or equipment for which it is to be substituted, substituted equipment model numbers, drawings, cuts, performance and test data and any other data or information necessary for the Architect/Engineer to determine that the equipment meets all specification and requirements. If the Architect/Engineer accepts any proposed substitutions, such acceptance will be set forth in writing.

2. Substituted equipment with all accessories installed or optional equipment where permitted and accepted, must conform to space requirements. Any substituted equipment that cannot meet space requirements, whether accepted or not, shall be replaced at the Contractor's expense. Any modifications of related systems of this or other trades as a result of substitutions shall be made at the Contractor's expense, and Contractor shall so state in his written request for substitution.

1.28 ACCEPTABLE MANUFACTURERS

- A. Acceptable Manufacturers: Materials and Equipment specified in these contract documents are accepted only in regards to general performance and quality. It shall be the Contractor's responsibility to insure that acceptable materials and equipment meet or exceed the efficiencies, capacities, electrical characteristics, performance and quality of the equipment herein specified. Acceptable equipment must also generally conform, without extensive modification of related systems to the accessories, weights, space and maintenance requirements, etc., of the specified equipment. Any modification to related systems of this or other trades shall be made at the Contractor's expense and the Contractor shall be responsible for coordination between trades. Any difference in capacity, efficiency, electrical characteristics, weights or quality of product, etc., between specified materials and equipment and acceptable alternates shall be submitted to the Architect/Engineer for acceptance within 30 days of Notice to Proceed.

PART 2 - PRODUCTS

- 2.1 Section part not applicable.

PART 3 - EXECUTION

- 3.1 Section part not applicable.

END OF SECTION

SECTION 15050 - BASIC MECHANICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section, in addition to the following:

1.2 SCOPE

- A. Materials listed herein are general mechanical materials to be used under the Division-15 sections of the specifications unless specifically noted otherwise in the particular section or on the drawings.

1.3 RELATION TO OTHER WORK

- A. Refer to the section, "General Mechanical Provisions", for related requirements. Refer to other sections of Division-15 and to all other applicable portions of the Drawings and Specifications. This section relates to all sections of Division-15 as may be applicable to the work of each section.

1.4 STANDARDS

- A. Quality and weight of materials shall comply with requirements and specifications of the appropriate standards of the American Society of Testing and Materials.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT, GENERAL

- A. All materials and equipment shall be new and without blemish or defect.
- B. Equipment and materials shall be products which will meet with the acceptance of the agency inspecting the work. Where acceptance is contingent upon having the products examined, tested and certified by Underwriters Laboratory or other recognized testing laboratory, the product shall be so examined, tested and certified.
- C. Where no specific indication as to the type or quality of material or equipment is indicated, a standard item or system shall be furnished with all options, features and capabilities to meet the project requirements.
- D. Performance and Capacity:
 - 1. Performance as delineated in schedules and in the specifications shall be interpreted as minimum performance. In some cases equipment may be sized to allow for future requirements or for other reasons which may not be stated on the Drawings or in the

Specifications; provide equipment and systems with the capacities, capabilities and features indicated to provide the maximum or minimum (as appropriate) conditions.

E. Operating conditions and capacities must be as follows:

1. No overloading.
2. No operation at conditions outside of maximum and minimum limits recommended by the manufacturer and accepted by the Architect/Engineer.
3. Compatible with all systems.

F. Unless otherwise specified, all equipment and materials furnished must be as follows:

1. Recommended by the manufacturer for the application.
2. Installed in accordance with the manufacturer's recommendations for the application except where specifications and drawings clearly indicate otherwise.

2.2 ACCESS DOORS AND PANELS

A. Locations: Provide access doors and panels (access units) as necessary for access to items which are concealed and which may require service or maintenance or other reason for accessibility. Examples of such items include, but are not limited to, the following: valves, cleanouts, pipe unions, expansion joints and connectors, dampers, coils, junction boxes, duct heaters, terminal units, HVAC control system devices and similar types of items.

B. Access units: Shall be manufactured by the Milcor Division of Inland-Ryerson, Boico, Nystrom or Ventfabrics. Types are as follows (Milcor style designations are used for example only):

<u>Location</u>	<u>Door/Panel Type</u>
Drywall	Style "DW"
Masonry or tile	Style "M-stainless"
Acoustical tile	Style "AT"
Plaster	Style "K"
Fire-rated walls	Style "Fire Rated"***

(**or as indicated below)

C. Fire Rated Units:

1. Frame and panel assembly shall bear a U.L. label reading, "frame and door assembly, rating 1-1/2-hour (B), temperature rise 30 minutes 250°F maximum".
2. Have an automatic closing device and mechanism to release the latch bolt from the inside.
3. Acceptable Manufacturers: Boico Style F, Inryco/Milcor Style VA, Nystrom Style APFR.

D. Non-fire Rated Units:

1. Steel panels and frames.
2. Locks and latches shall be as appropriate for the location and shall be cam-lock type latches, flush screw driver operated locks or cylindrical locks.
3. Provide two keys for all doors. All doors shall be keyed the same.

E. Other Requirements:

1. Doors and panels installed in glazed or ceramic tiled surfaces, in toilet rooms or in kitchens shall be stainless steel.
2. Unless otherwise indicated, finish shall be rust inhibitive prime coat.

F. Sizes:

1. Minimum size: 8" x 8".
2. Sizes of each unit shall be individually selected to allow the recommended and required service and maintenance and accessibility functions to be accomplished. These functions shall generally include, for example, valve removal, damper linkage resetting, control adjustment, lubrication, repair, replacement and similar tasks as may be necessary and recommended for the concealed item.
3. Sizes shall be of the following increments (unless otherwise approved) to allow the accessibility function to be accomplished: 8" x 8", 8" x 12", 12" x 12", 12" x 16", 16" x 16", 16" x 24", 24" x 24", 24" x 36", 30" x 30", 36" x 36" or 36" x 48".
4. No size smaller than 16" x 24" shall be allowed when a person must pass through the access opening in order to accomplish the desired accessibility function.
5. Every attic or furred space in which mechanical equipment is installed shall be accessible by an opening and passageway as large as the largest piece of the equipment and in no case less than 22 x 36 inches continuous from the opening to the equipment and its controls. The opening to the passageway shall be located not more than 20 feet from the equipment measured along the center line of such passageway.

2.3 PAINTING AND MARKING

- A. All paint and materials used for painting shall be manufacturer's "first quality" product. For additional paint material requirements, refer to Section 09900, Painting.
- B. Marking: Refer also to sections describing identification of mechanical systems.

2.4 PIPE HANGERS AND SUPPORTING DEVICES

- A. General: Refer to other sections of Division-15 for any requirements which may be additional to this section. Comply with the more stringent requirement if more than one method is specified or shown.
- B. Pipe supporting devices specified herein shall apply to all Division-15 piping unless modified in subsequent sections of Division-15 (i.e., vibration isolation) or detailed on the drawings.
 1. Pipe hangers for copper pipe shall be copper or copperplated and for steel pipe shall be zinc-plated, clevis type hangers.
 2. Hangers for pressure piping shall be clevis type or accepted as equivalent. Pipe hangers shall be capable of vertical adjustment after erection of the piping. Piping shall not be hung from fire and/or smoke walls.
 3. Vertical piping supports shall be constructed of carbon steel with rounded ears and two or four holes for clamping bolts. Steel, galvanized and cast iron piping riser clamps shall have galvanized finish. Copper and brass piping riser clamps shall have electro-plated copper or PVC coating finish.

4. Acceptable Manufacturers are Grinnell, PHD Manufacturing Inc., Fee and Mason, Michigan and Elcen.
- C. Beam clamps may be used when supporting piping from steel structures.
- D. Concrete inserts shall be placed in forms as work of Division-15 prior to the time that concrete is poured.
- E. Lead tamp-ins may be used when installed in a concrete or masonry wall or other like vertical surface to support a vertical hanger. Lead tamp-ins will not be permitted to support hangers to the underside of a concrete slab.
- F. For parallel runs of above ground suspended piping, an acceptable trapeze-type hanger may be used. Provide permanent, non-conductive type wrapping between copper pipe and steel trapeze hangers.
- G. Powder set type fasteners or inserts shall not be used.

2.5 FLOOR, WALL OR CEILING PLATES OR ESCUTCHEONS IN EXPOSED AREAS

- A. Shall be chrome-plated. Escutcheons for extended sleeves shall be of the type designed for that purpose. Split ring escutcheons will not be allowed.
- B. Escutcheons to be as manufactured by Guarantee Specialty Mfg. Co., Cleveland, Ohio; American Sanitary Mfg. Co., Abingdon, Ill., or Beaton Cadwell.
- C. Provide escutcheons or fabricated plates or collars at each location where pipe or duct passes through a finished surface. Escutcheons for flush sleeves shall be equivalent to Benton & Caldwell No. 3A chromium plated brass; for sleeves extending above floor shall be equivalent to Benton & Caldwell No. 36 chrome plated brass. Collars or plates for ducts and large diameter insulated pipe shall be fabricated of 18 gage galvanized copper bearing sheet steel, secured to structure and neatly fitted around duct or pipe.

2.6 SLEEVES

- A. General: Lay out work and set sleeves in new or existing construction so there shall be minimum of cutting, drilling and patching. All sleeves not used during construction period shall be sealed using grout. Unused penetrations or sleeves through fire rated barriers shall be sealed to prevent passage of smoke or heat using an Underwriters' Laboratories approved method rated at least equivalent to the barrier being penetrated. Method submitted must show proof of UL approval.
- B. Pipe Sleeves: Except where specified otherwise below, pipe sleeves shall be as follows:
 1. Sleeves installed in walls subject to hydrostatic (water) pressures shall be "link seal" (Thunderline Corp) Type WS or accepted as equivalent.
 2. When there is piping existing, and fire rated walls are to be erected, Proset fire rated split wall system pipe sleeves, or accepted equivalent, are to be used.
 3. When copper or steel slab penetrations are required, use Proset System A, or accepted as equivalent for fire-rated and water pipe installations.

C. Walls and Partitions:

1. Sleeves 8-Inch Diameter and Smaller (Above Grade): Sleeves shall be mild steel pipe or plastic sleeves built into wall, partition or beam, sized to pass pipe and covering, leaving a clear space of 1/4-inch minimum between covering and sleeve. Penetrations of fire rated barriers shall have mild steel sleeves.
2. Sleeves Installed in Exterior Walls (Below Grade): Schedule 40 steel hot dipped galvanized after fabrication or cast iron sleeve with 1/4-inch x 3-inch center flange (water stop) around the outside.

D. Floors (Above Grade): Sleeves shall be Schedule 10 galvanized steel, set before floor is poured, sized to pass pipe and covering, leaving a clear space of 1/4-inch between covering and sleeve, and shall extend 1/2-inch above finished floor.

E. Duct Sleeves: Sleeves or openings sized to pass mechanical ducts and covering shall be of framed construction in roof, wall, or partitions.

F. Sealing of Sleeves:

1. Sleeves Below Grade: Caulk annular space between pipe and sleeve using oakum and poured lead both sides minimum one inch deep to make wall penetration water tight.
2. Sleeves Above Grade: Openings around pipes, duct, etc., passing through sleeves shall be made draft free and vermin-proof by packing solidly with mineral wool or fiberglass.
3. Sealing of Sleeves Through Fire Rated Barriers: All penetrations through fire rated barriers shall comply with Division-7 or as specified in this Division.

2.7 FIRE/SMOKE RATED FLOOR, PARTITION OR WALL PENETRATION SEALANT

A. Seal shall be composed of fire barrier product, putty, or caulking materials used either in combination or singularly. Acceptable Manufacturers are 3M Corporation or Dow Corning.

2.8 EXCAVATION AND BACKFILL

A. Provide as necessary to accomplish work specified. Perform in accordance with applicable State and Local codes and accepted good practice and in accordance with other applicable sections or divisions.

2.9 BELT DRIVES

A. General: Equip each motor driven machine not direct connected with V-belt drive. Belts shall be of correct cross section to fit properly in sheave grooves and shall be carefully matched for each drive. Sheaves shall be cast iron or steel, bored to fit properly on shafts and secured with keys of proper size. The rating of each drive shall be as recommended by manufacturer for service but shall be at least 1.5 times nameplate rating of motor.

B. Speed Adjustment: Adjust fan speed by change(s) in sheave size as necessary to obtain proper design air flow with fan in its installed location. Fans may be first fitted with variable pitch drives until proper speed adjustment is made and then fitted with proper fixed pitch drive size, or alternate sizes of fixed pitch drives may be used until proper fan needed to deliver necessary air quantity.

- C. Vibration of Air Handling Equipment and Fan Units: For air handling equipment and fans driven by motors 5-hp or greater, field vibration levels will not be acceptable if the maximum vibration velocity or displacement measurement exceeds the following values (when measurements are taken at the bearing supports using a vibration analyzer with the filter set at the operating fan speed):

<u>Fan Speed (RPM)</u>	<u>Maximum Vibration Level</u>
800 or Less	5 Mils (0.127 mm) max. displacement
801 and Greater	0.20 in/sec. (5 mm/s) max. velocity

- D. Belt and Coupling Guards: Each belt drive shall be equipped with an OSHA approved guard. Guards shall be constructed of #12 U.S. standard gage 3/4-inch diamond mesh wire screen, or equivalent, welded to one inch steel angle frames, and shall enclose all belts and sheaves. Tops and bottoms of guards shall be of substantial sheet metal or not less than #18 U.S. standard gage. Braces or supports must not "bridge" sound and vibration isolators. Guards shall be designed with adequate provision for movement of motor required to adjust belt tension. Means shall also be provided to permit oiling, use of speed counters, and other maintenance and testing operations with guard in place. All direct drive equipment shall have coupling guards in accordance with Florida Department of Business Regulation safety regulations and OSHA.

2.10 BEARINGS

- A. All bearings shall be 200,000-hour rated unless otherwise specified.

PART 3 - EXECUTION

3.1 EQUIPMENT ACCESS

- A. Access Doors and Panels:

1. Locations: Provide access unit at the following locations.
 - a. Where additionally specified in other sections of this Division-15 and where specifically indicated on the drawings.
 - b. Where not specifically indicated on the drawings but where the work to be provided will require accessibility for purposes as described or as recommended by the manufacturer of the concealed item.
 - c. At all locations where concealed equipment, fixtures, devices and similar items require accessibility for service, inspection, maintenance, repair, replacement and where such concealed item would not otherwise be accessible for such functions without the provision of an appropriately sized access unit.

- B. Installation:

1. Definitions: For the purpose of coordination of responsibility, the following words are defined to describe the intended coordination.

- a. "Furnish" means to procure an item and deliver it to the project for installation.
 - b. "Install" means to determine (in coordination with others as necessary) the intended appropriate location of an item and to set, connect and otherwise fix in place in a manner to allow intended operation and use.
 - c. "Provide" means to both furnish and install fully and completely in all aspects.
2. Furnishing Access Units: Access units shall be furnished as work of the Division which governs the item which is intended to be made accessible by the access unit.
 3. Installing Access Units: Access units shall be installed as work of the Division which governs the surface, barrier, partition or other building component in and on which the access unit is to be placed.
 4. Determination of Locations:
 - a. Where the work of Division-15 requires that the access unit be provided (i.e., both furnished and installed), then the responsibility for determination of the location at which the access unit is to be placed is also work of Division-15.
 - b. Where the work of Division-15 requires that access unit be furnished for installation as work of another Division, then the responsibility for determination of the location at which the access unit is to be installed shall be work of Division-15. Conversely, where the work of one Division requires that an access unit be only installed, then the responsibility for determination of the location of which the access unit is to be installed shall be work of Division-15 which furnishes the access unit.
 5. Determination of Sizes:
 - a. Unless an access unit size is indicated on the drawings or otherwise specified, the size of each access unit shall be determined as work of the Division which either provides or furnishes the access unit.
 - b. Sizes for access units which are provided or furnished as work of this Division shall be in compliance with sizing criteria of this Division.

3.2 PAINTING

- A. Paint all exposed piping, insulation, equipment, structural bases, racks, in equipment rooms and on roof, furnished under Division-15 of these specifications. All exposed metal surfaces shall be given one prime coat and two finish coats. All insulated surfaces shall be given one sizing coat of glue sizing (omit this step if factory applied finish is suitable to receive prime coat), one prime coat and one finish coat. Factory painted or finished items do not require field painting but shall require "touch-up" with matching paint or finish where scratched.
- B. Equipment not completely accessible for painting when set in place shall be thoroughly cleaned and painted before installation and suitably protected.
- C. Piping concealed need not be painted.

3.3 HANGERS AND INSERTS

- A. Refer also to other sections which may describe additional requirements for hanging and supporting. Comply with the more stringent requirement if more than one method is specified or shown.

- B. Provide and properly locate hangers to adequately support piping and equipment. Arrange hangers to permit expansion and contraction.
- C. The size of hanger for non-insulated pipes shall be suitable for pipe size to be supported. For insulated piping, the size of the hanger shall be suitable for the pipe size, plus the insulation and a 16-gauge half-circle galvanized sheet metal insulation saddle.
- D. Isolation of copper pipe from steel hangers to consist of wrapping pipe at, and 1" each side of contact surface with not less than two layers of adhesive type plastic electrical insulating tape.
- E. Pipe supports for piping 2" diameter and below may be supported directly from Epicure steel decking using Epicure standard hangers (200 lb. max. load). Piping above 2" shall be supported from steel beams.
- F. Locate pipe supports as follows unless noted in other sections of these specifications or on the drawings:
 - 1. Horizontal cast iron pipe inside building - supported on each length of pipe.
 - 2. Vertical cast iron pipe inside building - supported at each floor level and at the base.
 - 3. Horizontal steel piping and copper tubing 1" diameter and under - support on 6' centers.
 - 4. Horizontal steel piping and copper tubing above 1" through 1-1/2" diameter - support on 8' centers.
 - 5. Horizontal steel piping and copper tubing larger than 1-1/2" diameter -support on 10' centers, except 24" diameter piping shall be supported by main roof beams (20' O.C. maximum).
 - 6. Support vertical cast iron, steel and copper piping at each floor penetration not to exceed 20 foot intervals.

3.4 ANCHORS

- A. Install a suitable anchor on piping to prevent movement from expansion and contraction by welding or clamping securely to pipe at fitting or coupling. Approval of the Architect/Engineer of method of anchorage must be obtained before installation of work. Properly anchor piping to remove strains on equipment which would be caused by expansion and contraction. Adequately insulate anchors on piping, with operating fluid temperatures below 75°F, to prevent moisture condensation problems.

3.5 EXPANSION AND CONTRACTION PROVISIONS

- A. Piping is designed with offsets and loops to provide for expansion and contraction. At such points, piping shall be cold sprung to equalize expansion when at operating temperatures. Install piping to maintain grade at all operating temperatures.

3.6 FLASHING

- A. Flashing shall be done as work of other divisions (unless noted on drawings).

3.7 PIPING SLEEVES

- A. Contractor shall furnish and set sleeves for his piping. Use galvanized sheet steel with water tight seams and joints or pipe for poured concrete. Extend sleeves thru walls, partitions and

ceilings to finished surface. Extend sleeves 1/4 inch above finished concrete floors and 1 inch above slab in chases. Sleeves, installed above finished ceilings, for fire/smoke rated wall assemblies shall extend 1" beyond each face of wall.

- B. Adequately size sleeves to permit clearance for pipe movement and proper grading of pipes. Sleeves for insulated pipe shall be of adequate size to clear insulation.
- C. Caulk space between insulation or pipe and sleeve with asbestos rope and seal with fire rated safing material (or flexible fire retardant sealant if pipe is subject to expansion or contraction) to serve as a fire and smoke stop.
- D. Sleeves in walls and/or slabs subject to hydrostatic pressures shall be made water tight.

3.8 ESCUTCHEONS

- A. Provide chrome plated brass escutcheons (for 1/4 or 1 inch projecting sleeves as required) at each point where an uninsulated pipe passes thru a finished surface.

3.9 CONCRETE BASES AND STRUCTURAL STEEL

- A. Concrete bases and structural steel to support equipment and piping installed under each specification section or division and not specifically shown on the structural or architectural plans shall be furnished for this work.

3.10 SEALANT

- A. Fire/smoke sealant shall be installed in strict compliance with the manufacturer's installation instructions.

END OF SECTION

SECTION 15866 - FANS: CENTRIFUGAL, CEILING MOUNTED

PART 1 - GENERAL

1.1 SCOPE

- A. Provide ceiling mounted light duty centrifugal fans with characteristics indicated.

1.2 SHOP DRAWINGS

- A. Refer to requirements of Section entitled "General Mechanical Provisions".

1.3 CERTIFIED PERFORMANCE

- A. Be AMCA certified as to both sound and performance ratings.

1.4 MANUFACTURER

- A. Design Basis: Basis of design is similar to Acme Master-ette Model V Series and Greenheck CSP Series or as scheduled on drawings.
- B. Acceptable Manufacturers: Greenheck Fan and Ventilator Corporation; Power Ventilator Company, Loren Cook Company; Acme Engineering and Manufacturing Corporation; Penn Ventilator Company, Captive Aire or equal.

PART 2 - PRODUCTS

2.1 FAN HOUSING

- A. Fan housing including longitudinal, traverse, and diagonal stiffeners, motor mounts, bearing and drive supports shall be constructed of steel. Entire fan housing shall be internally lined with ½-inch thick or greater, three pound per cubic foot density fiberglass acoustical duct liner with a stabilized surface. Liner shall be held in place with adhesive and mechanical fasteners. All insulation and adhesives shall meet requirements of NFPA 90A as to flame spread and smoke developed ratings. Housing, including all bracing, stiffeners and motor mounted assembly shall be factory finished with a baked on alkyd enamel finish over a corrosion resistant primer. Removable panel in bottom of housing for complete access to motor and fan.

2.2 CEILING INLET GRILLE

- A. Steel or aluminum: Baked enamel finish.

2.3 FAN WHEEL

- A. Shall be centrifugal type and shall be statically and dynamically balanced. Single or twin impeller as necessary to provide indicated performance.

2.4 FAN MOTOR

- A. Permanently lubricated shaded pole motor mounted on resilient isolators to minimize vibration and noise.

2.5 BACK DAMPER

- A. Mounted in throat of fan discharge.

2.6 DRIVE ASSEMBLY

- A. Drive shall be direct drive type as indicated on drawings, and shall conform with the requirements of Section entitled "General Mechanical Provisions".

2.7 DISCONNECT SWITCH

- A. Fans shall include factory mounted disconnect switches prewired to the drive motor.

2.8 SPEED CONTROL

- A. Solid state speed controller for speed reduction to 40% Mounted on housing or as otherwise indicated.

PART 3 - EXECUTION

3.1 PLACEMENT AND MOUNTING

- A. Fan locations shall be essentially as shown on drawings; however, actual fan placement shall be verified using field measurements and data relating to equipment approved for actual installation on this project. Mount fan in strict accordance with manufacturer's instructions.

3.2 TEST AND BALANCE

- A. All fan performance shall be certified by test and balance procedures as specified in section describing test and balance procedures.

END OF SECTION

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - 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 work of this Section.
- B. Coordination of work between mechanical and electrical trades is covered in Division-15 Section "GENERAL MECHANICAL PROVISIONS".

1.2 SUMMARY

- A. This Section specifies the basic requirements for electrical installations and includes requirements common to all sections of Division-16. It expands and supplements the requirements specified in sections of Division-1.

1.3 CODES AND STANDARDS

- A. Install all work in accordance with the applicable requirements of the latest edition of the following:
 - 1. National Electric Code (NEC)
 - 2. Local, State, County and City Codes
 - 3. National Fire Protection Association (NFPA)
 - 4. American National Standards Institute (ANSI)
 - 5. NEMA Standards
- B. It is the intent of the Contract Documents to comply with the applicable codes, ordinances, regulations, and standards. Where discrepancies occur, notify the Architect in writing, and ask for interpretation. Correct any installation that fails to comply with the applicable codes and standards at no additional cost to the Owner.
- C. All materials shall be new and free of defects, and shall be U.L. listed, bear the U.L. label or be labeled or listed with an approved, nationally recognized Electrical Testing Agency. Where no labeling or listing service is available for certain types of equipment, test data shall be submitted to prove to the Engineer that equipment meets or exceeds available standards.

1.4 PERMITS AND INSPECTIONS

- A. Obtain and make all payments for permits and inspections required. At the completion of the project and before final acceptance of the electrical work, provide evidence of final inspection and approval by the authorities having jurisdiction.

1.5 QUALITY ASSURANCE

- A. Manufacturers: Firms regularly engaged in manufacture of electrical products specified, whose products have been in satisfactory use in similar service for not less than 5 years.

- B. Installer's Qualifications: Firm with at least 5 years of successful installation experience on projects with electrical work similar to that required for this project.

1.6 IDENTIFICATION

- A. The following items shall be equipped with nameplates: All motors, motor starters, motor-control centers, pushbutton stations, control panels, time switches, disconnect switches, panelboards, circuit breakers, contactors.
- B. Nameplates shall adequately describe the function of the particular equipment involved. Nameplates for panelboards and switchboards shall include the panel designation, branch (normal or emergency), voltage and phase of the supply. For example, "Panel A, Emergency Branch, 480Y/277V, 3-phase, 4-wire."
- C. Nameplates shall be laminated phenolic plastic, black front and back with white core, with 3/8" high lettering etched through the outer covering. White engraved letters on black background. Attach with plated self-tapping screws or brass bolts.
- D. Provide nameplates on all existing equipment that a circuit under this contract is fed from.
- E. All junction box covers shall be hand marked with a 1/8" wide permanent black marking pen, indicating panel and circuit numbers contained, or system contained, i.e., fire alarm, telephone, etc.

1.7 ROUGH-IN

- A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected, and architectural room elevations.

1.8 ELECTRICAL INSTALLATIONS

- A. Coordinate electrical equipment and materials installation with other building components.
- B. Verify all dimensions by field measurements.
- C. Arrange for chases, slots, and openings in other building components to allow for electrical installations.
- D. Coordinate the installation of required supporting devices and sleeves to be set in poured in place concrete and other structural components, as they are constructed.
- E. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing-in the building.
- F. Coordinate the cutting and patching of building components to accommodate the installation of electrical equipment and materials.
- G. Coordinate connection of electrical systems with local utility services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connections for each service.

1.9 CUTTING AND PATCHING

- A. This Article specifies the cutting and patching of electrical equipment, components, and materials to include removal and legal disposal of selected materials, components, and equipment.
- B. Do not endanger or damage installed Work through procedures and processes of cutting and patching.
- C. Arrange for repairs required to restore other work, because of damage caused as a result of electrical installations.
- D. No additional compensation will be authorized for cutting and patching Work that is necessitated by ill-timed, defective, or non-conforming installations.
- E. Perform cutting, fitting, and patching of electrical equipment and materials required to:
 - 1. Uncover Work to provide for installation of ill-timed work;
 - 2. Remove and replace defective Work;
 - 3. Remove and replace Work not conforming to requirements of the Contract Documents;
 - 4. Remove samples of installed Work as specified for testing;
 - 5. Upon written instructions from the Architect/Engineer, uncover and restore Work to provide for Architect/Engineer observation of concealed Work.
 - 6. Install electrical work in existing facilities.

1.10 ELECTRICAL SUBMITTALS

- A. Refer to the Conditions of the Contract (General and Supplementary) and Division-1 Section: SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES for submittal definitions, requirements, and procedures.
- B. Submittal of shop drawings, product data, and samples will be accepted only when submitted by the Contractor. Data submitted from subcontractors and material suppliers directly to the Architect/Engineer will not be processed.

1.11 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Refer to the Instructions to Bidders and the Division-1 for requirements in selecting products and requesting substitutions. Where a listing of acceptable manufacturers has been given, use one of those manufacturers given only.

1.12 PRODUCT LISTING

- A. Prepare listing of major electrical equipment and materials for the project.
- B. Provide all information requested.
- C. Submit this listing as a part of the submittal requirement specified in Division-1.

- D. When two or more items of the same material or equipment are required they shall be of the same manufacturer, i.e., panelboards, motor starters, transformers, etc. Product manufacturer uniformity does not apply to raw materials, bulk materials, wire, conduit, fittings, sheet metal, steel bar stock, welding rods, solder, fasteners, motors for dissimilar equipment units, and similar items used in Work, except as otherwise indicated.
- E. Provide products which are compatible within systems and other connected items.

1.13 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to project properly identified with names, model numbers, types, grades, compliance labels, and similar information needed for distinct identifications; adequately packaged and protected to prevent damage during shipment, storage, and handling.
- B. Store equipment and materials at the site, unless off-site storage is authorized in writing. Protect stored equipment and materials from damage.
- C. Coordinate deliveries of electrical materials and equipment to minimize construction site congestion. Limit each shipment of materials and equipment to the items and quantities needed for the smooth and efficient flow of installations.

1.14 RECORD DOCUMENTS

- A. Refer to the Division-1 Section: PROJECT CLOSEOUT or PROJECT RECORD DOCUMENTS for requirements. The following paragraphs supplement the requirements of Division-1.
- B. Mark Drawings to indicate revisions to conduit size and location both exterior and interior; actual equipment locations, distribution and branch electrical circuitry; fuse and circuit breaker size and arrangements; support and hanger details.
- C. Mark Specifications to indicate approved substitutions; Change Orders; actual equipment and materials used.

1.15 OPERATION AND MAINTENANCE DATA

- A. Refer to the Division-1 Section; PROJECT CLOSEOUT or OPERATION AND MAINTENANCE DATA for procedures and requirements for preparation and submittal of maintenance manuals.

1.16 WARRANTIES

- A. Refer to individual equipment specifications for warranty requirements.
- B. Compile and assemble the warranties specified in Division-16, into a separate set of vinyl covered, three ring binders, tabulated and indexed for easy reference.
- C. Provide complete warranty information for each item to include product or equipment, date of beginning of warranty or bond; duration of warranty or bond; and names, addresses, and telephone numbers and procedures for filing a claim and obtaining warranty services.

1.17 CLEANING

- A. Refer to the Division-1 Section; PROJECT CLOSEOUT or FINAL CLEANING for general requirements for final cleaning.
- B. Clean all light fixtures, lamps and lenses prior to final acceptance. Replace all inoperative lamps.

1.18 TEMPORARY POWER

- A. Provide and pay for all temporary electrical service as required for construction.
- B. Provide all temporary lighting and power distribution as required for construction. All temporary electrical work shall be in accordance with the N.E.C.

1.19 ELECTRONIC FILES

- A. CADD files will be available on a limited basis to qualified firms at the Architects prerogative. Recipients are cautioned that these files may not accurately show actual conditions as constructed. Users are responsible to verify actual field conditions. These files are not intended to be used as shop drawings.

END OF SECTION

SECTION 16120 - CONDUCTORS AND CABLES

PART 1 - 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. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.
3. Sleeves and sleeve seals for cables.

- B. Related Sections include the following:

1. Division 16 Section "Voice and Data Communication Cabling" for cabling used for voice and data circuits.
2. Division 16 Section "Undercarpet Cables" for flat cables for undercarpet installations.
3. Division 16 Section "Medium-Voltage Cables" for single-conductor and multiconductor cables, cable splices, and terminations for electrical distribution systems with 2001 to 35,000 V.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For testing agency.
- C. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the International Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.
 1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

1.6 COORDINATION

A. Set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Alcan Products Corporation; Alcan Cable Division.
2. American Insulated Wire Corp.; a Leviton Company.
3. General Cable Corporation.
4. Senator Wire & Cable Company.
5. Southwire Company.

B. Copper Conductors: Comply with NEMA WC 70.

C. Conductor Insulation: Comply with NEMA WC 70 for Types THW, THHN-THWN, XHHW, and SO.

D. Multiconductor Cable: Comply with NEMA WC 70 for metal-clad cable, Type MC and Type SO with ground wire.

2.2 CONNECTORS AND SPLICES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems, Inc.
2. Hubbell Power Systems, Inc.
3. O-Z/Gedney; EGS Electrical Group LLC.
4. 3M; Electrical Products Division.
5. Tyco Electronics Corp.

B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SLEEVES FOR CABLES

A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch thickness as indicated and of length to suit application.
- D. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "Through-Penetration Firestop Systems."

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN-THWN, single conductors in raceway or Type XHHW, single conductors in raceway.
- B. Exposed Feeders: Type THHN-THWN, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
- E. Exposed Branch Circuits, Including in Crawlspace: Type THHN-THWN, single conductors in raceway.
- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway or metal-clad cable, Type MC.
- G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.
- H. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
- I. Class 1 Control Circuits: Type THHN-THWN, in raceway.
- J. Class 2 Control Circuits: Type THHN-THWN, in raceway or power-limited cable, concealed in building finishes.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- E. Support cables according to Division 16 Section "Electrical Supports and Seismic Restraints."
- F. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "Through-Penetration Firestop Systems."
- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Rectangular Sleeve Minimum Metal Thickness:
 - 1. For sleeve rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
 - 2. For sleeve rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.

- E. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- F. Cut sleeves to length for mounting flush with both wall surfaces.
- G. Extend sleeves installed in floors 2 inches above finished floor level.
- H. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and cable unless sleeve seal is to be installed.
- I. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.
- J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and cable, using joint sealant appropriate for size, depth, and location of joint according to Division 7 Section "Joint Sealants."
- K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at cable penetrations. Install sleeves and seal with firestop materials according to Division 7 Section "Through-Penetration Firestop Systems."
- L. Roof-Penetration Sleeves: Seal penetration of individual cables with flexible boot-type flashing units applied in coordination with roofing work.
- M. Aboveground Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeves to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.6 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Division 7 Section "Through-Penetration Firestop Systems."

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections and prepare test reports.
- B. Perform tests and inspections and prepare test reports.
- C. Tests and Inspections:
 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 3. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each splice in cables and conductors No. 3 AWG

and larger. Remove box and equipment covers so splices are accessible to portable scanner.

- a. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each splice 11 months after date of Substantial Completion.
- b. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
- c. Record of Infrared Scanning: Prepare a certified report that identifies splices checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

D. Test Reports: Prepare a written report to record the following:

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

E. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

SECTION 16130 - RACEWAYS AND BOXES

PART 1 - 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 raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. ENT: Electrical nonmetallic tubing.
- C. EPDM: Ethylene-propylene-diene terpolymer rubber.
- D. FMC: Flexible metal conduit.
- E. IMC: Intermediate metal conduit.
- F. LFMC: Liquidtight flexible metal conduit.
- G. LFNC: Liquidtight flexible nonmetallic conduit.
- H. NBR: Acrylonitrile-butadiene rubber.
- I. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Shop Drawings: For the following raceway components. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Custom enclosures and cabinets.
- C. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
 - 1. Structural members in the paths of conduit groups with common supports.
 - 2. HVAC and plumbing items and architectural features in the paths of conduit groups with common supports.

D. Qualification Data: For professional engineer and testing agency.

E. Source quality-control test reports.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AFC Cable Systems, Inc.
2. Alfex Inc.
3. Allied Tube & Conduit; a Tyco International Ltd. Co.
4. Anamet Electrical, Inc.; Anaconda Metal Hose.
5. Electri-Flex Co.
6. Manhattan/CDT/Cole-Flex.
7. Maverick Tube Corporation.
8. O-Z Gedney; a unit of General Signal.
9. Wheatland Tube Company.

B. Rigid Steel Conduit: ANSI C80.1.

C. IMC: ANSI C80.6.

D. EMT: ANSI C80.3.

E. FMC: Zinc-coated steel or aluminum.

F. LFMC: Flexible steel conduit with PVC jacket.

G. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.

1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
2. Fittings for EMT: Steel, set-screw or compression type.

H. Joint Compound for Rigid Steel Conduit or IMC: Listed for use in cable connector assemblies, and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

2.2 NONMETALLIC CONDUIT AND TUBING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AFC Cable Systems, Inc.
2. Anamet Electrical, Inc.; Anaconda Metal Hose.
3. Arco Corporation.
4. CANTEX Inc.
5. CertainTeed Corp.; Pipe & Plastics Group.
6. Condux International, Inc.
7. ElecSYS, Inc.
8. Electri-Flex Co.
9. Lamson & Sessions; Carlon Electrical Products.
10. Manhattan/CDT/Cole-Flex.
11. RACO; a Hubbell Company.
12. Thomas & Betts Corporation.

B. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.

C. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.

2.3 METAL WIREWAYS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cooper B-Line, Inc.
2. Hoffman.
3. Square D; Schneider Electric.

B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 12, unless otherwise indicated.

C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers: Screw-cover type or as indicated.

E. Finish: Manufacturer's standard enamel finish.

2.4 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
2. EGS/Appleton Electric.
3. Erickson Electrical Equipment Company.
4. Hoffman.

5. O-Z/Gedney; a unit of General Signal.
 6. RACO; a Hubbell Company.
 7. Scott Fetzer Co.; Adalet Division.
 8. Spring City Electrical Manufacturing Company.
 9. Thomas & Betts Corporation.
 10. Walker Systems, Inc.; Wiremold Company (The).
- B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, aluminum, Type FD, with gasketed cover.
- D. Metal Floor Boxes: Cast or sheet metal, fully adjustable, rectangular.
- E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- F. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.
- G. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.
1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
- H. Cabinets:
1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 2. Hinged door in front cover with flush latch and concealed hinge.
 3. Key latch to match panelboards.
 4. Metal barriers to separate wiring of different systems and voltage.
 5. Accessory feet where required for freestanding equipment.

2.5 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. Description: Comply with SCTE 77.
1. Color of Frame and Cover: Green.
 2. Configuration: Units shall be designed for flush burial and have open bottom, unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, as indicated for each service.
 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
 7. Handholes 12 inches wide by 24 inches long and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.
- B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel or fiberglass or a combination of the two.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide Brook Industries or a comparable product by one of the following:
 - a. Armorcast Products Company.
 - b. Carson Industries LLC.
 - c. CDR Systems Corporation.
 - d. NewBasis.
- C. Fiberglass Handholes and Boxes with Polymer-Concrete Frame and Cover: Sheet-molded, fiberglass-reinforced, polyester-resin enclosure joined to polymer-concrete top ring or frame.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide Brook Industries or a comparable product by one of the following:
 - a. Armorcast Products Company.
 - b. Carson Industries LLC.
 - c. Christy Concrete Products.
 - d. Synertech Moulded Products, Inc.; a division of Oldcastle Precast.

2.6 SLEEVES FOR RACEWAYS

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch thickness as indicated and of length to suit application.
- D. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "Through-Penetration Firestop Systems."

2.7 SOURCE QUALITY CONTROL FOR UNDERGROUND ENCLOSURES

- A. Handhole and Pull-Box Prototype Test: Test prototypes of handholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
 1. Tests of materials shall be performed by a independent testing agency.
 2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
 3. Testing machine pressure gages shall have current calibration certification complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:

1. Exposed Conduit: Rigid steel conduit IMC.
2. Concealed Conduit, Aboveground: Rigid steel conduit IMC.
3. Underground Conduit: RNC, Type EPC-80-PVC, direct buried.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
6. Application of Handholes and Boxes for Underground Wiring:
 - a. Handholes and Pull Boxes in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Polymer concrete, SCTE 77, Tier 15 structural load rating.
 - b. Handholes and Pull Boxes in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: Heavy-duty fiberglass units with polymer-concrete frame and cover, SCTE 77, Tier 8 structural load rating.
 - c. Handholes and Pull Boxes Subject to Light-Duty Pedestrian Traffic Only: Fiberglass-reinforced polyester resin, structurally tested according to SCTE 77 with 3000-lbf vertical loading.

B. Comply with the following indoor applications, unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: Rigid steel conduit IMC. Includes raceways in the following locations:
 - a. Loading dock.
 - b. Apparatus bay.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: Rigid steel conduit.
7. Raceways for Communication and Alarm Systems: EMT from outlet to above accessible ceiling
8. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, nonmetallic in damp or wet locations.

C. Minimum Raceway Size: 3/4-inch trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.

3.2 INSTALLATION

- A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Support raceways as specified in Division 16 Section "Electrical Supports and Seismic Restraints."
- E. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
- H. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Change from RNC, Type EPC-40-PVC, to rigid steel conduit, or IMC before rising above the floor.
- I. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- J. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
- K. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
- L. Raceways for Communications Cable: Install raceways, metallic, rigid and flexible, as follows:
 - 1. 3/4-Inch Trade Size and Smaller: Install raceways in maximum lengths of 50 feet.
 - 2. 1-Inch Trade Size and Larger: Install raceways in maximum lengths of 75 feet.
 - 3. Install with a maximum of two 90-degree bends or equivalent for each length of raceway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.
- M. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a

blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 2. Where otherwise required by NFPA 70.
- N. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
1. Use LFMC in damp or wet locations subject to severe physical damage.
 2. Use LFMC in damp or wet locations not subject to severe physical damage.
- O. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.
- P. Set metal floor boxes level and flush with finished floor surface.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Division 2 Section "Earthwork" for pipe less than 6 inches in nominal diameter.
2. Install backfill as specified in Division 2 Section "Earthwork."
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Division 2 Section "Earthwork."
4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through the floor, unless otherwise indicated. Encase elbows for stub-up ducts throughout the length of the elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through the floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete.
 - b. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
6. Warning Planks: Bury warning planks approximately 12 inches above direct-buried conduits, placing them 24 inches o.c. Align planks along the width and along the centerline of conduit.

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- D. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in the enclosure.
- E. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 7 Section "Through-Penetration Firestop Systems."
- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Rectangular Sleeve Minimum Metal Thickness:
 - 1. For sleeve cross-section rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
 - 2. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.
- E. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- F. Cut sleeves to length for mounting flush with both surfaces of walls.
- G. Extend sleeves installed in floors 2 inches above finished floor level.
- H. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway unless sleeve seal is to be installed.
- I. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.

- J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint. Refer to Division 7 Section "Joint Sealants" for materials and installation.
- K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway penetrations. Install sleeves and seal with firestop materials. Comply with Division 7 Section "Through-Penetration Firestop Systems."
- L. Roof-Penetration Sleeves: Seal penetration of individual raceways with flexible, boot-type flashing units applied in coordination with roofing work.
- M. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- N. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between raceway and sleeve for installing mechanical sleeve seals.

3.6 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 7 Section "Through-Penetration Firestop Systems."

3.7 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

SECTION 16140 - WIRING DEVICES

PART 1 - 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. Receptacles, receptacles with integral GFCI, and associated device plates.
2. Twist-locking receptacles.
3. Isolated-ground receptacles.
4. Snap switches and wall-box dimmers.
5. Communications outlets.
6. Cord and plug sets.
7. Floor service outlets, poke-through assemblies, service poles, and multioutlet assemblies.

- B. Related Sections include the following:

1. Division 16 Section "Voice and Data Communication Cabling" for workstation outlets.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.
- C. Field quality-control test reports.
- D. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

1.6 COORDINATION

- A. Receptacles for Owner-Furnished Equipment: Match plug configurations.
 - 1. Cord and Plug Sets: Match equipment requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
 - 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 - 3. Leviton Mfg. Company Inc. (Leviton).
 - 4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.2 STRAIGHT BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; HBL5351 (single), CR5352 (duplex).
 - b. Leviton; 5891 (single), 5352 (duplex).
 - c. Pass & Seymour; 5381 (single), 5352 (duplex).
- B. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; CR 5253IG.
 - b. Leviton; 5362-IG.
 - c. Pass & Seymour; IG6300.

2. Description: Straight blade; equipment grounding contacts shall be connected only to the green grounding screw terminal of the device and with inherent electrical isolation from mounting strap. Isolation shall be integral to receptacle construction and not dependent on removable parts.

2.3 GFCI RECEPTACLES

- A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
- B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; GF20.
 - b. Pass & Seymour; 2084.

2.4 TWIST-LOCKING RECEPTACLES

- A. Single Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration L5-20R, and UL 498.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; HBL2310.
 - b. Leviton; 2310.
 - c. Pass & Seymour; L520-R.
- B. Isolated-Ground, Single Convenience Receptacles, 125 V, 20 A:
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; IG2310.
 - b. Leviton; 2310-IG.
 2. Description: Comply with NEMA WD 1, NEMA WD 6 configuration L5-20R, and UL 498. Equipment grounding contacts shall be connected only to the green grounding screw terminal of the device and with inherent electrical isolation from mounting strap. Isolation shall be integral to receptacle construction and not dependent on removable parts.

2.5 CORD AND PLUG SETS

- A. Description: Match voltage and current ratings and number of conductors to requirements of equipment being connected.
 1. Cord: Rubber-insulated, stranded-copper conductors, with Type SOW-A jacket; with green-insulated grounding conductor and equipment-rating ampacity plus a minimum of 30 percent.
 2. Plug: Nylon body and integral cable-clamping jaws. Match cord and receptacle type for connection.

2.6 SNAP SWITCHES

A. Comply with NEMA WD 1 and UL 20.

B. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
 - b. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).
 - c. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

C. Pilot Light Switches, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; HPL1221PL for 120 V and 277 V.
 - b. Leviton; 1221-PLR for 120 V, 1221-7PLR for 277 V.
 - c. Pass & Seymour; PS20AC1-PLR for 120 V.

2. Description: Single pole, with neon-lighted handle, illuminated when switch is "ON."

D. Key-Operated Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; HBL1221L.
 - b. Leviton; 1221-2L.
 - c. Pass & Seymour; PS20AC1-L.

2. Description: Single pole, with factory-supplied key in lieu of switch handle.

E. Single-Pole, Double-Throw, Momentary Contact, Center-Off Switches, 120/277 V, 20 A; for use with mechanically held lighting contactors.

1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Hubbell; HBL1557.
 - b. Leviton; 1257.
 - c. Pass & Seymour; 1251.

2.7 WALL-BOX DIMMERS

A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMI/RFI suppression filters.

- B. Control: Continuously adjustable rotary knob; with single-pole or three-way switching. Comply with UL 1472.
- C. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module.
 - 1. 600 W; dimmers shall require no derating when ganged with other devices.
- D. Fluorescent Lamp Dimmer Switches: Modular; compatible with dimmer ballasts; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 20 percent of full brightness.

2.8 FAN SPEED CONTROLS

- A. Modular, 120-V, full-wave, solid-state units with integral, quiet on-off switches and audible frequency and EMI/RFI filters. Comply with UL 1917.
 - 1. Continuously adjustable rotary knob, 5 A.
 - 2. Three-speed adjustable rotary knob, 1.5 A.

2.9 WALL PLATES

- A. Single and combination types to match corresponding wiring devices.
 - 1. Plate-Securing Screws: Metal with head color to match plate finish.
 - 2. Material for Finished Spaces: Steel with white baked enamel, suitable for field painting.
 - 3. Material for Unfinished Spaces: Galvanized steel.
 - 4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."
- B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum with lockable cover.

2.10 FLOOR SERVICE FITTINGS

- A. Type: Modular, flap-type, dual-service units suitable for wiring method used.
- B. Compartments: Barrier separates power from voice and data communication cabling.
- C. Service Plate: Rectangular, solid brass with satin finish.
- D. Power Receptacle: NEMA WD 6 configuration 5-20R, gray finish, unless otherwise indicated.

2.11 FINISHES

- A. Color: Wiring device catalog numbers in Section Text do not designate device color.
 - 1. Wiring Devices Connected to Normal Power System: White, unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
- B. Coordination with Other Trades:
1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtail existing conductors is permitted provided the outlet box is large enough.
- D. Device Installation:
1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
 4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
 5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
 6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
 7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
 8. Tighten unused terminal screws on the device.
 9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.
2. Install hospital-grade receptacles in patient-care areas with the ground pin or neutral blade at the top.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Dimmers:

1. Install dimmers within terms of their listing.
2. Verify that dimmers used for fan speed control are listed for that application.
3. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

H. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

I. Adjust locations of floor service outlets to suit arrangement of partitions and furnishings.

3.2 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.

1. Test Instruments: Use instruments that comply with UL 1436.
2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated LED indicators of measurement.

B. Tests for Convenience Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is not acceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
5. Using the test plug, verify that the device and its outlet box are securely mounted.
6. The tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

END OF SECTION

SECTION 16450
ELECTRICAL GROUNDING SYSTEM

PART 1 - GENERAL

- 1.01 SCOPE OF WORK: The extent of the electrical grounding system is indicated by the requirements of this section.
- 1.02 QUALITY ASSURANCE
- A. **Installer**: A firm with at least three years of successful installation experience on projects with electrical grounding work similar to that required for the project.
 - B. **NFPA Compliance**: Comply with applicable portions of National Electrical Code (NFPA No. 70) as to type of products used and the installation of electrical connections (terminals and splices), junction boxes, motor starters, and disconnect switches, for grounding.
- 1.03 SUBMITTALS: Product Data - Electrical Grounding Devices: Manufacturer's data on ground rods, connectors, and lugs.

PART 2 - PRODUCTS

2.01 GROUNDING CONDUCTORS

- A. Grounding conductors in raceways and leads to grounding electrodes shall be insulated copper cables. Insulation shall be the same type as used on feeder phase conductors. Leads to grounding electrodes shall be run in Schedule 40 PVC plastic conduit.
- B. Electrical bonding jumpers shall be tinned copper braid sized for indicated application.
- C. Buried connection to electrodes shall be made with formed exothermic molds or UL listed mechanical connectors.

2.02 GROUND RODS

- A. Solid copper, 3/4" diameter by 20'.

PART 3 - EXECUTION

- 3.01 GENERAL: Install electrical ground in accordance with applicable portions of the National Electrical Contractors Association's Standard of Installation, and in accordance with recognized industry practices.
- A. A continuous green copper ground wire system is required to ground all metallic noncurrent carrying parts of system. Conduits and other raceways are not to be used for ground paths.
 - B. All electric equipment (metallic conduit, motor frames, panelboards, boxes, etc.) and main switchboard shall be bonded together with a green insulated copper grounding conductor sized per NEC (minimum size #12 AWG). This bonding conductor shall be continuous through raceway system from main switch

ground bus to panelboard ground bus and to each branch circuit outlet or switch. Equipment grounding conductors are required throughout project.

- C. Equipment grounding conductors shall terminate on terminal bars, screws, lugs, etc., expressly designed for that purpose. Metal enclosures shall not be used for ground continuity.
- D. Bonding of item connected by flexible type conduit shall be made by providing a green insulated copper conductor, sized in accordance with N.E.C., in the conduit and bonded at each end.
- E. Provide a driven ground rod in or near all lighting pole bases.
- F. Cadweld (or equal) all ground wire to ground rod connections and wire to wire connections of 2/0 and larger.
- G. End-to-end fixtures shall be continuously bonded with a #12 green conductor or the manufacturer's approved grounding method.
- H. All junction, switch and outlet boxes shall be grounded to the grounding conductor by a 10/32 grounding screw.
- I. Use steel threaded, insulated type bonding bushing for all feeder conduit runs.
- J. All separate building or buildings connected only by a breezeway shall have the main feeder(s) grounding conductor connected to the grounding electrodes of that structure.
- K. Provide one #6 gauge copper conductor in 3/4" PVC conduit from service telephone backboard to main building ground at service switchboard. Terminate at telephone backboard in 4" square outlet box.
- L. All metal conduits entering the service switchboard or panelboard shall have Type BL threaded conduit insulated bushings. All bushings shall be bonded together with No. 3/0 green insulated copper grounding conductor and, in turn, bonded to the service switchboard ground bar.

3.02 GROUNDING ELECTRODE SYSTEM

- A. The following shall be bonded together with a No. 3/0 green insulated THW copper grounding conductor in a 1" PVC conduit:
 - 1. Provide a No. 3/0 green insulated copper grounding conductor in a 1" PVC conduit ahead of first valve from the main cold water pipe to the service switchboard if metallic water pipe.
 - 2. Provide a No. 3/0 green insulated grounding jumper across the water meter attached to a ground clamp on each side of meter.
 - 3. Provide 20 feet of No.4 AWG bare copper conductor in footing to ground bar in service switchboard.
 - 4. Provide a driven ground rod assembly consisting of three ground rods spaced twelve feet apart in the form of an equilateral triangle. The rods shall be connected together at the top with bare No. 3/0 stranded copper cable welded to the ground rods by the copperweld process and, in turn, connected to the service switchboard ground bar with No. 3/0 copper cable. The entire rod assembly shall be installed 24" below finished grade. The cable between the switchboard and the assembly shall be installed in 1" Schedule 40 PVC conduit.

SECTION END

APPENDIX A

PERMITS IRC BUILDING PERMIT #2021080692

INDIAN RIVER COUNTY BUILDING DIVISION

1801 27TH STREET VERO BEACH, FL 32960

PERMIT APPLICATION

APPL DATE 8/13/2021

Confirm. #: 371

BCALT COMMERCIAL ALTERATION

PERMIT #: 2021080692 PERMIT TYPE: BCALT ISSUED DATE: BY:
JOB DESCRIPTION: REMODEL 57 HOTEL ROOMS INC WINDOWS, EXHAUST FANS, WEATHER STRIPPING, REPAIR
JOB ADDRESS 3901 26TH ST BLDG DODGERTOWN (CONFERENCE CENTER & APARTMENTS)
BLOCK 0230 **LOT:** 00001.0 **SUBDIVISION #:** 742-VERO BEACH MUNICIPAL AIRPORT SUB
 (UNRECORDED PLAT)
ADDR NBR: 28582 **FOLIO NBR:** 32-39-26-00011-0230-00001.0 **WWP (2X fee):** N
OWNER NAME: INDIAN RIVER COUNTY **JURISDICTION:** VB

FLOOD ZONE X **FLOOD ELEV:** U **FLOOD MAP:** 155E **INSP AREA:**
PROJECT 2012090030
APPLICANT: OUT TO BID_MIKE HELLER **TYPE:** CONTRACTOR **JOB PHONE:**772-226-1585
DBA: **CERT NBR:** **JOB FAX:**

SETBACKS FRONT: REAR: LEFT: RIGHT:
FCC CODE: 831 **ALTERATIONS:** COMMERCIAL
SQFT: 0 **JOB VALUE:** \$ 2,600,000. **#UNITS:** **#FLOORS** **#BLDGS:**
TIFF #: **ROW NBR** **PLAN NBR:**

ADDITIONAL INFO:

IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND THE APPLICATION ON FILE IN THIS OFFICE, WORK MUST BE INSPECTED BEFORE BEING CONCEALED OR COVERED.

NOTICE: In addition to the requirements in this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies. FS:553.79(10)

A permit expires unless work has commenced and a "passed" inspection is obtained within 180 days after its issuance. Exception: ALL DEMOLITION PERMITS WILL EXPIRE 60 DAYS FROM ISSUE DATE.

Schedule Inspections Online at: www.ircgov.com and select the Building Division Online Services link

This permit issued by order of Building Official.

For administrative inquiries call 772-226-1260.

Owner/Contractor

Date

Print Name

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

105.6 Suspension or revocation. The Building Official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code. Engineering reserves the right to modify the original permitted conditions as needed at any time prior to final acceptance in order to comply with Indian River County Ordinances.

APPENDIX B

**MOLD REMEDIATION
PRTOCOL**

**WOOD ENVIRONMENT AND
INFRASTRUCTURE
SOLUTIONS INC.**



Mold and Moisture Remediation Protocol

Jackie Robinson Training Complex
3901 26th Street East
Vero Beach, Florida

Project #6380191449

Prepared for:

Indian River County

1891 27th Street, Vero Beach, Florida, 32960-3388

July 29, 2021



Mold and Moisture Remediation Protocol

Jackie Robinson Training Complex
3901 26th Street East
Vero Beach, Florida

Prepared for:

Indian River County
1891 27th Street, Vero Beach, Florida, 32960-3388

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
550 Northlake Boulevard, Suite 1000
Altamonte Springs, Florida 32701
T: 407-522-7570

Wood Project # 6380191449

July 29, 2021

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1.0 Background

At the request of Indian River County (IRC), Wood Environment & Infrastructure, Inc. (Wood), has conducted several site assessments for mold and moisture impacts at the Jackie Robinson Training Complex, located at 3901 26th Street East in Vero Beach, Florida (the Site or the Facility).

Wood performed mold, moisture, and indoor air quality (IAQ) assessments at the facility on multiple occasions from 2018 through 2021. Wood understands IRC would like a mold and moisture remediation protocol to support contractors during repair work at the facility.

This remediation protocol is intended to provide guidance for removing, drying, cleaning, and treating (if necessary) building materials that were affected by excess moisture SVG, if found. Due to unknown variables that may be encountered during remediation of moisture-affected building materials (such as the potential for discovery of hidden SVG, etc.), the remediation contractor (the contractor) shall report new discoveries to IRC, and Wood and this remediation protocol will be revised as needed.

This remediation protocol is not intended to serve as an asbestos or lead abatement specification and will not prescribe what specific products or methods the remediation contractor must use to address rodent or insect residues, SVG, moisture, or hazardous materials at the Site.

2.0 Remediation and Project Management

2.1 Remediation Approach

This protocol was based on Wood's site observations and will be updated if additional findings provide evidence that a change of scope is needed. Remediation of Site building materials may include removal of hazardous, regulated building materials (e.g., abatement), removal of non-regulated building materials, cleaning, drying.

At the request of IRC, Wood will examine building materials exposed after building finishes are removed from work areas for loss-related odors, soils, efflorescence, or moisture impacts of interest. Repair of water intrusion sources should be performed prior to interior remediation in order to prevent moisture that causes SVG, efflorescence, staining or delamination of building materials, and attracts insects or rodents.

This protocol is not intended to serve as an asbestos or lead abatement plan or specification. The production of asbestos specifications and plans or permits and other regulatory compliance documentation and efforts are the responsibility of the contractor. Asbestos abatement must be performed by a State of Florida Licensed Asbestos Abatement Contractor in accordance with state, local, and federal regulations.

Baseline remedial actions should be conducted in accordance with current American National Standards Institute (ANSI)/ Institute of Inspection, Cleaning, and Restoration Certification (IICRC) S500 Standard for Professional Water Damage Restoration and IICRC S520 Standard and Reference Guide for Professional Mold Remediation.

2.2 Project Phasing

Phasing will generally occur as follows:

- **REQUIRED:** Hazardous materials survey (e.g., sampling to determine whether building materials impacted by remediation contain asbestos, sampling of paints for determination of lead content/concentration, and identification of polychlorinated biphenyls (PCBs) or mercury-containing items or materials) compliant with Florida regulations. For the purposes of this protocol, in the

absence of documentation, Wood assumes that building materials may contain detectable concentrations of asbestos, and that coatings (e.g., paint and varnish) may contain detectable concentrations of lead.

- Employee training, orientation, and hazard communication,
- Identification and repair of exterior and interior moisture intrusion causes,
- Isolation of building areas as needed to facilitate abatement or remediation,
- Abatement of moisture-affected regulated building materials (drywall, vinyl sheet flooring, etc.) by a Florida Licensed Mold-Related Services Remediator (MRSR),
- Removal of non-regulated building materials,
- Cleaning and drying of remaining, salvageable building materials,
- Post-remediation verification (PRV) by an appropriately licensed Florida Mold-Related Services Assessor (MRSA), and IRC, as needed.
- Re-cleaning or additional drying (if needed), followed by another PRV (repeat as needed).

IRC and Site contractors will determine the specific phasing details.

2.3 Changes to Scope of Work

The scope of work described herein is inclusive of conditions observed by Wood during site assessments conducted in July 2019 and September and October 2020. New or hidden areas of SVG, excess moisture, and odors may be discovered during all phases of remediation. Newly discovered conditions will need to be evaluated on an ongoing basis by Wood, and worst-case conditions should be assumed until proven otherwise.

If necessary, Wood may update this protocol or develop a revised remediation protocol to address hidden conditions and new findings identified during the remediation process or if requested by the client.

If, at any time, work impacts hazardous materials (such as lead or asbestos), state, local, and federal regulations with regards to all work practices will apply and take precedence over mold and moisture remediation.

2.4 Project Oversight

If needed, Wood will conduct periodic site visits during remediation to address questions and evaluate remediation progress at the request of IRC.

2.5 Limitations

This remediation protocol is not intended to serve as an asbestos or lead abatement specification and will not prescribe what specific products the remediation contractor must use to address rodent or insect residues, SVG, moisture, or hazardous materials at the Site. Building envelope and HVAC evaluations and repairs are outside of Wood's current scope of work.

Unless expressly noted otherwise within this report, observations should be done in readily accessible and easily observable areas within interior areas of the facility. "Readily accessible" areas are defined as areas that can be observed without requiring destructive testing or presenting an unacceptable health or safety risk to the observers and where entry is not prohibited by security or other institutional restrictions. "Destructive testing" is defined as inspection procedures that necessarily involve objectionable or noticeable damage to building surfaces or require penetration of a surface such as a wall, ceiling, chase or

shaft, mechanical or process equipment to gain access to a concealed space. Lifting a suspended lay-in or drop-in ceiling tile or opening an unlocked, operable access panel is not considered destructive testing. "Easily observable" is defined as items, components, and building systems that are conspicuous, patent, and that can be observed visually without intrusion, removal of materials, and exploratory probing.

Because there is no dose/response relationship established between mold exposure and health effects in the general public there are currently no federal, state, or local regulations regarding permissible exposure limits. It is not intent of this report to make any suggestions or associations concerning potential health effects or risks of building occupants. No inspection method can completely eliminate the possibility of obtaining partial, imprecise, or incomplete information. Professional judgment was exercised in gathering and analyzing the information obtained.

3.0 Health and Safety

NOTE: This work will likely proceed during the COVID-19 pandemic. Each site visitor and contractor are responsible for their own workers' health and safety, including developing, implementing, and complying with COVID-19 work plans in compliance with current federal, state, and local requirements. COVID-19-specific work practices are excluded from this document. Final decisions on wearing of masks for COVID-19 are at the discretion of the Owner.

3.1 Worker Screening

According to the National Academy of Science, Institute of Medicine 2004 publication "Damp Indoor Spaces and Health", workers with compromised immune systems (e.g., workers receiving chemotherapy, organ transplant patients, HIV patients) are at greater risk of illness from environmental exposures than the healthy working population. Wood recommends that workers who conduct remediation be non-asthmatics and have no known allergies or sensitivities to mold, insects, rodents, fire residues, or chemicals.

In addition, non-voluntary employee use of respirators requires medical evaluation, fit testing, and a respiratory protection program.

3.2 Worker Education and Preparation

Workers conducting fungal remediation and/or moisture restoration should be trained in accordance with ANSI/ IICRC S520 or similar mold and moisture remediation guidelines. Workers who conduct mold remediation must have received hazard communication training regarding the health effects associated with exposures to mold. Workers who contact rodent droppings must receive hazard communication training regarding the possible health effects of exposure to rodent droppings.

Florida Law Chapter 468 part XVI (Mold-Related Services) requires licensure (Florida Mold-Related Services Remediator (MRSR)) and training for all contractors who perform mold remediation services.

Workers who conduct asbestos abatement must be trained in accordance with state, local, and federal regulatory requirements. Although not required since the Facility is not used as a home, childcare facility or pre-school, wood recommends contractors who perform construction work at on structure older than 1978 should comply with the requirements of the United States Environmental Protection Act (EPA) Lead Renovation, Repair, and Painting Program (RRP).

3.3 Worker Personal Protective Equipment, Hygiene, and Respirators

If, at any time, work impacts hazardous materials, such as lead or asbestos, state, local, and federal regulations will apply and take precedence with regards to all work practices over remediation of moisture or SVG.

When working with building materials affected by SVG residues (but not asbestos or lead), Wood recommends that workers in remediation areas adhere to the following guidelines regarding personal protective equipment (PPE) and safe work practices:

- Wear all PPE required by the contractor.
- Wear washable work uniforms or full-body disposable coveralls (e.g., Tyvek) over street clothing or when working where skin could possibly come into contact with mold residues, or chemicals.
- Wear cotton or equivalent work gloves (to prevent cuts) over nitrile gloves (to prevent exposure to chemical or biological hazards) when conducting demolition and when cleaning building materials. Employees will discard damaged gloves immediately, wash their hands, and put on new, clean gloves before returning to work.
- If respirators are used, either properly fitted N-95 filtering facepiece or half-face or full-face, negative-pressure, air-purifying respirators will be selected, as appropriate, to protect workers from airborne particulates, such as mold spores and construction debris. Only half-face or full-face, negative-pressure, air-purifying respirators are appropriate for impacting asbestos-containing materials. Respirators are not required when working in clean, dry work areas where no asbestos or lead is present.
- Negative pressure, air-purifying respirators may be equipped with P-100 cartridges or combination P-100 and acid gas/organic vapor filtered cartridges as appropriate to protect from airborne particulates, cleaning solutions, and many other cleaning compounds.
- Use of respirators is also appropriate when conducting removal of SVG-affected building materials.
- Manufacturers of cleaning compounds should be consulted to verify whether other types of respiratory protection or respirator cartridges are required. It should be noted that full-face, negative-pressure, air-purifying respirators provide the wearer with eye and splash protection.
- Designate a clean area outside of the work area where workers can store clean clothing, supplies, food, and drinking water. Place a hand wash station, trash can, and a vacuum cleaner equipped with high-efficiency particulate air (HEPA) filters at the edge of the work area for workers to use.
- Use a HEPA vacuum to clean coveralls before doffing them as part of decontamination procedures. Teach workers to properly remove coveralls, respirators, and gloves to prevent contact with dusts, residues, mold, and other environmental compounds of concern.
- Wash hands, arms, and faces at break, lunch, and at the end of each work shift before eating, drinking, chewing gum or tobacco, smoking, or applying cosmetics. These activities should also be prohibited in the work area.

Note: Contractors performing work outside mold remediation areas may voluntarily wear N-95 respirators, at their discretion. If N-95 or other respirators are worn, workers must follow applicable sections of Occupational Safety and Health Act (OSHA) 29 Code of Federal Regulations (CFR) 1910.134 (Respiratory Protection) regarding voluntary use of filtering- facepiece respirators.

4.0 Work Area Preparation

The intent of work area preparation is to protect the facility, building occupants, contents, and heating and ventilation systems from construction-related dusts such as fire residues, fungal fragments, drywall dusts, and fiberglass particulates. Ventilation systems will be protected prior to the start of work.

Dust controls are mandatory during asbestos abatement procedures and are strongly recommended during remediation work. No drywall dusts, fiberglass deposits, or other construction-related dusts, debris or deposits should be visible in the work areas after regulated building materials abatement and mold and moisture remediation is completed. Examples of dust control procedures include, but are not limited to:

- Installation and maintenance of work enclosures;
- The use of drop clothes;
- Use of vacuum cleaners equipped with high-efficiency particulate air (HEPA) filters;
- Use of wet wiping;
- Use of properly vented HEPA-filtered negative air machines (NAMs); or
- The use of vacuum shrouds or vacuum cleaner attachments on cutting tools.

If applicable, dust controls related to asbestos, lead, or other regulated materials will take precedence over dust controls for non-regulated particulates.

4.1 HVAC Systems

All space heaters or other heating and ventilation equipment that serve abatement and remediation work areas will be turned off, locked out, and tagged out to prevent fires. All openings to any salvageable, operational heating and ventilation systems in work areas will be covered using 6-mil plastic sheeting and non-marring tape. Examples of such openings includes exhaust fan grilles, air returns, air supply grilles and PTAC units.

4.2 Work Enclosures

Generally, work enclosures should be installed at the perimeter of work areas where abatement or dusty work will be performed. Examples of dusty work include, but are not limited to:

- Abatement of asbestos-containing materials, drywall, vinyl sheet flooring, or other materials;
- Removal of floor finishes;
- Removal and installation of insulation;
- Carpentry activities that involve cutting/sanding wood or drywall;
- Drywall mudding; and
- Cleaning of dusty surfaces.

Abatement-related containment design takes precedence over mold and moisture containment installations. Additional work enclosures may be appropriate when conducting focused drying and restoration work.

4.2.1 General Enclosure Guidelines

The goal of installing work enclosures is to control the distribution of dusts from abatement and remediation work areas and to minimize post-remediation and post-construction cleaning to the extent

feasible. Delicate fixtures, equipment, and immovable contents that will remain in place and are hard to clean should always be protected from dust. Items that are designed to be cleaned (e.g., sinks, bathtubs) require less protection. Protect floor drains and plumbing from construction debris, and seal drainpipes if P-traps are removed to prevent sewage-related odors from entering work spaces.

Where work area enclosures are needed, the contractor will construct them using 6-mil polyethylene sheeting. All edges of the sheeting will be secured with spring-loaded poles or similar devices and sealed to floors, walls, or ceilings using staples or non-marring tape as appropriate to hold the barrier securely in place. Rigid panel systems designed for dust controls may also be used. Ensure that emergency egress pathways are not obstructed by barriers.

The remediation contractor will ensure that critical barriers and equipment do not block access to fire extinguishers or egress through hallways and exits without proper exit signage and prior notification to building occupants. In addition, the contractor will ensure that the critical barriers do not present a fire hazard.

Where feasible, enclosures should extend from floor deck to floor deck, or floor deck to ceiling. Walls and doors that will remain in place may be used as work enclosures. Doors that are not required for access or egress should be sealed shut using non-marring tape or non-marring tape and plastic.

Work enclosures must have functional access and egress openings such as zipper doors, operable doors, or flap doors.

4.2.2 Negative Air Machines

Use of NAMs equipped with HEPA filters are most effective when they are used to negatively pressurize abatement or remediation work areas relative to non-remediation areas. If used, filters and seals will be replaced as required on NAMs to maintain the efficiency of the HEPA exhaust system and prevent air leaks in accordance with the manufacturer's recommendations and using appropriate dust-control methods. If used for abatement, NAMs must be used in accordance with state, local, and federal regulations.

Sources of clean make-up air should be installed so that the critical barriers will remain in place effectively. Sources of make-up air may include filtered openings in critical barriers.

NAM exhausts should be ducted directly outdoors whenever possible (e.g., out of a window or door) in a secure manner. If NAMs are ducted directly outdoors, the contractor must maintain appropriate temperature control within the workspace. Exhaust air must not be ducted into existing exhaust ductwork because a failure of the NAM filter could send uncontrolled dust releases into ductwork, equipment, or difficult to clean wall and ceiling cavities.

NAMs may also be used as local exhaust in areas where dusty work will be conducted but, whenever possible, exhaust air must be ducted directly outdoors to prevent the disturbance and re-suspension of construction dusts. If NAMs cannot be ducted outdoors, the contractor must ensure that the NAM exhaust is ducted to a clean, low-risk area and must be capable of and willing to addressing any filter failures that could result in additional cleaning of otherwise unaffected areas.

In addition, the NAMs must not be used as an 'air scrubber' in dusty, moldy, or soiled areas (e.g., in areas where visible dusts, SVG, construction debris, or dirt are present) because they are more likely to re-suspend dusts than they are to remove particles from the air.

4.3 Contents

Remove all stored materials or contents from work areas as needed to facilitate access to ceilings, walls, floors, and framing. Ensure that stored materials and salvageable contents are moved to a clean, dry

location and protected from excess moisture or excessive drying. The remediation contractor will determine if the contents should be cleaned prior to or after removal.

Contents not affected by mold growth or moisture that cannot be removed from the work area will be covered and protected with critical barriers that are constructed as described in 4.2.1 (General Enclosure Guidelines) and should be taped to the floor.

4.4 Load-Out Areas and Floor Finishes

Work and load-out areas should be as free as possible of stored materials and slip, trip, and fall hazards. Load-out doors should be chosen such that they are as close as possible to the work area. The pathway from the work area to the load-out opening should have the least possible impact on non-work areas.

If appropriate, doors, cabinets, and door and window frames and other similar objects should be protected from dents, scratches, construction dust, and soil using appropriate coverings such as cardboard and non-marring tape, or other durable materials.

The contractor will determine the order of operations and will select the most appropriate cleaning methods and compounds as needed to meet the intent of the Work Practices listed below in Section 5.0.

5.0 Work Practices

The Drying, Removal, Disposal, and Cleaning sections below are intended to address removal of non-salvageable building materials and remediation of building materials that will remain in place.

5.1 Removal

If applicable, building materials that contain detectable concentrations of asbestos or lead must be abated in accordance with state, local, and federal regulations. Any additional materials found on site that were not sampled and described in a Good Faith Asbestos Survey and Other Regulated Materials Report (or similar report) must be assumed to contain asbestos until they are sampled by an AHERA certified building inspector, submitted for analysis by a qualified, certified laboratory, and confirmed not to contain asbestos.

The procedures described below are applicable only to the remediation of non-regulated building materials that are impacted by soils, moisture, structural damage, delamination, and SVG. Any work that impacts structural components of the Facility (e.g., wood columns, structural wall assemblies, shear walls, trusses, roof or floor decking, framing, wall sheathing) should be assessed by qualified, experienced construction contractors (including a structural engineer, if appropriate) before commencing.

Building materials directly affected by mold and moisture should be removed and discarded before cleaning or drying other building materials that will remain in the work area. Waste generated during removal should be bagged or otherwise placed in a container and discarded promptly, as described in Section 5.2 to avoid tracking materials throughout the work area.

The contractor shall conduct removal in a manner that minimizes the production of dust. For example, where possible, non-mechanical hand tools should be used to remove building materials, and dust and debris should be cleaned immediately using HEPA-filtered vacuum cleaners.

If mechanical hand tools are used, they should be attached to dust-collection devices, such as HEPA-filtered vacuum cleaners. In addition, dusts generated by demolition must be cleaned up as soon as practicable.

Whenever feasible, materials should be cut into pieces small enough to transfer directly into waste bags or containers without breakage and without puncturing the bags. Avoid walking on debris to prevent it from becoming pulverized and ground into walking surfaces to the extent feasible.

5.2 Disposal

After removal, all non-regulated debris and used cleaning materials will be placed directly into heavy-duty plastic waste bags or covered bulk waste containers. Workers should conduct the demolition and disposal in such a way as to minimize dust emissions. If outside bag surfaces are affected by visible dusts, they will be wiped clean prior to moving them out of the work enclosure.

Waste must be properly characterized as needed to meet state, local, and federal requirements. All (non-asbestos-, lead-containing, non-regulated) wet, or fungal-affected debris can be discarded as construction debris in a landfill that accepts such construction debris.

Regulated building materials and debris must be discarded in an appropriate landfill that accepts such waste in a manner that meets state, local, and federal regulations.

5.3 Cleaning

Asbestos- and lead abatement must be performed prior to any cleaning that is needed to remove and non-regulated building materials, dusts, and residues. Cleaning includes the removal of SVG, settled dusts, soils, and cleaning residues from accessible building materials and surfaces that will remain in the work area.

Cleaning of SVG-affected surfaces should be conducted in accordance with current remediation guidelines such as the ANSI/IICRC S500 or S520 guidelines using appropriate tools followed by and damp-wiping or scrubbing using the methods described below.

5.3.1 Vacuum Cleaners

Only vacuum cleaners equipped with HEPA filters should be used to remove dust and debris from surfaces. Shop vacuums are not acceptable for fungal or fire remediation because they distribute particulates into the air.

Surfaces affected by visible settled dusts, or soils should be vacuumed before damp-wiping to minimize distribution of loose particles and dusts over surfaces. Appropriate cleaning attachments, such as brushes and crevice wands, should be used when using vacuum cleaners.

Vacuum cleaners will be cleaned and maintained in accordance with manufacturer recommendations. Vacuum cleaner contents will be controlled during servicing and emptying contents of the vacuum cleaner chamber or swapping bags or filters must be performed in an appropriate, properly contained work area. Waste contents of vacuum cleaners will be discarded in accordance with Section 5.2 (Disposal).

5.3.2 Cleaning Protocol for Materials Affected by SVG or Soils

SVG and soils may be discovered on moisture-affected semi-porous and non-porous building materials during remediation. If SVG is discovered on salvageable materials during remediation, the materials may be cleaned in accordance with the guidelines below.

All porous building materials that were structurally or materially altered by moisture, SVG, delamination, or wood rot must be removed and replaced with new materials (see Removal Section 5.1). Corroded, structurally or materially altered semi-porous or non-porous materials must be removed and replaced

with new materials. The determination of what condition constitutes “structurally or materially altered” will be made by an experienced, qualified construction specialist or engineer.

Salvageable, semi-porous materials (concrete, wood, plywood) and non-porous building materials (glass, metal, plastic, ceramics) affected by suspect fungal growth and water stains may be cleaned and can remain in place.

Cleaning may be conducted using a cleaning solution that is appropriate for removing fungal growth from affected building materials. Any cleaning agent that contains hazardous chemicals, or that may present a risk or irritant to occupants, workers, or building materials (e.g., corrosive, disagreeable fragrance), must be approved by IRC or a designated representative of IRC prior to first use. Any cleaning or treatment compounds that leave long-term residual odors should be approved by occupants prior to use.

All cleaning products must be used according to the manufacturer’s recommendations. **It is important to note that bleach can be corrosive to metal. Follow manufacturer recommendations for PPE selection and exposure control.**

Unless otherwise recommended by the manufacturer, cleaning solutions should be applied lightly over the affected surface to dampen the surface and allowed to ‘dwell’ on the surface for as long as is directed by the manufacturer prior to scrubbing the surface. After the dwell time is met, surfaces will be damp-scrubbed using fine wire brushes (for wood and plywood only) or plastic brushes, abrasive scrubbing pads, rags, or sponges as needed to remove residues, loose soils, and dirt.

Scrubbing will be followed by damp-wiping surfaces using clean sponges, rags, or towels to remove fungal growth, surface moisture, soils, and dusts **so that no visible residues or smear-able deposits remain**. It is understood that some staining may remain after cleaning. Residual stains are acceptable, provided the staining cannot be removed or smeared using hand pressure and a wet rag or finger.

5.3.3 Cleaning Protocol for Materials with Settled Dust, Water Stains, and Debris, but Without SVG

Salvageable contents and metals, glass, plastic, concrete-based, and wood-based building materials, surfaces, and crevices affected by settled dust and debris but **not** affected by SVG in the work area may be cleaned with static cloths or by using a HEPA-filtered vacuum cleaner to remove settled dusts. After vacuuming, surfaces are to be damp wiped using static cloths or other appropriate cleaning cloths.

The use of antimicrobial solution is not required for cleaning materials not affected by SVG. Select and use appropriate cleaning solutions as needed. For example, use window cleaners for windows. Tub and tile cleaner for tiles, etc.

Some specific contents may require additional attention and examples are called out in Section 6.0 (Scope of Work).

5.4 Drying

If present, non-salvageable porous building materials that are uncleanable, or moisture-or SVG-affected building materials (e.g., insulation, or drywall) should be removed prior to drying in accordance with Section 5.2 and discarded in accordance with Section 5.3. Drying of wet or SVG-affected building materials may be conducted as needed (without use of fans) to limit mold growth and to stabilize them until demolition is conducted.

Any needed drying will be conducted using appropriate dehumidifiers and air-moving fans. Air-moving fans (e.g., turbo fans) in moisture-affected areas should be turned off during abatement, removal, and

cleaning activities and left off until after settled dusts and SVG are removed to prevent the distribution of dusts and fungal spores throughout the Facility.

Semi-porous, salvageable, cleanable building materials (e.g., wood framing, plywood, concrete) that will remain in place will be actively dried so that no excess moisture remains prior to the PRV and subsequent installation of interior finishes or insulation.

If drying is conducted in areas where contents are present, protect contents and unaffected areas from over-drying that might cause shrinking and cracking.

6.0 Scope of Work

The scope of work is described below is the minimum scope of work for the remediation actions needed to address building materials that Wood found to be likely affected by SVG, water stains, efflorescence, and moisture related to exterior water intrusions. Wood recommends that sources of uncontrolled moisture be identified and repaired prior to final cleaning and drying procedures.

If additional building materials or affected areas are discovered during remediation, Contractors shall discuss new findings with the client and Wood, which may revise this Remediation Protocol as needed to address new materials in accordance with Section 2.0. All work described below should be conducted in accordance with the Work Practices described in Section 5.0.

This protocol does not address hazardous material abatement, building code, life safety, structural repairs, or cosmetic concerns related to remediation and restoration activities.

6.1 Building Exterior

A potential for unidentified roof leaks may be discovered during remediation. Exterior walls and windows may be affected by condensation, efflorescence, and water intrusion and may need repair.

Roof, exterior wall, and window repairs should be performed prior to other interior repairs or remediation, and the evaluation and repair processes are excluded from this scope of work. However, if SVG or excess moisture are discovered in exterior components during repairs.

Remediation of exterior-facing building envelope components is outside the scope of this protocol. However, remediation of the interior-facing components of the exterior envelope are described in Section 6.2 (Building Interior).

6.2 Building Interior

The provided recommendations are intended to address mold and moisture concerns, not cosmetic issues. Contractors and IRC will work together to determine whether it is cost-effective to perform cleaning and repair of some building materials described below.

6.2.1 Fixtures, Furnishings, and Equipment

Fixtures, furnishings, and equipment (FFE) on site are expected to include items such as:

- Furniture:
 - Beds,
 - Couches,
 - Desks,
 - Chairs,

- Appliances:
 - Microwaves,
 - Refrigerators,
 - Safes,
 - Irons,
 - Hair dryers,
- Fixtures:
 - Bathtubs,
 - Sinks,
 - Toilets,
 - Faucets,
 - Water supply valves,
 - Blinds,
 - Curtain rods,
- Built-ins:
 - Cabinetry,
 - Shelving,
 - Doors,
- Electrical items:
 - Wall- or ceiling-mounted lights;
 - Lamps,
 - Wiring,
 - Electrical panels,
 - Light switches,
 - Outlets,
 - Junction boxes and wiring,
- Miscellaneous contents:
 - Linens,
 - Curtains,
 - Hangers.

When feasible, FFE should be cleaned and removed prior to remediation. FFE that cannot be removed should be protected during remediation work and cleaned to remove dust after remediation is completed.

FFE constructed of porous materials (e.g., chairs, pillows, mattresses) that are affected by SVG or musty odors should be discarded. Salvageable FFE will be cleaned as follows:

- Mattresses, pillows, and box springs have presumably been covered with linens since they were moved into the rooms. Remove all linens, HEPA vacuum the mattresses, pillows, and box springs;

Inspect curtains and linens for SVG, water stains, or other unusual conditions. Launder salvageable linens. Launder salvageable curtains if feasible, or HEPA vacuum them on both sides to remove dusts, with extra attention paid to the bottom edges of curtains and any top folds.

Headboards, built-ins, doors, and cabinetry affected by moisture impacts (e.g., SVG, delamination, material swelling, water stains) should be discarded or cleaned, dried, and repaired if it is cost-effective to do so. Any cleaned and dried headboards, built-ins, doors, and cabinetry should be inspected to confirm it is appropriately clean by a qualified party and then treated with a mold-encapsulating paint.

Appliances, fixtures, and hangers should be assessed for SVG, corrosion, or other conditions. Salvageable appliances and hangers should be cleaned.

Electrical items that are affected by direct corrosion or by direct contact with moisture must be discarded. Light switch and outlet covers may be cleaned and re-used if it is cost-effective to do so.

6.2.2 Decorative Trim and Wall Paneling

Remove and discard all decorative door and wall trim, and wall paneling affected by SVG, delamination, and water stains, or as needed to access drywall or concrete wall systems affected by SVG, water stains, delamination, efflorescence, and moisture.

6.2.3 Floor Finishes

Remove and discard vinyl flooring materials that are affected by water stains, efflorescence, or delamination. Remove and discard carpet, carpet padding, and carpet tack strips affected by SVG, delamination, water staining, and excess moisture.

Remove and discard carpet and carpet padding that is affected by musty odors

6.2.4 Drywall

Remove and discard drywall affected by water SVG, water stains, delamination, efflorescence, and moisture. If only portions of a wall or ceiling is removed, inspect both sides of the removed drywall for SVG. Remove drywall to a minimum of 2 feet beyond any SVG.

6.2.5 Insulation

Remove and discard any insulation discovered in wall or ceiling cavities during removal. If only portions of walls or ceilings are removed, remove insulation to the edges of openings.

In attics, remove and discard localized areas of insulation that is directly affected by contact with SVG or contact with moisture from roof leaks.

Remove SVG or moisture-affected insulation from plumbing.

6.2.6 Concrete

Clean exposed concrete or masonry unit walls as needed to remove efflorescence or delaminated paint. Clean the concrete floor to remove construction debris, dusts, soils, and other residues.

6.2.7 Wood-based Building Materials

Clean exposed wood-based building materials (wood framing, plywood, paneling, oriented strandboard, salvageable particle board, etc.) as needed to remove dusts, soils, and SVG. Wood-based building materials affected by rodent droppings should be sanitized with an appropriate sanitizer.

6.3 Heating and Ventilation Systems

Any salvageable heating and ventilation components will be cleaned to in accordance with National Air Duct Cleaning Association (NADCA) Standard for Assessment, Cleaning, and Restoration of HVAC Systems after other remediation is completed.

Inspect PTAC units, bathroom and kitchenette ventilation, and central HVAC components for SVG, corrosion, and functionality. Remove and discard all abandoned ductwork, exhaust ventilation equipment, or non-functional equipment. Remove and discard HVAC insulation affected by SVG and moisture or moisture stains.

After cleaning, HVAC and PTAC units should be installed, restored, serviced and properly balanced in accordance with National Air Duct Cleaners Association (NADCA) and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) guidelines prior to use after other remediation is completed.

7.0 Post-remediation Verification

Upon completion of the mold and moisture remediation project, Florida mold regulations require that a Post Remediation Verification be completed. At the request of IRC, Wood will perform a PRV assessment of interior building areas affected by SVG and moisture. A licensed Florida MRSA will specify:

- (a) The method by which the remediation is deemed complete and adequate;
- (b) The criteria to be used for evaluation analytical results to determine whether the remediation project passes post-remediation verification;
- (c) The post-verification shall be conducted while walk-in containment is in place, if walk-in containment is specified for the project.

APPENDIX C

ASBESTOS SURVEY

**ASBESTOS IDENTIFICATION
SURVEY**

for

Jackie Robinson Training Complex

Villas

Vero Beach, FL

PO #90467-00

July 19, 2021

Prepared For:

Mr. Michael Heller

Indian River County Public Works Department

1801 27th Street

Vero Beach, FL 32960

Prepared By:

Gaudet Associates, Inc.

3021 Jupiter Park Circle, Suite 101

Jupiter, FL 33458



Gaudet Associates, Inc.

Construction & Environmental Services

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I. Introduction/Survey Results/Recommendations

I. INTRODUCTION/SURVEY RESULTS

Gaudet Associates, Inc., a licensed Florida Asbestos Business (ZA#0000011), was retained to perform a pre-renovation asbestos material identification survey for Jackie Robinson Training Complex Villas at 4007 26th Street in Vero Beach, FL.

The survey encompassed the interiors of eleven units. The Villas are single story and are constructed of concrete block on a concrete slab. The interior of the Villas are popcorn ceilings, drywall system, ceramic tile, carpet and vinyl tile. All materials appear to be homogenous throughout all Villas. The Villas are slated to be renovated.

No samples were collected of the roof system.

Gaudet Associates, Inc. scheduled an EPA Certified Building Inspector, Mr. Michael McGovern to perform the survey on July 12, 2021. The purpose of the survey was to identify, bulk sample and quantify suspect asbestos containing building materials in those areas accessible to the inspector. The inspector collected a total of thirty-eight (38) samples. These samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory using Polarized Light Microscopy (PLM).

The Environmental Protection Agency's (EPA) definition of an asbestos-containing material is one that is greater than one (1%) percent asbestos. **Eleven (11) of the samples collected proved positive to asbestos content.**

Materials that are assumed to be asbestos-containing:

<u>Material</u>	<u>Location</u>	<u>Approx. Quantity</u>
Drywall System	Throughout Villas	60,000 Sq. Ft.
Popcorn Ceilings	Throughout Villas	34,564 Sq. Ft.

Drywall System (Texture)

The drywall system (texture) contains two (2%) percent Chrysotile asbestos and is friable. This material is located throughout the Villas.

Popcorn Ceilings

The popcorn ceilings contain three to five (3-5%) percent Chrysotile asbestos and is friable. This material is located throughout the Villas.

RECOMMENDATIONS

Gaudet Associates, Inc. recommends that if the drywall system texture and popcorn ceilings are to be disturbed during renovation activities, these materials must be removed by a Florida licensed Asbestos Abatement Contractor under the direction of a Florida Licensed Asbestos Consultants. All work shall be performed in accordance with all Local, State and Federal regulations.

II. Building Overview

II. BUILDING OVERVIEW

In conducting this building inspection in compliance with all local, state and federal regulations, all suspected asbestos-containing building materials (ACBM) which were accessible to the inspector, were either sampled to confirm the actual presence of asbestos or assumed to contain asbestos. Where suspected ACBM could be examined or by review of an existing plan, if available, could be determined to exist, such materials were also tested or assumed, as appropriate.

Every effort was made to access all suspect building materials. However, areas between walls, under floors, under concrete slabs and/or above any permanent ceilings may not have been fully accessible to the inspector, nor were materials therein sampled as part of the building inspection.

Due in fact that over 3,600 different building products are recognized as asbestos-containing building materials, it cannot be said that all such products, which may be included in the subject building, have or could be identified. Due in fact that asbestos is an ingredient within a product and can be unevenly distributed, Gaudet Associates, Inc. cannot accept responsibility for the sample results and only reports said results as received by the accredited laboratory.

III. Laboratory Results



EMSL Analytical, Inc.

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EMSL Order: 572100712
Customer ID: GAUD51
Customer PO:
Project ID:

Attention: Mike McGovern
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3021 Jupiter Park Circle Ste 101
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Phone: (561) 662-1133
Fax: (561) 748-6085
Received Date: 07/13/2021 8:08 AM
Analysis Date: 07/13/2021 - 07/15/2021
Collected Date: 07/12/2021
Project: 21-2252 3901 26th St. Jackie Robinson Training Complex Villas - Vero Beach

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2252-01 572100712-0001	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-02-Texture 1 572100712-0002	Drywall System	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
2252-02-Texture 2 572100712-0002A	Drywall System	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 88% Non-fibrous (Other)	2% Chrysotile
2252-03-Texture 1 572100712-0003	Drywall System	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
2252-03-Texture 2 572100712-0003A	Drywall System	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 88% Non-fibrous (Other)	2% Chrysotile
2252-03-Drywall 572100712-0003B	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-04-Texture 572100712-0004	Drywall System	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 88% Non-fibrous (Other)	2% Chrysotile
2252-04-Drywall 572100712-0004A	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-05-Texture 572100712-0005	Drywall System	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
2252-05-Drywall 572100712-0005A	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-06-Texture 1 572100712-0006	Drywall System	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
2252-06-Texture 2 572100712-0006A	Drywall System	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 88% Non-fibrous (Other)	2% Chrysotile
2252-06-Drywall 572100712-0006B	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-07 572100712-0007	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 86% Non-fibrous (Other)	4% Chrysotile
2252-08 572100712-0008	Popcorn Ceiling	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
2252-09 572100712-0009	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 86% Non-fibrous (Other)	4% Chrysotile

Initial report from: 07/15/2021 08:39:06



EMSL Analytical, Inc.

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EMSL Order: 572100712
Customer ID: GAUD51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2252-10 572100712-0010	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 86% Non-fibrous (Other)	4% Chrysotile
2252-11 572100712-0011	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 86% Non-fibrous (Other)	4% Chrysotile
2252-12 572100712-0012	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 87% Non-fibrous (Other)	3% Chrysotile
2252-13-Ceramic Tile 572100712-0013	Ceramic Tile (beige)	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-13-Grout 572100712-0013A	Ceramic Tile (beige)	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-13-Leveler 572100712-0013B	Ceramic Tile (beige)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-14-Ceramic Tile 572100712-0014	Ceramic Tile (beige)	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-14-Grout 572100712-0014A	Ceramic Tile (beige)	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-15 572100712-0015	12x12 F. T. Self Stick (gray/tan)	Gray/Tan/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-16 572100712-0016	12x12 F. T. Self Stick (gray/tan)	Gray/Tan/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-17 572100712-0017	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 87% Non-fibrous (Other)	3% Chrysotile
2252-18 572100712-0018	12x12 F. T. Self Stick (gray/tan)	Gray/Tan/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-19 572100712-0019	12x12 F. T. Self Stick (gray/tan)	Gray/Tan/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-20-Texture 572100712-0020	Drywall System	White Non-Fibrous Homogeneous		10% Ca Carbonate 88% Non-fibrous (Other)	2% Chrysotile
2252-20-Drywall 572100712-0020A	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-21 572100712-0021	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 87% Non-fibrous (Other)	3% Chrysotile
2252-22 572100712-0022	12x12 F. T. Self Stick (gray/tan)	Gray/Tan/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-23 572100712-0023	12x12 F. T. Self Stick (gray/tan)	Gray/Tan/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-24-Texture 572100712-0024	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 07/15/2021 08:39:06



EMSL Analytical, Inc.

1860 Old Okeechobee Road Unit 101 West Palm Beach, FL 33409
Tel/Fax: (561) 801-7262 / (561) 801-7297
<http://www.EMSL.com / WestPalmBeachLab@emsl.com>

EMSL Order: 572100712
Customer ID: GAUD51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2252-24-Drywall 572100712-0024A	Drywall System	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-25 572100712-0025	Popcorn Ceiling	Beige Non-Fibrous Homogeneous		10% Ca Carbonate 85% Non-fibrous (Other)	5% Chrysotile
2252-26 572100712-0026	12x12 F. T. Self Stick (gray/tan)	Brown/Black/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-27 572100712-0027	12x12 F. T. Self Stick (gray/tan)	Brown/Black/Clear Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
2252-28 572100712-0028	Window Caulking	White/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-29 572100712-0029	Window Caulking	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-30 572100712-0030	Window Caulking	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-31 572100712-0031	Window Caulking	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-32 572100712-0032	Window Caulking	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-33 572100712-0033	Exterior Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-34 572100712-0034	Exterior Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-35 572100712-0035	Exterior Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-36 572100712-0036	Exterior Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-37 572100712-0037	Exterior Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2252-38 572100712-0038	Exterior Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected



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Project ID:

Analyst(s)

Leah Delahoussaye (50)

Leah Delahoussaye, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. West Palm Beach, FL NVLAP Lab Code 600206-0

Initial report from: 07/15/2021 08:39:06

IV. Bulk Sample Log



Gaudet Associates, Inc.

Construction & Environmental Services

FIELD BULK SAMPLE LOG

DATE: July 12, 2021

INSPECTOR: Michael McGovern

Location and Address of Sampling: Jackie Robinson Training Complex Villas
Vero Beach, FL

PROJECT #: 21-2252

Page 1 of 3

SAMPLE #	TYPE OF MATERIAL	FRIABLE		LOCATION	RESULTS
		YES	NO		
2252-01	Drywall System		X	Room 107	NAD
2252-02	Drywall System		X	Room 112	2%C
2252-03	Drywall System		X	Room 116	NAD
2252-04	Drywall System		X	Room 122	2%C
2252-05	Drywall System		X	Room 131	NAD
2252-06	Drywall System		X	Room 135	2%C
2252-07	Popcorn Ceiling	X		Room 107	4%C
2252-08	Popcorn Ceiling	X		Room 112	NAD
2252-09	Popcorn Ceiling	X		Room 116	4%C
2252-10	Popcorn Ceiling	X		Room 122	4%C
2252-11	Popcorn Ceiling	X		Room 131	4%C
2252-12	Popcorn Ceiling	X		Room 135	3%C
2252-13	Ceramic Tile (beige)		X	Room 112	NAD
2252-14	Ceramic Tile (beige)		X	Room 135	NAD
2252-15	12" x 12" Floor Tile (gray/tan) Self-Stick		X	Room 145	NAD

Notes: ACBM – Asbestos containing building material

A – Amosite asbestos

C – Chrysotile asbestos

NA – Sample collected but not analyzed

NAD – No Asbestos Detected



Gaudet Associates, Inc.

Construction & Environmental Services

FIELD BULK SAMPLE LOG

DATE: July 12, 2021

INSPECTOR: Michael McGovern

Location and Address of Sampling: Jackie Robinson Training Complex Villas
Vero Beach, FL

PROJECT #: 21-2252

Page 2 of 3

SAMPLE #	TYPE OF MATERIAL	FRIABLE		LOCATION	RESULTS
		YES	NO		
2252-16	12" x 12" Floor Tile (gray/tan) Self-Stick		X	Room 145	NAD
2252-17	Popcorn Ceiling	X		Room 151	3%C
2252-18	12" x 12" Floor Tile (gray/tan) Self-Stick		X	Room 161	NAD
2252-19	12" x 12" Floor Tile (gray/tan) Self-Stick		X	Room 161	NAD
2252-20	Drywall System		X	Room 176	NAD
2252-21	Popcorn Ceiling	X		Room 176	3%C
2252-22	12" x 12" Floor Tile (gray/tan) Self-Stick		X	Room 176	NAD
2252-23	12" x 12" Floor Tile (gray/tan) Self-Stick		X	Room 176	NAD
2252-24	Drywall System		X	Room 187	NAD
2252-25	Popcorn Ceiling	X		Room 187	5%C
2252-26	12" x 12" Floor Tile (brown) Self-Stick		X	Room 187	NAD
2252-27	12" x 12" Floor Tile (brown) Self-Stick		X	Room 187	NAD
2252-28	Window Caulking		X	At Room 107	NAD
2252-29	Window Caulking		X	At Room 131	NAD
2252-30	Window Caulking		X	At Room 151	NAD

Notes: ACBM – Asbestos containing building material

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C – Chrysotile asbestos

NA – Sample collected but not analyzed

NAD – No Asbestos Detected



Gaudet Associates, Inc.

Construction & Environmental Services

FIELD BULK SAMPLE LOG

DATE: July 12, 2021

INSPECTOR: Michael McGovern

Location and Address of Sampling: Jackie Robinson Training Complex Villas
Vero Beach, FL

PROJECT #: 21-2252

Page 3 of 3

SAMPLE #	TYPE OF MATERIAL	FRIABLE		LOCATION	RESULTS
		YES	NO		
2252-31	Window Caulking		X	At Room 176	NAD
2252-32	Window Caulking		X	At Room 187	NAD
2252-33	Exterior Plaster		X	North/East Building	NAD
2252-34	Exterior Plaster		X	North/East Building	NAD
2252-35	Exterior Plaster		X	North/East Building	NAD
2252-36	Exterior Plaster		X	West Building	NAD
2252-37	Exterior Plaster		X	West Building	NAD
2252-38	Exterior Plaster		X	West Building	NAD

Notes: ACBM – Asbestos containing building material

A – Amosite asbestos

C – Chrysotile asbestos

NA – Sample collected but not analyzed

NAD – No Asbestos Detected

V. Asbestos Business License/Certificates

Ron DeSantis, Governor



Halsey Beshears, Secretary



STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT

THE ASBESTOS BUSINESS ORGANIZATION HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 469, FLORIDA STATUTES

GAUDET ASSOCIATES, INC.

JOSEPH E. GAUDET
3021 JUPITER PARK CIRCLE
SUITE 101
JUPITER FL 33458

LICENSE NUMBER: ZA0000011

EXPIRATION DATE: NOVEMBER 30, 2021

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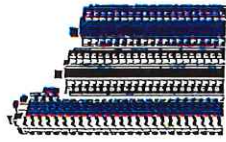
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CERTIFICATE OF TRAINING

MIKE MCGOVERN

HAS SUCCESSFULLY COMPLETED THE FOLLOWING COURSE
FOR ASBESTOS ACCREDITATION UNDER TSCA TITLE II

**SURVEY & MECHANICAL SYSTEMS
(INSPECTOR) REFRESHER COURSE**



Gaudet Associates, Inc.

Construction & Environmental Services

Conducted by:
GAUDET Associates, Inc.
Training Division
3021 Jupiter Park Circle, Suite 101
Jupiter, FL 33458
Phone: (561) 748-3040

COURSE DATE: APRIL 6, 2021
PROVIDER NUMBER: 0001217
COURSE NUMBER: 0002821

EXPIRES: APRIL 6, 2022
CERTIFICATION NUMBER: SM-21-529
COURSE INSTRUCTOR:

V1. Laboratory Accreditation

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®]



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600206-0

EMSL Analytical, Inc. - West Palm Beach, FL
West Palm Beach, FL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-07-01 through 2021-06-30

Effective Dates



Patricia S. Dunbar

For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EMSL Analytical, Inc. - West Palm Beach, FL

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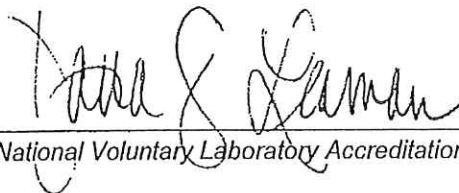
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ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 600206-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116; Method for the Determination of Asbestos in Bulk Building Materials



For the National Voluntary Laboratory Accreditation Program